

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-K

FOR ANNUAL AND TRANSITIONAL REPORTS PURSUANT TO
SECTIONS 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2018
or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-36777

JAMES RIVER GROUP HOLDINGS, LTD.

(Exact name of registrant as specified in its charter)

Bermuda

(State of Incorporation)

Wellesley House, 2nd Floor
90 Pitts Bay Road, Pembroke, Bermuda

(Address of principal executive offices)

98-0585280

(IRS Employer Identification No.)

HM 08

(Zip Code)

Registrant's telephone number, including area code: **(441) 278-4580**

Securities registered pursuant to Section 12(b) of the Act:

Common Shares, par value \$0.0002 per share
(Title of Class)

NASDAQ Global Select Market

(Name of Exchange on which Registered)

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Act. Yes No

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer **Accelerated filer** **Non-accelerated filer** **Smaller reporting company** **Emerging Growth Company**

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the Registrant's common shares held by non-affiliates of the Registrant as of June 30, 2018, computed by reference to the closing sales price on the NASDAQ Global Select Market on that date, was approximately \$1,143,957,071.

The number of the Registrant's common shares outstanding was 30,067,545 as of February 25, 2019.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the James River Group Holdings, Ltd. Proxy Statement to be filed with the Securities and Exchange Commission within 120 days after the year covered by this Form 10-K with respect to the 2019 Annual General Meeting of Shareholders are incorporated by reference into Part III hereof.

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Unless the context indicates or suggests otherwise, references in this Annual Report on Form 10-K to “the Company,” “we,” “us” and “our” refer to James River Group Holdings, Ltd. and its consolidated subsidiaries.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (“Annual Report”) contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These statements may be identified by the fact that they do not relate strictly to historical or current facts. In some cases, forward-looking statements may be identified by the use of words such as “anticipates,” “estimates,” “expects,” “intends,” “plans,” “seeks” and “believes,” and similar expressions or future or conditional verbs such as “will,” “should,” “would,” “may” and “could.” These forward-looking statements include, among others, statements relating to our future financial performance, our business prospects and strategy, anticipated financial position, liquidity and capital needs and other similar matters. These forward-looking statements are based on management’s current expectations and assumptions about future events, which are inherently subject to uncertainties, risks and changes in circumstances that are difficult to predict.

Our actual results may differ materially from those expressed in, or implied by, the forward-looking statements included in this Annual Report as a result of various factors, many of which are beyond our control, including, among others:

- the inherent uncertainty of estimating reserves and the possibility that incurred losses may be greater than our loss and loss adjustment expense reserves;
- inaccurate estimates and judgments in our risk management may expose us to greater risks than intended;
- the potential loss of key members of our management team or key employees and our ability to attract and retain personnel;
- adverse economic factors resulting in the sale of fewer policies than expected or an increase in the frequency or severity of claims, or both;
- a decline in our financial strength rating resulting in a reduction of new or renewal business;
- reliance on a select group of brokers and agents for a significant portion of our business and the impact of our potential failure to maintain such relationships;
- reliance on a select group of customers for a significant portion of our business and the impact of our potential failure to maintain such relationships;
- losses resulting from reinsurance counterparties failing to pay us on reinsurance claims, insurance companies with whom we have a fronting arrangement failing to pay us for claims, or an insured group of companies with whom we have an indemnification arrangement failing to perform their reimbursement obligations;
- changes in laws or government regulation, including tax or insurance law and regulations;
- the ongoing effect of Public Law No. 115-97, informally titled the Tax Cuts and Jobs Act, which may have a significant effect on us including, among other things, by potentially increasing our tax rate, as well as on our shareholders;
- in the event we do not qualify for the insurance company exception to the passive foreign investment company (“PFIC”) rules and are therefore considered a PFIC, there could be material adverse tax consequences to an investor that is subject to U.S. federal income taxation;
- the Company or any of its foreign subsidiaries becoming subject to U.S. federal income taxation;
- a failure of any of the loss limitations or exclusions we utilize to shield us from unanticipated financial losses or legal exposures, or other liabilities;
- losses from catastrophic events which substantially exceed our expectations and/or exceed the amount of reinsurance we have purchased to protect us from such events;
- potential effects on our business of emerging claim and coverage issues;
- exposure to credit risk, interest rate risk and other market risk in our investment portfolio;
- our ability to obtain reinsurance coverage at prices and on terms that allow us to transfer risk and adequately protect our company against financial loss;

- the potential impact of internal or external fraud, operational errors, systems malfunctions or cyber security incidents;
- our ability to manage our growth effectively;
- inadequacy of premiums we charge to compensate us for our losses incurred;
- failure to maintain effective internal controls in accordance with Sarbanes-Oxley Act of 2002, as amended (“Sarbanes-Oxley”);
- changes in our financial condition, regulations or other factors that may restrict our subsidiaries’ ability to pay us dividends; and
- other risks and uncertainties discussed under “Risk Factors” and elsewhere in this Annual Report.

Accordingly, you should read this Annual Report completely and with the understanding that our actual future results may be materially different from what we expect.

Forward-looking statements speak only as of the date of this Annual Report. Except as expressly required under federal securities laws and the rules and regulations of the Securities and Exchange Commission (the “SEC”), we do not have any obligation, and do not undertake, to update any forward-looking statements to reflect events or circumstances arising after the date of this Annual Report, whether as a result of new information or future events or otherwise. You should not place undue reliance on the forward-looking statements included in this Annual Report or that may be made elsewhere from time to time by us, or on our behalf. All forward-looking statements attributable to us are expressly qualified by these cautionary statements.

PART I

Item 1. BUSINESS

General

James River Group Holdings, Ltd. is a Bermuda-based holding company. We own and operate a group of specialty insurance and reinsurance companies. For the year ended December 31, 2018, approximately 67.6% of our group-wide gross written premiums originated from the U.S. excess and surplus (“E&S”) lines market. Substantially all of our business is casualty insurance and reinsurance, and for the year ended December 31, 2018, we derived 98.5% of our group-wide gross written premiums from casualty insurance and reinsurance. Our objective is to generate compelling returns on tangible equity, while limiting underwriting and investment volatility. We seek to accomplish this by consistently earning profits from insurance and reinsurance underwriting and generating meaningful risk-adjusted investment returns, while managing our capital opportunistically. Our group includes three specialty property-casualty insurance and reinsurance segments: Excess and Surplus Lines, Specialty Admitted Insurance and Casualty Reinsurance.

We write very little property or catastrophe insurance and no property catastrophe reinsurance. For the year ended December 31, 2018, property insurance and reinsurance represented 1.5% of our gross written premiums. When we do write property insurance, we buy reinsurance to significantly mitigate our risk. We have structured our reinsurance arrangements so that our modeled net pre-tax loss from a 1/1000 year probable maximum loss (“PML”) event is no more than \$10.0 million on a group-wide basis.

We report our business in four segments: Excess and Surplus Lines, Specialty Admitted Insurance, Casualty Reinsurance and Corporate and Other.

The Excess and Surplus Lines segment sells E&S commercial lines liability and property insurance in every U.S. state and the District of Columbia through James River Insurance Company (“James River Insurance”) and its wholly-owned subsidiary, James River Casualty Company (“James River Casualty”). James River Insurance and James River Casualty are both non-admitted carriers. Non-admitted carriers writing in the E&S market are not bound by most of the rate and form regulations imposed on standard market companies, allowing them flexibility to change the coverage terms offered and the rate charged without the time constraints and financial costs associated with the filing of such changes with state regulators. In 2018, the average account in this segment (excluding commercial auto policies) generated annual gross written premiums of approximately \$20,000. The Excess and Surplus Lines segment distributes primarily through wholesale insurance brokers. Members of our management team have participated in this market for over three decades and have long-standing relationships with the wholesale brokers who place E&S lines accounts. The Excess and Surplus Lines segment produced 56.3% of our gross written premiums and 74.9% of our net written premiums for the year ended December 31, 2018.

The Specialty Admitted Insurance segment has two areas of focus. We write a select book of workers’ compensation coverage for building trades, healthcare employees and light manufacturing, among other light to medium hazard risks in select Southeastern and Eastern U.S. states, as well as fronting business which has become a significant element of our revenues and profits in this segment. Starting in 2017, we have de-emphasized the program business, as we believe fronting offers better risk adjusted return potential. In our fronting business, we retain a small percentage of the risk, generally 10% or less, and seek to earn fee income by allowing other carriers and producers to access our licensure, ratings, and underwriting and claims expertise. In our program business, our historic net retention was more than 10%. The Specialty Admitted Insurance segment accepts applications for insurance from a variety of sources, including independent retail agents, program administrators and managing general agents (“MGAs”). The Specialty Admitted Insurance segment produced 32.1% of our gross written premiums and 7.3% of our net written premiums for the year ended December 31, 2018.

The Casualty Reinsurance segment provides proportional and working layer casualty reinsurance to third parties and to our U.S.-based insurance subsidiaries. Typically, we structure our reinsurance contracts (also known as treaties) as quota share arrangements, with loss mitigating features, such as commissions that adjust based on underwriting results. We frequently include risk mitigating features in our working layer excess of loss treaties, such as paid reinstatements, which allow the ceding company to capture a greater percentage of the profits should the business prove more profitable than expected, or alternatively, with additional premiums should the business incur higher than expected losses. We believe these structures best align our interests with the interests of our cedents. On a premium volume basis, treaties with loss mitigation features including sliding scale ceding commissions represented 81.7% of the gross premiums written by our Casualty Reinsurance segment during 2018. We typically do not assume large individual risks in our Casualty Reinsurance segment, nor do we write property catastrophe reinsurance. Most of the policies assumed by our Casualty Reinsurance segment have a \$1.0 million per occurrence limit, and we typically assume only a portion of that exposure. We believe this structure reduces volatility in our underwriting results. We do not assume stand-alone third-party property business at our Casualty Reinsurance segment, but we do have a small amount of assumed business with ancillary property exposure. 83.7% of premiums written by our Casualty Reinsurance segment during 2018 were general liability accounts assumed from E&S carriers. The Casualty Reinsurance segment distributes through

reinsurance brokers and produced 11.6% of our gross written premiums and 17.8% of our net written premiums for the year ended December 31, 2018.

The Casualty Reinsurance segment writes business through two entities, JRG Reinsurance Company Ltd ("JRG Re") and Carolina Re Ltd ("Carolina Re"). Through December 31, 2017, we had intercompany reinsurance agreements under which we ceded 70% of the net written premiums of our U.S. subsidiaries (after taking into account third-party reinsurance) to JRG Re. Effective January 1, 2018, we generally discontinued ceding 70% of our U.S.-written premiums to JRG Re and instead ceded 70% of our U.S.-written premiums to Carolina Re. This business is ceded under proportional, or quota-share, reinsurance treaties that provide for an arm's length ceding commission. We exclude the effects of intercompany reinsurance agreements from the presentation of our segment results, consistent with the way we manage the Company. At December 31, 2018, 54.9% of our cash and invested assets were held at JRG Re, which benefits from a favorable operating environment, including an absence of corporate income or investment taxes.

On December 22, 2017, the United States enacted Public Law No. 115-97, informally titled the Tax Cuts and Jobs Act (the "Tax Act"). The Tax Act significantly changed the U.S. Internal Revenue Code of 1986, as amended (the "Code"), including by reducing the U.S. corporate income tax rate from 35% to 21% and imposing a base erosion and anti-abuse tax ("BEAT"). In response to the Tax Act, we made changes to our structure in 2018 to minimize the impact of BEAT that included the formation of Carolina Re, a Bermuda-domiciled, wholly-owned subsidiary of James River Group, Inc. Carolina Re is a Class 3A reinsurer and made an irrevocable election to be taxed as a U.S. domestic corporation under Section 953(d) of the Code effective January 1, 2018. Carolina Re also entered into a stop loss reinsurance agreement with JRG Re.

The Corporate and Other segment consists of the management and treasury activities of our holding companies and interest expense associated with our debt.

In 2018, our operating subsidiaries wrote \$1,166.8 million of gross written premiums, allocated by segment and underlying market as follows:

Gross Written Premiums by Segment	Gross Written Premiums Year Ended December 31, 2018	% of Total
	<i>(in thousands)</i>	
Excess and Surplus Lines segment	\$ 656,538	56.3%
Specialty Admitted Insurance segment	374,346	32.1%
Casualty Reinsurance segment	135,889	11.6%
	<u>\$ 1,166,773</u>	<u>100.0%</u>
Gross Written Premiums by Market		
Non-admitted markets	\$ 788,781	67.6%
Admitted markets	377,992	32.4%
	<u>\$ 1,166,773</u>	<u>100.0%</u>

The A.M. Best Company ("A.M. Best") financial strength rating for our group's regulated insurance subsidiaries is "A" (Excellent). This rating reflects A.M. Best's evaluation of our insurance subsidiaries' financial strength, operating performance and ability to meet obligations to policyholders and is not an evaluation directed towards the protection of investors.

The financial strength ratings assigned by A.M. Best have an impact on the willingness of brokers and agents to submit applications for insurance and reinsurance to our regulated subsidiaries and on the risk profiles of the submissions for insurance that our subsidiaries receive. The "A" (Excellent) ratings assigned to our insurance and reinsurance subsidiaries are consistent with our business plans and we believe allow our subsidiaries to actively pursue relationships with the agents and brokers identified in their marketing plans.

Our History

In 2002, a group of experienced insurance executives with a history of starting and operating profitable specialty insurance operations created James River Group, Inc. ("James River Group"). James River Group was listed on the NASDAQ Stock Market (symbol: JRVR) in 2005 and consistently produced attractive underwriting results. James River Group had two insurance company subsidiaries, James River Insurance and Stonewood Insurance Company ("Stonewood Insurance"). Both of these subsidiaries as well as James River Group remain subsidiaries of ours.

In 2007, James River Group's management team decided to enhance James River Group's long-term profitability by combining the earnings power of James River Group with the efficiency of an affiliated Bermuda domiciled reinsurer. A group of investors led by affiliates of D. E. Shaw & Co., L.P., a global investment and technology firm, acquired James River Group, at which point it ceased trading as a public company. Simultaneously, the investors and management founded and capitalized JRG Re, and we began the process of building our present company.

In December 2014, we completed an initial public offering of our common shares (the "IPO"). Affiliates of D. E. Shaw & Co., L.P. and another institutional investor and its affiliate sold all of the common shares in the IPO. Neither the Company nor any of its management or other shareholders sold shares in the IPO. D.E. Shaw & Co., L.P. sold its shares in our Company in a series of secondary offerings in 2016, 2017 and 2018 and no longer owns any of our shares.

Our Competitive Strengths

We believe we have the following competitive strengths:

Proven and Strong Management Team Whose Financial Interests are Aligned with Shareholders. Our Chief Executive Officer, Robert P. Myron, who has served in various capacities with our group since 2010, has a history of working in a senior management capacity in the insurance and reinsurance industries in both the United States and Bermuda. Mr. Myron has significant experience working in operations, finance and underwriting of several different insurance and reinsurance companies over the course of his career. Our Chief Financial Officer, Sarah C. Doran, joined our group in January 2017. She has significant experience with capital markets and corporate development related to the insurance and financial services industry. Ms. Doran has a history of working in a senior capacity in finance and advisory both within the insurance and reinsurance industry and for various investment banks.

The President and Chief Executive Officer of our Excess and Surplus Lines segment, Richard Schmitzer, who has been with our group since July 2009, has a history of working in a senior management capacity in the E&S lines industry. Mr. Schmitzer has significant experience working in underwriting and operations of several different insurance companies over the course of his career.

The President and Chief Executive Officer of our Specialty Admitted Insurance segment, Terry McCafferty, has extensive experience as an insurance underwriter, operator and executive, and has deep experience and industry knowledge to continue to build out our business initiatives in the fronting and specialty admitted risk business.

The President and Chief Executive Officer of our Casualty Reinsurance segment, Daniel Heinlein, has significant experience as a broker and underwriter of specialty reinsurance risks, particularly in the small account market where we concentrate.

The Non-Executive Chairman of the Company's Board of Directors (the "Board"), J. Adam Abram, has a history of forming and managing profitable specialty insurance companies. He was a founder of the Company and a predecessor company, and he remains highly engaged as a key strategic contributor.

All members of our executive management and senior management have equity grants that we believe help align their interests with those of our long-term shareholders.

Broad Underwriting Expertise. We strive to be innovative in tailoring our products to provide solutions for our distribution partners and insureds, and we are willing to entertain insuring many types of risk classifications. As a result, we believe we are a "go to" market for a wide variety of risks. We are able to structure solutions for our insureds and the wholesale brokers with whom we work because of our deep technical expertise and experience in the niches and specialties we underwrite.

Emphasis on Lowering Volatility. We earn our profits by taking underwriting and investment risk. We underwrite many classes of insurance and invest in many types of assets. We actively seek to avoid underwriting business or making investments that expose us to an unacceptably high risk of large losses. We believe we have minimal exposure to material property risks and did not have material losses from property risks during 2018.

We seek to limit our catastrophic underwriting exposure in all areas, but in particular to property risks and catastrophic events. Our U.S. primary companies purchase reinsurance from unaffiliated reinsurers to reduce our net exposure to any one risk or occurrence. In addition, our policy forms and pricing are subject to regular formal analysis to ensure we are insuring the types of risks we intend and that we are being appropriately compensated for taking on those risks. When we write reinsurance, we seek to avoid catastrophic risks and contractually limit the amount of exposure we have on any one risk or occurrence. We prefer to structure our assumed reinsurance treaties as proportional or quota share reinsurance, which is generally less volatile than excess of loss or catastrophe reinsurance. We believe this structure aligns our interests with those of the ceding company.

Meaningful Risk Adjusted Investment Returns. We seek to generate meaningful contributions to company profitability from our investment portfolio. We attempt to follow a diversified strategy that emphasizes the preservation of our invested

assets, provides adequate liquidity for the prompt payment of claims and produces attractive results for our shareholders. Within that context, we seek to improve risk-adjusted returns in our investment portfolio by allocating a portion of our portfolio to investments where we take measured risks based upon detailed knowledge of certain niche asset classes. Investment grade fixed maturity securities make up the majority of our investment portfolio, and we are comfortable allocating a portion of our assets to non-traditional investments. Our non-traditional investments have generally not included a meaningful allocation to listed common equities. We consider non-traditional investments to include investments that are (1) unrated bond or fixed income securities, (2) non-listed equities or (3) investments that generally have less liquidity than rated bond or fixed income securities or listed equities. Non-traditional investments represented 19.9% of our total invested assets at December 31, 2018, consisting of syndicated bank loans (15.6%) and other invested assets (4.3%) that include interests in limited liability companies that invest in renewable energy opportunities, limited partnerships that invest in debt or equity securities, notes receivable for renewable energy projects, and a private debt security. While we are willing to make investments in non-traditional types of investments, we seek to avoid asset classes and investments that we do not understand. The weighted average credit rating of our portfolio of fixed maturity securities, bank loans and redeemable preferred stocks as of December 31, 2018 was “A”. At December 31, 2018, the average duration of our investment portfolio was 3.4 years.

Talented Underwriters and Operating Leadership. The managers of our 15 underwriting divisions have an average of over 25 years of industry experience, substantial subject matter expertise and deep technical knowledge. They have been successful and profitable underwriters for us in the specialty casualty insurance and reinsurance sectors. Our segment presidents all have extensive backgrounds and histories working in management capacities in specialty casualty insurance and reinsurance.

Robust Technology and Data Capture. We seek to ground our underwriting decisions in reliable historical data and technical evaluation of risks. Our underwriters utilize intuitive systems and differentiated technologies, many of which are proprietary. We have implemented processes to capture extensive data on our book of business, before, during and after the underwriting analysis and decision. We use the data we collect to inform and, we believe, improve our judgment about similar risks as we refine our underwriting criteria. We use the data we collect in regular formal review processes for each of our lines of business and significant reinsurance treaties.

Focus on Small and Medium-Sized Casualty Niche and Specialty Business. We believe that small and medium-sized casualty accounts, in niche areas where we focus, are consistently among the most attractive subsets of the property-casualty insurance and reinsurance market. We think the unique characteristics of the risks within these markets require each account to be individually underwritten in an efficient manner.

Many carriers have chosen either to reject business that requires individual underwriting or have attempted to automate the underwriting of this highly variable business. While we use technology to greatly reduce the cost of individually underwriting these accounts in our Excess and Surplus Lines and Specialty Admitted Insurance segments, we continue to have our underwriters make individual judgments regarding the underwriting and pricing of accounts. Our experience leads us to believe this approach is more likely to produce consistent results over time and across markets. In addition, while we believe that the insurance and reinsurance industry is generally overcapitalized at this time, we are currently achieving attractive, moderately increasing rates in our Excess and Surplus Lines and Specialty Admitted Insurance segments, which two segments combined represented 88.4% of our gross written premiums and 82.2% of our net written premiums for the twelve months ended December 31, 2018. We believe that there are compelling opportunities for measured but profitable growth in many sectors of the insurance markets we target.

Active Claims Management. Our U.S.-based primary insurance companies actively manage claims as part of keeping losses and loss adjustment expenses low. We attempt to investigate thoroughly and settle promptly all covered claims, which we generally accomplish through direct contact with the insured and other affected parties. We have historically been able to close approximately 95% of claims within five years, and as of December 31, 2018, our reserves for claims incurred but not reported (“IBNR”) were 61.5% of our total net loss reserves.

Efficient Operating Platform. We have what we believe to be a sector leading expense ratio, as we carefully manage personnel and all other costs throughout our group while growing our business. For the year ended December 31, 2018, our expense ratio was 23%. Additionally, our Bermuda domicile and operations provide for capital flexibility and an efficient tax structure. At December 31, 2018, 54.9% of our cash and invested assets were held at JRG Re, which benefits from a favorable operating environment, including an absence of corporate income or investment taxes.

Our Strategy

We believe our approach to our business will help us achieve our goal of generating compelling returns on tangible equity while limiting volatility in our financial results. This approach involves the following:

Generate Consistent Underwriting Profits. We seek to make underwriting profits each and every year. We attempt to find ways to grow in markets that we believe to be profitable, but are less concerned about growth than maintaining profitability in

our underwriting activities (without regard to investment income). Accordingly, we are willing to reduce the premiums we write when we cannot achieve the pricing and contract terms we believe are necessary to meet our financial goals.

Maintain a Strong Balance Sheet. Balance sheet integrity is key to our long-term success. In order to maintain balance sheet integrity, we seek to estimate the amount of future obligations, especially reserves for losses and loss adjustment expenses, in a consistent and appropriate fashion. From December 31, 2007 through December 31, 2018, we have experienced \$106.0 million of cumulative net favorable reserve development.

Earn a Meaningful Contribution from Investments. We seek to earn a meaningful contribution to our overall returns from our investment portfolio activities each year. We attempt to balance the preservation of assets, liquidity needs and mitigation of volatility with returns across our portfolio. We believe our diversified portfolio and ability to source investment opportunities positions us well to generate returns while balancing the importance of maintaining a strong balance sheet.

Focus on Specialty Insurance Markets and Fee Income. By focusing on specialty markets in which our underwriters have particular expertise and in which we have fewer competitors than in standard markets, we have greater flexibility to price and structure our products in accordance with our underwriting strategy. We believe underwriting profitability can best be achieved through restricting our risk taking on insurance and reinsurance to niches where, because of our expertise, we can distinguish ourselves in the underwriting and pricing process. We also believe that we can achieve attractive returns on capital through the growth of our fronting business, as we carefully manage credit and collateral to generate attractive fee income, while generally utilizing less capital than in our highly underwritten businesses.

Use Timely and Accurate Data. We design our internal processing and data collection systems to provide our management team with accurate and relevant information in real-time. We collect premium, commission and claims data, including detailed information regarding policy price, terms, conditions and the nature of the insured's business. This data allows us to analyze trends in our business, including results by individual agent or broker, underwriter and class of business and expand or contract our operations quickly in response to market conditions. We rely on our information technology systems in this process. Additionally, the claims staff also contributes to our underwriting operations through its communication of claims information to our underwriters.

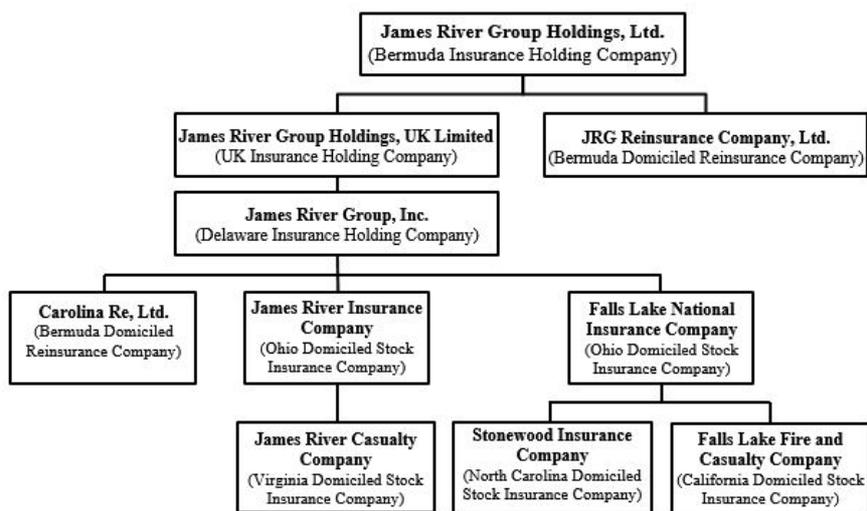
Respond Rapidly to Market Opportunities and Challenges. We plan to grow our business to take advantage of opportunities in markets in which we believe we can use our expertise to generate consistent underwriting profits. We seek to measure rates monthly and react quickly to changes in the rates or terms the market will accept. For the year ended December 31, 2018, our Excess and Surplus Lines segment gross written premiums increased by 23.8% over the same period in 2017. In this favorable pricing environment, we have taken steps to grow and are increasing gross written premiums across most underwriting divisions in this segment. In 2018, our growth was focused in our Commercial Auto, General Casualty, Excess Casualty, Allied Health, Energy, Life Sciences, Small Business, Environmental, and Excess Property divisions within our Excess and Surplus Lines segment. During the same period, we felt rates and terms and conditions were generally less adequate for risks submitted to our Manufacturers & Contractors, Professional Liability, and Medical Professionals divisions, and we reduced our writings in those divisions. This very specific evaluation of each risk or class of risks is a hallmark of our underwriting.

When market conditions have been challenging, or when actual experience has not been as favorable as we anticipated, we have tried to act quickly to evaluate our situation and to make course corrections in order to protect our profits and preserve tangible equity. Our actions have included reducing our writings when margins tightened and exiting lines or classes of business when we believed the risk of continuing in a line outweighed the potential rewards from underwriting. We do not hesitate to increase loss estimates when we determine that it is appropriate.

Manage Capital Actively. We seek to make "both sides" of our balance sheet generate better than average risk-adjusted returns. We invest and manage our capital with a goal of consistently increasing tangible equity for our shareholders and generating attractive returns on tangible equity. We intend to expand our premium volume and capital base to take advantage of opportunities to earn an underwriting profit or to reduce our premium volume and capital base if attractive underwriting opportunities are not available. We expect to finance our future operations with a combination of debt and equity and do not intend to raise or retain more capital than we believe we can profitably deploy in a reasonable time frame. We may not, however, always be able to raise capital when needed. We declared dividends to our shareholders of \$36.3 million (\$1.20 per share) during 2018, \$50.7 million (\$1.70 per share including a \$0.50 per share special dividend) in 2017 and \$66.3 million (\$2.25 per share including a \$1.35 per share special dividend) in 2016. While we have declared a special dividend in the past, we continue to find what we believe are attractive opportunities to earn a compelling return on our capital in the businesses that we target and therefore did not declare a special dividend in 2018. Our ratings from A.M. Best are very important to us, as are our relationships with our regulators, and maintaining them in good order is a principal consideration in our decisions regarding capital management.

Our Structure

The chart below displays our corporate structure as of December 31, 2018 as it pertains to our holding and operating subsidiaries.



Business Segments

Excess and Surplus Lines Segment

We report our U.S.-based E&S lines of business in our Excess and Surplus Lines segment. We underwrite non-admitted business through our subsidiaries, James River Insurance Company and James River Casualty Company, from offices in Richmond, Virginia; Scottsdale, Arizona; and Atlanta, Georgia. James River Insurance is our largest subsidiary as measured by gross written premiums (56.3% of consolidated gross written premiums for the year ended December 31, 2018 came from our Excess and Surplus Lines segment) and has been engaged in E&S insurance for 16 years. James River Insurance has had a consistent record of underwriting profits since its second year of operation. We added James River Casualty in 2009 to give us the ability to write E&S risks in Ohio.

E&S lines insurance focuses on insureds that generally cannot purchase insurance from standard lines insurers typically due to perceived risk related to their businesses. Our Excess and Surplus Lines segment underwrites property-casualty insurance on an E&S lines basis in all states and the District of Columbia. Our Excess and Surplus Lines segment distributes its policies through a network of authorized independent wholesale brokers throughout the United States. In 2018, our Excess and Surplus Lines segment’s gross written premiums grew by 23.8% over 2017 through the growth of our commercial auto division (with a focus on transportation network companies), as well as across a number of other divisions. The Excess and Surplus Lines segment produced an average combined ratio of 86.7% from 2010 through 2018.

Companies that underwrite on an E&S lines basis operate under a different regulatory structure than standard market carriers. E&S lines carriers are generally permitted to craft the terms of the insurance contract to suit the particular risk they are assuming. Also, E&S lines carriers are, for the most part, free of rate regulation. In contrast, standard market carriers are generally required to use approved insurance forms and to charge rates that have been authorized by or filed with state insurance departments. However, as E&S carriers, our insurance subsidiaries in the Excess and Surplus Lines segment are not backed by any state’s guarantee fund, and in most states these subsidiaries may only write coverage for an insured after they have been denied coverage by the standard market and signed declarations stating that the insured is aware that it will not have access to any state guarantee funds should these subsidiaries be unable to satisfy their obligations.

Our Excess and Surplus Lines segment writes policies for a wide range of businesses and does not write personal lines insurance. Applications for insurance are presented to us by authorized wholesale brokers who are typically engaged by retail agents after their clients have been rejected by standard markets.

In late 2017, the Excess and Surplus Lines segment started a binding contract unit (as part of our Small Business underwriting division) where limited authority for underwriting is delegated to a select group of agents on a limited number of General Liability classes through a company designed online portal.

All claims for business written by the Excess and Surplus Lines segment are managed by its internal claims department although we use independent adjusters for inspection and payment of certain claims.

The chart below identifies the Excess and Surplus Lines segment’s divisions and sets forth the amount of gross written premiums by each division.

E&S Division	Gross Written Premiums Year Ended December 31,					
	2018	Percentage of Total 2018	2017	2016	2015	2014
Commercial Auto	\$ 322,126	49.1%	\$ 247,960	\$ 110,050	\$ 73,770	\$ 34,605
Manufacturers and Contractors	79,160	12.1%	85,719	83,279	78,315	72,063
Excess Casualty	66,452	10.1%	51,160	43,574	32,458	31,688
General Casualty	54,127	8.2%	38,097	36,858	30,972	25,853
Energy	33,942	5.2%	29,704	29,709	30,623	28,980
Allied Health	30,450	4.6%	19,181	14,413	13,513	9,707
Excess Property	16,963	2.6%	14,447	14,083	12,498	11,795
Life Sciences	16,636	2.5%	12,981	11,132	8,917	10,155
Small Business	14,808	2.3%	11,307	9,104	6,916	6,971
Environmental	10,499	1.6%	7,920	5,321	4,437	3,431
Professional Liability	5,916	0.9%	6,326	8,361	10,046	10,784
Sports and Entertainment	3,685	0.5%	3,021	2,221	2,667	2,753
Medical Professionals	1,774	0.3%	2,297	2,739	3,585	3,922
Total	\$ 656,538	100.0%	\$ 530,120	\$ 370,844	\$ 308,717	\$ 252,707

Commercial Auto underwrites primarily the hired and non-owned auto liability exposures for a variety of industry segments including package delivery services, food delivery services and livery service organizations, and has developed a particular niche for insuring organizations' operating networks connecting independent contractors with customers (transportation network companies and similar usage-based networks). One insured (Rasier LLC and its affiliates) produced \$294.3 million of gross written premiums, representing 44.8% of the Excess and Surplus Lines segment’s gross written premiums and 25.2% of our consolidated gross written premiums for the year ended December 31, 2018. The head underwriter in this division has 31 years of experience. Limits assumed are retained by the Company, in some cases subject to self-insured retentions of the insureds.

Manufacturers and Contractors writes primary general liability coverage for a variety of classes, including manufacturers of consumer, commercial, and industrial products and general and trade contractors. Typically, we issue a \$1.0 million per occurrence limit in this division and we retain the entire \$1.0 million limit. The individual overseeing this division has 35 years of industry experience.

Excess Casualty underwrites excess liability coverage for a variety of risk classes including manufacturers, contractors, distributors and transportation risks. Typically, we provide between \$1.0 million and \$10.0 million per occurrence limits above a \$1.0 million attachment point. Of this amount, we retain up to \$1.0 million of exposure per occurrence and cede the balance to our reinsurers. We write excess liability coverage above our own primary policies, as well as policies issued by third parties. When we write above others’ policies, we are selective regarding underlying carriers, focusing on the nature of the business, the financial strength of the carrier, their pricing and their claims handling capabilities. The underwriter who heads this division has 35 years of industry experience.

General Casualty writes primary liability coverage on businesses exposed to premises liability type claims including real estate, mercantile and retail operations, apartments and condominiums, daycare facilities, hotels and motels, restaurants, bars, taverns and schools. The head underwriter in this division has 31 years of experience. Typically, we write \$1.0 million per occurrence in limits, and we retain the entire \$1.0 million limit.

Energy writes risks engaged in the business of energy production, distribution or mining, and the manufacture of equipment used in the energy business segment. Examples of classes underwritten by this division include oil and gas exploration companies, oil or gas well drillers, oilfield consultants, oil or gas lease operators, oil well servicing companies, oil or gas pipeline construction companies, fireworks manufacturing, mining-related risks, utilities, and utility contractors. We provide policy limits up to \$11.0 million, with typical limits between \$1.0 million and \$5.0 million per occurrence, retaining up

to \$1.0 million in limit net on either a primary or excess basis. The underwriter leading this division has 47 years of experience in the business.

Allied Health underwrites casualty insurance for allied health and social service types of risks, such as long-term care facilities, independent living apartments, group homes, half-way houses and shelters, drug rehabilitation, home health care and medical staffing enterprises. We provide policy limits up to \$11.0 million, with typical limits between \$1.0 million and \$5.0 million per occurrence, retaining up to \$1.0 million in limit net. The underwriter responsible for this unit has 25 years of experience in the business. Approximately 89% of the premiums written by our Allied Health division from inception through 2018 have been written on a claims made and reported form. We believe this policy form significantly reduces our long-term exposure in this complicated class of business.

Excess Property writes property risks providing limits in various layers above the primary coverage layer for a variety of classes, including apartments, condominiums, resorts, shopping centers, offices and general commercial properties. Typical per risk limits offered range from \$5.0 million to \$30.0 million on a gross basis, and a maximum of \$5.0 million on a net of reinsurance basis. The average net per risk limit is approximately \$2.5 million as of December 31, 2018. We retain up to the first \$5.0 million in any one event or catastrophe. The underwriter leading our Excess Property division has 33 years of experience in the industry.

Life Sciences underwrites general liability, products liability and/or professional liability coverage for manufacturers, distributors and developers of biologics (antibodies & vaccines used for the prevention of disease), nutraceuticals (health, nutrition and herbal supplements), human clinical trials, pharmaceuticals (mainly generics and over-the-counters) and medical devices. This division also writes a book of various types of business engaged in the medical and adult-use cannabis industry. We provide policy limits up to \$11.0 million, with typical limits between \$1.0 million and \$5.0 million per occurrence, retaining up to \$1.0 million in limit net. The underwriter at the head of this division has 35 years of experience in the industry.

Small Business concentrates on accounts with annual primary liability insurance premiums of less than \$10,000. For these smaller risks, we limit flexibility in coverage options and pricing to facilitate quick turnaround and efficient processing. We generally write \$1.0 million per occurrence limits and retain the entire amount. The underwriter leading this division has 25 years of industry experience.

Environmental underwrites contractors' pollution liability, products pollution liability, site specific pollution liability and consultant's professional liability coverage on a stand-alone basis and in conjunction with the general liability coverage. The underwriter heading our Environmental division has 47 years of experience in the business. Typically, we write environmental coverage for contractors who are not engaged in environmental remediation work on an occurrence form. We provide policy limits up to \$11.0 million, with typical limits between \$1.0 million and \$5.0 million per occurrence, retaining up to \$1.0 million in limit net on a primary or excess basis.

Professional Liability writes professional liability coverage for accountants, architects, engineers, lawyers and certain other professions. We provide policy limits up to \$11.0 million, with typical limits between \$1.0 million and \$5.0 million per occurrence, retaining up to \$1.0 million in limit net. The individual who directs our professional liability division has 25 years of industry experience. All of our professional liability coverage is written on a claims made and reported basis.

Sports and Entertainment underwrites primary liability coverage for sports and entertainment related risks, including special events, family entertainment centers, tourist attractions, health clubs and sport teams, leagues and complexes. Typical limits offered are up to \$1.0 million per occurrence, and we retain the entire \$1.0 million limit. The underwriter at the head of this division has 31 years of experience in the industry.

Medical Professionals underwrites non-standard physicians' professional liability for individuals or small groups. Our healthcare business is a mix of both surgical and non-surgical classes. We typically provide between \$1.0 million and \$3.0 million per occurrence limits and retain up to \$1.0 million of exposure per occurrence and cede the balance to our reinsurers. All of the policies written by this division have been issued on a claims-made and reported basis. The underwriter leading this division has 25 years of experience.

The following table identifies the top ten producing states by amount of gross written premium for our Excess and Surplus Lines segment for the year ended December 31, 2018 and the amount of gross written premium produced by such states for the years ended December 31, 2017, 2016, 2015 and 2014. The table also shows the percentage of each states' gross written premium to total gross written premium in the Excess and Surplus Lines segment for the years ended December 31, 2018, 2017 and 2016.

State	2018		2017		2016		2015		2014	
	Gross Written Premiums	% of Total								
California	\$ 213,729	32.6%	\$ 153,340	28.9%	\$ 114,107	30.8%	\$ 125,343		\$ 94,837	
New York	54,417	8.3%	47,585	9.0%	39,407	10.6%	24,314		19,970	
Florida	47,918	7.3%	55,502	10.5%	35,765	9.6%	23,853		17,295	
Texas	31,604	4.8%	29,567	5.6%	26,708	7.2%	24,491		21,644	
Illinois	20,893	3.2%	25,853	4.9%	16,548	4.5%	8,335		7,295	
Massachusetts	19,758	3.0%	13,587	2.5%	8,496	2.3%	4,835		3,010	
Nevada	19,484	3.0%	8,144	1.5%	4,452	1.2%	3,460		3,472	
Washington	17,329	2.6%	13,697	2.6%	10,270	2.8%	7,069		6,094	
Virginia	15,532	2.4%	10,741	2.0%	6,534	1.8%	4,088		2,582	
Michigan	14,290	2.2%	4,218	0.8%	3,189	0.9%	3,580		2,047	
All other states	201,584	30.6%	167,886	31.7%	105,368	28.3%	79,349		74,461	
Total	\$ 656,538	100.0%	\$ 530,120	100.0%	\$ 370,844	100.0%	\$ 308,717		\$ 252,707	

Marketing and Distribution

The Excess and Surplus Lines segment distributes its products through a select group of licensed E&S lines brokers that we believe can produce reasonable volumes of quality business for James River Insurance consistently. These brokers procure policies for their clients from us as well as from other insurance companies. At December 31, 2018, the segment had authorized 117 broker groups to work with us. The Excess and Surplus Lines segment generally makes broker authorizations by brokerage office and underwriting division. With the exception of one hired and non-owned auto program (combined premiums of approximately \$8.0 million for 2018) the Excess and Surplus Lines segment does not grant its brokers underwriting or claims authority. In late 2017, we introduced a Binding Contract division where limited authority for underwriting is delegated to a select group of agents for a limited group of General Liability classes through a company designed online portal.

Our Excess and Surplus Lines segment selects its brokers based upon management's review of the experience, knowledge and business plan of each broker. While many of our Excess and Surplus Lines segment's brokers have more than one office, we evaluate each office as if it were a separate entity. Often, our Excess and Surplus Lines segment authorizes some but not all offices owned by a brokerage for specialized lines of business. Brokers must be able to demonstrate an ability to competently produce both the quality and quantity of business that we seek. Brokers unable to produce consistently profitable business, or who produce unacceptably low volumes of business, may be terminated. Our Excess and Surplus Lines segment's underwriters regularly visit with brokers in their offices to discuss the products that we offer and the needs of the brokers. We believe the personal relationships we foster with individual brokers and our ability to respond to a wide variety of risks placed by these brokers make us an important market for them.

Our Excess and Surplus Lines segment's two largest brokers produced \$439.7 million of gross written premiums for the year ended December 31, 2018, representing approximately 67.0% of the Excess and Surplus Lines segment's gross written premiums for 2018. The two largest brokers produced \$358.3 million (BB&T Insurance Services represented 30.7% of consolidated gross written premiums) and \$81.4 million of gross written premiums for the year ended December 31, 2018, respectively. One insured (Rasier LLC and its affiliates) produced \$294.3 million of gross written premiums (representing 25.2% of our consolidated gross written premiums) and \$13.9 million of fee income for the year ended December 31, 2018.

In 2018 and 2017, our Excess and Surplus Lines segment paid an average commission to producers of 9.6% and 10.9%, respectively, of gross written premiums.

Underwriting

Our Excess and Surplus Lines segment's staff includes over 165 individuals directly employed in underwriting policies as of December 31, 2018. We are very selective about the policies we bind. Our Excess and Surplus Lines segment binds approximately 3% of new submissions and one out of every six new quotes. We realize all excess and surplus lines applications

have already been rejected by the standard market. If our underwriters cannot reasonably expect to bind coverage at the combination of premiums and coverage that meet our standards, they are encouraged to quickly move on to another prospective opportunity. For the year ended December 31, 2018, we received approximately 222,000 submissions (new and renewal, excluding commercial auto policies), quoted over 51,000 policies and bound over 15,000 policies.

When we accept risk in our Excess and Surplus Lines segment, we are careful to establish terms that are suited to the risk and the pricing. As an excess and surplus lines writer, we use our freedom of rate and form to make it possible to take on risks that have already been rejected by admitted carriers who have determined they cannot insure these risks on approved forms at filed rates.

We attempt to craft policies that offer affordable protection to our insureds by tailoring coverage in ways that make potential losses more predictable and are intended to reduce claims costs. For example, we frequently use a “punitive damages exclusion” and “defense inside the limits” endorsements, intended to prevent excessive defense costs; “assault and battery” exclusions or sub limits that are less than the full policy limits which allows us to quantify and limit our losses more precisely than in policies without the exclusion; and “classification limitation” and “specified location” endorsements that limit coverage to known exposures and locations. We have no material exposure to asbestos, lead paint, silica, mold, or nuclear, biological, or chemical terrorism.

We design our internal processing and data collection systems to provide our management team with accurate and relevant information in real-time. We collect premium, commission and claims data, including detailed information regarding policy price, terms, conditions and the nature of the insured’s business. This data allows us to analyze trends in our business, including results by individual broker, underwriter and class of business and expand or contract our operations quickly in response to market conditions. We rely on our information technology systems in this process. Additionally, the claims staff also contributes to our underwriting operations through its communication of claims information to our underwriters.

Claims

We believe that effective management of claims settlement and any associated litigation avoids delays and associated additional costs.

Our Excess and Surplus Lines segment’s claims department consists of over 330 claims professionals as of December 31, 2018 with significant claims experience in the property-casualty industry.

Our excess and surplus lines business generally results in claims from premises/operations liability, professional liability, hired and non-owned auto liability, auto physical damage, first party property losses and products liability. We believe the key to effective claims management is timely and thorough claims investigation. We seek to complete all investigations and adjust reserves appropriately as soon as is practicable after the receipt of a claim. We seek to manage the number of claims per adjuster to allow adjusters sufficient time to investigate and resolve claims. Senior management reviews each case above a specified amount at least quarterly to evaluate whether the key issues in the case are being considered and to monitor case reserve levels. We keep the settlement authority of front-line adjusters low to ensure the practice of having two or more members of the department participate in the decision as to whether to settle or defend. In addition, cases with unusual damage, liability or policy interpretation issues are subjected to peer reviews. Members of the underwriting staff participate in this process. Prior to any scheduled mediation or trial involving a claim, claims personnel conduct further peer review to make sure all issues and exposures have been adequately analyzed.

Our claims staff also contributes to our underwriting operations through communication of claims information to our underwriters. The Senior Vice President and Chief Claims Officer heads our forms committee, which reviews and develops all policy forms and exclusions, and is also a member of the underwriting review committee.

Approximately 95% of all claims received are closed within five years in the Excess and Surplus Lines segment.

The calendar year net loss ratios for the Excess and Surplus Lines segment for the last ten years were:

2009	62.6%
2010	54.9%
2011	48.5%
2012	52.6%
2013	40.4%
2014	55.2%
2015	54.5%
2016	62.6%
2017	80.2%
2018	78.8%

The 2018 and 2017 calendar year loss ratios for the Excess and Surplus Lines segment were impacted by adverse reserve development of \$20.7 million and \$38.7 million, respectively, in the commercial auto line of business. The adverse development was primarily related to the 2016 contract year with one insured.

Specialty Admitted Insurance Segment

The Falls Lake Insurance Companies (“Falls Lake”) comprise our other U.S. insurance segment, Specialty Admitted Insurance. Falls Lake consists of Falls Lake National Insurance Company (an Ohio domiciled company, licensed in 48 states and the District of Columbia and registered as a surplus lines company in California), and its subsidiaries Stonewood Insurance Company (a North Carolina domiciled company) and Falls Lake Fire and Casualty Company (a California domiciled company). The Specialty Admitted Insurance segment produced 32.1% of consolidated gross written premiums for the year ended December 31, 2018.

Our plan is to continue to use our broad licensure and significant management expertise to earn substantial fee income as well as underwriting profits. The Specialty Admitted Insurance segment consists of:

- Individual risk workers’ compensation business, underwritten by our staff and generated by appointed agents in North Carolina, Tennessee, Virginia, South Carolina, Georgia, New Jersey, Missouri, Kansas, Pennsylvania, Massachusetts, Rhode Island, Alabama, Connecticut and Mississippi, produce 14.8% of 2018 gross written premiums in this segment, (13.9% in 2017, 21.7% in 2016, 39.5% in 2015 and 50.7% in 2014); and
- Fronting and program business written through selected MGAs, insurance carriers, and other producers which represented 85.2% of 2018 gross written premiums in this segment, (86.1% in 2017, 78.3% in 2016, 60.5% in 2015 and 49.3% in 2014).

Traditional Workers’ Compensation Business

Our individual risk workers’ compensation business, produced through a distribution channel comprised of appointed independent retail agents and a limited number of appointed wholesale brokers, remains a regionally focused effort in select Southeastern and Eastern U.S. states. For the year ended December 31, 2018, approximately 49% of our retail produced workers’ compensation direct written premiums were in North Carolina, 16% were in Virginia, 13% were in South Carolina, and 11% were in Georgia. Building trades represented approximately 28% of the direct premiums in force in our retail produced workers’ compensation book in 2018. Other significant industry groups include healthcare employees (16%), goods and services (15%), manufacturing (11%), specialty transportation (11%) and agriculture (6%). We view our retail produced workers’ compensation business as a core competency and seek to make consistent underwriting profits from it. We recognize the cyclical nature of this line and are prepared to contract the business rapidly when rates decline, or the regulatory or economic environment makes it difficult to contain costs.

Fronting & Program Business

In our fronting business we issue insurance policies for another insurance company which may not have the licensure, product suite or rating to serve its desired market, or for a program supported by reinsurance or alternative capital provider(s). We generally retain 10% or less of the underwriting risk in our fronting business. The issuance of our policy makes us contractually responsible to the insured in the event they experience a covered loss. We enter into these arrangements selectively with counterparties which have significant experience and market presence in their desired segment of property-casualty, workers compensation or automobile business. Underwriting, claims and financial performance is subject to regular review by our staff, and we hold appropriate collateral to manage counterparty credit risk. We specifically grant limited authority for underwriting and claims administration and employ a rigorous review process to ensure the authority is

appropriately used within the terms of our contract, and that collateral held by us is appropriate as determined by our personnel. We charge fees as a percentage of gross written premiums for issuing these policies. We establish fronting opportunities through a variety of sources, including direct carrier relationships, MGAs and reinsurance brokers.

Due to our broad licensure and product filings, we are positioned to support this business on a broad basis throughout the U.S. Because of the limited capital allocation required to support it, we believe the fronting business represents an efficient use of capital, and we continued to expand this business in 2018. One fronting program (Atlas General Insurance Services) produced \$201.7 million of gross written premiums in 2018 representing 17.3% of consolidated gross written premiums and 53.9% of the Specialty Admitted Insurance segment's gross written premiums.

Our objective over time is to utilize the combination of fee income and underwriting profits from our Specialty Admitted Insurance segment to leverage our capital and enhance returns on tangible equity. Additionally, we expect that this fee income, which was \$14.8 million in 2018 and \$11.3 million in 2017, will be increasingly material in future periods and provide us with a steady revenue stream.

In a program arrangement, we give selected MGAs authority to act on our behalf to produce, underwrite and administer policies that meet our strict underwriting and pricing guidelines. We enter into these arrangements selectively with agents who have significant experience and market presence in specialty classes of property-casualty and automobile risks. Underwriting, claims and financial performance is subject to regular review by our staff. We only work with MGAs who permit us to actively engage with them through a combination of onsite and offsite resources to facilitate our real-time supervision of their work. We specifically grant limited authority for underwriting and claims administration and employ a rigorous review process to ensure the authority is appropriately used.

We focus our coverage on casualty risks in our program business, although some property insurance is written. We seek to limit our risk generally through reinsurance either on a proportional or excess of loss basis, or sometimes both. For initial claims oversight and administration, we generally outsource frequency layer claims management to third-party administrators for the first \$50,000 of a claim, and then provide supervisory control above this amount.

Under the terms of these program agreements, we pay fixed commissions with a profit contingency. In addition, we typically build in a "margin" between the commission we earn from our reinsurers and the commissions paid to the MGAs. This spread enhances our net underwriting returns and profitability. Our program business is distributed primarily through MGAs and program managers.

Excluding our Atlas program, we have seven active fronting arrangements as of December 31, 2018. During 2018, these arrangements represented 25.6% of the segment's gross written premium.

Casualty Reinsurance Segment

We report our business of writing reinsurance for third party insurance companies in our Casualty Reinsurance segment (representing 11.6% of consolidated gross written premiums for the year ended December 31, 2018). We participate in the reinsurance business through our Bermuda domiciled reinsurance subsidiary, JRG Re, which is a Class 3B reinsurer. JRG Re provides proportional and working layer treaty reinsurance to third parties and, through December 31, 2017, also to our U.S.-based insurance subsidiaries. For purposes of management evaluation, this segment's underwriting results only include premiums ceded by, and losses incurred with respect to, business assumed from unaffiliated companies and does not include premiums and losses ceded under the internal reinsurance arrangements. In response to the Tax Act, we made changes to our structure in 2018 that included the formation of Carolina Re, a Bermuda-domiciled, wholly-owned subsidiary of James River Group, Inc. Carolina Re is a Class 3A reinsurer and made an irrevocable election to be taxed as a U.S. domestic corporation under Section 953(d) of the Code effective January 1, 2018. We generally discontinued ceding 70% of our U.S.-written premiums to JRG Re and instead ceded 70% of our U.S.-written premiums to Carolina Re as of January 1, 2018. Carolina Re also entered into a stop loss reinsurance agreement with JRG Re.

During the year ended December 31, 2018, our Casualty Reinsurance segment had underwriting income of \$5.1 million as a stand-alone entity. We underwrote \$135.9 million in gross written premiums for the year ended December 31, 2018, 97.3% of which consisted of E&S risks. Of those third-party premiums written by JRG Re, 85.8% was for general liability and 8.4% was for non-medical professional liability, with the balance primarily related to excess casualty and commercial auto coverages. We typically structure our reinsurance treaties as quota share arrangements with loss and risk mitigating features that align our interest with that of the ceding companies. On a premium volume basis, treaties with loss mitigation features including sliding scale ceding commissions represented 81.7% of the third-party gross written premiums during 2018 and treaties written as "proportional" arrangements represented 96.9%. We purchase very little retrocessional coverage in this segment. Almost all of the segment's premiums are for casualty lines of business. The Casualty Reinsurance segment writes virtually no reinsurance designed to respond specifically to natural catastrophes.

The Casualty Reinsurance segment's two largest brokers generated \$54.0 million and \$42.3 million, respectively, representing 70.9% of the segment's gross written premiums in the year ended December 31, 2018. The Casualty Reinsurance

segment's three largest relationships with unaffiliated ceding companies generated \$126.3 million (\$83.4 million, \$22.1 million, and \$20.8 million, respectively) representing 10.8% of consolidated gross written premiums and 92.9% of the Casualty Reinsurance segment's gross written premiums for the year ended December 31, 2018.

Underwriting profits and investment income earned by JRG Re are exempt from U.S. taxation. We do, however, pay a 1% U.S. Federal excise tax on premiums ceded to JRG Re. At December 31, 2018, JRG Re cash and invested assets made up 54.9% of our total cash and invested assets.

Corporate and Other Segment

Our President and Chief Executive Officer, our Chief Financial Officer and other holding company employees are part of the Corporate and Other segment. This is where we set and direct strategy for the group as a whole as well as high level objectives for each of the three operating segments. We make all capital management, capital allocation, treasury functions, information technology and group wide risk management decisions in this segment. Our decisions at this level also include reinsurance purchasing.

Purchase of Reinsurance

We routinely purchase reinsurance for our Excess and Surplus Lines and Specialty Admitted Insurance segments and, less frequently purchase retrocessional coverage for our Casualty Reinsurance segment. The purchase of reinsurance reduces volatility by limiting our exposure to large losses and provides capacity for growth. In a reinsurance transaction, an insurance company transfers, or cedes, all or part of its exposure in return for a portion of the premium. In a retrocession transaction, a reinsurer transfers, or cedes, all or part of its exposure in return for a portion of the premium. Our companies remain legally responsible for the entire obligation to policyholders and ceding companies, irrespective of any reinsurance or retrocession coverage we may purchase. Typically, we pay claims from our own funds and then seek reimbursement from the reinsurer or retrocessionaire, as applicable. There is credit exposure with respect to losses ceded to the extent that any reinsurer or retrocessionaire is unable or unwilling to meet the obligations ceded by us under reinsurance or retrocessional treaties. The ability to collect on reinsurance or retrocessional reinsurance is subject to many factors, including the solvency of the counterparty and their interpretation of contract language and other factors. We currently have no disputes with any reinsurer or retrocessionaire, and we are not aware of any credit quality issues with any of our reinsurers or retrocessionaires at December 31, 2018.

Purchased Property Reinsurance

Our focus on return on tangible equity leads us to avoid lines of business that we know are exposed to high degrees of volatility. The Excess and Surplus Lines segment writes a limited book of excess property risks (approximately \$17.0 million direct written premiums in 2018). The risks assumed in this book are geographically dispersed and significantly reinsured to limit losses. The Excess and Surplus Lines segment may retain up to \$5.0 million per risk on our excess property book; however, the average retained amount per risk is approximately \$2.5 million. In our Specialty Admitted Insurance segment, we focus on casualty business, but we do write a limited amount of property insurance, principally through our fronting and programs business. The focus in our Casualty Reinsurance segment is also primarily casualty business, but we do have a relatively small amount of assumed business with property exposure.

In our Excess and Surplus Lines segment, we purchased a surplus share reinsurance treaty specifically designed to cover property risks. The surplus share treaty along with facultative reinsurance helps ensure that our net retained limit per risk will be \$5.0 million or less. Additionally, we purchased catastrophe reinsurance of \$40.0 million in excess of a \$5.0 million retention for the group that is intended to cover the 1 in 1,000 year modeled aggregate PML on the segment's excess property book. We buy such high limits because we believe the property catastrophe models are less accurate when applied to small books of business like ours than when applied to larger portfolios. Where the Specialty Admitted Insurance segment incurs incidental property risks in its program book of business, the segment has purchased coverage for \$4.0 million in excess of \$1.0 million per occurrence, in addition to the protection provided under the corporate \$40.0 million in excess of \$5.0 million catastrophe treaty. This is also intended to cover the 1 in 1,000 year modeled aggregate PML on any property exposures the Specialty Admitted Insurance segment assumes. In our Casualty Reinsurance segment, we believe that our maximum loss from a catastrophic event is approximately \$2.0 million and, as a result, we do not currently purchase retrocessional reinsurance coverage for property-catastrophe risks. In the aggregate, we believe our pre-tax group-wide PML from a 1 in 1,000 year catastrophic event is approximately \$10.0 million, inclusive of reinstatement premiums payable.

Purchased Casualty Reinsurance

In our Excess and Surplus Lines segment, there are five divisions where we only write \$1.0 million per occurrence limits (Commercial Auto, Manufacturers and Contractors, General Casualty, Small Business and Sports and Entertainment), and therefore, we do not purchase any specific reinsurance for these policies. In the other divisions, where we issue policies with larger limits, we purchase reinsurance in excess of \$1.0 million per occurrence.

In our Specialty Admitted Insurance segment, there are two distinct reinsurance strategies. For individual risk workers' compensation, we purchase \$29.4 million excess of \$600,000 per occurrence; and, effective October 1, 2017, we also purchased a 50% quota share coverage of the primary \$600,000. For our fronting and program business, we purchase proportional reinsurance and excess of loss reinsurance to limit our exposure to no more than \$500,000 per occurrence.

For both our Excess and Surplus Lines segment and our Specialty Admitted Insurance segment, we purchase a clash and contingency reinsurance treaty that covers all casualty business for \$10.0 million in excess of \$2.0 million per occurrence. This coverage is intended to respond in a situation where we have multiple insured losses from the same event.

In our Casualty Reinsurance segment, we currently do not purchase any material retrocessional reinsurance. In prior periods, we have purchased proportional and excess of loss retrocessional coverage for particular situations related to specific treaties, but have only done so on a limited basis.

For 2018, our top ten reinsurers represented 79.4% of our total ceded reinsurance recoverables, and all of these reinsurance recoverables were from reinsurers with an A.M. Best rating of "A-" (Excellent) or better or are collateralized with letters of credit or by a trust agreement. The following table sets forth our ten most significant reinsurers by amount of reinsurance recoverables on unpaid losses and the amount of reinsurance recoverables pertaining to each such reinsurer as well as its A.M. Best rating as of December 31, 2018:

Reinsurer	Reinsurance Recoverable as of December 31, 2018	A.M. Best Rating December 31, 2018
	<i>(in thousands)</i>	
Swiss Reinsurance America Corporation	\$ 151,590	A+
Berkley Insurance Company	47,867	A+
Safety National Casualty	44,130	A+
North Carolina Reinsurance Facility		Unrated ⁽¹⁾
	24,639	
Munich Reinsurance America	24,057	A+
Endurance Assurance Corporation		
	22,405	A+
Donegal Mutual Insurance Company	15,787	A
Cincinnati Insurance Company	14,997	A+
American European Insurance Company	13,044	B ⁽¹⁾
Partner Reinsurance Company Limited	12,780	A
Top 10 Total	371,296	
Other	96,075	
Total	\$ 467,371	

(1) These reinsurers are unrated, or below "A-". All material reinsurance recoverables from these reinsurers are collateralized.

Amounts Recoverable from an Indemnifying Party

The Company is a party to a set of insurance contracts with an insured group of companies under which the Company pays losses and loss adjustment expenses on the contract. The Company has indemnity agreements with this group of insured parties (non-insurance entities) and is contractually entitled to receive reimbursement for a significant portion of the losses and loss adjustment expenses paid on behalf of the insured parties and other expenses incurred by the Company. The insured parties are required to collateralize all amounts currently due to the Company and to provide additional collateral sufficient to cover the amounts that may be recoverable under the indemnity agreements, including among other things case loss and loss adjustment expense reserves, IBNR loss and loss adjustment expense reserves, extra contractual obligations and excess of policy limits liabilities. This collateral is currently provided through a collateral trust arrangement established in favor of the Company by a captive insurance company affiliate of the insured group. At December 31, 2018, the cash equivalent collateral held in the

collateral trust arrangement was approximately \$1,099.2 million, which exceeds the amount of claims receivable and unpaid reported losses and loss adjustment expenses outstanding. The Company has ongoing exposure to estimated losses and expenses on these contracts growing at a faster pace than growth in our collateral balances. In addition, we have credit exposure if our estimates of future losses and loss adjustment expenses and other amounts recoverable, which are the basis for establishing collateral balances, are lower than actual amounts paid or payable. The amount of our credit exposure in any of these instances could be material. To mitigate these risks, we closely and frequently monitor our exposure compared to our collateral held, and we request additional collateral when our analysis indicates that we have uncollateralized exposure.

Reserve Policy

We seek to establish reserves that will adequately meet our obligations. We have seven credentialed actuaries on staff, and we engage independent actuarial consultants to review our decisions regarding reserves twice a year.

We maintain reserves for specific claims incurred and reported, reserves for claims incurred but not reported (“IBNR”) and reserves for uncollectible reinsurance when appropriate. Our ultimate liability may be greater or less than current reserves. In the insurance industry, there is always the risk that reserves may prove inadequate. We continually monitor reserves using new information on reported claims and a variety of statistical techniques and adjust our estimates as necessary as experience develops or new information becomes known. Such adjustments (referred to as reserve development) are included in current operations. Anticipated inflation is reflected implicitly in the reserving process through analysis of cost trends and the review of historical development. We do not discount our reserves for losses and loss adjustment expenses to reflect estimated present value.

When setting our reserves, we use a blend of actuarial techniques that are chosen to reflect the nature of the lines of insurance we underwrite. We seek to be consistent and transparent in establishing our reserves.

In many cases, several years may elapse between the occurrence of an insured loss, the reporting of the loss and our eventual payment of the loss. We establish loss and loss adjustment expense reserves for the ultimate payment of all losses and loss adjustment expenses incurred. We estimate the reserve for losses and loss adjustment expenses using individual case-basis valuations of reported claims. We also use statistical analyses to estimate the cost of losses that have been incurred but not reported to us. These estimates are based on historical information and on estimates of future trends that may affect the frequency of claims and changes in the average cost of claims that may arise in the future. We also consider various factors such as:

- Loss emergence and insured reporting patterns;
- Underlying policy terms and conditions;
- Business and exposure mix;
- Trends in claim frequency and severity;
- Changes in operations;
- Emerging economic and social trends;
- Inflation;
- Changes in the regulatory and litigation environments; and
- Discussions with third-party actuarial consultants.

The procedures we use to estimate loss reserves assume that past experience, adjusted for the effects of current developments and anticipated trends, is an appropriate basis for predicting future events. It also assumes that adequate historical or other data exists upon which to make these judgments. These estimates are by their nature subjective and imprecise, and ultimate losses and loss adjustment expenses may vary from established reserves.

Our Reserve Committee consists of our Chief Actuary, Chief Executive Officer, Chief Financial Officer, and Chief Accounting Officer. Additionally, the presidents and chief actuaries of each of our three insurance segments assist in the evaluation of reserves in their respective segments. The Reserve Committee meets quarterly to review the actuarial recommendations made by each chief actuary and uses its best judgment to determine the best estimate to be recorded for the reserve for losses and loss adjustment expenses on our quarterly balance sheet.

The following table reflects our reserve development by segment during the calendar years 2018 to 2009 individually and in aggregate.

Segment	Excess and Surplus Lines	Specialty Admitted Insurance	Casualty Reinsurance	Grand Total
Calendar Year				
2018	\$ (15,012) ⁽¹⁾	\$ 5,560	\$ (8,220)	\$ (17,672)
2017	(20,023) ⁽²⁾	2,721	(4,170)	(21,472)
2016	24,079 ⁽³⁾	3,822	(4,185)	23,716
2015	25,424 ⁽⁴⁾	3,531	(12,637)	16,318
2014	27,283 ⁽⁵⁾	5,854	(5,719)	27,418
2013	40,734 ⁽⁶⁾	1,410	(4,692)	37,452
2012	20,122 ⁽⁷⁾	(4,898)	(16,617) ⁽⁸⁾	(1,393)
2011	21,034	1,712	(2,835)	19,911
2010	10,922	(381)	(857)	9,684
2009	3,193	1,591	(1,067)	3,717
Cumulative Development	<u>\$ 137,756</u>	<u>\$ 20,922</u>	<u>\$ (60,999)</u>	<u>\$ 97,679</u>

- (1) Includes \$20.7 million of adverse development in the commercial auto line of business that was primarily related to the 2016 contract year with one insured, partially offset by \$5.7 million of favorable development from other divisions.
- (2) Includes \$38.7 million of adverse development in the commercial auto line of business that was primarily related to the 2016 contract year with one insured, partially offset by \$18.6 million of favorable development from other divisions primarily from the 2014 through 2016 accident years.
- (3) Includes \$10.0 million of favorable development from the 2015 accident year, \$10.7 million from the 2014 accident year and \$4.5 million from the 2013 accident year.
- (4) Includes \$17.3 million and \$10.5 million of favorable development from the 2014 and 2013 accident year, respectively.
- (5) Includes \$7.9 million of favorable development from the 2011 accident year, \$4.2 million from the 2007 accident year and \$5.0 million from the 2009 accident year.
- (6) Includes \$11.8 million of favorable development from the 2009 accident year, \$7.3 million of favorable development from the 2007 accident year and \$5.8 million of favorable development from the 2008 accident year.
- (7) Includes \$8.0 million of favorable development from the 2009 accident year, \$4.3 million of favorable development from the 2008 accident year and \$4.1 million of favorable development from the 2007 accident year.
- (8) Includes \$9.0 million of adverse development on assumed crop business almost entirely from the 2011 accident year and \$7.6 million of adverse development on other assumed business.

Among the indicators of reserve strength that we monitor closely are the number of claims outstanding from a given year and the amount of IBNR reserves held on our balance sheet for claims that have been incurred but not yet reported to us. As a general rule, every known claim has a specific case reserve established against it which management believes is adequate to resolve the claim and pay attendant expenses based on information available at the time.

A significant portion of reported claims from prior policy years were closed at December 31, 2018. The table below sets forth the percentage of claims closed by policy year for our Excess and Surplus Lines and Specialty Admitted Insurance segments for the policy years indicated.

Percentage of Claims Closed at December 31, 2018

Policy Year	Excess and Surplus Lines Segment Excluding Commercial Auto	Excess and Surplus Lines Segment Commercial Auto	Specialty Admitted Insurance Segment Individual Risk Workers' Comp	Specialty Admitted Insurance Segment Fronting and Programs
2004	99.9%	—	99.8%	—
2005	99.8%	—	100.0%	—
2006	99.6%	—	100.0%	—
2007	99.3%	—	100.0%	—
2008	99.2%	—	99.8%	—
2009	99.0%	—	99.9%	—
2010	98.4%	—	99.9%	—
2011	97.4%	—	99.7%	—
2012	95.6%	—	99.8%	—
2013	95.0%	99.4%	100.0%	98.8%
2014	89.8%	98.9%	99.9%	98.2%
2015	86.2%	99.7%	99.1%	95.4%
2016	80.6%	97.6%	94.8%	87.8%
2017	74.5%	95.1%	77.3%	74.7%

Another indicator of reserve strength that we monitor closely is the percentage of our gross and net loss reserves that are comprised of IBNR reserves. The table below sets forth our IBNR, total gross reserves and the percentage that IBNR represents of the total gross reserves, in each case by segment and in the aggregate, at December 31, 2018. The percentage that IBNR represents of total gross reserves at December 31, 2018 is 62.4%.

	Gross Reserves at December 31, 2018		
	IBNR	Total	IBNR % of Total
	<i>(in thousands)</i>		
Excess and Surplus Lines	\$ 608,548	\$ 960,563	63.4%
Specialty Admitted Insurance	264,399	426,315	62.0%
Casualty Reinsurance	164,242	274,581	59.8%
Total	\$ 1,037,189	\$ 1,661,459	62.4%

The table below sets forth our IBNR, total net reserves and the percentage that IBNR represents of the total net reserves, in each case by segment and in the aggregate, at December 31, 2018. The percentage that IBNR represents of total net reserves at December 31, 2018 is 61.5%.

	Net Reserves at December 31, 2018		
	IBNR	Total	IBNR % of Total
	<i>(in thousands)</i>		
Excess and Surplus Lines	\$ 514,160	\$ 834,943	61.6%
Specialty Admitted Insurance	56,951	89,298	63.8%
Casualty Reinsurance	163,152	269,847	60.5%
Total	\$ 734,263	\$ 1,194,088	61.5%

Investment Strategy

We attempt to generate better than market average risk-adjusted returns in our investment portfolio by taking measured risks based upon detailed knowledge of certain niche asset classes. While we are willing to make investments in non-traditional types of investments, we avoid risks that we do not understand well, as well as structures or situations we think could cause

substantial loss of capital. The vast majority of our investment portfolio is managed by third party, independent investment managers.

The majority of our investment portfolio is invested in what we refer to as our Core Portfolio of investment grade fixed income securities. This portfolio provides predictable income with low risk of principal loss. We seek to augment the return on the Core Portfolio by investing in bank loans, higher yielding securities and private investments. We designed these strategies to improve our investment return and are focused on opportunistic investing in areas where we believe our management, directors or employees have expertise or understanding of the risk and return of the investment.

Our strategy is designed to earn higher returns than an investment grade fixed income approach alone while maintaining a high average portfolio credit rating and investing in asset classes and allocations that are consistent with the insurance regulatory and rating agency framework within which we operate. We generally focus on securities that provide some current income.

As a result of affiliated and third party reinsurance contracts, we have been able to grow our asset base at JRG Reinsurance Company Ltd, which is domiciled in Bermuda and is not subject to U.S. corporate taxation. At December 31, 2018, 54.9% of our cash and invested assets were held at JRG Re.

The prolonged low interest rate environment made it difficult for insurance companies to earn attractive returns on capital because of reduced investment income. If sustained, recent increases in interest rates will slowly improve investment income from fixed income investments. Our premium growth has allowed us to build our asset base. Cash and invested assets now represent 3.8 times our tangible equity.

A summary of our investment portfolio at December 31, 2018 is as follows:

Portfolio	December 31, 2018				
	Book Value	Market Value	Carrying Value	Book Yield	% of Carrying Value
<i>(\$ in thousands)</i>					
Core	\$ 1,243,616	\$ 1,226,946	\$ 1,226,946	2.96%	71.0%
Bank Loans	299,086	288,740	299,014	6.97%	17.3%
Incremental Yield	124,838	127,606	127,606	6.46%	7.4%
Private Investments			73,571	NA	4.3%
Total			1,727,137		100.0%
Less cash and cash equivalents in Core and Bank Loans			(49,291)		
Total Invested Assets			\$ 1,677,846		

We have generally managed our overall portfolio to a duration of 3 to 5 years. At December 31, 2018, the average duration of our investment portfolio was 3.4 years.

Core Portfolio

The Core Portfolio consists of cash and investment grade fixed income securities. Our objective in the Core Portfolio is to earn attractive risk-adjusted returns with a low risk of loss of principal. We use a third-party manager to manage the Core Portfolio.

Bank Loans

The Bank Loan portfolio primarily consists of investments in participations in syndicated bank loans, but may also include a small allocation of bonds. Bank loans in our portfolio are generally senior secured loans with an average credit quality of “B” as of December 31, 2018 and floating interest rates based on spreads over LIBOR. We believe bank loans are an attractive asset class because (1) floating-rate loans help to reduce our risk of loss in the event of rising interest rates, (2) the loans are generally senior secured, (3) the asset class has a history of relatively high recovery rates in the event of default, (4) the portfolio provides an attractive yield and (5) the maturities of the loans are relatively short (average of 5 years). We invest in this asset class by owning individual loan participations that are carried at amortized cost less any loan loss allowance. We have over nine years of experience in investing in this asset class through a third-party manager.

Incremental Yield Portfolio

The Incremental Yield Portfolio consists of investments in low investment grade and below investment grade bonds, preferred stocks, dividend paying common equities and exchange traded funds. The average credit quality of the fixed income securities in this portfolio as of December 31, 2018 is BBB. We generally invest in fixed income securities where we believe

that risk of default is low relative to the potential yield on the securities. We own preferred stocks, generally in the financial services industry. In some instances, we will purchase common equity securities and exchange traded funds. However, these purchases are generally used as an effective means to get access to a high yielding asset class. As of December 31, 2018, only \$9.5 million of the Incremental Yield Portfolio is invested in common equities and exchange traded funds.

Private Investment Portfolio

We make selective investments in private debt or equity securities in areas where we see significant opportunity or attractive risk and return characteristics. We focus on investments where we believe we have an understanding of the risk and opportunity and have the ability to monitor them closely. At December 31, 2018, we held 11 private investments with a total carrying value of \$73.6 million. Our portfolio consists of investments in wind and solar energy, banking, small cap equities, loans of middle market private equity sponsored companies, equity tranches of collateralized loan obligations (CLOs), and tranches of distressed home loans. We are opportunistic in our private investment strategy and our portfolio may grow or shrink based on the opportunities available to us. Despite being only 4.3% of our portfolio, we believe our Private Investment Portfolio has added meaningful returns to our tangible equity. Our Private Investment strategy has significant risk and not all investments are successful. As a result, we intentionally keep this portfolio as a small portion of the overall investment portfolio.

Our recent total returns on our portfolio are as follows:

	2016	2017	2018	Trailing 3 years Ended 2018
Core	2.34%	3.09%	0.73%	2.05%
Bank Loans	14.09%	6.56%	3.82%	8.07%
Incremental	9.23%	10.86%	0.42%	6.74%
Total	5.18%	4.49%	1.32%	3.65%

Total returns are calculated as the realized or unrealized gain or loss of an asset plus interest and dividends paid while the asset is held.

We consider a portion of our investment portfolio to be invested in non-traditional investments. We consider non-traditional investments to include investments that are (1) not rated bond or fixed income securities (2) non-listed equities or (3) investments that generally have less liquidity than rated bond or fixed income securities or listed equities. Non-traditional investments held at December 31, 2018 and their respective percentage of our total invested assets at such date consist of syndicated bank loans (15.6%), interests in limited liability companies that invest in renewable energy opportunities (1.8%), limited partnerships that invest in debt or equity securities (1.7%), notes receivable for renewable energy projects (0.5%), and a private debt security (0.3%). We will continue to actively review opportunities to invest in non-traditional assets and may invest in additional non-traditional assets in the future.

Our invested assets totaled \$1,677.8 million as of December 31, 2018. The weighted average credit rating of our portfolio of fixed maturity securities, bank loans and redeemable preferred stocks as of December 31, 2018 was “A”. We have intentionally maintained a cautious interest rate risk position by having an average duration of 3.4 years at December 31, 2018. This compares to an average duration at December 31, 2017 of 3.5 years. Based on the current duration of 3.4 years, a 1.0% increase in interest rates would result in a pre-tax decline in the market value of our portfolio of approximately \$55.1 million.

Insurance Cycle Management and Growth

The insurance and reinsurance business is cyclical in nature, with “hard” and “soft” cycles. Hard markets occur when insurance underwriters limit their exposure in a line of business or across their entire portfolio. When underwriters exercise restraint, insurance buyers are forced to pay more to induce underwriters to cover their risks. A hard market can also be created by economic expansions when capital committed to backing insurance policies does not grow as fast as the demand for insurance. There is generally a correlation between interest rates and the willingness of insurance companies to commit their capital to writing insurance. When fixed income yields are low, insurance companies need to raise insurance prices to improve underwriting results in order to offset loss of investment income.

We are currently in a growth phase for our U.S. primary operations. In both our Excess and Surplus Lines and Specialty Admitted Insurance segments, we are experiencing growth in premiums driven by stable rates as well as increases in policy count and exposures. The table below shows the changes in gross written premiums we have experienced in our operating segments from 2016 through 2018.

Gross Written Premiums	2018		2017		2016	
	\$	% Change	\$	% Change	\$	% Change
(\$ in thousands)						
Excess and Surplus Lines	\$ 656,538	23.8 %	\$ 530,120	42.9%	\$ 370,844	20.1%
Specialty Admitted Insurance	374,346	18.3 %	316,430	73.7%	182,221	100.3%
Casualty Reinsurance	135,889	(42.3)%	235,355	27.7%	184,333	6.9%
Total	<u>\$ 1,166,773</u>	7.8 %	<u>\$ 1,081,905</u>	46.7%	<u>\$ 737,398</u>	28.9%

In years prior to those presented, the business written at our U.S. primary operations has, at times, been subject to “soft” market conditions, reflected both in price decreases and reduced underlying exposures. The recession in the United States from 2008 to 2010 was a significant driver of these soft market conditions.

Our Excess and Surplus Lines segment is the most sensitive to hard and soft markets. We have, therefore, sought to diversify this business by geography, line of business and revenue stream. From 2006 to 2010, we reduced the gross written premiums in this business from \$249.1 million to \$116.1 million, or 53.4%. While we have been growing this business and achieving increasing or stable rates for several periods through December 31, 2018, there will likely be periods in the future where our growth moderates, stagnates or turns negative.

The Excess and Surplus Lines segment has historically been able to make an underwriting profit regardless of the state of the underwriting cycle. This segment's weighted average combined ratio for 2010 through 2018 is 86.7%.

Traditionally, admitted insurance lines have been very susceptible to market cycles. We believe this trend is continuing. We seek to isolate ourselves from these trends in our Specialty Admitted Insurance segment by writing lines of business we believe are slightly less competitive, by prudently purchasing reinsurance and by being willing to dramatically reduce our writings when market conditions warrant.

A material portion of the profitability we seek to achieve from our fronting business will come from fee income that is generated via policies that are issued by our insurance companies and then mostly or wholly reinsured to third parties. Because we earn substantial fees from underwriting business on which we retain little or no insurance risk, this business can be profitable to us even in soft market conditions. We have \$319.1 million of gross written premiums for fronting and program business for 2018 (\$30.5 million on a net basis), and we expect our fee income will continue to grow in future periods and provide us with a steady revenue stream that will be relatively insulated from conditions in the admitted insurance market.

In the Casualty Reinsurance segment, we have the ability to manage the cycle by growing or shrinking our business according to market conditions and the corresponding prices and terms being offered for the assumption of specific risks. We have a small team of nine people in Bermuda who underwrite and administer the business written by JRG Re in Bermuda. Accordingly, our overhead is low and does not necessitate us growing this business from its current size.

Competition

We compete in a variety of markets against a variety of competitors depending on the nature of the risk and coverage being underwritten. The competition for any one account may range from large international firms to smaller regional companies in the domiciles in which we operate. To remain competitive, our strategy includes, among other measures: (1) focusing on rate adequacy and underwriting discipline, (2) leveraging our distribution network, (3) controlling expenses, (4) maintaining financial strength and issuer credit ratings and (5) providing quality services to agents and policyholders.

Excess and Surplus Lines

Competition within the E&S lines marketplace comes from a wide range of carriers. In addition to mature E&S companies that operate nationwide, there is competition from carriers formed in recent years. The Excess and Surplus Lines segment may also compete with national and regional carriers from the standard market willing to underwrite selected accounts on an admitted basis. Competitors in this segment include ACE Westchester Specialty Group, Admiral Insurance Company (W. R. Berkley Corporation), AmRisc Insurance Company (BB&T - Branch Banking & Trust Company), Apollo Syndicate, Arrowhead General Insurance Agency, Inc., Axis Insurance Company (Axis Capital Holdings Limited), Beazley Group (Lloyd's), Brit Insurance (Lloyd's), Colony Specialty Insurance Company (Argo Group International Holdings, Ltd.), Evanston Insurance Company (Markel Corporation), First Mercury Insurance Company (Fairfax Financial Holdings, Ltd.), Gemini Insurance Company (W. R. Berkley Corporation), Hiscox Insurance Company (Lloyd's), Houston Casualty Company (a subsidiary of Tokio Marine HCC), Integrity Insurance, Kinsale Capital Group, Landmark American Insurance Company (RSUI Group - Alleghany Corporation), Lexington Insurance Company (American International Group, Inc.), Markel Corporation, Mt. Hawley Insurance Company (RLI Corp.), Navigators Insurance Company, OneBeacon (Intact Financial Corporation), RLI Corp., RSUI Group, Inc. (Alleghany Corporation), Scottsdale Insurance Company (Nationwide Mutual Group), Starr Insurance Company (C.V. Starr & Company), United Specialty Insurance Company, Ventus Risk Management (utilizing XL Catlin

Insurance Company paper - hedge fund and private investors for capital), and other large national and multi-national insurance carriers.

Specialty Admitted Insurance

Due to the diverse nature of the products offered by the Specialty Admitted Insurance segment, competition comes from various sources. The majority of the competition for our workers' compensation business comes from regional companies or regional subsidiaries of national carriers in the domiciles in which they operate. National carriers tend to compete for fronting and program accounts along all product lines. Competitors in our workers' compensation business include Builders Mutual Insurance Company, Accident Fund Insurance Company of America, W. R. Berkley Corporation, American Interstate Insurance Company (AMERISAFE, Inc.), and Amtrust Group. Competition for our fronting business includes State National (now part of Markel), Argo Group, Clear Blue, Spinnaker, Trisura, Red Point, Equity Insurance Company, Worth Insurance, Amtrust, and various Texas based county mutual insurance companies.

Casualty Reinsurance

The reinsurance industry is highly competitive. We expect to compete with major reinsurers, most of which are well-established, have a significant operating history and strong financial strength ratings and have developed long-standing client relationships. Competitors in this segment include AXA XL, Hamilton Re, MS Amlin, Odyssey Re, Sompo International Re, Tokio Millenium Re, Transatlantic Re, and various LLoyd's syndicates.

Regulation

Bermuda Insurance Regulation

The Insurance Act 1978 and related rules and regulations (the "Insurance Act"), which regulates the insurance business of both Carolina Re and JRG Re, provides that no person shall carry on insurance business in or from within Bermuda unless registered as an insurer under the Insurance Act by the Bermuda Monetary Authority (the "BMA"). The BMA, in deciding whether to grant registration, has broad discretion to act as it thinks fit in the public interest. The BMA is required by the Insurance Act to determine whether the applicant is a fit and proper body to be engaged in the insurance business and, in particular, whether it has, or has available to it, adequate knowledge and expertise. The registration of an applicant as an insurer is subject to its complying with the terms of its registration and such other conditions as the BMA may impose at any time.

It is not necessary that the insurance company be incorporated in Bermuda. A foreign corporation may obtain a permit under the Companies Act of Bermuda, 1981 (the "Companies Act") to carry on business in Bermuda and then be registered as an insurer in Bermuda under the Insurance Act.

The Insurance Act does not distinguish between insurers and reinsurers; companies are registered (licensed) under the Insurance Act as "insurers" (although in certain circumstances a condition to registration may be imposed to the effect that the company may carry on only reinsurance business). The Insurance Act uses the defined term "insurance business" to include reinsurance business.

The Insurance Act also grants to the BMA powers to supervise, investigate and intervene in the affairs of insurance companies.

An Insurance Advisory Committee appointed by the Bermuda Minister of Finance advises the BMA on matters connected with the discharge of the BMA's functions and subcommittees thereof supervise, investigate and review the law and practice of insurance in Bermuda, including reviews of accounting and administrative procedures.

The Insurance Act imposes solvency and liquidity standards on Bermuda insurance companies, as well as auditing and reporting requirements.

Certain significant aspects of the Bermuda insurance regulatory framework applicable to Class 3A insurers and/or Class 3B insurers are set forth below.

Classification of Insurers

The Insurance Act distinguishes between insurers carrying on long-term business, insurers carrying on general business and insurers carrying on special purpose business. There are six classifications of insurers carrying on general business, ranging from Class 1 insurers (pure captives) to Class 4 insurers (large commercial underwriters). Carolina Re is licensed as a Class 3A insurer and JRG Re is licensed as a Class 3B insurer and each is regulated as such under the Insurance Act.

Minimum Paid-Up Share Capital

A Class 3A insurer and a Class 3B insurer are each required to maintain fully paid up share capital of at least \$120,000.

Principal Representative and Principal Office

A Class 3A insurer and a Class 3B insurer are each required to maintain a principal office and to appoint and maintain a principal representative in Bermuda. For the purposes of the Insurance Act, the principal office of Carolina Re and JRG Re is located at Wellesley House, 2nd Floor, 90 Pitts Bay Road, Pembroke, HM 08, Bermuda. Carolina Re's and JRG Re's principal representative is Helen Gillis, the Chief Financial Officer of JRG Re.

Without a reason acceptable to the BMA, an insurer may not terminate the appointment of its principal representative, and the principal representative may not cease to act as such, unless 30 days' prior notice in writing to the BMA is given of the intention to do so.

It is the duty of the principal representative to forthwith notify the BMA where the principal representative reaches the view that there is a likelihood of the insurer (for which the principal representative acts) becoming insolvent, or on it coming to the knowledge of the principal representative, or the principal representative has reasonable grounds for believing, that a reportable "event" has occurred. Examples of a reportable "event" include a failure by the insurer to comply substantially with a condition imposed upon it by the BMA relating to a solvency margin or a liquidity or other ratio, a significant loss reasonably likely to cause the insurer to fail to comply with its enhanced capital requirement (discussed below) and the occurrence of a material change (as such term is defined under the Insurance Act) in its business operations.

Within 14 days of such notification to the BMA, the principal representative must furnish the BMA with a written report setting out all the particulars of the case that are available to the principal representative.

Where there has been a significant loss which is reasonably likely to cause the insurer to fail to comply with its enhanced capital requirement, the principal representative must also furnish the BMA with a capital and solvency return reflecting an enhanced capital requirement prepared using post-loss data. The principal representative must provide this within 45 days of notifying the BMA regarding the loss.

Furthermore, where a notification has been made to the BMA regarding a material change, the principal representative has 30 days from the date of such notification to furnish the BMA with unaudited interim statutory financial statements in relation to such period as the BMA may require, together with a general business solvency certificate in respect of those statements.

Head Office

A Class 3A insurer and a Class 3B insurer shall each maintain its head office in Bermuda. In determining whether the insurer satisfies this requirement, the BMA shall consider, *inter alia*, the following factors: (i) where the underwriting, risk management and operational decision making of the insurer occurs; (ii) whether the presence of senior executives who are responsible for, and involved in, the decision making related to the insurance business of the insurer are located in Bermuda; and (iii) where meetings of the board of directors of the insurer occur. In making its determination, the BMA may also have regard to (a) the location where management of the insurer meets to effect policy decisions of the insurer; (b) the residence of the officers, insurance managers or employees of the insurer; and (c) the residence of one or more directors of the insurer in Bermuda. This provision does not apply to an insurer that has a permit to conduct business in Bermuda under the Companies Act or the Non-Resident Insurance Undertakings Act 1967.

Loss Reserve Specialist

A Class 3A insurer and a Class 3B insurer are each required to appoint an individual approved by the BMA to be its loss reserve specialist. In order to qualify as an approved loss reserve specialist, the applicant must be an individual qualified to provide an opinion in accordance with the requirements of the Insurance Act and the BMA must be satisfied that the individual is fit and proper to hold such an appointment.

A Class 3A insurer and a Class 3B insurer are each required to submit annually an opinion of its approved loss reserve specialist with its capital and solvency return in respect of its total general business insurance technical provisions (i.e. the aggregate of its net premium provisions, net loss and loss expense provisions and risk margin, as each is reported in the insurer's statutory economic balance sheet). The loss reserve specialist's opinion must state, among other things, whether or not the aggregate amount of technical provisions shown in the statutory economic balance sheet as at the end of the relevant financial year (i) meets the requirements of the Insurance Act and (ii) makes reasonable provision for the total technical provisions of the insurer under the terms of its insurance contracts and agreements.

Annual Financial Statements

A Class 3A insurer and Class 3B insurer are each required to prepare and submit to the BMA, on an annual basis, audited financial statements which have been prepared under generally accepted accounting principles or international financial reporting standards ("GAAP financial statements") and audited statutory financial statements.

The Insurance Act prescribes rules for the preparation and substance of statutory financial statements (which include, in statutory form, a balance sheet, an income statement, a statement of capital and surplus and notes thereto). The statutory

financial statements include detailed information and analysis regarding premiums, claims, reinsurance and investments of the insurer.

The insurer's annual GAAP financial statements, and the auditor's report thereon, and the statutory financial statements are required to be filed with the BMA within four months from the end of the relevant financial year (unless specifically extended with the approval of the BMA). The statutory financial statements do not form a part of the public records maintained by the BMA but the GAAP financial statements are available for public inspection.

Declaration of Compliance

At the time of filing its statutory financial statements, a Class 3A insurer and a Class 3B insurer are each also required to deliver to the BMA a declaration of compliance, in such form and with such content as may be prescribed by the BMA, declaring whether or not the insurer has, with respect to the preceding financial year (i) complied with all requirements of the minimum criteria applicable to it, (ii) complied with the minimum margin of solvency as at its financial year end, (iii) complied with the applicable enhanced capital requirements as at its financial year end, (iv) complied with applicable conditions, directions and restrictions imposed on, or approvals granted to, the insurer and (v) complied with the minimum liquidity ratio for general business as at its financial year end. The declaration of compliance is required to be signed by two directors of the insurer, and if the insurer has failed to comply with any of the requirements referenced in (i) through (v) above or observe any limitations, restrictions or conditions imposed upon the issuance of its license, if applicable, the insurer will be required to provide the BMA with particulars of such failure in writing. A Class 3A insurer and a Class 3B insurer shall be liable to a civil penalty by way of a fine for failure to comply with a duty imposed on it in connection with the delivery of the declaration of compliance.

Annual Statutory Financial Return and Annual Capital and Solvency Return

A Class 3A insurer and a Class 3B insurer are each required to file with the BMA a statutory financial return no later than four months after its financial year end (unless specifically extended with the approval of the BMA).

The statutory financial return of an insurer shall consist of (i) an insurer information sheet, (ii) an auditor's report, (iii) the statutory financial statements and (iv) notes to the statutory financial statements.

The insurer information sheet shall state, among other matters, (i) whether the general purpose financial statements of the insurer for the relevant year have been audited and an unqualified opinion issued, (ii) the minimum margin of solvency applying to the insurer and whether such margin was met, (iii) whether or not the minimum liquidity ratio applying to the insurer for the relevant year was met and (iv) whether or not the insurer has complied with every condition attached to its certificate of registration. The insurer information sheet shall state if any of the questions identified in items (ii), (iii) or (iv) above is answered in the negative, whether or not the insurer has taken corrective action in any case and, where the insurer has taken such action, describe the action in an attached statement.

The directors are required to certify whether the minimum solvency margin has been met, and the independent approved auditor is required to state whether in its opinion it was reasonable for the directors to make this certification.

Where an insurer's accounts have been audited for any purpose other than compliance with the Insurance Act, a statement to that effect must be filed with the statutory financial return.

In addition, each year the insurer is required to file with the BMA a capital and solvency return along with its annual statutory financial return. The prescribed form of capital and solvency return comprises the insurer's Bermuda Solvency Capital Requirement ("BSCR") model or an approved internal capital model in lieu thereof, together with such schedules as prescribed by the Insurance (Prudential Standards) (Class 3A Solvency Requirement) Rules 2011 for Class 3A insurers and the Insurance (Prudential Standards) (Class 4 and 3B Solvency Requirement) Rules 2008 for Class 3B insurers, respectively, as each are amended from time to time.

Neither the statutory financial return nor the capital and solvency return is available for public inspection.

Quarterly Financial Return

A Class 3B insurer, not otherwise subject to group supervision, is required to prepare and file quarterly financial returns with the BMA on or before the last day of the months of May, August and November of each year. The quarterly financial returns consist of (i) quarterly unaudited financial statements for each financial quarter (which must minimally include a balance sheet and income statement and must also be recent and not reflect a financial position that exceeds two months), (ii) a list and details of material intra-group transactions that the Class 3B insurer is a party to and the Class 3B insurer's risk concentrations that have materialized since the most recent quarterly or annual financial returns, details surrounding all intra-group reinsurance and retrocession arrangements and other intra-group risk transfer insurance business arrangements that have materialized since the most recent quarterly or annual financial returns and (iii) details of the ten largest exposures to

unaffiliated counterparties and any other unaffiliated counterparty exposures exceeding 10% of the Class 3B insurer's statutory capital and surplus.

Public Disclosures

Pursuant to recent amendments to the Insurance Act, all commercial insurers and insurance groups are required to prepare and file with the BMA, and also publish on their web site, a financial condition report. The BMA has discretion to approve modifications and exemptions to the public disclosure rules on application by the insurer if, among other things, the BMA is satisfied that the disclosure of certain information will result in a competitive disadvantage or compromise confidentiality obligations of the insurer.

Independent Approved Auditor

A Class 3A insurer and a Class 3B insurer must each appoint an independent auditor who will audit and report on the insurer's GAAP financial statements and statutory financial statements, each of which are required to be filed annually with the BMA. The auditor must be approved by the BMA as the independent auditor of the insurer. If the insurer fails to appoint an approved auditor or at any time fails to fill a vacancy for such auditor, the BMA may appoint an approved auditor for the insurer and shall fix the remuneration to be paid to the approved auditor within 14 days, if not agreed sooner by the insurer and the auditor.

Non-insurance Business

No Class 3A insurer or Class 3B insurer may engage in non-insurance business unless that non-insurance business is ancillary to its core business. Non-insurance business means any business other than insurance business and includes carrying on investment business, managing an investment fund as operator, carrying on business as a fund administrator, carrying on banking business, underwriting debt or securities or otherwise engaging in investment banking, engaging in commercial or industrial activities and carrying on the business of management, sales or leasing of real property.

Minimum Liquidity Ratio

The Insurance Act provides a minimum liquidity ratio for general business insurers. A Class 3A insurer and a Class 3B insurer engaged in general business is required to maintain the value of its relevant assets at not less than 75% of the amount of its relevant liabilities. Relevant assets include cash and time deposits, quoted investments, unquoted bonds and debentures, first liens on real estate, investment income due and accrued, accounts and premiums receivable, reinsurance balances receivable, funds held by ceding reinsurers and any other assets which the BMA, on application in any particular case made to it with reasons, accepts in that case.

There are certain categories of assets which, unless specifically permitted by the BMA, do not automatically qualify as relevant assets, such as unquoted equity securities, investments in and advances to affiliates and real estate and collateral loans.

The relevant liabilities are total general business insurance reserves and total other liabilities less deferred income taxes and letters of credit, guarantees and other instruments.

Minimum Solvency Margin and Enhanced Capital Requirements

The Insurance Act provides that the value of the statutory assets of an insurer must exceed the value of its statutory liabilities by an amount greater than its prescribed minimum solvency margin ("MSM").

The MSM that must be maintained by a Class 3A insurer and a Class 3B insurer with respect to its general business is the greater of (i) \$1,000,000, (ii) 20% of the first \$6,000,000 of net premiums written (but if the net premiums written are in excess of \$6,000,000, the figure is \$1,200,000 plus 15% of net premiums written in excess of \$6,000,000) or (iii) 15% of the aggregate of net loss and loss expense provisions and other insurance reserves or (iv) 25% of the ECR (as defined below) as reported at the end of the relevant year.

Class 3A insurers and Class 3B insurers are also required to maintain available statutory economic capital and surplus at a level equal to or in excess of its enhanced capital requirement ("ECR") which is established by reference to either the BSCR model or an approved internal capital model.

The BSCR model is a risk-based capital model which provides a method for determining an insurer's capital requirements (statutory economic capital and surplus) by taking into account the risk characteristics of different aspects of the insurer's business. The BSCR formula establishes capital requirements for ten categories of risk: fixed income investment risk, equity investment risk, interest rate/liquidity risk, currency risk, concentration risk, premium risk, reserve risk, credit risk, catastrophe risk and operational risk. For each category, the capital requirement is determined by applying factors to asset, premium, reserve, creditor, probable maximum loss and operation items, with higher factors applied to items with greater underlying risk and lower factors for less risky items.

While not specifically referred to in the Insurance Act (or required thereunder), the BMA has also established a target capital level (“TCL”) for each Class 3A insurer and Class 3B insurer equal to 120% of its ECR. The TCL serves as an early warning tool for the BMA, and failure to maintain statutory capital at least equal to the TCL will likely result in increased regulatory oversight.

Any insurer which at any time fails to meet its MSM requirements must, upon becoming aware of such failure, immediately notify the BMA and, within 14 days thereafter, file a written report with the BMA containing particulars of the circumstances that gave rise to the failure and setting out its plan detailing specific actions to be taken and the expected timeframe in which the insurer intends to rectify the failure.

Any insurer which at any time fails to meet its applicable enhanced capital requirement shall, upon becoming aware of that failure or of having reason to believe that such a failure has occurred, immediately notify the BMA in writing and within 14 days of such notification file with the BMA a written report containing particulars of the circumstances leading to the failure, and a plan detailing the manner, specific actions to be taken and time within which the insurer intends to rectify the failure, and within 45 days of becoming aware of that failure or of having reason to believe that such a failure has occurred, furnish the BMA with (i) unaudited statutory economic balance sheets and unaudited interim statutory financial statements prepared in accordance with GAAP covering such period as the BMA may require; (ii) the opinion of a loss reserve specialist in relation to the total general business insurance technical provisions as set out in the economic balance sheet, where applicable; (iii) a general business solvency certificate in respect of the financial statements; and (iv) a capital and solvency return reflecting an enhanced capital requirement prepared using post failure data where applicable.

Eligible Capital

To enable the BMA to better assess the quality of an insurer’s capital resources, a Class 3A insurer and a Class 3B insurer are each required to disclose the makeup of its capital in accordance with the recently introduced “3-tiered eligible capital system”. Under this system, all of the insurer’s capital instruments will be classified as either basic or ancillary capital which in turn will be classified into one of three tiers based on their “loss absorbency” characteristics. Highest quality capital will be classified Tier 1 Capital, and lesser quality capital will be classified as either Tier 2 Capital or Tier 3 Capital. Under this regime, up to certain specified percentages of Tier 1, Tier 2 and Tier 3 Capital may be used to support the insurer’s MSM, ECR and TCL.

The characteristics of the capital instruments that must be satisfied to qualify as Tier 1, Tier 2 and Tier 3 Capital are set out in the Insurance (Eligible Capital) Rules 2012, and amendments thereto. Under these rules, Tier 1, Tier 2 and Tier 3 Capital may, until January 1, 2026, include capital instruments that do not satisfy the requirement that the instrument be non-redeemable or settled only with the issuance of an instrument of equal or higher quality upon a breach, or if it would cause a breach, of the ECR.

Where the BMA has previously approved the use of certain instruments for capital purposes, the BMA’s consent will need to be obtained if such instruments are to remain eligible for use in satisfying the MSM and the ECR.

Code of Conduct

The Insurance Code of Conduct (the “Insurance Code”) prescribes the duties, standards, procedures and sound business principles that must be complied with by all insurers registered under the Insurance Act. The BMA will assess an insurer’s compliance with the Insurance Code in a proportional manner relative to the nature, scale and complexity of its business. Failure to comply with the requirements of the Insurance Code will be taken into account by the BMA in determining whether an insurer is conducting its business in a sound and prudent manner as prescribed by the Insurance Act, may result in the BMA exercising its powers of intervention and investigation (see below) and will be a factor in calculating the operational risk charge under the insurer’s BSCR or approved internal model.

Restrictions on Dividends and Distributions

A Class 3A insurer and a Class 3B insurer are each prohibited from declaring or paying a dividend if it is in breach of its MSM, ECR or minimum liquidity ratio or if the declaration or payment of such dividend would cause such a breach. Where an insurer fails to meet its MSM or minimum liquidity ratio on the last day of any financial year, it will be prohibited from declaring or paying any dividends during the next financial year without the approval of the BMA.

In addition, a Class 3A insurer and a Class 3B insurer is prohibited from declaring or paying in any financial year dividends of more than 25% of its total statutory capital and surplus (as shown on its previous financial year’s statutory balance sheet), unless it files (at least seven days before payment of such dividends) with the BMA an affidavit signed by at least two directors (one of whom must be a Bermuda resident director if any of the insurer’s directors are resident in Bermuda) and the principal representative stating that it will continue to meet its solvency margin and minimum liquidity ratio. Where such an affidavit is filed, it shall be available for public inspection at the offices of the BMA.

Reduction of Capital

No Class 3A insurer or Class 3B insurer may reduce its total statutory capital by 15% or more, as set out in its previous year's financial statements, unless it has received the prior approval of the BMA. Total statutory capital consists of the insurer's paid in share capital, its contributed surplus (sometimes called additional paid in capital) and any other fixed capital designated by the BMA as statutory capital (such as letters of credit).

A Class 3A insurer or Class 3B insurer seeking to reduce its respective statutory capital by 15% or more, as set out in its previous year's financial statements, is also required to submit an affidavit signed by at least two directors (one of whom must be a Bermuda-resident director if any of the insurer's directors are resident in Bermuda) and the principal representative stating that the proposed reduction will not cause it to fail its relevant margins and such other information as the BMA may require. Where such an affidavit is filed, it shall be available for public inspection at the offices of the BMA.

Policyholder Priority

On July 30, 2018, the Insurance Amendment (No. 2) Act 2018 amended the Insurance Act to provide for the prior payment of policyholders' liabilities ahead of general unsecured creditors in the event of the liquidation or winding up of an insurer. The amendments provide *inter alia* that, subject to the prior payment of preferential debts under the Employment Act 2000 and the Companies Act, the insurance debts of an insurer must be paid in priority to all other unsecured debts of the insurer. Insurance debt is defined as a debt to which an insurer is or may become liable pursuant to an insurance contract, excluding debts owed to an insurer under an insurance contract where the insurer is the person insured. Insurance contract is defined as any contract of insurance, capital redemption contract or a contract that has been recorded as insurance business in the financial statements of the insurer pursuant to the Insurance Accounts 1981 or the Insurance Account Rules 2016, as applicable. The provisions became effective on January 1, 2019.

Fit and Proper Controller

The BMA maintains supervision over the controllers of all registered insurers in Bermuda.

A controller includes (i) the managing director of the registered insurer or its parent company, (ii) the chief executive of the registered insurer or of its parent company, (iii) a shareholder controller, and (iv) any person in accordance with whose directions or instructions the directors of the registered insurer or of its parent company are accustomed to act.

The definition of shareholder controller is set out in the Insurance Act, but generally refers to (i) a person who holds 10% or more of the shares carrying rights to vote at a shareholders' meeting of the registered insurer or its parent company, (ii) a person who is entitled to exercise 10% or more of the voting power at any shareholders' meeting of such registered insurer or its parent company, or (iii) a person who is able to exercise significant influence over the management of the registered insurer or its parent company by virtue of its shareholding or its entitlement to exercise, or control the exercise of, the voting power at any shareholders' meeting.

A shareholder controller that owns 10% or more, but less than 20% of the shares as described above is defined as a 10% shareholder controller. A shareholder controller that owns 20% or more, but less than 33% of the shares as described above is defined as a 20% shareholder controller. A shareholder controller that owns 33% or more but less than 50% of the shares as described above is defined as a 33% shareholder controller. A shareholder controller that owns 50% or more of the shares as described above is defined as a 50% shareholder controller.

As the shares of Carolina Re's and JRG Re's parent company are traded on a recognized stock exchange, a person who becomes a 10%, 20%, 33% or 50% shareholder controller of the insurer, shall, within 45 days, notify the BMA in writing that he or she has become such a controller. In addition, a person who is a shareholder controller of Carolina Re or JRG Re must serve on the BMA a notice in writing that he or she has reduced or disposed of his or her holding in the insurer where the proportion of voting rights in the insurer held by him or her will have reached or has fallen below 10%, 20%, 33% or 50% as the case may be, not later than 45 days after such disposal.

Any person who contravenes the Insurance Act by failing to give notice or knowingly becomes a controller of any description before the required 45 days has elapsed is guilty of an offence and liable to a fine of \$25,000 on summary conviction.

The BMA may file a notice of objection to any person who has become a controller of any description where it appears that such person is not or is no longer, a fit and proper person to be a controller of the registered insurer. Before issuing a notice of objection, the BMA is required to serve upon the person concerned a preliminary written notice stating the BMA's intention to issue formal notice of objection. Upon receipt of the preliminary written notice, the person served may, within 28 days, file written representations with the BMA, which shall be taken into account by the BMA in making their final determination. Any person who continues to be a controller of any description after having received a notice of objection shall be guilty of an

offense and shall be liable on summary conviction to a fine of \$25,000 (and a continuing fine of \$500 per day for each day that the offense is continuing) or, if convicted on indictment, to a fine of \$100,000 and/or two years in prison.

Notification by Registered Person of Change of Controllers and Officers

All registered insurers are required to give written notice to the BMA of the fact that a person has become, or ceased to be, a controller or officer of the insurer within 45 days of becoming aware of such fact. An officer in relation to a registered insurer means a director, chief executive or senior executive performing duties of underwriting, actuarial, risk management, compliance, internal audit, finance or investment matters.

Notification of Material Changes

All registered insurers are required to give notice to the BMA of their intention to effect a material change within the meaning of the Insurance Act. For the purposes of the Insurance Act, the following changes are material: (i) the transfer or acquisition of insurance business being part of a scheme falling under Section 25 of the Insurance Act or Section 99 of the Companies Act, (ii) the amalgamation with or acquisition of another firm, (iii) engaging in unrelated business that is retail business, (iv) the acquisition of a controlling interest in an undertaking that is engaged in non-insurance business which offers services and products to persons who are not affiliates of the insurer, (v) outsourcing all or substantially all of the company's actuarial, risk management compliance or internal audit functions, (vi) outsourcing all or a material part of an insurer's underwriting activity, (vii) the transfer other than by way of reinsurance of all or substantially all of a line of business, (viii) expansion into a material new line of business, (ix) the sale of an insurer, and (x) outsourcing of an officer role.

No registered insurer shall take any steps to give effect to a material change unless it has first served notice on the BMA that it intends to effect such material change, and before the end of 30 days, either the BMA has notified such company in writing that it has no objection to such change or that period has lapsed without the BMA having issued a notice of objection.

Before issuing a notice of objection, the BMA is required to serve upon the person concerned a preliminary written notice stating the BMA's intention to issue a formal notice of objection. Upon receipt of the preliminary written notice, the person served may, within 28 days, file written representations with the BMA which shall be taken into account by the BMA in making their final determination.

Group Supervision

The BMA may, in respect of an insurance group, determine whether it is appropriate for it to act as its group supervisor. An insurance group is defined as a group of companies that conducts insurance business. The BMA may make such determination where it ascertains that (i) the group is headed by a "specified insurer" (that is to say, it is headed by either a Class 3A, Class 3B or Class 4 general business insurer or a Class C, Class D or Class E long term insurer or another class of insurer designated by order of the BMA); or (ii) where the insurance group is not headed by a "specified insurer", where it is headed by a parent company which is incorporated in Bermuda or (iii) where the parent company of the group is not a Bermuda company, in circumstances where the BMA is satisfied that the insurance group is directed and managed from Bermuda or the insurer with the largest balance sheet total is a specified insurer.

Where the BMA determines that it should act as the group supervisor, it shall designate a specified insurer that is a member of the insurance group to be the designated insurer (the "Designated Insurer") and it shall give to the Designated Insurer and other applicable insurance regulatory authority written notice of its intention to act as group supervisor. Before the BMA makes a final determination whether or not to act as group supervisor, it shall take into account any written representations made by the Designated Insurer submitted within such period as is specified in the notice.

The BMA may exclude any company that is a member of an insurance group from group supervision on the application of the Designated Insurer, or on its own initiative, provided the BMA is satisfied that (i) the company is situated in a country or territory where there are legal impediments to cooperation and exchange of information, (ii) the financial operations of the company have a negligible impact on insurance group operations or (iii) the inclusion of the company would be inappropriate with respect to the objectives of group supervision.

The BMA may, on its own initiative or on the application of the relevant Designated Insurer, include within group supervision a company that is a member of the group that is not on the Register of Group Particulars (described below) if it is satisfied the financial operations of the company in question may have a material impact on the insurance group's operations and its inclusion would be appropriate having regard to the objectives of group supervision.

Once the BMA has been designated as group supervisor, the Designated Insurer must ensure that the insurance group of which it is a member appoints (i) an individual approved by the BMA who is qualified as a group actuary to provide an opinion on the insurance group's insurance technical provisions in accordance with the requirements of Schedule XIV "Group Statutory Economic Balance Sheet" of the Insurance (Prudential Standards) (Insurance Group Solvency Requirement) Rules 2011 and (ii) an auditor approved by the BMA to audit the financial statements of the group.

Pursuant to its powers under the Insurance Act, the BMA will maintain a register of particulars for every insurance group (the “Register of Group Particulars”) for which it acts as the group supervisor, detailing the names and addresses of (i) the Designated Insurer; (ii) each member company of the insurance group falling within the scope of group supervision; (iii) the principal representative of the insurance group in Bermuda; (iv) other competent authorities supervising other member companies of the insurance group; and (v) the insurance group auditors. The Designated Insurer must immediately notify the BMA of any changes to the above details entered on the Register of Group Particulars.

As group supervisor, the BMA will perform a number of supervisory functions including (i) coordinating the gathering and dissemination of relevant or essential information for going concerns and emergency situations, including the dissemination of information which is of importance for the supervisory task of other competent authorities; (ii) carrying out supervisory reviews and assessments of the insurance group; (iii) carrying out assessments of the insurance group’s compliance with the rules on solvency, risk concentration, intra-group transactions and good governance procedures; (iv) planning and coordinating through regular meetings held at least annually (or by other appropriate means) with other competent authorities, supervisory activities in respect of the insurance group, both as a going concern and in emergency situations; (v) coordinating enforcement actions that may need to be taken against the insurance group or any of its members; and (vi) planning and coordinating meetings of colleges of supervisors in order to facilitate the carrying out of the functions described above.

The BMA may, for the purposes of group supervision, make rules applying to Designated Insurers which take into account any activities of the insurance group of which they are members or of other members of the insurance group. Such rules may make provision for the assessment of the financial situation of the insurance group; the solvency position of the insurance group (including the imposition of prudential standards in relation to enhanced capital requirements, capital and solvency returns, insurance reserves and eligible capital that must be complied with by the Designated Insurers); the system of governance and risk management of the insurance group; intra-group transactions and risk concentrations; and supervisory reporting and disclosure in respect of the insurance group.

Supervision, Investigation, Intervention and Disclosure

The BMA may, by notice in writing served on a registered person or a designated insurer, require the registered person or designated insurer to provide such information and/or documentation as the BMA may reasonably require with respect to matters that are likely to be material to the performance of its supervisory functions under the Insurance Act. In addition, it may require such person’s auditor, underwriter, accountant or any other person with relevant professional skill of such registered person or designated insurer to prepare a report on any aspect pertaining thereto. In the case of a report, the person so appointed shall immediately give the BMA written notice of any fact or matter of which he becomes aware or which indicates to him that any condition attaching to his registration under the Insurance Act is not or has not, or may not be or may not have, been fulfilled and that such matters are likely to be material to the performance of its functions under the Insurance Act. If it appears to the BMA to be desirable in the interests of the clients of a registered person or relevant insurance group, the BMA may also exercise these powers in relation to subsidiaries, parent companies and other affiliates of the registered person or designated insurer.

If the BMA deems it necessary to protect the interests of the policyholders or potential policyholders of an insurer or insurance group, it may appoint one or more competent persons to investigate and report on the nature, conduct or state of the insurer’s or the insurance group’s business, or any aspect thereof, or the ownership or control of the insurer or insurance group. If the person so appointed thinks it necessary for the purposes of the investigation, such person may also investigate the business of any person who is or has been, at any relevant time, a member of the insurance group or of a partnership of which the person being investigated is a member. In this regard, it shall be the duty of every person who is or was a controller, officer, employee, agent, banker, auditor, accountant, barrister and attorney or insurance manager to produce to the person appointed such documentation as the appointed person may reasonably require for purposes of the investigation, and to attend and answer questions relevant to the investigation and to otherwise provide such assistance as may be necessary in connection therewith.

Where the BMA suspects that a person has failed to properly register under the Insurance Act or that a registered person or designated insurer has failed to comply with a requirement of the Insurance Act or that a person is not, or is no longer, a fit and proper person to perform functions in relation to a regulated activity, it may, by notice in writing, carry out an investigation into such person (or any other person connected thereto). In connection therewith, the BMA may require every person who is or was a controller, officer, employee, agent, banker, auditor, accountant, barrister and attorney or insurance manager to make a report and produce such documents in his care, custody and control and to attend before the BMA to answer questions relevant to the BMA’s investigation and to take such actions as the BMA may direct. The BMA may also enter any premises for the purposes of carrying out its investigation and may petition the court for a warrant if it believes a person has failed to comply with a notice served on him, there are reasonable grounds for suspecting the information or documentation produced in response to such notice is incomplete, or that its directions will not be complied with or that any relevant documents would be removed, tampered with or destroyed.

If it appears to the BMA that the business of the registered insurer is being conducted in a way that there is a significant risk of the insurer becoming insolvent or being unable to meet its obligations to policyholders, or that the insurer is in breach of the Insurance Act or any conditions imposed upon its registration, or the minimum criteria stipulated in the Insurance Act is not or has not been fulfilled in respect of a registered insurer, or that a person has become a controller without providing the BMA with the appropriate notice or in contravention of a notice of objection, or the registered insurer is in breach of its ECR, or that a designated insurer is in breach of any provision of the Insurance Act or the regulations or rules applicable to it, the BMA may issue such directions as it deems desirable for safeguarding the interests of policyholders or potential policyholders of the insurer or the insurance group. The BMA may, among other things, direct an insurer, for itself and in its capacity as designated insurer of the insurance group of which it is a member, (i) not to take on any new insurance business, (ii) not to vary any insurance contract if the effect would be to increase the insurer's liabilities, (iii) not to make certain investments, (iv) to realize certain investments, (v) to maintain in or transfer to the custody of a specified bank, certain assets, (vi) not to declare or pay any dividends or other distributions or to restrict the making of such payments, (vii) to limit its premium income, (viii) not to enter into specified transactions with any specified person or persons of a specified class, (ix) to provide such written particulars relating to the financial circumstances of the insurer as the BMA thinks fit, (x) as an individual insurer only, and not in its capacity as designated insurer, to obtain the opinion of a loss reserve specialist and submit it to the BMA, and/or (xi) to remove a controller or officer.

The BMA has the power to assist other regulatory authorities, including foreign insurance regulatory authorities, with their investigations involving insurance and reinsurance companies in Bermuda if it is satisfied that the assistance being requested is in connection with the discharge of regulatory responsibilities and that such cooperation is in the public interest. The grounds for disclosure by the BMA to a foreign regulatory authority without consent of the insurer are limited and the Insurance Act provides for sanctions for breach of the statutory duty of confidentiality.

Cancellation of Insurer's Registration

An insurer's registration may be cancelled by the BMA at the request of the insurer or on certain grounds specified in the Insurance Act. Failure by the insurer to comply with its obligations under the Insurance Act, or if the BMA believes that the insurer has not been carrying on business in accordance with sound insurance principles, would be examples of such grounds.

Certain Other Bermuda Law Considerations

Corporate Bermuda Law Considerations

Although James River Group Holdings, Ltd. is incorporated in Bermuda, it is designated as a non-resident for Bermuda exchange control purposes by the BMA. Pursuant to its non-resident status, James River Group Holdings, Ltd. may engage in transactions in currencies other than the Bermuda dollar, and there are no restrictions on its ability to transfer funds (other than funds denominated in Bermuda dollars) in and out of Bermuda or to pay dividends to non-residents who are holders of its common shares in currencies other than the Bermuda dollar.

In accordance with Bermuda law, share certificates are issued only in the names of companies, partnerships or individuals. In the case of an applicant acting in a special capacity (for example, as an executor or trustee), certificates may, at the request of the applicant, record the capacity in which the applicant is acting. Notwithstanding the recording of any such special capacity, we are not bound to investigate or see to the execution of any such trust. We will take no notice of any trust applicable to any of our common shares whether or not we have notice of such trust.

Each of James River Group Holdings, Ltd., Carolina Re and JRG Re is incorporated in Bermuda as an "exempted company." Under Bermuda law, exempted companies are companies formed for the purpose of conducting business outside Bermuda from a principal place of business in Bermuda. As a result, they are exempt from Bermuda laws restricting the percentage of share capital that may be held by non-Bermudians. However, exempted companies may not participate in certain business transactions, including: (i) the acquisition or holding of land in Bermuda except that required for their business and held by way of lease or tenancy for a term not exceeding 50 years or, with the consent of the Minister of Finance granted in his discretion by way of lease or tenancy for a term not exceeding 21 years in order to provide accommodation or recreational facilities for its officers and employees, (ii) the taking of mortgages on land in Bermuda to secure an amount in excess of B.D.\$50,000 without the consent of the Minister of Finance, (iii) the acquisition of any bonds or debentures secured by any land in Bermuda, other than certain types of Bermuda government securities or securities issued by Bermuda public authorities, or (iv) the carrying on of business of any kind in Bermuda, except in furtherance of business carried on outside Bermuda or under license granted by the Minister of Finance. Generally, it is not permitted without a special license granted by the Minister of Finance to insure Bermuda domestic risks or risks of persons of, in or based in Bermuda. Each of Carolina Re and JRG Re is a licensed insurer in Bermuda, and so it may carry on activities from Bermuda that are related to and in support of its insurance business.

Each of James River Group Holdings, Ltd., Carolina Re and JRG Re must comply with the provisions of the Companies Act regulating the payment of dividends and making distributions from contributed surplus. A company may not declare or pay

a dividend, or make a distribution out of contributed surplus, if there are reasonable grounds for believing that (i) it is, or would after the payment be, unable to pay its liabilities as they become due, or (ii) the realizable value of the assets would thereby be less than its liabilities. In addition, certain provisions of the Insurance Act will limit our ability to pay dividends.

Under the Companies Act, where a Bermuda company issues shares at a premium (that is, for a price above the par value), whether for cash or otherwise, a sum equal to the aggregate amount or value of the premium on those shares must be transferred to an account called “the share premium account.” The provisions of the Companies Act relating to the reduction of the share capital of a company apply as if the share premium account were paid up share capital of that company, except for certain matters such as: (i) paying up unissued shares to be issued to members as fully paid bonus shares, (ii) writing off the preliminary expenses of the company or the expenses of, or the commission paid or discount allowed on any issue of shares or debentures of the company, or (iii) providing for the premiums payable on redemption of shares or of any debentures of the company. The paid up share capital may not be reduced if, on the date the reduction is to be effected, there are reasonable grounds for believing that the company is, or after the reduction would be, unable to pay its liabilities as they become due. See “- Restrictions on Dividends and Distributions”.

Securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act 2003 and the Exchange Control Act 1972 and related regulations of Bermuda which regulate the sale of securities in Bermuda. In addition, the permission of the BMA is required under the provisions of the Exchange Control Act 1972 and related regulations for all issuances and transfers of shares of Bermuda companies to or from a non-resident of Bermuda for exchange control purposes, other than in cases where the BMA has granted a general permission. The BMA, in its notice to the public dated June 1, 2005, has granted a general permission for the issue and subsequent transfer of any securities of a Bermuda company from and/or to a non-resident of Bermuda for exchange control purposes for so long as any “equity securities” of the company (which would include our common shares) are listed on an “Appointed Stock Exchange” (which would include the NASDAQ Stock Market). In granting the general permission, the BMA accepts no responsibility for our financial soundness or the correctness of any of the statements made or opinions expressed herein.

We have received consent from the BMA to issue, grant, create, sell and transfer freely any of our shares, stock, bonds, notes (other than promissory notes), debentures, debenture stock, units under a unit trust scheme, shares in an oil royalty, options, warrants, coupons, rights and depository receipts to and among persons who are either resident or non-resident of Bermuda for exchange control purposes.

Bermuda Work Permit Considerations

Under Bermuda law, non-Bermudians (other than spouses of Bermudians and individuals holding permanent resident’s certificates) may not engage in any gainful occupation in Bermuda without the appropriate government standard work permit.

Standard work permits can be obtained for a one-, two-, three-, four- or five-year period. Where a standard work permit is being applied for, it is a requirement that the job must be advertised for three days (within an eight-day period) in the local newspaper in addition to the Bermuda Government Job Board. Should no Bermudian (or spouse of a Bermudian or holder of a permanent resident’s certificate) meet the minimum standards as stipulated in the advertisements, the employer may then apply for a standard work permit for the non-Bermudian. Employers must complete a Recruitment Disclosure Form and provide information, including the qualifications of all applicants. The Department of Immigration will compare the qualifications and experience of any Bermudian applicants (or spouse of a Bermudian or holder of a permanent resident’s certificate) to that stipulated in the advertisements and to the non-Bermudian to be satisfied that the role could not have been filled by a Bermudian (or spouse of a Bermudian or holder of a permanent resident’s certificate). In addition to the advertising, there are also many other documents that are required prior to the Department of Immigration making its decision.

If the position for which the standard work permit is being applied is that of a Chief Executive Officer or other chief officer post, the Minister of Home Affairs will waive the requirement to advertise the job and on occasion may waive the requirement to advertise for other senior executive positions.

If an employer wishes to change an employee’s job title, provided that the job description, duties, remuneration and benefits remain unchanged, the employer does not need to advertise or obtain the permission of the Minister of Home Affairs to do this, but it must inform the Department of Immigration and pay the necessary fee after the change has occurred.

If an employer wishes to promote an employee currently on a work permit from his current job to another within the same business, the permission of the Minister of Home Affairs must first be obtained. The employer will need to provide evidence of internal recruitment efforts and consideration of internal Bermudian candidates.

A temporary work permit can take up to 10 working days to process and a standard work permit can take up to four weeks to process.

U.S. Insurance Regulation

State Regulation

Our U.S. insurance subsidiaries are subject to extensive regulation and supervision by their state of domicile, as well as those states in which they do business. The purpose of such regulation and supervision is primarily to provide safeguards for policyholders, rather than to protect the interests of shareholders. The insurance laws of the various states establish regulatory agencies with broad administrative powers, including the power to grant or revoke operating licenses and regulate trade practices, investments, premium rates, deposits of securities, the form and content of financial statements and insurance policies, dividend limitations, cancellation and non-renewal of policies, accounting practices and the maintenance of specified reserves and capital for the protection of policyholders.

The payment of dividends by our subsidiaries to us is limited by statute. In general, the laws and regulations applicable to our domestic insurance subsidiaries limit the aggregate amount of dividends or other distributions that they may declare or pay within any 12 month period without advance regulatory approval. In Ohio, the domiciliary state of James River Insurance and Falls Lake National Insurance Company (formerly Stonewood National Insurance Company) (“Falls Lake National”), the limitation is the greater of statutory net income for the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of the earned surplus of each of the companies without obtaining regulatory approvals. In North Carolina, the domiciliary state of Stonewood Insurance, this limitation is the greater of statutory net income excluding realized capital gains for the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of unassigned surplus without obtaining regulatory approval. In Virginia, the domiciliary state of James River Casualty Company, this limitation is the greater of statutory net income excluding realized capital gains of the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of unassigned surplus without obtaining regulatory approval. In California, the domiciliary state of Falls Lake Fire and Casualty Company, this limitation is the greater of statutory net income for the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of unassigned surplus without obtaining regulatory approval. Moreover, as a condition to obtaining its license in California, Falls Lake Fire and Casualty Company provided a commitment to the California Department of Insurance that it would not pay any shareholder dividends for a five-year period commencing January 1, 2016. In addition, insurance regulators have broad powers to prevent reduction of statutory surplus to inadequate levels and could refuse to permit the payment of dividends calculated under any applicable formula.

Premium rate regulation varies greatly among jurisdictions and lines of insurance. In most states in which our subsidiaries write insurance, premium rates for the various lines of insurance are subject to either prior approval or limited review upon implementation. States require rates for property-casualty insurance that are adequate, not excessive, and not unfairly discriminatory.

Our insurance subsidiaries are required to file quarterly and annual reports with the appropriate regulatory agency in its state of domicile and with The National Association of Insurance Commissioners (“NAIC”) based on applicable statutory regulations, which differ from U.S. generally accepted accounting principles. Their business and accounts are subject to examination by such agencies at any time.

Many jurisdictions have laws and regulations that limit an insurer’s ability to withdraw from a particular market. For example, states may limit an insurer’s ability to cancel or non-renew policies. Furthermore, certain states prohibit an insurer from withdrawing one or more lines of business from the states, except pursuant to a plan approved by the state insurance department. Laws and regulations that limit cancellation and non-renewal and that subject program withdrawals to prior approval requirements may restrict our ability to exit unprofitable marketplaces in a timely manner.

State laws governing insurance holding companies and insurance companies require an insurance holding company and their insurance subsidiaries to register with the insurance department authority, to file certain reports disclosing information, including but not limited to capital structure, ownership, management, and financial condition. Such holding company laws also impose standards and filing requirements on certain transactions between related companies, which include, among other requirements, that all transactions be fair and reasonable, that an insurer’s surplus as regards policyholders be reasonable and adequate in relation to its liabilities and that expenses and payments be allocated to the appropriate party in accordance with customary accounting practices. These transactions between related companies include transfers of assets, loans, reinsurance agreements, service agreements, certain dividend payments by the insurance companies and certain other material transactions and modifications to such transactions. In 2012, the NAIC adopted significant changes to the insurance holding company act and regulations (the “NAIC Amendments”). The NAIC Amendments, when adopted by the various states, are designed to respond to perceived gaps in the regulation of insurance holding company systems in the United States. One of the major changes is a requirement that an insurance holding company system’s ultimate controlling person submit annually to its lead state insurance regulator an “enterprise risk report” that identifies activities, circumstances or events involving one or more affiliates of an insurer that, if not remedied properly, are likely to have a material adverse effect upon the financial condition or

liquidity of the insurer or its insurance holding company system as a whole. Other changes include (i) requiring a controlling person to submit prior notice to its domiciliary insurance regulator of its divestiture of control, (ii) having detailed minimum requirements for cost sharing and management agreements between an insurer and its affiliates and (iii) expanding the types of agreements between an insurer and its affiliates to be filed with its domiciliary insurance regulator. The NAIC Amendments must be adopted by a state legislature and such state's insurance regulator in order to be effective in that state. Each of California, North Carolina, Ohio, and Virginia, the states in which our U.S. insurance subsidiaries are domiciled, include this enterprise risk report. In addition, in 2012, the NAIC adopted the Risk Management and Own Risk and Solvency Assessment Model Act (the "ORSA Model Act"). The ORSA Model Act, when adopted by the various states, will require an insurance holding company system's Chief Risk Officer to submit at least annually to its lead state insurance regulator an Own Risk and Solvency Assessment Summary Report ("ORSA"). The ORSA is a confidential internal assessment, appropriate to the nature, scale and complexity of an insurer, of the material and relevant risks identified by the insurer associated with an insurer's current business plan and the sufficiency of capital resources to support those risks. The ORSA Model Act must be adopted by a state legislature in order to be effective in that state. Each of California, North Carolina, Ohio, and Virginia, the states in which our U.S. insurance subsidiaries are domiciled, adopted and require an ORSA filing.

The insurance holding company laws and regulations of the states in which our insurance companies are domiciled also generally require that before a person can acquire direct or indirect control of an insurer domiciled in the state, and in some cases prior to divesting its control, prior written approval must be obtained from the insurer's domiciliary state insurance regulator. In addition to insurance holding company laws and regulations, under the organizational permit issued by the California Department of Insurance to Falls Lake Fire and Casualty Company, Falls Lake Fire and Casualty Company, as a new insurer, was required to enter into an agreement with Falls Lake National restricting the transfer of Falls Lake Fire and Casualty Company's shares (the "Agreement Restricting Shares") for a five-year period commencing January 1, 2016. Specifically, under the agreement, the restriction on share transfer is released automatically without further approval or consent by the California Department of Insurance, or any other party, at the following respective times: 5% at the end of the first year of the 5-year restriction period; an additional 5% at the end of the second year; an additional 10% at the end of the third year; an additional 20% at the end of the fourth year; and the remainder at the end of the fifth year. Therefore, under the organizational permit and the Agreement Restricting Shares, Falls Lake National's ability to directly or indirectly transfer the shares of Falls Lake Fire and Casualty Company to anyone without the prior written approval of the California Department of Insurance is limited. These laws and the similar conditions applicable to Falls Lake Fire and Casualty Company's shares may discourage potential acquisition proposals and may delay, deter or prevent an investment in or a change of control involving us, or one or more of our regulated subsidiaries, including transactions that our management and some or all of our shareholders might consider desirable. Pursuant to applicable laws and regulations, "control" over an insurer is generally presumed to exist if any person, directly or indirectly, owns, controls, holds the power to vote or holds proxies representing, 10 percent or more of the voting securities of that insurer. Indirect ownership includes ownership of the Company's common shares.

Under state insurance guaranty fund laws, insurance companies doing business in a state can be assessed for certain obligations of insolvent insurance companies to such insolvent companies' policyholders and claimants. Maximum assessments allowed in any one year generally vary between one percent and two percent of annual premiums written in that state, but it is possible that caps on such assessments could be raised if there are numerous or large insolvencies. In most states, guaranty fund assessments are recoverable either through future policy surcharges or offsets to state premium tax liabilities.

The admitted market is subject to more state regulation than the E&S market, particularly with regard to rate and form filing requirements, restrictions on the ability to exit lines of business, premium tax payments and membership in various state associations, such as guaranty funds. Some states have deregulated their commercial insurance markets. We cannot predict the effect that further deregulation would have on our business, financial condition or results of operations.

The state insurance regulators utilize a risk-based capital model to help assess the capital and surplus adequacy of insurance companies in relation to investment and insurance risks and identify insurers that are in, or are perceived as approaching, financial difficulty. This model establishes minimum capital needs based on the risks applicable to the operations of the individual insurer. The risk-based capital requirements for property-casualty insurance companies measure three major areas of risk: asset risk, credit risk and underwriting risk. Under risk-based capital requirements, regulatory compliance is determined by the ratio of a company's total adjusted capital, as defined by the NAIC, to its company action level risk-based capital. Companies having less statutory surplus than required by the risk-based capital requirements are subject to varying degrees of regulatory scrutiny and intervention, depending on the severity of the inadequacy. At December 31, 2018, the Company's U.S.-based insurance subsidiaries had total adjusted statutory capital of \$241.7 million, which is in excess of the minimum risk-based capital requirement.

In response to the growing threat of cyber-attacks in the insurance industry, certain jurisdictions have begun to consider new cybersecurity measures, including the adoption of cybersecurity laws and regulations which, among other things, would require insurance companies to establish and maintain a cybersecurity program and implement and maintain cybersecurity policies and procedures. On October 24, 2017, the NAIC adopted its Insurance Data Security Model Law, intended to serve as

model legislation for states to enact in order to govern cybersecurity and data protection practices of insurers, insurance agents, and other licensed entities registered under state insurance laws. The New York Department of Financial Services issued new regulations governing cybersecurity requirements for financial services companies, which became effective on March 1, 2017. Ohio's governor signed Substitute Senate Bill 273 ("SSB 273") on December 19, 2018, which adopted cybersecurity requirements in Ohio that are similar to the NAIC Insurance Data Security Model Law. SSB 273 will become effective in early 2019. We are currently monitoring whether the other states in which we conduct business adopt the NAIC's Insurance Data Security Model Law.

From time to time, states consider and/or enact laws that may alter or increase state authority to regulate insurance companies and insurance holding companies. States also consider and/or enact laws that impact the competitive environment and marketplace for property-casualty insurance. Changes in legislation or regulations and actions by regulators, including changes in administrative and enforcement policies, could require operational modifications from time to time. We cannot predict the effect that such changes or actions would have on our business, financial condition or results of operations.

Federal Regulation

The U.S. federal government generally has not directly regulated the insurance industry except for certain areas of the market, such as insurance for flood, nuclear and terrorism risks. However, the U.S. federal government has undertaken initiatives or considered legislation in several areas that may impact the insurance industry, including tort reform, corporate governance and the taxation of reinsurance companies. The Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") established the Federal Insurance Office which is authorized to study, monitor and report to Congress on the insurance industry and to recommend that the Financial Stability Oversight Council ("FSOC") designate an insurer as an entity posing risks to the U.S. financial stability in the event of the insurer's material financial distress or failure. In December 2013, the Federal Insurance Office issued a report on alternatives to modernize and improve the system of insurance regulation in the United States, including by increasing national uniformity through either a federal charter or effective action by the states. Additionally, the Dodd-Frank Act streamlined E&S placements, the payment of E&S taxes, the regulation of credit for reinsurance, and simplified the process for insurers to become an eligible E&S insurer in the U.S. In addition, legislation has been introduced from time to time that, if enacted, could result in the U.S. federal government assuming a more direct role in the regulation of the insurance industry, including federal licensing in addition to or in lieu of state licensing and reinsurance for natural catastrophes. Changes to federal legislation and administrative policies in several areas, including changes in federal taxation, can also significantly impact the insurance industry and us.

On January 12, 2015, the Terrorism Risk Insurance Act of 2002 and its successors, the Terrorism Risk Insurance Extension Act of 2005 and the Terrorism Risk Insurance Program Reauthorization Act of 2007 (collectively, the "Terrorism Acts"), were extended until 2020. Under the Terrorism Acts, commercial property and casualty insurers, in exchange for making terrorism insurance available, may be entitled to be reimbursed by the federal government for a portion of their aggregate losses. As required by the Terrorism Acts, we offer policyholders in specific lines of commercial insurance the option to elect terrorism coverage.

In order for a loss to be covered under the Terrorism Acts, the loss must meet the aggregate industry loss minimum and must be the result of an act of terrorism as certified by the Secretary of the Treasury. Beginning in 2016, insurers participating in the Terrorism Acts are required to provide information regarding insurance coverage for terrorism losses, including: (i) lines of business with exposure to such losses, (ii) premiums earned on such coverage, (iii) geographical location of exposures, (iv) pricing of such coverage, (v) the take-up rate for such coverage, and (vi) the amount of private reinsurance for acts of terrorism purchased.

Geographic Information

For each of the years ended December 31, 2018, 2017 and 2016, 100% of our gross written premiums and net earned premiums were generated from policies issued to U.S.-based insureds.

Employees

As of December 31, 2018, we had 750 employees located in the United States and Bermuda. All of our employees are full time. Our employees are not subject to any collective bargaining agreement and we are not aware of any current efforts to implement such an agreement. We believe we have good working relations with our employees.

Intellectual Property

We hold U.S. federal service mark registration of our corporate logo and several other company trademark registrations with the U.S. Patent and Trademark Office. Such registrations protect our intellectual property from confusingly similar use. We monitor our trademarks and service marks and protect them from unauthorized use.

We use licensed and proprietary systems and technologies in our underwriting. The licenses have terms that expire at various times through 2028. We believe that we can utilize other available systems and technologies in the event that the licenses are not renewed upon their expiration.

Available Information

We file annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and other information with the SEC. The SEC maintains an Internet web site that contains reports, proxy and information statements and other information regarding issuers, including us, that file electronically with the SEC. The address of that site is <http://www.sec.gov>. Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and other information filed by us with the SEC are available, without charge, on our Internet web site, <http://www.jrgh.net>, as soon as reasonably practicable after they are filed electronically with the SEC. Copies are also available, without charge, by writing to us at James River Group Holdings, Ltd., Wellesley House, 2nd Floor, 90 Pitts Bay Road, Pembroke, HM 08, Bermuda. The information on our web site is not a part of this Annual Report.

Item 1A. RISK FACTORS

You should carefully consider the following risks, together with the cautionary statement under the caption “Special Note Regarding Forward-Looking Statements” above and the other information included in this Annual Report. The risks described below are not the only ones we face. Additional risks that are currently unknown to us or that we currently consider immaterial may also impair our business or materially adversely affect our financial condition or results of operations. If any of the following risks actually occurs, our business, financial condition or results of operation could be materially adversely affected.

Risks Related to Our Business and Industry

Our actual incurred losses may be greater than our loss and loss adjustment expense reserves, which could have a material adverse effect on our financial condition and results of operations.

Our financial condition and results of operations depend upon our ability to assess accurately the potential losses and loss adjustment expenses under the terms of the insurance policies or reinsurance contracts we underwrite. Reserves do not represent an exact calculation of liability. Rather, reserves represent an estimate of what we expect the ultimate settlement and administration of claims will cost us, and our ultimate liability may be greater or less than current reserves. These estimates are based on our assessment of facts and circumstances then known, as well as estimates of future trends in claim severity, claim frequency, judicial theories of liability and other factors. These variables are affected by both internal and external events that could increase our exposure to losses, including changes in actuarial projections, claims handling procedures, inflation, climate change, economic and judicial trends, and legislative changes. We continually monitor reserves using new information on reported claims and a variety of statistical techniques.

In the insurance and reinsurance industry, there is always the risk that reserves may prove inadequate, and actual results always differ from our reserve estimates. It is possible for insurance and reinsurance companies to underestimate the cost of claims. Our estimates could prove to be low, and this underestimation could have a material adverse effect on our financial strength.

Among the uncertainties we encounter in establishing our reserves for losses and related expenses in connection with our insurance businesses are:

- When we write “occurrence” policies in our Excess and Surplus Lines segment, we are obligated to pay covered claims, up to the contractually agreed amount, for any covered loss that occurs while the policy is in force. Losses can emerge many years after a policy has lapsed. Accordingly, our first notice of a claim or group of claims may arise many years after a policy has lapsed. Approximately 93% of our net casualty loss reserves in this segment are associated with “occurrence form” policies at December 31, 2018.
- Even when a claim is received (irrespective of whether the policy is a “claims made” or “occurrence” basis form), it may take considerable time to fully appreciate the extent of the covered loss suffered by the insured and, consequently, estimates of loss associated with specific claims can increase over time.
- New theories of liability are enforced retroactively from time to time by courts. See also “The effect of emerging claim and coverage issues on our business is uncertain” risk factor herein.
- Volatility in the financial markets, economic events and other external factors may result in an increase in the number of claims and the severity of the claims reported. In addition, elevated inflationary conditions could, among other things, cause loss costs to increase.
- If claims became more frequent, even if we had no liability for those claims, the cost of evaluating these potential claims could escalate beyond the amount of the reserves we have established. As we enter new lines of business, or as a result of new theories of claims, we may encounter an increase in claims frequency and greater claims handling costs than we had anticipated.
- We regularly enter new lines of insurance, and as a consequence, we sometimes have to make estimates of future losses for risk classes with which we do not have a great deal of experience. This lack of experience may contribute to making errors of judgment when establishing reserves.

In addition, reinsurance reserve estimates are typically subject to greater uncertainty than insurance reserve estimates, primarily due to reliance on the original underwriting decisions made by the ceding company. As a result, we are subject to the risk that our ceding companies may not have adequately evaluated the risks reinsured by us and the premiums ceded may not adequately compensate us for the risks we assume. Other factors resulting in additional uncertainty in establishing reinsurance reserves include:

- The increased lapse of time from the occurrence of an event to the reporting of the claim and the ultimate resolution or settlement of the claim.
- The diversity of development patterns among different types of reinsurance treaties.
- The necessary reliance on the ceding company for information regarding claims.

If any of our insurance or reinsurance reserves should prove to be inadequate for the reasons discussed above, or for any other reason, we will be required to increase reserves, resulting in a reduction in our net income and shareholders' equity in the period in which the deficiency is identified. Future loss experience substantially in excess of established reserves would also have a material adverse effect on future earnings and liquidity and financial rating, which would affect our ability to attract business and could affect our ability to retain or hire qualified personnel.

Our risk management is based on estimates and judgments that are subject to significant uncertainties.

Our approach to risk management relies on subjective variables that entail significant uncertainties. For example, we rely heavily on estimates of probable maximum losses for certain events that are generated by computer-run models. In addition, we rely on historical data and scenarios in managing credit and interest rate risks in our investment portfolio. These estimates, models, data and scenarios may not produce accurate predictions and consequently, we could incur losses both in the risks we underwrite and to the value of our investment portfolio.

Small changes in assumptions, which depend heavily on our judgment and foresight, can have a significant impact on the modeled outputs. Although we believe that these probabilistic measures provide a meaningful indicator of the relative risk of certain events and changes to our business over time, these measures do not predict our actual exposure to, nor guarantee our successful management of, future losses that could have a material adverse effect on our financial condition and results of operations.

If we are unable to retain key management and employees or recruit other qualified personnel, we may be materially adversely affected.

We believe that our future success depends, in large part, on our ability to retain our experienced management team and key employees. For instance, our specialty insurance operations require the services of a number of highly experienced employees, including underwriters, to source quality business and analyze and manage our risk exposure. There can be no assurance that we can attract and retain the necessary employees to conduct our business activities on a timely basis or at all. Our competitors may offer more favorable compensation arrangements to our key management or employees to incentivize them to leave our Company. Furthermore, our competitors may make it more difficult for us to hire their personnel by offering excessive compensation arrangements to certain employees to induce them not to leave their current employment and bringing litigation against employees who do leave (and possibly us as well) to join us. Although we have employment agreements with all of our executive officers, we do not have employment agreements with our senior underwriters or claims personnel. We do not have key person insurance on the lives of any of our key management personnel. Our inability to attract and retain qualified personnel and the loss of services of key personnel could have a material adverse effect on our financial condition and results of operations.

Adverse economic factors, including recession, inflation, periods of high unemployment or lower economic activity could result in the sale of fewer policies than expected or an increase in frequency or severity of claims and premium defaults or both, which, in turn, could affect our growth and profitability.

Factors such as business revenue, economic conditions, the volatility and strength of the capital markets and inflation can all affect the business and economic environment. These same factors affect our ability to generate revenue and profits. In an economic downturn that is characterized by higher unemployment, declining spending and reduced corporate revenues, the demand for insurance products is adversely affected, which directly affects our premium levels and profitability. Negative economic factors may also affect our ability to receive the appropriate rate for the risk we insure with our policyholders and may adversely affect the number of policies we can write, including with respect to our opportunities to underwrite profitable business. In an economic downturn, our customers may have less need for insurance coverage, cancel existing insurance policies, modify their coverage, self-insure their risks, or not renew with us. Existing policyholders may exaggerate or even falsify claims to obtain higher claims payments. These outcomes would reduce our underwriting profit to the extent these factors are not reflected in the rates we charge.

We underwrite a significant portion of our insurance in (i) the Excess and Surplus Lines segment in California, New York, Florida, Texas, and Illinois, (ii) the individual risk workers' compensation business of the Specialty Admitted Insurance segment in North Carolina, Virginia, South Carolina and Georgia, and (iii) the fronting and program business of the Specialty Admitted Insurance segment in California, Michigan, North Carolina, New York, Pennsylvania, and New Jersey. Any economic downturn in any such state could have a material adverse effect on our financial condition and results of operations.

A decline in our financial strength rating may result in a reduction of new or renewal business.

Companies, insurers and reinsurance brokers use ratings from independent ratings agencies as an important means of assessing the financial strength and quality of reinsurers. A.M. Best has assigned a financial strength rating of “A” (Excellent), which is the third highest of 15 ratings that A.M. Best issues, to each of James River Insurance, James River Casualty, Falls Lake Fire and Casualty, Falls Lake National, Stonewood Insurance and JRG Re. A.M. Best assigns ratings that are intended to provide an independent opinion of an insurance or reinsurance company’s ability to meet its obligations to policyholders and such ratings are not an evaluation directed to investors. A.M. Best periodically reviews our rating and may revise it downward or revoke it at its sole discretion based primarily on its analysis of our balance sheet strength (including capital adequacy and loss and loss adjustment expense reserve adequacy), operating performance and business profile. Factors that could affect such an analysis include but are not limited to:

- if we change our business practices from our organizational business plan in a manner that no longer supports our A.M. Best’s rating;
- if unfavorable financial, regulatory or market trends affect us, including excess market capacity;
- if our losses exceed our loss reserves;
- if we have unresolved issues with government regulators;
- if we are unable to retain our senior management or other key personnel;
- if our investment portfolio incurs significant losses; or
- if A.M. Best alters its capital adequacy assessment methodology in a manner that would adversely affect our rating.

These and other factors could result in a downgrade of our rating. A downgrade of our rating could cause our current and future brokers and agents, retail brokers and insureds to choose other, more highly-rated competitors. A downgrade of this rating could also increase the cost or reduce the availability of reinsurance to us, increase collateral required for our assumed reinsurance business, or trigger termination of assumed and/or ceded reinsurance contracts.

In addition, in view of the earnings and capital pressures recently experienced by many financial institutions, including insurance companies, it is possible that rating organizations will heighten the level of scrutiny that they apply to such institutions, will increase the frequency and scope of their credit reviews, will request additional information from the companies that they rate and may increase the capital and other requirements employed in the rating organizations’ models for maintenance of certain ratings levels. It is possible that such reviews of us may result in adverse ratings consequences, which could have a material adverse effect on our financial condition and results of operations. A downgrade below “A-” or withdrawal of any rating could severely limit or prevent us from writing new and renewal insurance or reinsurance contracts. See also “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Ratings.”

We distribute products through a select group of brokers and agents, several of which account for a significant portion of our business, and there can be no assurance that such relationships will continue, or if they do continue, that the relationship will be on favorable terms to us. In addition, reliance on brokers and agents subjects us to their credit risk.

We distribute our products through a select group of brokers and agents. In 2018:

- the Excess and Surplus Lines segment conducted business with two brokers that produced an aggregate of \$439.7 million in gross written premiums, or 67.0% of that segment’s gross written premiums for the year;
- the Specialty Admitted Insurance segment conducted business with one agency that produced \$201.7 million in gross written premiums, representing 53.9% of that segment’s gross written premiums for the year; and
- the Casualty Reinsurance segment conducted business with two brokers that generated \$96.4 million of gross written premiums, or 70.9% of that segment’s gross written premiums for the year.

We cannot assure you that the relationship with any of these brokers will continue. Even if the relationships do continue, they may not be on terms that are profitable for us. The termination of a relationship with one or more significant brokers or agents could result in lower direct written premiums and could have a material adverse effect on our results of operations or business prospects.

There is a continuing trend toward consolidation among retail and wholesale brokers and agents. As brokers and agents consolidate and competition among them declines, they may seek and receive higher commissions. Increases in commission expense could reduce our underwriting profit.

Certain premiums from policyholders, where the business is produced by brokers or agents, are collected directly by the brokers or agents and forwarded to our insurance subsidiaries. In certain jurisdictions, when the insured pays its policy premium to brokers or agents for payment on behalf of our insurance subsidiaries, the premiums might be considered to have been paid under applicable insurance laws and regulations. Accordingly, the insured would no longer be liable to us for those amounts, whether or not we have actually received the premiums from that broker or agent. Consequently, we assume a degree of credit risk associated with brokers and agents. Where necessary, we review the financial condition of potential new brokers and agents before we agree to transact business with them. Although failures by brokers and agents to remit premiums have not been material to date, there may be instances where brokers and agents collect premiums but do not remit them to us and we may be required under applicable law to provide the coverage set forth in the policy despite the absence of premiums.

Because the possibility of these events depends in large part upon the financial condition and internal operations of our brokers and agents (which in most cases is not public information), we are not able to quantify the exposure presented by this risk. If we are unable to collect premiums from brokers and agents in the future, underwriting profits may decline and our financial condition and results of operations could be materially adversely affected.

We rely on a select group of customers for a significant portion of our business, and the loss of any of these customers, or a material reduction in business with any of these customers, would materially adversely affect our rate of growth, results of operations and financial condition.

Our two largest customers accounted for approximately \$294.3 million (Rasier LLC and its affiliates) and \$201.7 million (Atlas General Insurance Services) of our gross written premium in 2018, representing 25.2% and 17.3% of our gross written premiums in 2018, respectively. No other insured generated 10.0% or more of consolidated gross written premiums for 2018. The loss of any of these customers, or a significant reduction in the amount of business that we conduct with such customers, could have a material adverse effect on our results of operations.

We are subject to credit risk with regard to our reinsurance counterparties, insurance companies with which we have a fronting arrangement and an indemnification arrangement we have with an insured group of companies.

Although reinsurance makes the assuming reinsurer liable to us to the extent of the risk ceded, we are not relieved of our primary liability to our insureds as the direct insurer. At December 31, 2018, reinsurance recoverables on unpaid losses from our three largest reinsurers was \$243.6 million in the aggregate and represented 52.1% of the total balance. Additionally, prepaid reinsurance premiums ceded to three reinsurers at December 31, 2018 was \$53.7 million in the aggregate, or 47.8% of the total balance of prepaid reinsurance premiums. At December 31, 2018, all of our material reinsurance recoverable amounts are from companies with A.M. Best ratings of “A-” or better or are collateralized by the reinsurer, but we cannot be sure that our reinsurers will pay all reinsurance claims on a timely basis or at all. For example, reinsurers may default in their financial obligations to us as the result of insolvency, lack of liquidity, operational failure, fraud, asserted defenses based on agreement wordings or the principle of utmost good faith, asserted deficiencies in the documentation of agreements or for other reasons. The failure of a reinsurer to pay us does not lessen our contractual obligations to insureds. If a reinsurer fails to pay the expected portion of a claim or claims, our net losses might increase substantially and materially adversely affect our financial condition. Any disputes with reinsurers regarding coverage under reinsurance contracts could be time-consuming, costly and uncertain of success.

Downgrades to the credit ratings of our reinsurance counterparties may result in the reduction of rating agency capital credit provided by those reinsurance contracts and could, therefore, result in a downgrade of our own credit ratings. In addition, under the reinsurance regulations, in many states where our U.S. insurance subsidiaries are domiciled, certain reinsurers are required to collateralize their obligations to us and to the extent they do not do so, our ability for regulators to recognize this reinsurance will be impaired. We evaluate each reinsurance claim based on the facts of the case, historical experience with the reinsurer on similar claims and existing case law and include any amounts deemed uncollectible from the reinsurer in our reserve for uncollectible reinsurance. See also “Business—Purchase of Reinsurance.”

Similarly, in our fronting business, which we conduct through our Specialty Admitted Insurance segment, we are primarily liable to the insureds because we have issued the policies. While we customarily require a collateral trust arrangement to secure the obligations of the insurance entity for which we are fronting, we do not obtain collateral in every instance and in situations where we do obtain collateral for the obligations of the other insurance entity, it is possible that the collateral could be insufficient to cover all claims, either as a result of a decline in the value of the collateral, an increase in the obligation being collateralized, or a failure of management to monitor the adequacy of the collateral held. In that event, we would be contractually entitled to recovery from the entity for which we are fronting, but it is possible that, for any of a variety of reasons, the other party could default in its obligations. See also “Business — Business Segments—Specialty Admitted Insurance Segment—Fronting & Program Business.”

In addition, we are exposed to credit risk relating to a set of insurance contracts with an insured group of companies under which the Company pays losses and loss adjustment expenses on the contracts. The insured group of companies are contractually obligated to reimburse us for a significant portion of the losses and loss adjustment expenses paid on behalf of the

insured parties. This reimbursement obligation is supported by collateral posted for our benefit, which cash equivalent collateral had a balance of approximately \$1,099.2 million as of December 31, 2018. If the insured group of companies fails to reimburse us, and the collateral posted for our benefit to support the insured group of companies' reimbursement obligations is insufficient, our financial condition and results of operations could be materially adversely affected. See "Business — Purchase of Reinsurance — Amounts Recoverable from an Indemnifying Party."

The failure of any of the loss limitations or exclusions we employ, or changes in other claims or coverage issues, could have a material adverse effect on our financial condition or results of operations.

Although we seek to mitigate our loss exposure through a variety of methods, the future is inherently unpredictable. It is difficult to predict the timing, frequency and severity of losses with statistical certainty. It is not possible to completely eliminate our exposure to unforecasted or unpredictable events and, to the extent that losses from such risks occur, our financial condition and results of operations could be materially adversely affected.

For instance, various provisions of our policies, such as limitations or exclusions from coverage or choice of forum, which have been negotiated to limit our risks, may not be enforceable in the manner we intend. At the present time, we employ a variety of endorsements to our policies that limit exposure to known risks.

In addition, we design our Excess and Surplus Lines segment's policy terms to manage our exposure to expanding theories of legal liability like those which have given rise to claims for lead paint, asbestos, mold, construction defects and environmental matters. Many of the policies we issue also include conditions requiring the prompt reporting of claims to us and entitle us to decline coverage in the event of a violation of that condition. Also, many of our policies limit the period during which a policyholder may bring a claim under the policy, which in many cases is shorter than the statutory period under which such claims can be brought against our policyholders. While these exclusions and limitations help us assess and reduce our loss exposure and help eliminate known exposures to certain risks, it is possible that a court or regulatory authority could nullify or void an exclusion or legislation could be enacted modifying or barring the use of such endorsements and limitations. These types of governmental actions could result in higher than anticipated losses and loss adjustment expenses, which could have a material adverse effect on our financial condition or results of operations. In some instances, these changes may not become apparent until sometime after we have issued insurance policies that are affected by the changes. As a result, the full extent of liability under our insurance contracts may not be known for many years after a contract is issued.

We have exposure to losses arising from unpredictable natural disasters, terrorist acts, and other catastrophic events. Claims from these events could reduce our earnings and cause volatility in our results of operations.

We have exposure to losses arising from unpredictable natural disasters, terrorist acts, and other catastrophic events. Natural disasters, terrorist acts, and other catastrophes can cause losses in a variety of our property-casualty lines and generally result in an increase in the number of claims filed as well as the amount of compensation sought by claimants.

The incidence and severity of catastrophes and terrorist acts are inherently unpredictable. The extent of losses from catastrophes is a function of the frequency of loss events, the total amount of insured exposure in the area affected by each event and the severity of the events. Claims from catastrophic events could exceed our amount of reinsurance purchased to protect us from such events, reduce our earnings and cash flows, cause volatility in our results of operations and cash flows for any fiscal period or materially impact our financial condition.

Changing climate conditions may increase the frequency and severity of catastrophic events and thereby adversely affect our financial condition and results.

Over the past several years, changing weather patterns and climatic conditions, such as global warming, appear to have contributed to the unpredictability, frequency and severity of natural disasters and created additional uncertainty as to future trends and exposures. There is a growing scientific consensus that global warming and other climate changes are increasing the frequency and severity of catastrophic weather events, such as hurricanes, tornadoes, windstorms, floods and other natural disasters. Such changes make it more difficult for us to predict and model catastrophic events, reducing our ability to accurately price our exposure to such events and mitigate our risks. Any increase in the frequency or severity of natural disasters may adversely affect our financial condition and results.

We may have exposure to losses from terrorism for which we are required by law to provide coverage regarding such losses.

U.S. insurers are required by state and federal law to offer coverage for terrorism in certain commercial lines, including workers' compensation. As discussed under "Business—Regulation—U.S. Insurance Regulation—Federal Regulation," the Terrorism Acts require commercial property and casualty insurance companies to offer coverage for acts of terrorism, whether foreign or domestic, and established a federal assistance program through the end of 2020 to help cover claims related to future terrorism-related losses. The impact of any terrorist act is unpredictable, and the ultimate impact on us would depend upon the nature, extent, location and timing of such an act.

The effect of emerging claim and coverage issues on our business is uncertain.

As industry practices and legal, judicial, social and other environmental conditions change, unexpected and unintended issues related to claims and coverage may emerge. These issues may materially adversely affect our business by either broadening coverage beyond our underwriting intent or by increasing the number or size of claims. In some instances, these changes may not become apparent until sometime after we have issued insurance or reinsurance contracts that are affected by the changes. As a result, the full extent of liability under our insurance or reinsurance contracts may not be known for many years after a contract is issued.

Three examples of unanticipated risks that affected the insurance industry are:

- Asbestos liability applied to manufacturers of products and contractors who installed those products;
- Apportionment of liability for settlement assigned to subcontractors who may have been involved in mundane tasks (such as installing sheetrock in a home); and
- Court decisions, such as the 1995 Montrose decision in California, that read policy exclusions narrowly so as to expand coverage, thereby requiring insurers to create and write new exclusions.

Our investment portfolio is subject to significant market and credit risks, which could result in a material adverse impact on our financial condition or results of operations.

Our results of operations depend, in part, on the performance of our investment portfolio. We seek to hold a diversified portfolio of investments that is managed by professional investment advisory management firms in accordance with our investment policy and periodically reviewed by our Investment Committee. However, our investments are subject to general economic conditions and market risks as well as risks inherent to particular securities.

Our primary market risk exposures are to changes in interest rates and equity prices. See Item 7A, “Quantitative and Qualitative Disclosures About Market Risk.” In recent years, interest rates have been at or near historic lows. A protracted low interest rate environment would continue to place pressure on net investment income, particularly related to fixed income securities and short-term investments, which, in turn, may materially adversely affect our operating results. Future increases in interest rates could cause the values of our fixed income securities portfolios to decline, with the magnitude of the decline depending on the duration of our portfolio and the amount by which interest rates increase. Some fixed income securities have call or prepayment options, which represent possible reinvestment risk in declining rate environments. Other fixed income securities such as mortgage-backed and asset-backed securities carry prepayment risk or, in a rising interest rate environment, may not pre-pay as quickly as expected. In addition, individual securities in our fixed income securities portfolio are subject to credit risk and default. Downgrades in the credit ratings of fixed maturities can have a significant negative effect on the market valuation of such securities.

The severe downturn in the public debt and equity markets beginning in 2008 resulted in significant realized and unrealized losses in our investment portfolio. In the event of another financial crisis, we could incur substantial realized and unrealized investment losses in future periods, which would have a material adverse impact on our financial condition, results of operations, debt and financial strength ratings, insurance subsidiaries’ capital liquidity and ability to access capital markets.

The value of our investment portfolio is subject to the risk that certain investments may default or become impaired due to deterioration in the financial condition of one or more issuers of the securities held, or due to deterioration in the financial condition of an insurer that guarantees an issuer’s payments of such investments. Such defaults and impairments could reduce our net investment income and result in realized investment losses.

We hold investments in actively-traded syndicated bank loans (15.6% of the carrying value of our invested assets as of December 31, 2018). Most of these loans are issued to sub-investment grade borrowers. While this class of investment has been profitable for us, a severe downturn in the markets could materially adversely affect the value of these investments, including the possibility that we would suffer substantial losses on this portfolio. As of December 31, 2018, the fair value of our investments in actively traded syndicated bank loans was \$250.7 million.

As of December 31, 2018, we held equity investments of \$29.8 million in non-public limited liability companies that have invested in renewable energy investments. These investments were sponsored and are managed by an entity for which two of our directors serve as officers. We invested in the equity of these projects because we anticipate earning attractive risk-adjusted returns from these investments. However, our investments in these projects are illiquid and the ultimate results from these investments may be unknown for some time.

We also invest in marketable equity securities. These securities are carried on the balance sheet at fair market value and are subject to potential losses and declines in market value. Our invested assets also include interests in limited partnerships and privately held debt investments totaling \$42.5 million at December 31, 2018. These investments were designed to provide diversification of risk and enhance the return on the overall portfolio. However, these investments entail substantial risks and

are generally illiquid. Our investment portfolio is subject to increased valuation uncertainties when investment markets are illiquid. The valuation of investments is more subjective when markets are illiquid, thereby increasing the risk that the estimated fair value (*i.e.*, the carrying amount) does not reflect prices at which actual transactions would occur.

Risks for all types of securities are managed through application of our investment policy, which establishes investment parameters that include (but are not limited to) maximum percentages of investment in certain types of securities and minimum levels of credit quality, which we believe are within guidelines established by the NAIC, BMA and various state insurance departments, as applicable.

Although we seek to preserve our capital, we cannot be certain that our investment objectives will be achieved, and results may vary substantially over time. In addition, although we seek to employ investment strategies that are not correlated with our insurance and reinsurance exposures, losses in our investment portfolio may occur at the same time as underwriting losses and, therefore, exacerbate the adverse effect of the losses on us.

We may become subject to additional government or market regulation which may have a material adverse impact on our business.

Market disruptions like those experienced during the credit-driven financial market collapse in 2008, as well as the dramatic increase in the capital allocated to alternative asset management during recent years, have led to increased governmental as well as self-regulatory scrutiny of the insurance industry in general. In addition, certain legislation proposing greater regulation of the industry is periodically considered by governing bodies of some jurisdictions as well as the U.S. federal government, and the credit-driven equity market collapse may increase the likelihood that some increased regulation of the industry is mandated.

Because we are a Bermuda company, we are subject to changes in Bermuda law and regulation that may have a material adverse impact on our operations, including through the imposition of tax liability or increased regulatory supervision. In addition, we will be exposed to any changes in the political environment in Bermuda.

Our business could be materially adversely affected by changes in state laws, including those relating to asset and reserve valuation requirements, surplus requirements, limitations on investments and dividends, enterprise risk and risk-based capital requirements and, at the federal level, by laws and regulations that may affect certain aspects of the insurance industry, including proposals for preemptive federal regulation. The U.S. federal government generally has not directly regulated the insurance industry except for certain areas of the market, such as insurance for flood, nuclear and terrorism risks. However, the U.S. federal government has undertaken initiatives or considered legislation in several areas that may affect the insurance industry, including tort reform, corporate governance and the taxation of reinsurance companies. The Dodd-Frank Act also established the Federal Insurance Office, which is authorized to study, monitor and report to Congress on the insurance industry and to recommend that the FSOC designate an insurer as an entity posing risks to U.S. financial stability in the event of the insurer's material financial distress or failure. In December 2013, the Federal Insurance Office issued a report on alternatives to modernize and improve the system of insurance regulation in the United States, including increasing national uniformity through either a federal charter or effective action by the states. Any additional regulations established as a result of the Dodd-Frank Act or actions in response to the Federal Insurance Office Report could increase our costs of compliance or lead to disciplinary action. In addition, legislation has been introduced from time to time that, if enacted, could result in the U.S. federal government assuming a more direct role in the regulation of the insurance industry, including federal licensing in addition to or in lieu of state licensing and reinsurance for natural catastrophes. We are unable to predict whether any legislation will be enacted or any regulations will be adopted, or the effect that any such developments could have on our business, financial condition or results of operations.

The Bermuda insurance and reinsurance regulatory framework has become subject to increased scrutiny in many jurisdictions. The BMA sought "regulatory equivalency" which enables Bermuda's commercial insurers to transact business with the European Union on a "level playing field". In connection with its initial efforts to achieve equivalency under Solvency II, the BMA implemented and imposed additional requirements on the companies it regulates, such as JRG Re and Carolina Re. On November 26, 2015, via delegated act, the European Commission granted Bermuda's commercial insurers full equivalence in all areas of Solvency II for an indefinite period of time. The European Commission's act was reviewed and approved by the European Parliament and Council. On March 4, 2016, the delegated act was published in the official journal of the European Union. The grant of full equivalence came into force on March 24, 2016 and applies from January 1, 2016.

Additionally, the regulatory environment surrounding information security and privacy is increasingly demanding. We are subject to numerous U.S. federal and state laws governing the protection of personal and confidential information of our clients and employees. We are subject to the New York Department of Financial Services' Cybersecurity Regulations, which came into effect on March 1, 2017. In addition, the NAIC adopted an Insurance Data Security Model Law on October 24, 2017, which would require licensed insurance entities to comply with detailed information security requirements. To date, Ohio and South Carolina have adopted the Insurance Data and Security Model Law. It is not yet known whether, and to what extent, other state legislatures or insurance regulators where we operate will enact the Insurance Data Security Model Law in whole or

in part, or in a modified form. Such enactments, especially if inconsistent between states or with existing laws and regulations, could raise compliance costs or increase the risk of noncompliance, with the attendant risk of being subject to regulatory enforcement actions and penalties, as well as reputational harm. Any such events could potentially have an adverse impact on our business, financial condition or results of operations.

It is impossible to predict what, if any, changes in the regulations applicable to us, the markets in which we operate, trade and invest or the counterparties with which we do business may be instituted in the future. Any such regulation could have a material adverse impact on our business.

We are subject to extensive regulation, which may materially adversely affect our ability to achieve our business objectives. In addition, if we fail to comply with these regulations, we may be subject to penalties, including fines and suspensions, which may materially adversely affect our financial condition and results of operations.

Our admitted insurance and reinsurance subsidiaries are subject to extensive regulation, primarily by California (the domiciliary state for Falls Lake Fire and Casualty Company), Ohio (the domiciliary state for James River Insurance and Falls Lake National), North Carolina (the domiciliary state for Stonewood Insurance), Virginia (the domiciliary state for James River Casualty), Bermuda (the domicile of JRG Re and Carolina Re), and to a lesser degree, the other jurisdictions in the United States in which we operate. Most insurance regulations are designed to protect the interests of insurance policyholders, as opposed to the interests of shareholders. These regulations generally are administered by a department of insurance in each state and, in the case of JRG Re and Carolina Re, the BMA in Bermuda, and relate to, among other things, authorizations to write certain lines of business, capital and surplus requirements, reserve requirements, rate and form approvals, investment and underwriting limitations, affiliate transactions, dividend limitations, cancellation and non-renewal of policies, changes in control, solvency, receipt of reinsurance credit, accounting principles and a variety of other financial and non-financial aspects of our business. These laws and regulations are regularly re-examined and any changes in these laws and regulations or new laws or interpretations thereof may be more restrictive, could make it more expensive to conduct business or otherwise materially adversely affect our financial condition or operations. State insurance departments and the BMA also conduct periodic examinations of the affairs of insurance companies and reinsurance companies and require the filing of annual and other reports relating to financial condition, holding company issues and other matters. These regulatory requirements may impose timing and expense or other constraints that could materially adversely affect our ability to achieve some or all of our business objectives.

In addition, regulatory authorities have broad discretion to deny or revoke licenses for various reasons, including the violation of regulations. For example, an insurer's registration may be cancelled by the BMA on certain grounds specified in the Insurance Act, including failure by the insurer to comply with its obligations under the Insurance Act, or if the BMA believes that the insurer has not been carrying on business in accordance with sound insurance principles. In some instances, where there is uncertainty as to applicability, we follow practices based on our interpretations of regulations or practices that we believe are generally followed by the industry. These practices may turn out to be different from the interpretations of regulatory authorities. If we do not have the requisite licenses and approvals or do not comply with applicable regulatory requirements, insurance regulatory authorities could preclude or temporarily suspend us from carrying on some or all of our activities or otherwise penalize us. This could materially adversely affect our ability to operate our business.

The admitted market is subject to more state regulation than the E&S market, particularly with regard to rate and form filing requirements, restrictions on the ability to exit lines of business, premium tax payments and membership in various state associations, such as guaranty funds. Some states have deregulated their commercial insurance markets. We cannot predict the effect that further deregulation would have on our business, financial condition or results of operations.

The NAIC has developed a system to test the adequacy of statutory capital of U.S.-based insurers, known as risk-based capital or "RBC," that many states have adopted. This system establishes the minimum amount of risk-based capital necessary for an insurer to support its overall business operations. It identifies property-casualty insurers that may be inadequately capitalized by looking at certain inherent risks of each insurer's assets and liabilities and its mix of net written premiums. Insurers falling below a calculated threshold may be subject to varying degrees of regulatory action, including supervision, rehabilitation or liquidation. Failure to maintain adequate risk-based capital at the required levels could materially adversely affect the ability of our insurance subsidiaries to maintain regulatory authority to conduct their business. See "Business—U.S. Insurance Regulation—State Regulation."

In addition, the various state insurance regulators have increased their focus on risks within an insurer's holding company system that may pose enterprise risk to the insurer. In 2012, the NAIC adopted the NAIC Amendments. The NAIC Amendments, when adopted by the various states, are designed to respond to perceived gaps in the regulation of insurance holding company systems in the United States. One of the major changes is a requirement that an insurance holding company system's ultimate controlling person submit annually to its lead state insurance regulator an "enterprise risk report" that identifies activities, circumstances or events involving one or more affiliates of an insurer that, if not remedied properly, are likely to have a material adverse effect upon the financial condition or liquidity of the insurer or its insurance holding company.

system as a whole. Other changes include (i) requiring a controlling person to submit prior notice to its domiciliary insurance regulator of a divestiture of control, (ii) having detailed minimum requirements for cost sharing and management agreements between an insurer and its affiliates and (iii) expanding the types of agreements between an insurer and its affiliates to be filed with its domiciliary insurance regulator. The NAIC Amendments must be adopted by a state legislature and such state's insurance regulator in order to be effective in that state. Each of California, North Carolina, Ohio and Virginia, the states in which our U.S. insurance subsidiaries are domiciled, include this enterprise risk report requirement.

In 2012, the NAIC also adopted the ORSA Model Act. The ORSA Model Act, when adopted by the various states, will require an insurance holding company system's Chief Risk Officer to submit annually to its lead state insurance regulator an ORSA. The ORSA is a confidential internal assessment appropriate to the nature, scale and complexity of an insurer of the material and relevant risks identified by the insurer associated with an insurer's current business plan and the sufficiency of capital resources to support those risks. The ORSA Model Act must be adopted by a state legislature in order to be effective in that state. Each of California, North Carolina, Ohio and Virginia, the states in which our U.S. insurance subsidiaries are domiciled, adopted and require an ORSA filing.

We cannot predict with certainty the effect any enacted, proposed or future state or federal regulation or NAIC initiative may have on the conduct of our business. Furthermore, there can be no assurance that the regulatory requirements applicable to our business will not become more stringent in the future or result in materially higher cost than current requirements. Changes in regulation of our business may materially reduce our profitability, limit our growth or otherwise materially adversely affect our operations.

We may be unable to obtain reinsurance coverage at reasonable prices or on terms that provide us adequate protection.

We purchase reinsurance in many of our lines of business to help manage our exposure to insurance and reinsurance risks that we underwrite and to reduce volatility in our results. In addition, JRG Re has managed its risk through retrocession arrangements with third-party reinsurers. A retrocession is a practice whereby a reinsurer cedes risk to one or more other reinsurers.

The availability and cost of reinsurance are subject to prevailing market conditions, both in terms of price and available capacity, each of which can affect our business volume and profitability. The availability of reasonably affordable reinsurance is a critical element of our business plan. One important way we utilize reinsurance is to reduce volatility in claims payments by limiting our exposure to losses from large risks. Another way we use reinsurance is to purchase substantial protection against concentrated losses when we enter new markets. As a result, our ability to manage volatility and avoid significant losses, expand into new markets or grow by offering insurance to new kinds of enterprises may be limited by the unavailability of reasonably priced reinsurance. We may not be able to obtain reinsurance on acceptable terms or from entities with satisfactory creditworthiness. In such event, if we are unwilling to accept the terms or credit risk of potential reinsurers, we would have to reduce the level of our underwriting commitments, which would reduce our revenues.

Many reinsurance companies have begun to exclude certain coverages from, or alter terms in, the reinsurance contracts we enter into with them. Some exclusions relate to risks that we cannot in turn exclude from the policies we write due to business or regulatory constraints. In addition, reinsurers are imposing terms, such as lower per occurrence and aggregate limits, on direct insurers that do not wholly cover the risks written by these direct insurers. As a result, we, like other direct insurance companies, write insurance policies which to some extent do not have the benefit of reinsurance protection. These gaps in reinsurance protection expose us to greater risk and greater potential losses. For example, certain reinsurers have excluded coverage for terrorist acts or priced such coverage at unreasonably high rates. Many direct insurers, including us, have written policies without terrorist act exclusions and in many cases we cannot exclude terrorist acts because of regulatory constraints. We may, therefore, be exposed to potential losses as a result of terrorist acts. See also "Business—Purchase of Reinsurance."

We, or agents we have appointed, may act based on inaccurate or incomplete information regarding the accounts we underwrite, or such agents may exceed their authority or commit fraud when binding policies on our behalf.

We, and our MGAs and other agents who have the ability to bind our policies, rely on information provided by insureds or their representatives when underwriting insurance policies. While we may make inquiries to validate or supplement the information provided, we may make underwriting decisions based on incorrect or incomplete information. It is possible that we will misunderstand the nature or extent of the activities or facilities and the corresponding extent of the risks that we insure because of our reliance on inadequate or inaccurate information.

In addition, in the Specialty Admitted Insurance segment, MGAs and other agents have the authority to bind policies on our behalf. If any such agents exceed their authority or engage in fraudulent activities, our financial condition and results of operations could be materially adversely affected.

We rely on our systems and employees, and those of certain third-party vendors and service providers in conducting our operations, and certain failures, including internal or external fraud, operational errors, systems malfunctions, or cyber-security incidents, could materially adversely affect our operations.

We are exposed to many types of operational risk, including the risk of fraud by employees and outsiders, clerical and recordkeeping errors and computer or telecommunications systems malfunctions. Our business depends on our ability to process a large number of increasingly complex transactions. If any of our operational, accounting, or other data processing systems fail or have other significant shortcomings, we could be materially adversely affected. Similarly, we depend on our employees and could be materially adversely affected if one or more of our employees causes a significant operational breakdown or failure, either as a result of human error, intentional sabotage or fraudulent manipulation of our operations or systems.

Third parties with whom we do business, including vendors that provide services or security solutions for our operations, could also be sources of operational and information security risk to us, including from breakdowns, failures, or capacity constraints of their own systems or employees. Any of these occurrences could diminish our ability to operate our business, or cause financial loss, potential liability to insureds, inability to secure insurance, reputational damage or regulatory intervention, which could materially adversely affect us.

We rely on our multiple proprietary operating systems as well as operating systems of third-party providers to issue policies, pay claims, run modeling functions and complete various internal processes. We may be subject to disruptions of such operating systems arising from events that are wholly or partially beyond our control, which may include, for example, electrical or telecommunications outages, natural or man-made disasters, such as earthquakes, hurricanes, floods or tornados, or events arising from criminal or terrorist acts. Such disruptions may give rise to losses in service to insureds and loss or liability to us. In addition, there is the risk that our controls and procedures as well as our business continuity, disaster recovery and data security systems prove to be inadequate. The computer systems and network systems we and others use could be vulnerable to unforeseen problems. These problems may arise in both our internally developed systems and the systems of third-party service providers. In addition, our computer systems and network infrastructure present security risks and could be susceptible to hacking, computer viruses, data breaches, or ransomware attacks. Any such failure could affect our operations and could materially adversely affect our results of operations by requiring us to expend significant resources to correct the defect, as well as by exposing us to litigation or losses not covered by insurance. Although we have business continuity plans and other safeguards in place, our business operations may be materially adversely affected by significant and widespread disruption to our physical infrastructure or operating systems and those of third-party service providers that support our business.

Our operations rely on the secure processing, transmission and storage of confidential information in our computer systems and networks. Our technologies, systems and networks may become the target of cyber-attacks or information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction of our or our insureds' or reinsured's confidential, proprietary and other information, or otherwise disrupt our or our insureds', reinsured's or other third parties' business operations, which in turn may result in legal claims, regulatory scrutiny and liability, reputational damage, the incurrence of costs to eliminate or mitigate further exposure and the loss of customers. Although to date we have not experienced any material losses relating to cyber-attacks or other information security breaches, there can be no assurance that we will not suffer such losses in the future. While we make efforts to maintain the security and integrity of our information technology networks and related systems, and we have implemented various measures and an incident response protocol to manage the risk of, or respond to, a security breach or disruption, there can be no assurance that our security efforts and measures will be effective or that attempted security breaches or disruptions would not be successful or damaging. Our risk and exposure to these matters remains heightened because of, among other things, the evolving nature of these threats and the outsourcing of some of our business operations. As a result, cyber-security and the continued development and enhancement of our controls, processes and practices designed to protect our systems, computers, software, data and networks from attack, damage or unauthorized access remain a priority. As cyber-threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities.

Disruptions or failures in the physical infrastructure or operating systems that support our business and customers, or cyber-attacks or security breaches of the networks, systems or devices that our customers use to access our products and services could result in customer attrition, regulatory fines, penalties or intervention, reputational damage, reimbursement or other compensation costs, and/or additional compliance costs, any of which could materially adversely affect our financial condition or results of operations.

We may not be able to manage our growth effectively.

We intend to grow our business in the future, which could require additional capital, systems development and skilled personnel. We cannot assure you that we will be able to meet our capital needs, expand and maintain our systems and our internal controls effectively, allocate our human resources optimally, identify and hire qualified employees or incorporate

effectively the components of any businesses we may acquire in our effort to achieve growth. The failure to manage our growth effectively could have a material adverse effect on our business, financial condition and results of operations.

If we are unable to underwrite risks accurately and charge competitive yet profitable rates to our policyholders, our business, financial condition and results of operations will be materially adversely affected.

In general, the premiums for our insurance policies are established at the time a policy is issued and, therefore, before all of our underlying costs are known. Like other insurance companies, we rely on estimates and assumptions in setting our premium rates. Establishing adequate premium rates is necessary, together with investment income, to generate sufficient revenue to offset losses, loss adjustment expenses and other underwriting costs and to earn a profit. If we do not accurately assess the risks that we assume, we may not charge adequate premiums to cover our losses and expenses, which would materially adversely affect our results of operations and our profitability. Alternatively, we could set our premiums too high, which could reduce our competitiveness and lead to lower revenues.

Pricing involves the acquisition and analysis of historical loss data and the projection of future trends, loss costs and expenses, and inflation trends, among other factors, for each of our products in multiple risk tiers and many different markets. In order to accurately price our policies, we:

- collect and properly analyze a substantial volume of data from our insureds;
- develop, test and apply appropriate actuarial projections and rating formulas;
- closely monitor and timely recognize changes in trends; and
- project both frequency and severity of our insureds' losses with reasonable accuracy.

We seek to implement our pricing accurately in accordance with our assumptions. Our ability to undertake these efforts successfully and, as a result, accurately price our policies, is subject to a number of risks and uncertainties, including:

- insufficient or unreliable data;
- incorrect or incomplete analysis of available data;
- uncertainties generally inherent in estimates and assumptions;
- our failure to implement appropriate actuarial projections and rating formulas or other pricing methodologies;
- regulatory constraints on rate increases;
- our failure to accurately estimate investment yields and the duration of our liability for loss and loss adjustment expenses; and
- unanticipated court decisions, legislation or regulatory action.

The insurance and reinsurance business is historically cyclical, and we may experience periods with excess underwriting capacity and unfavorable premium rates, which could materially adversely affect our business.

Historically, insurers and reinsurers have experienced significant fluctuations in operating results due to competition, frequency and severity of catastrophic events, levels of capacity, adverse trends in litigation, regulatory constraints, general economic conditions and other factors. We have experienced these types of fluctuations during our Company's short history. The supply of insurance and reinsurance is related to prevailing prices, the level of insured losses and the level of capital available to the industry that, in turn, may fluctuate in response to changes in rates of return on investments being earned in the insurance and reinsurance industry. As a result, the insurance and reinsurance business historically has been a cyclical industry characterized by periods of intense price competition due to excessive underwriting capacity as well as periods when shortages of capacity increased premium levels. Demand for insurance and reinsurance depends on numerous factors, including the frequency and severity of catastrophic events, levels of capacity, the introduction of new capital providers, general economic conditions and underwriting results of primary insurers. All of these factors fluctuate and may contribute to price declines generally in the insurance and reinsurance industry.

We cannot predict with certainty whether market conditions will improve, remain constant or deteriorate. Negative market conditions may impair our ability to underwrite insurance and reinsurance at rates we consider appropriate and commensurate relative to the risk assumed. If we cannot underwrite insurance or reinsurance at appropriate rates, our ability to transact business will be materially adversely affected. Any of these factors could lead to a material adverse effect on our business, financial condition and results of operations.

Our reinsurance business is subject to loss settlements made by ceding companies and fronting carriers, which could materially adversely affect our performance.

Where JRG Re enters into assumed reinsurance contracts with third parties, all loss settlements made by the ceding company will be unconditionally binding upon us, provided they are within the terms of the underlying policies and within the terms of the relevant contract. While we believe the ceding companies will settle such claims in good faith, we are bound to accept the claims settlements agreed to by the ceding companies. Under the underlying policies, each ceding company typically bears the burden of proving that a contractual exclusion applies to a loss, and there may be circumstances where the facts of a loss are insufficient to support the application of an exclusion. In such circumstances, we assume such losses under the reinsured policies, which could materially adversely affect our performance.

Our operating results have in the past varied from quarter to quarter and may not be indicative of our long-term prospects.

Our operating results are subject to fluctuation and have historically varied from quarter to quarter. We expect our quarterly results to continue to fluctuate in the future due to a number of factors, including the general economic conditions in the markets where we operate, the frequency of occurrence or severity of catastrophic or other insured events, fluctuating interest rates, claims exceeding our loss reserves, competition in our industry, deviations from expected renewal rates of our existing policies and contracts, adverse investment performance and the cost of reinsurance and retrocessional coverage.

In particular, we seek to underwrite products and make investments to achieve favorable returns on tangible equity over the long term. In addition, our opportunistic nature and focus on long-term growth in tangible equity may result in fluctuations in total premiums written from period to period as we concentrate on underwriting contracts that we believe will generate better long-term, rather than short-term, results. Accordingly, our short-term results of operations may not be indicative of our long-term prospects.

We could be forced to sell investments to meet our liquidity requirements.

We invest the premiums we receive from our insureds and ceding companies until they are needed to pay policyholder claims or until they are recognized as profits. Consequently, we seek to manage the duration of our investment portfolio based on the duration of our loss and loss adjustment expense reserves to ensure sufficient liquidity and avoid having to liquidate securities to fund claims. Risks such as inadequate loss and loss adjustment reserves or unfavorable trends in litigation could potentially result in the need to sell investments to fund these liabilities. Such sales could result in significant realized losses depending on the conditions of the general market, interest rates and credit issues with individual securities.

Our associates could take excessive risks, which could negatively affect our financial condition and business.

As an insurance enterprise, we are in the business of binding certain risks. The associates who conduct our business, including executive officers and other members of management, underwriters, sales managers, investment professionals, product managers, sales agents, and other associates, as well as MGAs, do so in part by making decisions and choices that involve exposing us to risk. These include decisions such as setting underwriting guidelines and standards, product design and pricing, determining which business opportunities to pursue and other decisions. We endeavor, in the design and implementation of our compensation programs and practices, to avoid giving our associates incentives to take excessive risks. Associates may, however, take such risks regardless of the structure of our compensation programs and practices. Similarly, although we employ controls and procedures designed to monitor associates' business decisions and prevent us from taking excessive risks, these controls and procedures may not be effective. If our associates take excessive risks, the impact of those risks could have a material adverse effect on our financial condition and business operations.

We may require additional capital in the future, which may not be available or available only on unfavorable terms.

Our future capital requirements depend on many factors, including our ability to write new and renewal business successfully and to establish premium rates and reserves at levels sufficient to cover losses. Our ability to underwrite depends largely upon the expected quality of our claims paying process and our perceived financial strength as estimated by potential insureds, brokers, other intermediaries and independent rating agencies. To the extent that our existing capital is insufficient to fund our future operating requirements, cover claim losses, or satisfy ratings agencies in order to maintain a satisfactory rating, we may need to raise additional capital in the future through offerings of debt or equity securities or otherwise to:

- fund liquidity needs caused by underwriting or investment losses;
- replace capital lost in the event of significant reinsurance losses or adverse reserve developments;
- satisfy letters of credit or guarantee bond requirements that may be imposed by our clients or by regulators;
- meet rating agency or regulatory capital requirements; or
- respond to competitive pressures.

Any equity or debt financing, if available at all, may be on terms that are unfavorable to us. Further, any additional capital raised through the sale of equity could dilute shareholders' ownership interest in the Company and would likely cause the value of our shares to decline. Additional capital raised through the issuance of debt would most likely result in creditors having rights, preferences and privileges senior or otherwise superior to those of the holders of our shares and may limit our flexibility in operating our business and make it more difficult to obtain capital in the future. Disruptions, uncertainty, or volatility in the capital and credit markets may also limit our access to capital required to operate our business. If we are not able to obtain adequate capital, or obtain it on favorable terms, our business, financial condition and results of operations could be materially adversely affected.

If we are unable to keep pace with the technological advancements in the insurance industry, our ability to compete effectively could be impaired.

We are committed to developing and maintaining information technology systems that will allow our insurance subsidiaries to compete effectively. There can be no assurance that the development of current technology for future use will not result in our being competitively disadvantaged, especially with those carriers that have greater resources. If we are unable to keep pace with the advancements being made in technology, our ability to compete with other insurance companies who have advanced technological capabilities will be negatively affected. Further, if we are unable to effectively execute and update or replace our key legacy technology systems as they become obsolete or as emerging technology renders them competitively inefficient, our competitive position and our cost structure could be adversely affected.

We operate in a highly competitive environment and we may not continue to be able to compete effectively against larger or more well-established business rivals.

We face competition from other specialty insurance companies, standard insurance companies and underwriting agencies, as well as from diversified financial services companies that are larger than we are and that have greater financial, marketing and other resources than we do. Some of these competitors also have longer experience and more market recognition than we do in certain lines of business. In addition, it may be difficult or prohibitively expensive for us to implement technology systems and processes that are competitive with the systems and processes of these larger companies.

In particular, competition in the insurance and reinsurance industry is based on many factors, including price of coverage, the general reputation and perceived financial strength of the company, relationships with brokers, terms and conditions of products offered, ratings assigned by independent rating agencies, speed of claims payment and reputation, and the experience and reputation of the members of our underwriting team in the particular lines of insurance and reinsurance we seek to underwrite. See "Business—Competition."

A number of new, proposed or potential legislative or industry developments could further increase competition in our industry. These developments include:

- An increase in capital-raising by companies in our lines of business, which could result in new entrants to our markets and an excess of capital in the industry;
- The deregulation of commercial insurance lines in certain states and the possibility of federal regulatory reform of the insurance industry, which could increase competition from standard carriers for our E&S lines of insurance business; and
- Changing practices facilitated by the Internet may lead to greater competition in the insurance business. Among the possible changes are shifts in the way in which commercial insurance is purchased, which could affect both admitted and E&S lines.

We currently depend largely on the wholesale distribution model for our Excess and Surplus Lines segment's premiums. If the wholesale distribution model were to be significantly altered by changes in the way E&S lines risks are marketed, including, without limitation, through use of the Internet, it could have a material adverse effect on our premiums, underwriting results and profits.

There is no assurance that we will be able to continue to compete successfully in the insurance or reinsurance markets. Increased competition in these markets could result in a change in the supply and/or demand for insurance or reinsurance, affect our ability to price our products at risk-adequate rates, affect our ability to retain business with existing customers, or underwrite new business on favorable terms. If this increased competition so limits our ability to transact business, our operating results could be materially adversely affected.

If actual renewals of our existing contracts do not meet expectations, our premiums written in future years and our future results of operations could be materially adversely affected.

Most of our contracts are written for a one-year term. In our financial forecasting process, we make assumptions about the renewal of our prior year's contracts. The insurance and reinsurance industries have historically been cyclical businesses with intense competition, often based on price. If actual renewals do not meet expectations or if we choose not to write a renewal because of pricing conditions, our premiums written in future years and our future operations would be materially adversely affected.

We may change our underwriting guidelines or our strategy without shareholder approval.

Our management has the authority to change our underwriting guidelines or our strategy without notice to our shareholders and without shareholder approval. As a result, we may make fundamental changes to our operations without shareholder approval, which could result in our pursuing a strategy or implementing underwriting guidelines that may be materially different from the strategy or underwriting guidelines described in the section titled "Business" or elsewhere in this Annual Report.

Litigation and legal proceedings against our subsidiaries could have a material adverse effect on our business, financial condition and/or results of operations.

As an insurance and reinsurance holding company, our subsidiaries are named as defendants in various legal actions in the ordinary course of business. We believe that the outcome of presently pending matters, individually and in the aggregate, will not have a material adverse effect on our consolidated financial position. However, the outcomes of lawsuits cannot be predicted and, if determined adversely, could require us to pay significant damage amounts or to change aspects of our operations, which could have a material adverse effect on our financial results.

Changes in accounting practices and future pronouncements may materially affect our reported financial results.

Developments in accounting practices may require us to incur considerable additional expenses to comply, particularly if we are required to prepare information relating to prior periods for comparative purposes or to apply the new requirements retroactively. The impact of changes in current accounting practices and future pronouncements cannot be predicted but may affect the calculation of net income, shareholders' equity and other relevant financial statement line items.

Further, our U.S. insurance subsidiaries are required to comply with statutory accounting principles ("SAP"). SAP and various components of SAP (such as actuarial reserving methodology) are subject to constant review by the NAIC and its task forces and committees, as well as state insurance departments, in an effort to address emerging issues and otherwise improve financial reporting. Various proposals are pending before committees and task forces of the NAIC, some of which, if enacted, could have negative effects on insurance industry participants. The NAIC continuously examines existing laws and regulations in the United States. We cannot predict whether or in what form such reforms will be enacted and, if so, whether the enacted reforms will positively or negatively affect us.

In addition, the NAIC Accounting Practices and Procedures manual provides that state insurance departments may permit insurance companies domiciled in their jurisdiction to depart from SAP by granting them permitted accounting practices. We cannot predict whether or when the insurance departments of the states of domicile of our competitors may permit them to utilize advantageous accounting practices that depart from SAP, the use of which may not be permitted by the insurance departments of the states of domicile of our U.S. insurance subsidiaries. Further, we cannot assure that future changes to SAP or components of SAP or the grant of permitted accounting practices to our competitors will not have a negative impact on us.

Our ability to implement our business strategy could be delayed or adversely affected by Bermuda employment restrictions relating to the ability to obtain and retain work permits for key employees in Bermuda.

Under Bermuda law, non-Bermudians (other than spouses of Bermudians and holders of permanent residents' certificates) may not engage in any gainful occupation in Bermuda without a valid government work permit. A work permit may be granted or renewed upon showing that, after proper public advertisement, no Bermudian, spouse of a Bermudian or a holder of a permanent resident's certificate who meets the minimum standards reasonably required by the employer has applied for the job. A work permit is issued with an expiry date (up to five years) and no assurances can be given that any work permit will be issued or, if issued, renewed upon the expiration of the relevant term. If work permits are not obtained or are not renewed for our key employees (other than our Chief Executive Officer, who holds Bermudian and United States citizenship and therefore is not required to have a work permit in Bermuda or in any other jurisdiction in which we operate), we would lose their services, which could materially affect our business.

If California, North Carolina, Ohio, or Virginia significantly increase the assessments our insurance companies are required to pay, our financial condition and results of operations will suffer.

Our insurance companies are subject to assessments in California (the domiciliary state for Falls Lake Fire and Casualty Company), North Carolina (the domiciliary state for Stonewood Insurance), Ohio (the domiciliary state for James River Insurance and Falls Lake National) and Virginia (the domiciliary state for James River Casualty), for various purposes, including the provision of funds necessary to fund the operations of the various insurance departments and the state funds that pay covered claims under certain policies written by impaired, insolvent or failed insurance companies. These assessments are generally set based on an insurer's percentage of the total premiums written in the insurer's state within a particular line of business. As our U.S.-based insurance subsidiaries grow, our share of any assessments may increase. We cannot predict with certainty the amount of future assessments because they depend on factors outside our control, such as insolvencies of other insurance companies. Significant assessments could result in higher than expected operating expenses and have a material adverse effect on our financial condition or results of operations.

Our use of third-party claims administrators in certain lines of business may result in higher losses and loss adjustment expenses.

Historically, our Excess and Surplus Lines and Specialty Admitted Insurance segments handled all claims using employed staff. As we have entered new lines of business, we now use third-party claims administrators and contract employees to administer claims subject to the supervision of our employed staff. It is possible that these contract employees and third-party claims administrators may achieve less desirable results on claims than has historically been the case for our internal staff, which could result in significantly higher losses and loss adjustment expenses in those lines of business.

Risks Related to Taxation

The ongoing effect of the 2017 Tax Act may have a significant impact on the Company.

The Tax Act, enacted on December 22, 2017, introduced significant changes to the Code. The Tax Act contains provisions that reduce the highest marginal U.S. corporate tax rate from 35% to 21%, impose a BEAT on income of a U.S. corporation determined without regard to certain otherwise deductible payments made to certain foreign affiliates (including premium or other consideration paid or accrued to a related foreign reinsurance company for reinsurance), and accelerates taxable income with respect to certain controlled foreign corporations. These provisions could materially affect us or our shareholders. The Tax Act also includes provisions that could materially affect our shareholders as a result of provisions that broaden the definition of United States shareholder for purposes of the controlled foreign corporation ("CFC") rules and make it more difficult for a foreign insurance company to avoid being treated as a PFIC.

There is significant uncertainty regarding how these and other provisions of the Tax Act will be interpreted, and guidance may not be forthcoming. The ultimate impact of the Tax Act may differ from the Company's description below due to changes in interpretations, as well as additional regulatory guidance that may be issued. Any changes to, clarifications of, or guidance under the Tax Act could add significant expense and have a material adverse effect on our results of operations. Given the complexity of the Tax Act you are strongly encouraged to consult your own tax advisor regarding its potential impact on the U.S. federal income tax consequences to you in light of your particular circumstances.

Base Erosion and Anti-Abuse Tax. The Tax Act's BEAT provision imposes a minimum tax on "applicable taxpayers," which are generally corporations that are part of a group with at least \$500 million of applicable annual gross receipts and that make certain payments to related foreign persons, including payments that are deductible for U.S. tax purposes, payments to purchase depreciable or amortizable property, and reinsurance payments. BEAT subjects the "modified taxable income" of an applicable taxpayer to tax at a rate of 10% in 2019-2025, and 12.5% in 2026 and thereafter. In general, modified taxable income is calculated by adding back to a taxpayer's regular taxable income the amount of certain "base erosion tax benefits" with respect to certain payments to foreign affiliates, as well as the "base erosion percentage" of any net operating loss deductions. BEAT applies only to the extent it exceeds a taxpayer's regular corporate income tax liability (determined without regard to certain tax credits).

In response to the Tax Act, we made changes to our structure in 2018 to minimize the impact of BEAT that included the formation of Carolina Re, a Bermuda-domiciled, wholly owned subsidiary of James River Group, Inc. Carolina Re is a Class 3A reinsurer that made an election to be taxed as a U.S. domestic corporation under Section 953(d) of the Code, effective January 1, 2018. In addition, as of January 1, 2018, we generally discontinued ceding 70% of our U.S.-written premiums to JRG Re and instead ceded 70% of our U.S.-written premiums to Carolina Re. Carolina Re also entered into a stop loss reinsurance agreement with JRG Re. As a result of these changes, we will not be subject to BEAT in 2019 if we have sufficient regular U.S. income tax liability compared to the BEAT liability. The applicability of BEAT depends on a number of factors, and absent regulations and other detailed guidance, it is uncertain whether we will be subject to BEAT in future periods.

U.S. persons who own our shares may be subject to U.S. federal income taxation on our undistributed earnings and may recognize ordinary income upon disposition of shares.

If we are considered a PFIC as defined in Section 1297(a) of the Code for U.S. federal income tax purposes, a U.S. person who owns any of our shares could be subject to adverse tax consequences, including becoming subject to a greater tax liability than might otherwise apply and to tax on amounts in advance of when tax would otherwise be imposed, in which case your investment could be materially adversely affected. We believe that we are not and have not been, and currently do not expect to become, a PFIC for U.S. federal income tax purposes. Our belief that we are not and have not been a PFIC is based, in part, on the fact that the PFIC rules include provisions intended to provide an exception for qualifying insurance companies (“QIC”) actively engaged in the conduct of an insurance business. Generally, a QIC is a company (i) that would be subject to tax under special provisions related to insurance companies if the company was a U.S. entity, and (ii) the applicable insurance liabilities of which constitute more than 25% of its total assets as reported on the company’s applicable financial statement. We believe that we are a QIC, however the scope of this exception is not entirely clear, especially in its application to holding companies indirectly engaged in an insurance business, and there are no administrative pronouncements, judicial decisions or current regulations that provide guidance as to the application of the PFIC rules to insurance companies. New regulations or pronouncements interpreting or clarifying these rules may be forthcoming. We cannot predict what impact, if any, such guidance would have on an investor that is subject to U.S. federal income taxation. As a result, we cannot assure you that we, or one of our subsidiaries, will not be deemed a PFIC by the U.S. Internal Revenue Service (the “IRS”). If we, or one of our subsidiaries, were considered a PFIC, it could have material adverse tax consequences for an investor that is subject to U.S. federal income taxation.

A non-U.S. corporation generally will be classified as a CFC if U.S. persons, each of whom owns, directly, indirectly, or constructively, at least 10% of the voting power or value of such corporation’s stock (“U.S. 10% Shareholders”), own in the aggregate more than 50% of the voting power or value of the stock of such corporation. The Tax Act eliminated the prohibition on “downward attribution” from non-U.S. persons to U.S. persons under the CFC constructive ownership rules. As a result, our U.S. subsidiaries are deemed to own all of the stock of our non-U.S. subsidiaries (other than James River Group Holdings UK Limited (“James River UK”)) for purposes of classifying those non-U.S. subsidiaries as CFCs. The legislative history under the Tax Act indicates that this change to the CFC constructive ownership rules was not intended to cause our non-U.S. subsidiaries to be treated as CFCs with respect to a 10% U.S. Shareholder that is not related to our U.S. subsidiary. However, it is not clear whether the IRS or a court would interpret the change made by the Tax Act in a manner consistent with such indicated intent.

Under these rules, if a foreign corporation is a CFC, each U.S. 10% Shareholder who owns directly or indirectly shares of the CFC on the last day of the CFC’s taxable year must annually include in its taxable income its pro rata share of the CFC’s “subpart F income,” even if no distributions are made. Subpart F income typically includes “foreign personal holding company income” (such as interest, dividends and other types of passive income), as well as insurance and reinsurance income (including underwriting and investment income). In general (subject to the special rules applicable to “related person insurance income” described below), for purposes of taking into account insurance income, a foreign insurance company will be treated as a CFC if U.S. 10% Shareholders collectively own more than 25% of the voting power or value of the company’s shares at any point during any year. We cannot assure you that we are not and will not become a CFC. If you are a U.S. person, we strongly urge you to consult your own tax advisor concerning the CFC rules.

Related Person Insurance Income. If (i) our gross income attributable to insurance or reinsurance policies pursuant to which the direct or indirect insureds are our direct or indirect U.S. shareholders or persons related to such U.S. shareholders equals or exceeds 20% of our gross insurance income in any taxable year; and (ii) direct or indirect insureds and persons related to such insureds own directly or indirectly 20% or more of the voting power or value of our shares (together, the “RPII Test”), a U.S. person who owns any of our shares directly or indirectly on the last day of such taxable year would most likely be required to include its allocable share of our related person insurance income for such taxable year in its income, even if no distributions are made. We do not believe that the 20% gross insurance income threshold has been, or will be, met. However, we cannot assure you that this will continue to be the case. Consequently, we cannot assure you that a person who is a direct or indirect U.S. shareholder will not be required to include amounts in its income in respect of related person insurance income in any taxable year.

Dispositions of Our Shares. If a U.S. shareholder is treated as disposing of shares in a CFC of which it is a U.S. 10% Shareholder, or of shares in a foreign insurance corporation that has related person insurance income and in which U.S. persons collectively own 25% or more of the voting power or value of the company’s shares, any gain from the disposition will generally be treated as a dividend to the extent of the U.S. shareholder’s portion of the corporation’s undistributed earnings and profits, as the case may be, that were accumulated during the period that the U.S. shareholder owned the shares. In addition, the shareholder will be required to comply with certain reporting requirements, regardless of the amount of shares owned by the direct or indirect U.S. shareholder.

The Company, JRG Re and James River Group Holdings UK Limited may be subject to U.S. federal income taxation.

The Company and JRG Re are each incorporated under the laws of Bermuda and James River UK is incorporated under the laws of England and Wales. Carolina Re is incorporated under the laws of Bermuda, but will be taxed as a U.S. domestic corporation as a result of an election under Section 953(d) of the Code. In general, a corporation organized under the laws of a foreign country or U.S. possession is subject to U.S. federal income tax on its net income only if it is considered as engaged in a U.S. trade or business. We believe that the activities of each of the Company's non-U.S. holding companies and JRG Re, as contemplated, will not cause them to be treated as engaging in a U.S. trade or business and as such, will not be subject to current U.S. federal income taxation on their net income. However, there are no definitive standards provided by the Code, regulations or court decisions as to the specific activities that constitute being engaged in the conduct of a trade or business within the United States, and any such determination is essentially factual in nature and must be made annually. The IRS could successfully assert that our non-U.S. holding companies or JRG Re (or both) are engaged in a trade or business in the United States or, under the applicable income tax treaty, are engaged in a trade or business in the United States through a permanent establishment, and thus are subject to current U.S. federal income taxation. If our non-U.S. holding companies or JRG Re were deemed to be engaged in a trade or business in the United States (or, under the applicable income tax treaty, were deemed to be so engaged through a permanent establishment), our non-U.S. holding companies or JRG Re, as applicable, would become subject to U.S. federal income tax on income "effectively connected" (or treated as effectively connected) with the U.S. trade or business and would become subject to the "branch profits" tax on earnings and profits that are both effectively connected with the U.S. trade or business and deemed repatriated out of the United States. Any such federal tax liability could materially adversely affect our results of operations.

U.S. tax-exempt organizations who own our shares may recognize unrelated business taxable income.

A U.S. tax-exempt organization may recognize unrelated business taxable income if a portion of our subpart F insurance income is allocated to it. In general, subpart F insurance income will be allocated to a tax-exempt organization owning (or treated as owning) our shares if we are a CFC as discussed above and it is a U.S. 10% Shareholder or we earn related person insurance income and we satisfy the RPII Test. We cannot assure you that U.S. persons holding our shares (directly or indirectly) will not be allocated subpart F insurance income. U.S. tax-exempt organizations should consult their own tax advisors regarding the risk of recognizing unrelated business taxable income as a result of their ownership of our shares.

We may become subject to U.S. withholding and information reporting requirements under the Foreign Account Tax Compliance Act ("FATCA") provisions.

The FATCA provisions of the Code generally impose a 30% withholding tax regime with respect to (i) certain U.S. source income (including interest and dividends) ("withholdable payments") and (ii) "passthru payments" (generally, withholdable payments and payments that are attributable to withholdable payments) made by foreign financial institutions ("FFIs"). Under proposed regulations promulgated by the U.S. Department of the Treasury on December 13, 2018, on which taxpayers may rely until final regulations are issued, withholdable payments do not include gross proceeds from the sale or other disposition of property that can produce U.S. source interest or dividends. As a general matter, FATCA was designed to require U.S. persons' direct and indirect ownership of certain non-U.S. accounts and non-U.S. entities to be reported to the IRS. The application of the FATCA withholding rules were phased in beginning July 1, 2014, with withholding on foreign passthru payments made by FFIs taking effect after the date of publication of final regulations defining the term foreign passthru payment.

The United States has entered into intergovernmental agreements between the United States and Bermuda and between the United States and the United Kingdom (the "IGAs"), which potentially modify the FATCA withholding regime described above with respect to us and our common shares. There can be no certainty as to whether we, Carolina Re or JRG Re will be treated as a FFI under FATCA. We strongly urge you to consult your own tax advisor regarding the potential impact of FATCA, the IGAs and any non-U.S. legislation implementing FATCA.

Changes in U.S. tax laws may be retroactive and could subject us and/or U.S. persons who own our shares to U.S. income taxation.

Apart from enactment of the Tax Act, other legislative proposals or administrative or judicial developments could also result in an increase in the amount of U.S. tax payable by us or by an owner of our shares or reduce the attractiveness of our products. Any such developments could materially adversely affect our results of operations.

The Tax Act, other tax laws and interpretations thereof, including with respect to whether a company is engaged in a U.S. trade or business, is a CFC, has related party insurance income, is a PFIC, or is subject to BEAT, are subject to change, possibly on a retroactive basis. There are currently only proposed regulations regarding the RPII Test and the application of the PFIC rules to an insurance company. New regulations or pronouncements interpreting or clarifying such rules may be forthcoming from the IRS or the U.S. Department of the Treasury. We are not able to predict if, when or in what form such guidance will be provided and whether such guidance will have a retroactive effect.

If reinsurance premiums paid by our U.S. subsidiaries to Carolina Re or JRG Re do not reflect arm's-length terms, the IRS could seek to recharacterize the payments in a way that is unfavorable to us.

The IRS is permitted to reallocate or recharacterize income, deductions or certain other items, and to make any other adjustment, to reflect the proper amount, source or character of the taxable income in respect of payments among related parties to reflect an arm's-length transaction. We have in place intercompany loans from our U.S. subsidiaries to our parent company and have intercompany reinsurance agreements among consolidated entities. We believe the terms of these transactions are appropriate and reflect arm's-length terms and are consistent with all applicable rules and regulations. It is possible, however, that the U.S. Department of the Treasury or the IRS may review our intercompany agreements and successfully assert, under Sections 482 or 845 of the Code, that they are not on an arm's-length basis and that as a result, we owe taxes on account of past or future periods.

Reduced tax rates for qualified dividend income may not be available in the future.

We believe that the dividends paid on our common shares should qualify as "qualified dividend income" as long as the common shares are listed on a national securities exchange and we are not a PFIC. Qualified dividend income received by non-corporate U.S. persons is generally eligible for long-term capital gain rates. While the Tax Act did not modify these rules, there has been proposed legislation before the U.S. Senate and House of Representatives that would exclude shareholders of certain foreign corporations from this advantageous tax treatment. If such legislation were to become law, non-corporate U.S. persons would no longer qualify for the reduced tax rate on the dividends paid by us.

Our non-U.K. companies may be subject to U.K. tax that may have a material adverse effect on our operating results.

We intend to operate in such a manner so that none of our companies other than our intermediate holding company incorporated in the United Kingdom should be resident in the U.K. for tax purposes or have a permanent establishment in the U.K. Accordingly, we expect that none of our companies other than James River UK should be subject to U.K. taxation. However, since applicable law and regulations do not conclusively define the activities that constitute conducting business in the U.K. through a permanent establishment, the U.K. HM Revenue & Customs might contend successfully that one or more of our other companies is conducting business in the U.K. through a permanent establishment in the U.K., and therefore such entities could become subject to U.K. taxation.

We may become subject to taxes in Bermuda after March 31, 2035, which may have a material adverse effect on our results of operations and your investment.

The Bermuda Minister of Finance, under the Exempted Undertakings Tax Protection Act 1966 of Bermuda, as amended, has given us an assurance that if any legislation is enacted in Bermuda that would impose tax computed on profits or income, or computed on any capital asset, gain or appreciation, or any tax in the nature of estate duty or inheritance tax, then the imposition of any such tax will not be applicable to us or any of our operations, shares, debentures or other obligations until March 31, 2035, except insofar as such tax applies to persons ordinarily resident in Bermuda or to any taxes payable by us in respect of real property owned or leased by us in Bermuda. We cannot assure you that we will not be subject to any Bermuda tax after March 31, 2035.

Risks Related to Ownership of Our Common Shares

The price of our common shares may fluctuate significantly and you could lose all or part of your investment.

Volatility in the market price of our common shares may prevent you from being able to sell your common shares at or above the price you paid for your common shares. The market price for our common shares could fluctuate significantly for various reasons, including, without limitation:

- our operating and financial performance and prospects;
- our quarterly or annual earnings or earnings estimates, or those of other companies in our industry;
- failure to meet external expectations or management guidance;
- the loss of one or more individually large clients, and its impact on our growth rate, profitability and financial condition;
- exposure to capital market risks related to changes in interest rates, realized investment losses, credit spreads, equity prices, foreign exchange rates and performance of insurance-linked investments;
- our creditworthiness, financial condition, performance and prospects;
- termination of payment of dividends on our common shares, or payment of a reduced amount of dividends;
- actual or anticipated growth rates relative to our competitors;
- perceptions of the investment opportunity associated with our common shares relative to other investment alternatives;
- speculation by the investment community regarding our business;
- future announcements concerning our business or our competitors' businesses;
- the public's reaction to our press releases, other public announcements and filings with the SEC;
- changes in accounting standards, policies, guidance, interpretations or principles;
- market and industry perception of our success, or lack thereof, in pursuing our strategy;
- strategic actions by us or our competitors, such as acquisitions, restructurings, significant contracts or joint ventures;
- catastrophes that are perceived by investors as impacting the insurance and reinsurance market in general;
- changes in laws or government regulation, including tax or insurance laws and regulations;
- potential characterization of us as a PFIC;
- general market, economic and political conditions;
- changes in conditions or trends in our industry, geographies or customers;
- arrival and departure of key personnel;
- the number of common shares that are publicly traded;
- the offering and issuance of common shares by us, or sales of common shares by our directors or executive officers; and
- adverse resolution of litigation against us.

In addition, stock markets, including the NASDAQ Stock Market (the market on which our common shares are traded), have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities issued by many companies, including companies in our industry. In the past, some companies that have had volatile market prices for their securities have been subject to class action or derivative lawsuits. The filing of a lawsuit against us, regardless of the outcome, could have a negative effect on our business, as it could result in substantial legal costs and a diversion of management's attention and resources.

As a result of the factors described above, shareholders may not be able to resell their common shares at or above their purchase price or may not be able to resell them at all. These market and industry factors may materially reduce the market price of our common shares, regardless of our operating performance.

If securities or industry analysts do not continue to publish research or publish misleading or unfavorable research about our business, our common share price and trading volume could decline.

The trading market for our common shares depends in part on the research and reports that securities or industry analysts publish about us or our business. If one or more of these analysts downgrades our shares or publishes misleading or unfavorable research about our business, our share price would likely decline. If one or more of these analysts ceases coverage of our Company or fails to publish reports on us regularly, demand for our shares could decrease, which could cause our share price or trading volume to decline.

Failure to maintain effective internal controls in accordance with Sarbanes-Oxley could have a material adverse effect on our business and common share price.

As a public company with SEC reporting obligations, we are required to document and test our internal control procedures to satisfy the requirements of Section 404(b) of Sarbanes-Oxley, which require annual assessments by management of the effectiveness of our internal control over financial reporting.

During the course of our assessment, we may identify deficiencies that we are unable to remediate in a timely manner. Testing and maintaining our internal control over financial reporting may also divert management's attention from other matters that are important to the operation of our business. We may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with Section 404(b) of Sarbanes-Oxley. If we conclude that our internal control over financial reporting is not effective, we cannot be certain as to the timing of completion of our evaluation, testing and remediation actions or its effect on our operations. Moreover, any material weaknesses or other deficiencies in our internal control over financial reporting may impede our ability to file timely and accurate reports with the SEC. Any of the above could cause investors to lose confidence in our reported financial information or our common share listing on the NASDAQ Stock Market to be suspended or terminated, which could have a negative effect on the trading price of our common shares.

Our bye-laws permit non-employee members of our board of directors and their affiliates to compete with us, which may result in conflicts of interest.

Our bye-laws provide that members of our board of directors (other than those who are our officers, managers or employees) and their affiliates do not have any duty to (i) communicate or present to the Company any investment or business opportunity or prospective transaction or arrangement in which the Company may have any interest or expectancy or (ii) refrain from engaging, directly or indirectly, in the same business activities or similar business activities or lines of business in which we operate. Bryan Martin and David Zwilling, each a Class I director of the Company, are officers of D. E. Shaw & Co., L.P. and its affiliates (collectively, "D. E. Shaw"). D. E. Shaw is a global investment and technology development firm, which among other things, is in the business of making investments in companies. Our bye-laws will not restrict our non-employee directors, or their affiliates, including D. E. Shaw, from acquiring and holding interests in businesses that compete directly or indirectly with us. For example, D. E. Shaw is currently engaged in the reinsurance business. Our non-employee directors and their affiliates, including D. E. Shaw, may also pursue acquisition opportunities that may be complementary to our business and, as a result, those acquisition opportunities may not be available to us. These potential conflicts of interest could have a material adverse effect on our business, financial condition, results of operations or prospects if we are unable to pursue attractive corporate opportunities because they are allocated by our non-employee directors to themselves or their affiliates instead of being presented to us.

We depend upon dividends and distributions from our subsidiaries, and we may be unable to distribute dividends to our shareholders to the extent we do not receive dividends from our subsidiaries.

We are a holding company that has no substantial operations of our own and, accordingly, we rely primarily on cash dividends or distributions from our operating subsidiaries to pay our operating expenses and any dividends that we may pay to shareholders. The payment of dividends by our insurance and reinsurance subsidiaries is limited under the laws and regulations of its applicable domicile. These regulations stipulate the maximum amount of annual dividends or other distributions available to shareholders without prior approval of the relevant regulatory authorities. As a result of such regulations, we may not be able to pay our operating expenses as they become due and our payment of future dividends to shareholders may be limited.

The payment of dividends by our subsidiaries to us is limited by statute. In general, the laws and regulations applicable to our U.S. insurance subsidiaries limit the aggregate amount of dividends or other distributions that they may declare or pay within any 12 month period without advance regulatory approval. In Ohio, the domiciliary state of Falls Lake National and James River Insurance, this limitation is the greater of statutory net income for the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of earned surplus of each of the companies, without obtaining regulatory approval. In North Carolina, the domiciliary state of Stonewood

Insurance, this limitation is the greater of statutory net income excluding realized capital gains for the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of unassigned surplus without obtaining regulatory approval. In Virginia, the domiciliary state of James River Casualty, this limitation is the greater of statutory net income excluding realized capital gains for the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of unassigned surplus without obtaining regulatory approval. In California, the domiciliary state of Falls Lake Fire and Casualty Company, this limitation is the greater of statutory net income for the preceding calendar year or 10% of the statutory surplus at the end of the preceding calendar year, provided that such dividends may only be paid out of unassigned surplus without obtaining regulatory approval. Moreover, as a condition to obtaining its license in California, Falls Lake Fire and Casualty Company provided a commitment to the California Department of Insurance that it would not pay any shareholder dividends for a five-year period commencing January 1, 2016 without prior written approval. In addition, insurance regulators have broad powers to prevent reduction of statutory surplus to inadequate levels and could refuse to permit the payment of dividends calculated under any applicable formula. See “Business—Regulation—U.S. Insurance Regulation—State Regulation” for more information. In addition, dividends paid by our U.S. subsidiaries to our U.K. holding company are subject to a 5% withholding tax by the IRS. Under U.K. domestic law, no withholding tax is applied to dividends paid by U.K. tax resident companies.

JRG Re, which is domiciled in Bermuda, is registered as a Class 3B insurer under the Insurance Act. The Insurance Act, the conditions listed in the insurance license and the applicable approvals issued by the BMA provide that JRG Re is required to maintain a minimum statutory solvency margin of \$103.1 million as of December 31, 2018. See “Business—Regulation—Bermuda Insurance Regulation—Minimum Solvency Margin and Enhanced Capital Requirements” for more information. A Class 3B insurer is prohibited from declaring or paying a dividend if it fails to meet, before or after declaration or payment of such dividend, its: (i) requirements under the Companies Act, (ii) minimum solvency margin, (iii) enhanced capital requirement or (iv) minimum liquidity ratio. If a Class 3B insurer fails to meet its minimum solvency margin or minimum liquidity ratio on the last day of any financial year, it is prohibited from declaring or paying any dividends during the next financial year without the approval of the BMA. In addition, JRG Re, as a Class 3B insurer, is prohibited from declaring or paying in any financial year dividends of more than 25% of its total statutory capital and surplus (as shown on its previous financial year’s statutory balance sheet) unless it files (at least seven days before payment of such dividends) with the BMA an affidavit signed by at least 2 directors (one of whom must be a Bermuda resident director if any of the insurer’s directors are resident in Bermuda) and the principal representative stating that it will continue to meet its solvency margin and minimum liquidity ratio. Where such an affidavit is filed, it shall be available for public inspection at the offices of the BMA. See “Business—Regulation—Bermuda Insurance Regulation—Restrictions on Dividends and Distributions” for more information.

The inability of our subsidiaries to pay dividends or make distributions to us, including as a result of regulatory or other restrictions, may prevent us from paying our expenses or paying dividends to our shareholders.

We cannot assure you that we will declare or pay dividends on our common shares in the future.

We have paid dividends to our shareholders in each quarter since the first quarter of 2015, which was the first full quarter after completion of our IPO. The declaration, payment and amount of future dividends is subject to the discretion of our board of directors. Our board of directors may take into account a variety of factors when determining whether to declare any future dividends, including (1) our financial condition, liquidity, results of operations (including our ability to generate cash flow in excess of expenses and our expected or actual net income), retained earnings and collateral and capital requirements, (2) general business conditions, (3) legal, tax and regulatory limitations, (4) contractual prohibitions and other restrictions, (5) the effect of a dividend or dividends upon our financial strength ratings and (6) any other factors that our board of directors deems relevant. See “Item 5. Market For Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases Of Equity Securities - Dividends.” We cannot assure you that we will continue to pay dividends in the future, or that the amount of any such dividend will not decline from prior dividends we have paid.

Dividends paid by our U.S. subsidiaries to James River UK may not be eligible for benefits under the U.S.-U.K. income tax treaty.

Under U.S. federal income tax law, dividends paid by a U.S. corporation to a non-U.S. shareholder are generally subject to a 30% withholding tax, unless reduced by treaty. The income tax treaty between the United Kingdom and the United States (the “U.K. Treaty”) reduces the rate of withholding tax on certain dividends to 5%. Were the IRS to contend successfully that James River UK is not eligible for benefits under the U.K. Treaty, any dividends paid by James River Group, Inc., our U.S. holding company, to James River UK would be subject to the 30% withholding tax. Such a result would substantially reduce the amount of dividends that our shareholder may receive.

Future sales of our common shares, or the possibility of such sales, may cause the trading price of our common shares to decline and could impair our ability to raise capital through subsequent equity offerings.

Future sales of substantial amounts of our common shares in the public market, or the perception that these sales could occur, could cause the market price of our common shares to decline and impair our ability to raise capital through the sale of additional shares.

In the future, we may issue additional common shares or other equity or debt securities convertible into common shares in connection with a financing, acquisition or employee arrangement or otherwise. Any of these issuances could result in substantial dilution to our existing shareholders and could cause the trading price of our common shares to decline.

Our bye-laws and provisions of Bermuda law may impede or discourage a change of control transaction, which could deprive our investors of the opportunity to receive a premium for their shares.

Our bye-laws and provisions of Bermuda law to which we are subject contain provisions that could discourage, delay or prevent “change of control” transactions or changes in our board of directors and management that certain shareholders may view as beneficial or advantageous. These provisions include, among others:

- the total voting power of any U.S. person owning more than 9.5% of our common shares will be reduced to 9.5% of the total voting power of our common shares, excluding shareholders that held more than 9.5% of our common shares on the day of completion of our IPO;
- our board of directors has the authority to issue preferred shares without shareholder approval, which could be used to dilute the ownership of a potential hostile acquirer;
- our shareholders may only remove directors for cause;
- there are advance notice requirements for shareholders with respect to director nominations and actions to be taken at annual meetings; and
- under Bermuda law, for so long as JRG Re and Carolina Re are registered under the Insurance Act, the BMA may object to a person holding more than 10%, 20%, 33% or 50% of our common shares if it appears to the BMA that the person is not or is no longer fit and proper to be such a holder (See “— There are regulatory limitations on the ownership and transfer of our common shares.”).

The foregoing factors could impede a merger, takeover or other business combination, which could reduce the market value of our shares.

We may repurchase your common shares without your consent.

Under our bye-laws and subject to Bermuda law, we have the option, but not the obligation, to require a shareholder, other than shareholders holding more than 9.5% of our common shares on the day of completion of our IPO, to sell to us at fair market value the minimum number of common shares which is necessary to avoid or cure any adverse tax consequences or materially adverse legal or regulatory treatment to us, our subsidiaries or our shareholders, if our board of directors reasonably determines, in good faith, that failure to exercise this option would result in such adverse consequences or treatment.

Bermuda law differs from the laws in effect in the United States and may afford less protection to holders of our shares.

We are organized under the laws of Bermuda. As a result, our corporate affairs are governed by the Companies Act, which differs in some material respects from laws typically applicable to U.S. corporations and shareholders, including the provisions relating to interested directors, amalgamations, mergers and acquisitions, takeovers, shareholder lawsuits and indemnification of directors. Generally, the duties of directors and officers of a Bermuda company are owed to the company only. Shareholders of Bermuda companies typically do not have rights to take action against directors or officers of the company and may only do so in limited circumstances. Class actions are not available under Bermuda law. The circumstances in which derivative actions may be available under Bermuda law are substantially more proscribed and less clear than they would be to shareholders of U.S. corporations. The Bermuda courts, however, would ordinarily be expected to permit a shareholder to commence an action in the name of a company to remedy a wrong to the company where the act complained of is alleged to be beyond the corporate power of the company or illegal, or would result in the violation of the company’s memorandum of association or bye-laws. Furthermore, consideration would be given by a Bermuda court to acts that are alleged to constitute a fraud against minority shareholders or, for instance, where an act requires the approval of a greater percentage of the company’s shareholders than that which actually approved it.

When the affairs of a company are being conducted in a manner that is oppressive or prejudicial to the interests of some shareholders, one or more shareholders may apply to the Supreme Court of Bermuda, which may make such order as it sees fit, including an order regulating the conduct of the company’s affairs in the future or ordering the purchase of the shares of any shareholders by other shareholders or by the company. Additionally, under our bye-laws and as permitted by Bermuda law,

each shareholder has waived any claim or right of action against our directors or officers for any action taken by directors or officers in the performance of their duties, except for actions involving fraud or dishonesty. In addition, the rights of holders of our common shares and the fiduciary responsibilities of our directors under Bermuda law are not as clearly established as under statutes or judicial precedent in existence in jurisdictions in the United States, particularly the State of Delaware. Therefore, holders of our common shares may have more difficulty protecting their interests than would shareholders of a corporation incorporated in a jurisdiction within the United States.

There are regulatory limitations on the ownership and transfer of our common shares.

Common shares may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act 2003 and the Exchange Control Act 1972 and related regulations of Bermuda, which regulate the sale of securities in Bermuda. In addition, the permission of the BMA is required under the provisions of the Exchange Control Act 1972 and related regulations for all issuances and transfers of shares of Bermuda companies to or from a non-resident of Bermuda for exchange control purposes, other than where the BMA has granted a general permission. The BMA, in its notice to the public dated June 1, 2005 has granted a general permission for the issue and subsequent transfer of any securities of a Bermuda company from and/or to a non-resident of Bermuda for exchange control purposes for so long as any “equity securities” of such company are listed on an appointed stock exchange, which includes the NASDAQ Stock Market. This general permission will apply to our common shares, but would cease to apply if we were to cease to be listed on the NASDAQ Stock Market.

In connection with the IPO, we received consent from the BMA to issue and transfer freely any of our shares, options, warrants, depository receipts, rights loan notes, debt instruments or other securities to and among persons who are either residents or non-residents of Bermuda for exchange control purposes.

The Insurance Act requires that where the shares of the registered insurer, or the shares of its parent company, are traded on a recognized stock exchange, and a person becomes a 10%, 20%, 33% or 50% shareholder controller of the insurer, that person shall, within 45 days, notify the BMA in writing that he has become such a controller. In addition, a person who is a shareholder controller of an insurer whose shares or the shares of its parent company (if any) are traded on a recognized stock exchange must serve on the BMA a notice in writing that he has reduced or disposed of his holding in the insurer where the proportion of voting rights in the insurer held by him will have reached or has fallen below 10%, 20%, 33% or 50% as the case may be, not later than 45 days after such disposal. This requirement will apply to us as long as our shares are listed on the NASDAQ Stock Market or another stock exchange recognized by the BMA. The BMA may, by written notice, object to a person holding 10%, 20%, 33% or 50% of our common shares if it appears to the BMA that the person is not fit and proper to be such a holder. The BMA may require the holder to reduce its shareholding in us and may direct, among other things, that the voting rights attaching to its shares shall not be exercisable. A person that does not comply with such a notice or direction from the BMA will be guilty of an offense.

JRG Re and Carolina Re are also required to notify the BMA in writing in the event any person has become or has ceased to be a controller or an officer of it (an officer includes a director, chief executive or senior executive performing duties of underwriting, actuarial, risk management, compliance, internal audit, finance or investment matters).

Except in connection with the settlement of trades or transactions entered into through the facilities of the NASDAQ Stock Market, our board of directors may generally require any shareholder or any person proposing to acquire our common shares to provide the information required under our bye-laws. If any such shareholder or proposed acquiror does not provide such information, or if our board of directors has reason to believe that any certification or other information provided pursuant to any such request is inaccurate or incomplete, our board of directors may decline to register any transfer or to effect any issuance or purchase of our common shares to which such request is related.

In addition, the insurance holding company laws and regulations of the states in which our insurance companies are domiciled generally require that, before a person can acquire direct or indirect control of an insurer domiciled in the state, and in some cases prior to divesting its control, prior written approval must be obtained from the insurer’s domiciliary state insurance regulator. In addition to insurance holding company laws and regulations, under the Organizational Permit issued by the California Department of Insurance to Falls Lake Fire and Casualty Company, Falls Lake Fire and Casualty Company, as a new insurer, was required to enter into an agreement with Falls Lake National restricting the transfer of Falls Lake Fire and Casualty Company’s shares for a five-year period commencing January 1, 2016. Specifically, under the agreement, the restriction on share transfer is released automatically without further approval or consent by the California Department of Insurance, or any other party, at the following respective times: 5% at the end of the first year of the 5-year restriction period; an additional 5% at the end of the second year; an additional 10% at the end of the third year; an additional 20% at the end of the fourth year; and the remainder at the end of the fifth year. Therefore, under the Organizational Permit and the Agreement Restricting Shares, Falls Lake National’s ability to directly or indirectly transfer the shares of Falls Lake Fire and Casualty Company to anyone without the prior written approval of the California Department of Insurance is limited. These laws and the similar conditions applicable to Falls Lake Fire and Casualty Company’s shares may discourage potential acquisition proposals and may delay, deter or prevent an investment in or a change of control involving us, or one or more of our regulated

subsidiaries, including transactions that our management and some or all of shareholders might consider desirable. Pursuant to applicable laws and regulations, “control” over an insurer is generally presumed to exist if any person, directly or indirectly, owns, controls, holds the power to vote or holds proxies representing, 10% or more of the voting securities of that reinsurer or insurer. Indirect ownership includes ownership of the Company’s common shares.

Item 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

Item 2. PROPERTIES

We lease office space in Bermuda, where our principal executive office is located and our casualty reinsurance segment is based. We also lease offices in (1) Chapel Hill, North Carolina, where our U.S. holding company, James River Group is based, (2) Raleigh, North Carolina, Santa Margarita, California, Princeton, New Jersey, and Saratoga Springs, New York where we conduct business in our Specialty Admitted Insurance segment and (3) Richmond, Virginia, Scottsdale, Arizona and Atlanta, Georgia for the conduct of business in our Excess and Surplus Lines segment. We believe that our facilities are adequate for our current needs and that suitable additional or substitute space will be available as needed.

Item 3. LEGAL PROCEEDINGS

We are party to legal proceedings which arise in the ordinary course of business. We believe that the outcome of such matters, individually and in the aggregate, will not have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Item 4. MINE SAFETY DISCLOSURE

Not applicable.

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our common shares began trading on the NASDAQ Global Select Market under the symbol "JRVR" on December 12, 2014. Prior to that time, there was no public market for our common shares. As of February 25, 2019, there were approximately 8 holders of record of our common shares.

Dividends

We paid dividends of \$0.30 per share in each quarter of 2018 and 2017. We also paid a special dividend of \$0.50 per share in the fourth quarter of 2017. We paid dividends of \$0.20 per share in each of the first three quarters of 2016 and, in the fourth quarter, a \$0.30 per share dividend plus a special dividend of \$1.35 per share.

We are a holding company that has no substantial operations of our own, and we rely primarily on cash dividends or distributions from our subsidiaries to pay our operating expenses and dividends to shareholders. The payment of dividends by our insurance and reinsurance subsidiaries is limited under the laws and regulations of their respective domicile. These regulations stipulate the maximum amount of annual dividends or other distributions available to shareholders without prior approval of the relevant regulatory authorities. Additionally, dividends from our U.S. subsidiaries to our U.K. intermediate holding company are generally subject to a 5% withholding tax by the IRS. Under U.K. domestic law, no withholding tax is applied to dividends paid by U.K. tax resident companies. As a result of such regulations, or a change in applicable tax law, we may not be able to pay our operating expenses as they become due and our payment of future dividends to shareholders may be limited. See "Risk Factors — Risks Related to Ownership of Our Common Shares—We depend upon dividends and distributions from our subsidiaries, and we may be unable to distribute dividends to our shareholders to the extent we do not receive dividends from our subsidiaries," and "—Dividends paid by our U.S. subsidiaries to James River UK may not be eligible for benefits under the U.S.-U.K. income tax treaty."

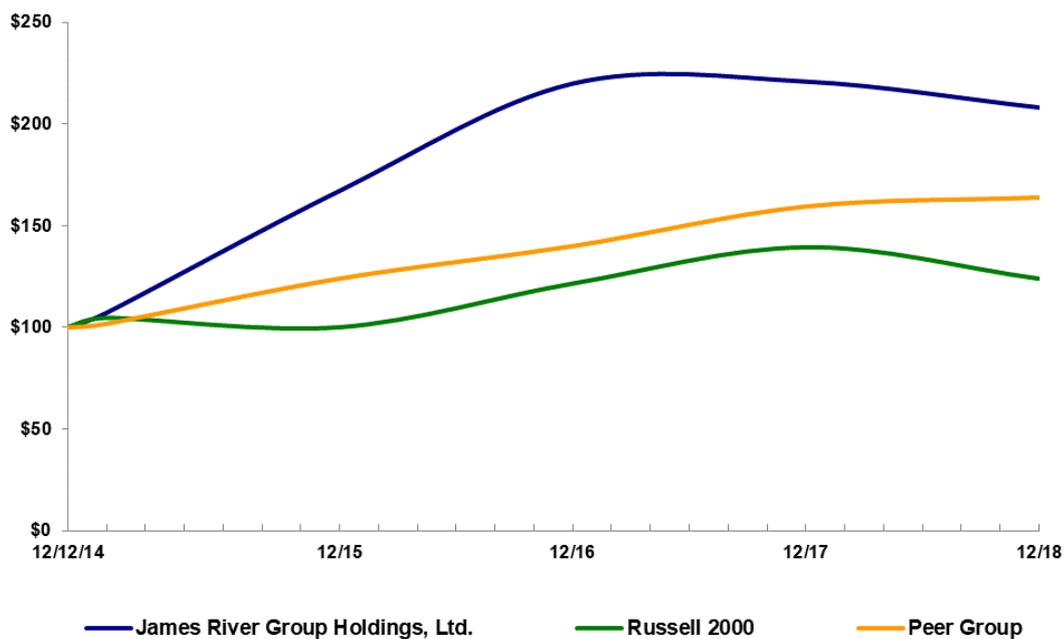
The declaration, payment and amount of future dividends is subject to the discretion of our board of directors. Our board of directors will give consideration to various risks and uncertainties, including those discussed under the headings "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this Annual Report when determining whether to declare and pay dividends, as well as the amount thereof. Our board of directors may take into account a variety of factors when determining whether to declare any future dividends, including (1) our financial condition, liquidity, results of operations (including our ability to generate cash flow in excess of expenses and our expected or actual net income), retained earnings and collateral and capital requirements, (2) general business conditions, (3) legal, tax and regulatory limitations, (4) contractual prohibitions and other restrictions, (5) the effect of a dividend or dividends upon our financial strength ratings and (6) any other factors that our board of directors deems relevant.

Performance Graph

The graph below compares the cumulative total shareholder return of our common shares relative to the cumulative total returns of the Russell 2000 index and a selected peer group of seven companies that includes Amerisafe Inc., Argo Group International Holdings Ltd, Kinsale Capital Group Inc., Markel Corp, Navigators Group Inc., RLI Corp and W. R. Berkley Corp. The companies in the peer group are weighted by market capitalization. The calculation of cumulative total shareholder return assumes an initial investment of \$100 and the reinvestment of all dividends, if any, for the period from December 12, 2014 (the date of our initial public offering) through December 31, 2018. Such returns are based on historical results and are not intended to suggest future performance.

COMPARISON OF 4 YEAR CUMULATIVE TOTAL RETURN*

Among James River Group Holdings, Ltd., the Russell 2000 Index,
and a Peer Group



*\$100 invested on 12/12/14 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

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	12/12/2014	12/14	12/15	12/16	12/17	12/18
James River Group Holdings, Ltd.	100.00	107.11	166.93	219.56	220.59	207.89
Russell 2000	100.00	104.65	100.03	121.34	139.11	123.79
Peer Group	100.00	101.78	123.89	139.82	159.20	163.62

The performance graph and related information shall not be deemed “soliciting material” or to be “filed” with the SEC for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any future filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that we specifically incorporate it by reference into such filing.

Item 6. SELECTED FINANCIAL DATA

The following tables present selected historical financial information of James River Group Holdings, Ltd. derived from our consolidated balance sheets as of December 31, 2018, 2017, 2016, 2015 and 2014, and the related consolidated statements of income and comprehensive income, changes in shareholders' equity and cash flows for each of the five years in the period ended December 31, 2018, which have been audited by Ernst & Young LLP.

You should read this selected financial data along with the consolidated financial statements and accompanying notes included elsewhere in this Annual Report, as well as the section of this Annual Report titled "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Year Ended December 31,				
	2018	2017	2016	2015	2014
<i>(\$ in thousands, except for per share data)</i>					
Operating Results:					
Gross written premiums ⁽¹⁾	\$ 1,166,773	\$ 1,081,905	\$ 737,398	\$ 572,194	\$ 518,767
Ceded written premiums ⁽²⁾	(404,101)	(315,279)	(179,690)	(101,162)	(68,684)
Net written premiums	\$ 762,672	\$ 766,626	\$ 557,708	\$ 471,032	\$ 450,083
Net earned premiums	\$ 815,398	\$ 741,109	\$ 515,663	\$ 461,205	\$ 396,212
Net investment income	61,256	61,119	52,638	44,835	43,005
Net realized investment (losses) gains	(5,479)	(1,989)	7,565	(4,547)	(1,336)
Other income	14,424	17,386	10,361	3,428	1,122
Total revenues	885,599	817,625	586,227	504,921	439,003
Losses and loss adjustment expenses	600,276	555,377	325,421	279,016	237,368
Other operating expenses	201,035	196,993	170,828	157,803	133,055
Other expenses	1,300	539	1,590	730	16,012
Interest expense	11,553	8,974	8,448	6,999	6,347
Amortization of intangible assets	597	597	597	597	597
Total expenses	814,761	762,480	506,884	445,145	393,379
Income before income tax expense	70,838	55,145	79,343	59,776	45,624
Income tax expense	7,008	11,579	4,872	6,279	939
Net income	\$ 63,830	\$ 43,566	\$ 74,471	\$ 53,497	\$ 44,685
Adjusted net operating income ⁽⁴⁾	\$ 70,596	\$ 47,385	\$ 71,318	\$ 61,090	\$ 58,424
Per share data:					
Basic earnings per share	\$ 2.14	\$ 1.48	\$ 2.56	\$ 1.87	\$ 1.57
Diluted earnings per share	\$ 2.11	\$ 1.44	\$ 2.49	\$ 1.82	\$ 1.55
Dividends declared per share	\$ 1.20	\$ 1.70	\$ 2.25	\$ 1.64	\$ 2.45
Weighted — average shares outstanding — diluted	30,307,101	30,273,149	29,894,378	29,334,918	28,810,301

At or for the Year Ended December 31,

	2018	2017	2016	2015	2014
<i>(\$ in thousands, except for per share amounts and ratios)</i>					
Balance Sheet Data:					
Cash and invested assets	\$ 1,850,303	\$ 1,611,149	\$ 1,442,114	\$ 1,350,697	\$ 1,310,628
Reinsurance recoverables	485,715	313,816	185,614	143,086	128,979
Goodwill and intangible assets	219,368	220,165	220,762	221,359	221,956
Total assets	3,136,776	2,756,695	2,346,533	2,055,497	1,959,292
Reserve for losses and loss adjustment expenses	1,661,459	1,292,349	943,865	785,322	716,296
Unearned premiums	386,473	418,114	390,563	301,104	277,579
Senior debt	118,300	98,300	88,300	88,300	88,300
Junior subordinated debt	104,055	104,055	104,055	104,055	104,055
Total liabilities	2,427,535	2,061,996	1,653,312	1,374,459	1,271,371
Total stockholders' equity	709,241	694,699	693,221	681,038	687,921
GAAP Underwriting Ratios:					
Loss ratio ⁽⁵⁾	73.6%	74.9%	63.1%	60.5%	59.9%
Expense ratio ⁽⁶⁾	23.0%	24.3%	31.2%	33.5%	33.4%
Combined ratio ⁽⁷⁾	96.6%	99.2%	94.3%	94.0%	93.3%
Other Data:					
Tangible equity ⁽⁸⁾	\$ 489,873	\$ 474,534	\$ 472,459	\$ 459,679	\$ 465,965
Tangible equity per common share outstanding	\$ 16.34	\$ 15.98	\$ 16.15	\$ 15.88	\$ 16.33
Debt to total capitalization ratio ⁽⁹⁾	23.9%	22.6%	21.7%	22.0%	21.9%
Regulatory capital and surplus ⁽¹⁰⁾	\$ 681,161	\$ 628,877	\$ 605,298	\$ 601,436	\$ 593,580
Net written premiums to surplus ratio ⁽³⁾	1.1x	1.2x	0.9x	0.8x	0.8x

- (1) The amount received or to be received for insurance policies written or assumed by us during a specific period of time without reduction for acquisition costs, reinsurance costs or other deductions.
- (2) The amount of written premiums ceded to (reinsured by) other insurers.
- (3) We believe this measure is useful in evaluating our insurance subsidiaries' operating leverage. It may not be comparable to the definition of net written premiums to surplus ratio for other companies.
- (4) Adjusted net operating income is a non-GAAP measure. We define adjusted net operating income as net income excluding net realized investment gains and losses, expenses related to due diligence costs for various merger and acquisition activities, severance costs associated with terminated employees, impairment charges on goodwill and intangible assets, gains on extinguishment of debt, expenses on a leased building we are deemed to own for accounting purposes, and professional services and other expenses associated with securities offerings and the payment of special dividends. We use adjusted net operating income as an internal performance measure in the management of our operations because we believe it gives our management and other users of our financial information useful insight into our results of operations and our underlying business performance. Adjusted net operating income should not be viewed as a substitute for net income in accordance with GAAP. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Reconciliation of Non-GAAP Measures" for a reconciliation of adjusted net operating income to net income in accordance with GAAP.
- (5) The loss ratio is the ratio, expressed as a percentage, of losses and loss adjustment expenses to net earned premiums, net of the effects of reinsurance.
- (6) The expense ratio is the ratio, expressed as a percentage, of other operating expenses to net earned premiums.
- (7) The combined ratio is the sum of the loss ratio and the expense ratio. A combined ratio under 100% generally indicates an underwriting profit. A combined ratio over 100% generally indicates an underwriting loss.

- (8) Tangible equity is shareholders' equity less goodwill and intangible assets. Tangible equity should not be viewed as a substitute for shareholders' equity calculated in accordance with GAAP. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Reconciliation of Non-GAAP Measures" for a reconciliation of tangible equity to shareholders' equity in accordance with GAAP.
- (9) The ratio, expressed as a percentage, of total indebtedness for borrowed money to the sum of total indebtedness for borrowed money and shareholders' equity.
- (10) For our U.S. insurance subsidiaries, the excess of assets over liabilities as determined in accordance with statutory accounting principles as determined by the NAIC. For our Bermuda reinsurer, shareholders' equity in accordance with U.S. generally accepted accounting principles ("GAAP").

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis contains forward-looking statements and involves numerous risks and uncertainties, including those described under the heading "Risk Factors." Actual results may differ materially from those contained in any forward-looking statements. You should read this discussion and analysis together with our audited consolidated financial statements and related notes included elsewhere in this Form 10-K.

Overview

James River Group Holdings, Ltd. is a Bermuda-based holding company. We own and operate a group of specialty insurance and reinsurance companies with the objective of generating compelling returns on tangible equity while limiting underwriting and investment volatility. We seek to accomplish this by consistently earning profits from insurance and reinsurance underwriting and generating meaningful risk-adjusted investment returns, while managing our capital opportunistically.

For the year ended December 31, 2018, approximately 67.6% of our group-wide gross written premiums originated from the U.S. E&S lines market including business assumed by our Casualty Reinsurance segment. We also have a specialty admitted insurance business in the United States. We intend to concentrate substantially all of our underwriting in casualty insurance and reinsurance, and for the year ended December 31, 2018, we derived 98.5% of our group-wide gross written premiums from casualty insurance and reinsurance. We focus on writing business in specialty markets where our underwriters have particular expertise and where we have long-standing distribution relationships; maintaining a strong balance sheet with appropriate reserves; monitoring reinsurance recoverables carefully; managing our investment portfolio actively without taking undue risk; using technology to monitor trends in our business; responding rapidly to market opportunities and challenges; and actively managing our capital.

We report our business in four segments: Excess and Surplus Lines, Specialty Admitted Insurance, Casualty Reinsurance and Corporate and Other.

The Excess and Surplus Lines segment offers E&S commercial lines liability and property insurance in every U.S. state and the District of Columbia through James River Insurance and its wholly-owned subsidiary, James River Casualty. James River Insurance and James River Casualty are both non-admitted carriers. Non-admitted carriers writing in the E&S market are not bound by most of the rate and form regulations imposed on standard market companies, allowing them flexibility to change the coverage terms offered and the rate charged without the time constraints and financial costs associated with the rate and form filing process. In 2018, the average account in this segment (excluding commercial auto policies) generated annual gross written premiums of approximately \$20,000. The Excess and Surplus Lines segment distributes primarily through wholesale insurance brokers. Members of our management team have participated in this market for over three decades and have long-standing relationships with the wholesale agents who place E&S lines accounts. The Excess and Surplus Lines segment produced 56.3% of our gross written premiums and 74.9% of our net written premiums for the year ended December 31, 2018.

The Specialty Admitted Insurance segment focuses on niche classes within the standard insurance markets, such as workers' compensation coverage for building trades, healthcare employees, goods and services, manufacturing, specialty transportation, and agriculture, and on the fronting and program business. In our fronting business, we retain a small percentage of the risk and seek to earn fee income by allowing other carriers and producers to use our licensure, ratings, and infrastructure. Given market conditions and availability of reinsurance for program opportunities, we began de-emphasizing program business in 2017. Through Falls Lake National and its subsidiaries, this segment has admitted licenses in 49 states and the District of Columbia and distributes through a variety of sources, including independent retail agents, program administrators and MGAs. The Specialty Admitted Insurance segment produced 32.1% of our gross written premiums and 7.3% of our net written premiums for the year ended December 31, 2018.

The Casualty Reinsurance segment provides proportional and working layer casualty reinsurance to third parties and to our U.S.-based insurance subsidiaries. Typically, we structure our reinsurance contracts (also known as treaties) as quota share arrangements, with loss mitigating features, such as commissions that adjust based on underwriting results. We frequently include risk mitigating features in our working layer excess of loss treaties, such as paid reinstatements, which allow the ceding company to capture a greater percentage of the profits should the business prove more profitable than expected, or alternatively, with additional premiums should the business incur higher than expected losses. We believe these structures best align our interests with the interests of our cedents. On a premium volume basis, treaties with loss mitigation features including sliding scale ceding commissions represented 81.7% of the gross premiums written by our Casualty Reinsurance segment during 2018. We typically do not assume large individual risks in our Casualty Reinsurance segment, nor do we write property catastrophe reinsurance. Most of the policies assumed by our Casualty Reinsurance segment have a \$1.0 million per occurrence limit, and we typically assume only a portion of that exposure. We believe this structure reduces volatility in our underwriting results. We do not assume stand-alone third-party property business at our Casualty Reinsurance segment, but we do have a small amount

of assumed business with ancillary property exposure. 83.7% of premiums written by our Casualty Reinsurance segment during 2018 were general liability accounts assumed from E&S carriers. The Casualty Reinsurance segment distributes through reinsurance brokers. The Casualty Reinsurance segment produced 11.6% of our gross written premiums and 17.8% of our net written premiums for the year ended December 31, 2018.

The Casualty Reinsurance segment writes business through two entities, JRG Re and Carolina Re. Through December 31, 2017, we had intercompany reinsurance agreements under which we ceded 70% of the net written premiums of our U.S. subsidiaries (after taking into account third-party reinsurance) to JRG Re. Effective January 1, 2018, we generally discontinued ceding 70% of our U.S.-written premiums to JRG Re and instead ceded 70% of our U.S.-written premiums to Carolina Re. This business is ceded under proportional, or quota-share, reinsurance treaties that provide for an arm's length ceding commission. We exclude the effects of intercompany reinsurance agreements from the presentation of our segment results, consistent with the way we manage the Company. At December 31, 2018, 54.9% of our cash and invested assets were held at JRG Re, which benefits from a favorable operating environment, including an absence of corporate income or investment taxes.

On December 22, 2017, the United States enacted Public Law No. 115-97, informally titled the Tax Cuts and Jobs Act (the "Tax Act"). The Tax Act significantly changed the U.S. Internal Revenue Code of 1986, as amended (the "Code"), including by reducing the U.S. corporate income tax rate from 35% to 21% and imposing a base erosion and anti-abuse tax ("BEAT"). In response to the Tax Act, we made changes to our structure in 2018 to minimize the impact of BEAT that included the formation of Carolina Re, a Bermuda-domiciled, wholly-owned subsidiary of James River Group, Inc. Carolina Re is a Class 3A reinsurer and made an irrevocable election to be taxed as a U.S. domestic corporation under Section 953(d) of the Code effective January 1, 2018. Carolina Re is also the cedent on a stop loss reinsurance treaty with JRG Re.

The Corporate and Other segment consists of the management and treasury activities of our holding companies and interest expense associated with our debt.

The A.M. Best financial strength rating for our group's regulated insurance subsidiaries is "A" (Excellent). This rating reflects A.M. Best's opinion of our insurance subsidiaries' financial strength, operating performance and ability to meet obligations to policyholders and is not an evaluation directed towards the protection of investors.

Critical Accounting Policies and Estimates

We identified the accounting estimates below as critical to the understanding of our financial position and results of operations. Critical accounting estimates are defined as those estimates that are both important to the portrayal of our financial condition and results of operations and which require us to exercise significant judgment. We use significant judgment concerning future results and developments in applying these critical accounting estimates and in preparing our consolidated financial statements. These judgments and estimates affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of material contingent assets and liabilities. Actual results may differ materially from the estimates and assumptions used in preparing the consolidated financial statements. We evaluate our estimates regularly using information that we believe to be relevant. For a detailed discussion of our accounting policies, see the Notes to Consolidated Financial Statements included in this Form 10-K.

Reserve for Losses and Loss Adjustment Expenses

The reserve for losses and loss adjustment expenses represents our estimated ultimate cost of all reported and unreported losses and loss adjustment expenses incurred and unpaid at the balance sheet date. We do not discount this reserve. We estimate the reserve using individual case-basis valuations of reported claims and statistical analysis. We believe that the use of judgment is necessary to arrive at a best estimate for the reserve for losses and loss adjustment expenses given the long-tailed nature of the business we write and the limited operating experience of the Casualty Reinsurance segment and of the fronting and program business in the Specialty Admitted Insurance segment and the commercial auto business in our Excess and Surplus lines segment. In applying this judgment, we frequently establish reserves that differ from our internal actuaries' estimate. We seek to establish reserves that will ultimately prove to be adequate. If we have indications that claims frequency or severity exceeds our initial expectations, we generally increase our reserves for losses and loss adjustment expenses. Conversely, when claims frequency and severity trends are more favorable than initially anticipated, we generally reduce our reserves for losses and loss adjustment expenses once we have sufficient data to confirm the validity of the favorable trends.

Our Excess and Surplus Lines and Specialty Admitted Insurance segments generally are notified of losses by our insureds or their brokers. Based on the information provided, we establish case reserves by estimating the ultimate losses from the claim, including administrative costs associated with the ultimate settlement of the claim. Our claims department personnel use their knowledge of the specific claim along with internal and external experts, including underwriters and legal counsel, to estimate the expected ultimate losses.

Our Casualty Reinsurance segment generally establishes case reserves based on reports received from ceding companies or their brokers. For excess of loss contracts, we are typically notified of insurance losses on specific contracts, and we record

case reserves based on the estimated ultimate losses on each claim. For proportional contracts, we typically receive aggregated claims information and record case reserves based on that information.

We also use statistical analysis to estimate the cost of losses and loss adjustment expenses that have been incurred but not reported to us. Those estimates are based on our historical information, industry information and estimates of future trends that may affect the frequency of claims and changes in the average cost of claims (severity) that may arise in the future.

The Company's gross reserve for losses and loss adjustment expenses at December 31, 2018 was \$1,661.5 million. Of this amount, 62.4% relates to IBNR. The Company's gross reserve for losses and loss adjustment expenses by segment are summarized as follows:

Gross Reserves at December 31, 2018				
	Case	IBNR	Total	IBNR % of Total
<i>(\$ in thousands)</i>				
Excess and Surplus Lines	\$ 352,015	\$ 608,548	\$ 960,563	63.4%
Specialty Admitted Insurance	161,916	264,399	426,315	62.0%
Casualty Reinsurance	110,339	164,242	274,581	59.8%
Total	<u>\$ 624,270</u>	<u>\$ 1,037,189</u>	<u>\$ 1,661,459</u>	62.4%

The Company's net reserve for losses and loss adjustment expenses at December 31, 2018 was \$1,194.1 million. Of this amount, 61.5% relates to IBNR. The Company's net reserve for losses and loss adjustment expenses by segment are summarized as follows:

Net Reserves at December 31, 2018				
	Case	IBNR	Total	IBNR % of Total
<i>(\$ in thousands)</i>				
Excess and Surplus Lines	\$ 320,783	\$ 514,160	\$ 834,943	61.6%
Specialty Admitted Insurance	32,347	56,951	89,298	63.8%
Casualty Reinsurance	106,695	163,152	269,847	60.5%
Total	<u>\$ 459,825</u>	<u>\$ 734,263</u>	<u>\$ 1,194,088</u>	61.5%

Our Reserve Committee consists of our Chief Actuary, President and Chief Executive Officer, Chief Financial Officer, and Chief Accounting Officer. Additionally, the presidents and chief actuaries of each of our three operating segments assist in the evaluations of their respective segments. The Reserve Committee meets quarterly to review the actuarial recommendations made by each chief actuary and uses its best judgment to determine the best estimate to be recorded for the reserve for losses and loss adjustment expenses on our balance sheet. The Reserve Committee believes that using judgment to supplement the actuarial recommendations is necessary to arrive at a best estimate given the nature of the business that we write and the limited operating experience of the Casualty Reinsurance segment, the fronting and program business in the Specialty Admitted Insurance segment and the commercial auto underwriting division in the Excess and Surplus Lines segment.

The process of estimating the reserve for losses and loss adjustment expenses requires a high degree of judgment and is subject to a number of variables. In establishing the quarterly actuarial recommendation for the reserve for losses and loss adjustment expenses, our internal actuaries estimate an initial expected ultimate loss ratio for each of our product lines by accident year (or for our Casualty Reinsurance segment, on a contract by contract basis). Input from our underwriting and claims departments, including premium pricing assumptions and historical experience, are considered by our internal actuaries in estimating the initial expected loss ratios. Our actuaries generally utilize five actuarial methods in their estimation process for the reserve for losses and loss adjustment expenses. These five methods utilize, to varying degrees, the initial expected loss ratio, detailed statistical analysis of past claims reporting and payment patterns, claims frequency and severity, paid loss experience, industry loss experience, and changes in market conditions, policy forms, exclusions, and exposures. The five actuarial methods that we use in our reserve estimation process are:

Expected Loss Method

The Expected Loss method multiplies earned premiums by an initial expected loss ratio.

Incurred Loss Development Method

The Incurred Loss Development method uses historical loss reporting patterns to estimate future loss reporting patterns. In this method, our actuaries apply historical loss reporting patterns to develop incurred loss development factors that are applied to current reported losses to calculate expected ultimate losses.

Paid Loss Development Method

The Paid Loss Development method is similar to the Incurred Loss Development method, but it uses historical loss payment patterns to estimate future loss payment patterns. In this method, our actuaries apply historical loss payment patterns to develop paid loss development factors that are applied to current paid losses to calculate expected ultimate losses.

Bornhuetter-Ferguson Incurred Loss Development Method

The Bornhuetter-Ferguson Incurred Loss Development method divides the projection of ultimate losses into the portion that has already been reported and the portion that has yet to be reported. The portion that has yet to be reported is estimated as the product of premiums earned for the accident year, the initial expected ultimate loss ratio and an estimate of the percentage of ultimate losses that are unreported at the valuation date.

Bornhuetter-Ferguson Paid Loss Development Method

The Bornhuetter-Ferguson Paid Loss Development method is similar to the Bornhuetter-Ferguson Incurred Loss Development method, except this method divides the projection of ultimate losses into the portion that has already been paid and the portion that has yet to be paid. The portion that has yet to be paid is estimated as the product of premiums earned for the accident year, the initial expected ultimate loss ratio and an estimate of the percentage of ultimate losses that are unpaid at the valuation date.

Different reserving methods are appropriate in different situations, and our actuaries use their judgment and experience to determine the weighting of the methods detailed above to use for each accident year and each line of business and, for our Casualty Reinsurance segment, on a contract by contract basis. For example, the current accident year has very little incurred and paid loss development data on which to base reserve projections. As a result, we rely heavily on the Expected Loss Method in estimating reserves for the current accident year. We generally set our initial expected loss ratio for the current accident year consistent with our pricing assumptions. We believe that this is a reasonable and appropriate reserving assumption for the current accident year since our pricing assumptions are actuarially driven and since we expect to make an acceptable return on the new business that we write. If actual loss emergence is better than our initial expected loss ratio assumptions, we will experience favorable development, and if it is worse than our initial expected loss ratio assumptions, we will experience adverse development. Conversely, sufficient incurred and paid loss development is available for our oldest accident years, so more weight is given to the Incurred Loss Development method and the Paid Loss Development method than the Expected Loss method. The Bornhuetter-Ferguson Incurred Loss Development and Paid Loss Development methods blend features of the Expected Loss method and the Incurred and Paid Loss Development methods. The Bornhuetter-Ferguson methods are typically used for the more recent prior accident years.

In applying these methods to develop an estimate of the reserve for losses and loss adjustment expenses, our internal actuaries use judgment to determine three key parameters for each accident year and line of business: the initial expected loss ratios, the incurred and paid loss development factors and the weighting of the five actuarial methods to be used for each accident year and line of business. For the Excess and Surplus Lines and Specialty Admitted Insurance segments, the actuary performs a study on each of these parameters annually and makes recommendations for the initial expected loss ratios, the incurred and paid loss development factors and the weighting of the five actuarial methods by accident year and line of business. Members of the Reserve Committee review and approve the parameter review actuarial recommendations, and these approved parameters are used in the reserve estimation process for the next four quarters at which time a new parameter study is performed. For the Casualty Reinsurance segment, periodic assessments are made on a contract by contract basis with the goal of keeping the initial expected loss ratios and the incurred and paid loss development factors as constant as possible until sufficient evidence presents itself to support adjustments. Method weights are generally less rigid for the Casualty Reinsurance segment given the heterogeneous nature of the various contracts, and the potential for significant changes in mix of business within individual treaties.

We engage an independent internationally recognized actuarial consulting firm to review our reserves for losses and loss adjustment expenses twice each year, once prior to closing the third quarter and once for the closing of the fourth quarter. This independent actuarial consulting firm prepares its own estimate of our reserve for loss and loss adjustment expenses, and we compare their estimate to the reserve for losses and loss adjustment expenses reviewed and approved by the Reserve Committee in order to gain additional comfort on the adequacy of our reserves.

The table below quantifies the impact of extreme reserve deviations from our expected value at December 31, 2018. The total carried net reserve for losses and loss adjustment expenses is displayed alongside 5th, 50th and 95th percentiles of likely

ultimate net reserve outcomes. The estimates of these percentiles are a result of a reserve variability analysis using a simulation approach.

Sensitivity	5th Pct.	50th Pct.	Carried	95th Pct.
	<i>(in thousands)</i>			
Reserve for losses and loss adjustment expenses	\$ 1,061,245	\$ 1,191,249	\$ 1,194,088	\$ 1,337,509
Changes in reserves	(132,843)	(2,839)	—	143,421

The impact of recording the net reserve for losses and loss adjustment expenses at the highest value from the sensitivity analysis above would be to increase losses and loss adjustment expenses incurred by \$143.4 million, reduce after-tax net income by \$133.0 million, reduce shareholders' equity by \$133.0 million and reduce shareholders' tangible equity by \$133.0 million, in each case at or for the period ended December 31, 2018.

The impact of recording the net reserve for losses and loss adjustment expenses at the lowest value from the sensitivity analysis above would be to reduce losses and loss adjustment expenses incurred by \$132.8 million, increase after-tax net income by \$123.2 million, increase shareholders' equity by \$123.2 million, and increase tangible equity by \$123.2 million, in each case at or for the year ended December 31, 2018. Such changes in the net reserve for losses and loss adjustment expenses would not have an immediate impact on our liquidity, but would affect cash flow and investment income in future periods as the incremental or reduced amount of losses are paid and investment assets adjusted to reflect the level of paid claims.

Loss reserve estimates are subject to a high degree of variability due to the inherent uncertainty of ultimate claims settlement values. In recording our best estimate of our reserve for losses and loss adjustment expenses, our Reserve Committee typically selects an amount above the actuarial recommendation due to the inherent variation associated with our reserve estimates and the likelihood that there are unforeseen or under-valued liabilities in the actuarial recommendations. We believe that the insurance that we write is subject to above-average variation in reserve estimates. The Excess and Surplus Lines market is subject to high policyholder turnover and changes in underlying mix of exposures. This turnover and change in underlying mix of exposures can cause actuarial estimates based on prior experience to be less reliable than estimates for more stable, admitted books of business. As a casualty insurer, losses on our policies often take a number of years to develop, making it difficult to estimate the ultimate losses associated with this business. Judicial and regulatory bodies have frequently interpreted insurance contracts in a manner that expands coverage beyond that which was contemplated at the time that the policy was issued. In addition, many of our policies are issued on an occurrence basis, and insureds suffering a loss frequently seek coverage beyond the policies' original intent. The difficulty in pinpointing actual ultimate losses and loss adjustment expenses ("LAE") is illustrated by the fact that at December 31, 2018, 61.6% of our net reserve for losses and loss adjustment expenses in the Excess and Surplus Lines segment is for claims that have not been reported.

Our reserves are driven by a number of important assumptions, including litigation and regulatory trends, legislative activity, climate change, social and economic patterns and claims inflation assumptions. Our reserve estimates reflect current inflation in legal claims' settlements and assume we will not be subject to losses from significant new legal liability theories. Our reserve estimates also assume that we will not experience significant losses from mass torts and that we will not incur losses from future mass torts not known to us today. While it is not possible to predict the impact of changes in the litigation environment, if new mass torts or expanded legal theories of liability emerge, our cost of claims may differ substantially from our reserves. Our reserve estimates assume that there will not be significant changes in the regulatory and legislative environment. The impact of potential changes in the regulatory or legislative environment is difficult to quantify in the absence of specific, significant new regulation or legislation. In the event of significant new regulation or legislation, we will attempt to quantify its impact on our business but no assurance can be given that our attempt to quantify such inputs will be accurate or successful.

IBNR reserve estimates are inherently less precise than case reserve estimates. A 5% change in net IBNR reserves at December 31, 2018 would equate to a \$36.7 million change in the reserve for losses and loss adjustment expenses at such date, a \$32.6 million change in after-tax net income, a 4.6% change in shareholders' equity and a 6.6% change in tangible equity, in each case at or for the year ended December 31, 2018.

Although we believe that our reserve estimates are reasonable, it is possible that our actual loss experience may not conform to our assumptions. Specifically, our actual ultimate loss ratio could differ from our initial expected loss ratio or our actual reporting and payment patterns could differ from our expected reporting and payment patterns, which are based on our own data and industry data. Accordingly, the ultimate settlement of losses and the related loss adjustment expenses may vary significantly from the estimates included in our financial statements. We regularly review our estimates and adjust them as necessary as experience develops or as new information becomes known to us. Such adjustments are included in current operations.

\$17.7 million of adverse development was experienced in 2018 on the reserve for losses and loss adjustment expenses held at December 31, 2017. This adverse reserve development included \$15.0 million of adverse development in the Excess and Surplus Lines segment, including \$20.7 million of adverse development in the commercial auto line of business that was primarily related to the 2016 contract year with one insured. The adverse development for commercial auto was partially offset by \$5.7 million of favorable development in other Excess and Surplus Lines underwriting divisions primarily from favorable development in the Excess Property underwriting division related to the 2017 hurricanes. Favorable reserve development in the Specialty Admitted Insurance segment was \$5.6 million and primarily came from accident years 2014 through 2016, as loss emergence on our workers' compensation business written prior to 2016 continued to develop more favorably than we had anticipated. In addition, \$8.2 million of adverse development occurred in the Casualty Reinsurance segment, with a majority of this adverse development coming primarily from accident years at least four years old and in treaties the Company has since non-renewed.

\$21.5 million of adverse development was experienced in 2017 on the reserve for losses and loss adjustment expenses held at December 31, 2016. This adverse reserve development included \$20.0 million of adverse development in the Excess and Surplus Lines segment, including \$38.7 million of adverse development in the commercial auto line of business that was primarily related to the 2016 contract year with one insured. The adverse development for commercial auto was partially offset by favorable development of \$18.6 million in other Excess and Surplus Lines underwriting divisions primarily from the 2014 through 2016 accident years. This favorable development occurred because our actuarial studies at December 31, 2017 for the Excess and Surplus Lines segment indicated that our loss experience on our casualty business excluding commercial auto continued to be below our initial expected ultimate loss ratios. The Company also experienced \$2.7 million of favorable development on prior accident years in the Specialty Admitted Insurance segment primarily from accident years 2010 through 2015, as losses on our workers' compensation business written prior to 2016 continued to develop more favorably than we had anticipated. The Casualty Reinsurance segment experienced \$4.2 million of adverse development on prior accident years primarily from two contracts from 2010 through 2013 that had higher than expected reported losses in 2017.

A \$23.7 million redundancy developed in 2016 on the reserve for losses and loss adjustment expenses held at December 31, 2015. This favorable reserve development included \$24.1 million of favorable development in the Excess and Surplus Lines segment. The Excess and Surplus Lines segment favorable development included \$10.0 million of favorable development from the 2015 accident year, \$10.7 million of favorable development from the 2014 accident year and \$4.5 million from the 2013 accident year. This favorable development occurred because our actuarial studies at December 31, 2016 showed that the experience on our casualty business continued to be below our initial expected ultimate loss ratios driven by favorable calendar year emergence. Favorable reserve development in the Specialty Admitted Insurance segment was \$3.8 million, and primarily came from accident years 2010 through 2014, as losses on our workers' compensation business written prior to 2015 continued to develop more favorably than we had anticipated. The Specialty Admitted Insurance segment's favorable development from accident years 2010 – 2014 was partially offset by unfavorable development for the 2015 accident year. In addition, \$4.2 million of adverse development occurred in the Casualty Reinsurance segment, with the majority of this adverse development coming from two contracts from the 2012 and 2013 underwriting years that experienced higher loss development in 2016 than expected.

Investment Valuation and Impairment

We carry fixed maturity securities classified as "available-for-sale" at fair value, and unrealized gains and losses on such securities, net of any deferred taxes, are reported as a separate component of accumulated other comprehensive income. Equity securities (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) are measured at fair value with changes in fair value recognized in net income. Fixed maturity securities purchased for short-term resale are classified as "trading" and are carried at fair value with unrealized gains and losses included in earnings as a component of investment income. We do not have any securities classified as "held-to-maturity."

We evaluate our available-for-sale fixed maturity securities regularly to determine whether there have been declines in value that are other-than-temporary. Our outside investment managers assist us in this evaluation. When we determine that a security has experienced an other-than-temporary impairment, the impairment loss is recognized as a realized investment loss.

We consider a number of factors in assessing whether an impairment is other-than-temporary, including (1) the amount and percentage that current fair value is below amortized cost, (2) the length of time that the fair value has been below amortized cost and (3) recent corporate developments or other factors that may impact an issuer's near term prospects. In addition, we consider the credit quality ratings for the securities, with a special emphasis on securities downgraded to below investment grade. We also consider our intent to sell available-for-sale fixed maturity securities in an unrealized loss position, and if it is "more likely than not" that we will be required to sell these securities before a recovery in fair value to their amortized cost basis. As a starting point for our evaluation, we compare the fair value of each available-for-sale security to its amortized cost to identify any securities with a fair value less than amortized cost.

Management concluded that none of the fixed maturity securities with an unrealized loss at December 31, 2018, 2017, and 2016 experienced an other-than-temporary impairment. Management does not intend to sell available-for-sale securities in an unrealized loss position, and it is not “more likely than not” that the Company will be required to sell these securities before a recovery in their value to their amortized cost basis occurs.

Effective January 1, 2018, with the adoption of ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, equity securities (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) are measured at fair value with changes in fair value recognized in net investment income. Prior to the adoption of ASU 2016-01, changes in the fair value of equity securities were recognized net of taxes as a component of accumulated other comprehensive income.

At December 31, 2017, management concluded that one equity security, based on the severity and duration of the impairment, had experienced an other-than-temporary impairment. Accordingly, the Company recorded an impairment loss of \$1.5 million in 2017. Management concluded that none of the other equity securities with an unrealized loss at December 31, 2017 and 2016 experienced an other-than-temporary impairment. Management evaluated the near-term prospects of these other equity securities in relation to the severity and duration of the impairment, and management had the ability and intent to hold the securities until a recovery of their fair value.

Bank loan participations held-for-investment are managed by a specialized outside investment manager and are generally stated at their outstanding unpaid principal balances net of unamortized premiums or discounts and net of any allowance for credit losses.

We maintain the allowance for credit losses at a level we believe is adequate to absorb estimated probable credit losses. Our periodic evaluation of the adequacy of the allowance is based on consultations and the advice of our specialized investment manager, known and inherent risks in the portfolio, adverse situations that may affect the borrowers’ ability to repay, the estimated value of any underlying collateral, current economic conditions and other relevant factors. The Company has recorded an allowance equal to the difference between the fair value and the amortized cost of bank loans that it has determined to be impaired as a practical expedient for an estimate of probable future cash flows to be collected on those bank loans. As a starting point for our evaluation, we compare the carrying value of each loan to its fair value to identify any loans that had a fair value less than its carrying value.

At December 31, 2017 and 2016, the Company held a participation in a loan issued by a company that produces and supplies power to Puerto Rico through a power purchase agreement with Puerto Rico Electric Power Authority (“PREPA”), a public corporation and governmental agency of the Commonwealth of Puerto Rico. Management concluded that the loan was impaired and established credit allowances on the loan of \$759,000 and \$177,000 at December 31, 2017 and 2016, respectively. At December 31, 2017, the loan had a carrying value of zero and unpaid principal of \$807,000. In the first quarter of 2018, the full outstanding principal on the loan was repaid and the Company recognized a realized gain of \$807,000 on the repayment.

Management concluded that none of the loans in the Company's bank loan portfolio were impaired as of December 31, 2018. At December 31, 2017, the aggregate allowance for credit losses was \$3.2 million on five impaired loans with a total carrying value of \$5.1 million and unpaid principal of \$8.4 million. Impairments in the bank loan portfolio at December 31, 2017 largely reflected the impact of declining energy prices on the market values of loans to oil and gas companies in the energy sector at that time.

Fair values are measured in accordance with ASC 820, *Fair Value Measurements*. The guidance establishes a framework for measuring fair value and a three-level hierarchy based upon the quality of inputs used to measure fair value. The three levels of the fair value hierarchy are: (1) Level 1: quoted price (unadjusted) in active markets for identical assets, (2) Level 2: inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the instrument and (3) Level 3: inputs to the valuation methodology are unobservable for the asset or liability.

The fair values of fixed maturity securities and equity securities have been determined using fair value prices provided by our investment manager, who utilizes internationally recognized independent pricing services. The prices provided by the independent pricing services are generally based on observable market data in active markets (e.g. broker quotes and prices observed for comparable securities). Values for U.S. Treasury and publicly-traded equity securities are generally based on Level 1 inputs which use the market approach valuation technique. The values for all other fixed maturity securities (including state and municipal securities and obligations of U.S. government corporations and agencies) generally incorporate significant Level 2 inputs, and in some cases, Level 3 inputs, using the market approach and income approach valuation techniques.

The fair values of cash and cash equivalents and short-term investments approximate their carrying values due to their short-term maturity.

In the determination of the fair value for bank loan participations and certain high yield bonds, the Company’s investment manager endeavors to obtain data from multiple external pricing sources. External pricing sources may include brokers,

dealers, and price data vendors that provide a composite price based on prices from multiple dealers. Such external pricing sources typically provide valuations for normal institutional size trading units of such securities using methods based on market transactions for comparable securities, and various relationships between securities, as generally recognized by institutional dealers. For investments in which the investment manager determines that only one external pricing source is appropriate or if only one external price is available, the investment is generally recorded based on such price.

Investments for which external sources are not available or are determined by the investment manager not to be representative of fair value are recorded at fair value as determined by the investment manager. In determining the fair value of such investments, the investment manager considers one or more of the following factors: type of security held, convertibility or exchangeability of the security, redeemability of the security (including the timing of redemptions), application of industry accepted valuation models, recent trading activity, liquidity, estimates of liquidation value, purchase cost and prices received for securities with similar terms of the same issuer or similar issuers. At December 31, 2017, there was a bank loan participation with an unpaid principal balance of \$807,000 and a carrying value of \$0 for which external sources were unavailable to determine fair value. There were no bank loan participations for which external sources were unavailable to determine fair value at December 31, 2018.

We review fair value prices provided by our outside investment managers for reasonableness by comparing the fair values provided by the managers to those provided by our investment custodian. We also review and monitor changes in unrealized gains and losses. We obtain an understanding of the methods, models, and inputs used by our investment managers and independent pricing services, and controls are in place to validate that prices provided represent fair values. Our control process includes, but is not limited to, initial and ongoing evaluation of the methodologies used, a review of specific securities and an assessment for proper classification within the fair value hierarchy, and obtaining and reviewing internal control reports for our investment manager that obtains fair values from independent pricing services.

Assumed Reinsurance Premiums

Assumed reinsurance written premiums include amounts reported by brokers and ceding companies, supplemented by the Company's own estimates of premiums when reports have not been received. Premiums on the Company's excess of loss and pro rata reinsurance contracts are estimated when the business is underwritten. For excess of loss contracts, the deposit premium, as defined in the contract, is generally recorded as an estimate of premiums written at the inception date of the treaty. Estimates of premiums written under pro rata contracts are recorded in the period in which the underlying risks are expected to begin and are based on information provided by the brokers and the ceding companies.

Reinsurance premium estimates are reviewed by management periodically. Any adjustment to these estimates is recorded in the period in which it becomes known. The impact of any premium adjustments on net income is offset by corresponding changes to related policy acquisition costs and losses and loss adjustment expenses. For the years ended December 31, 2018, 2017, and 2016, these adjustments were immaterial.

Reinsurance premiums assumed are earned over the terms of the underlying policies or reinsurance contracts. Contracts and policies written on a "losses occurring" basis cover claims that may occur during the term of the contract or policy, which is typically 12 months. Accordingly, the premiums are earned evenly over the term. Contracts which are written on a "risks attaching" basis cover claims which attach to the underlying insurance policies written during the terms of such contracts. Premiums earned on such contracts usually extend beyond the original term of the reinsurance contract, typically resulting in recognition of premiums earned over a 24-month period in proportion to the level of underlying exposure.

Certain of the Company's reinsurance contracts include provisions that adjust premiums or acquisition expenses based upon the experience under the contracts. Premiums written and earned, as well as related acquisition expenses, are recorded based upon the projected experience under the contracts.

Recent Accounting Pronouncements

Effective January 1, 2018, the Company adopted Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The guidance applies to all companies that either enter into contracts with customers to transfer goods or services or enter into contracts for the transfer of nonfinancial assets, unless those contracts are within the scope of other standards, such as insurance contracts. Under this guidance, a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. Judgments required in adopting this update included identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. The adoption of ASU 2014-09 had no impact on reported fee income and there was no cumulative effect of initially applying the update.

Effective January 1, 2018, the Company adopted ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. Among other things, this ASU requires equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the

investee) to be measured at fair value with changes in fair value recognized in net income. Upon adoption on January 1, 2018, the Company made a \$4.7 million cumulative-effect adjustment to increase retained earnings and reduce accumulated other comprehensive income. The adoption of ASU 2016-01 did not materially impact the Company's financial position, cash flows, or total comprehensive income. The Company's results of operations were impacted as changes in fair value of equity instruments are now presented in net income rather than other comprehensive (loss) income. For the year ended December 31, 2018, the respective impact on net income was a reduction of \$4.7 million (\$0.16 reduction in basic and diluted earnings per share).

Effective January 1, 2018, the Company adopted ASU 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. This update was issued as a result of the enactment of the Tax Act on December 22, 2017. The ASU allows for the option to reclassify the stranded tax effects resulting from the implementation of the Tax Act out of accumulated other comprehensive income and into retained earnings. As the adoption of ASU 2016-01 in 2018 resulted in the reclassification of the entire unrealized balance on equity securities from accumulated other comprehensive income into retained earnings, only the stranded tax effects on the unrealized balances of fixed income securities were impacted by the adoption of ASU 2018-02. The reclassification resulted in a \$711,000 decrease to the Company's retained earnings with a corresponding increase to accumulated other comprehensive income in the first quarter of 2018.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. Under current guidance for lessees, leases are only included on the balance sheet if they are designated as capital leases. This update will require the recognition of a right-of-use asset and a corresponding lease liability, discounted to the present value, for all leases that extend beyond 12 months. This ASU is effective for annual and interim reporting periods beginning after December 15, 2018. In the third quarter of 2018, the FASB issued ASU 2018-10 to clarify certain aspects of the guidance and ASU 2018-11, which provides an optional alternative transition method to initially apply the new leases standard at the adoption date (collectively, with ASU 2016-02, Topic 842). Topic 842 now allows for the use of either the modified retrospective adoption method or the alternative transition method. The Company has completed its evaluation and will adopt the new standard on January 1, 2019 using a modified retrospective transition method, applying the transition provisions at the beginning of the period of adoption. The Company will elect the package of practical expedients permitted under the transition guidance within the new standard and will not elect to use hindsight in determining the lease term. The new standard will not be applied to leases with an initial term of 12 months or less. Upon adoption of the new standard, the Company will derecognize assets of \$22.6 million and liabilities of \$30.9 million associated with a lease that was designated as build-to-suit under the previous guidance, and record a cumulative-effect adjustment to retained earnings of \$8.3 million. The lease will be classified as an operating lease under the new standard. The Company will record right-of-use assets of \$17.2 million and lease liabilities of \$17.8 million at adoption of the new standard. The new standard will not materially impact the Company's results of operations or cash flows, and will not impact compliance under the covenants of our current credit agreements.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. Current GAAP delays the recognition of credit losses until it is probable a loss has been incurred. The update will require financial assets measured at amortized cost, such as bank loan participations held for investment, to be presented at the net amount expected to be collected by means of an allowance for credit losses that runs through net income. Credit losses relating to available-for-sale debt securities will also be recorded through an allowance for credit losses, with the amount of the allowance limited to the amount by which fair value is below amortized cost. This ASU is effective for annual and interim reporting periods beginning after December 15, 2019. Upon adoption, this ASU will be applied using the modified-retrospective approach, by which a cumulative-effect adjustment will be made to retained earnings as of the beginning of the first reporting period presented. The Company has not yet completed the analysis of how adopting this ASU will affect the Company's financial statements.

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

The following table summarizes our results for the years ended December 31, 2018 and 2017:

	Year Ended December 31,		% Change
	2018	2017	
	<i>(\$ in thousands)</i>		
Gross written premiums	\$ 1,166,773	\$ 1,081,905	7.8 %
Net retention ⁽¹⁾	65.4%	70.9%	
Net written premiums	\$ 762,672	\$ 766,626	(0.5)%
Net earned premiums	\$ 815,398	\$ 741,109	10.0 %
Losses and loss adjustment expenses	(600,276)	(555,377)	8.1 %
Other operating expenses	(187,116)	(179,968)	4.0 %
Underwriting profit (2), (3)	28,006	5,764	385.9 %
Net investment income	61,256	61,119	0.2 %
Net realized and unrealized investment losses	(5,479)	(1,989)	175.5 %
Other income and expense	(795)	(178)	346.6 %
Interest expense	(11,553)	(8,974)	28.7 %
Amortization of intangible assets	(597)	(597)	— %
Income before taxes	70,838	55,145	28.5 %
Income tax expense	7,008	11,579	(39.5)%
Net income	\$ 63,830	\$ 43,566	46.5 %
Adjusted net operating income (4)	\$ 70,596	\$ 47,385	49.0 %
Ratios:			
Loss ratio	73.6%	74.9%	
Expense ratio	23.0%	24.3%	
Combined ratio	96.6%	99.2%	

(1) Net retention is defined as the ratio of net written premiums to gross written premiums.

(2) Underwriting profit is a non-GAAP measure. See “Reconciliation of Non-GAAP Measures” for a reconciliation to income before tax and for additional information.

(3) Underwriting profit includes gross fee income of \$28.7 million and \$28.3 million for the years ended December 31, 2018 and 2017, respectively.

(4) Adjusted net operating income is a non-GAAP measure. See “Reconciliation of Non-GAAP Measures” for reconciliation to net income and for additional information.

We had an underwriting profit of \$28.0 million for the year ended December 31, 2018. This compares to an underwriting profit of \$5.8 million for the prior year. On a consolidated basis, the Company recognized \$17.7 million and \$21.5 million of net adverse reserve development for the years ended December 31, 2018 and 2017, respectively.

The results for the years ended December 31, 2018 and 2017 included certain non-operating items that are significant to the Company. These items (on a pre-tax basis) include:

- Net realized and unrealized investment losses of \$5.5 million and \$2.0 million for the years ended December 31, 2018 and 2017, respectively. See “Investing Results” for more information on these realized and unrealized investment losses.
- Interest expense of \$1.6 million and \$1.3 million for the years ended December 31, 2018 and 2017, respectively, relating to finance expenses in connection with a minority interest in a real estate partnership pursuant to which we are deemed an owner for accounting purposes. The debt is nonrecourse to us and was not arranged by us.

We define adjusted net operating income as net income excluding certain non-operating expenses such as net realized and unrealized investment gains and losses on investments, expenses related to due diligence costs for various merger and

acquisition activities, professional service fees related to the filing of registration statements for the offering of securities, severance costs associated with terminated employees, and interest expense and other income and expenses on a leased building that we are deemed to own for accounting purposes. We use adjusted net operating income as an internal performance measure in the management of our operations because we believe it gives our management and other users of our financial information useful insight into our results of operations and our underlying business performance. Adjusted net operating income should not be viewed as a substitute for net income calculated in accordance with GAAP, and our definition of adjusted net operating income may not be comparable to that of other companies.

Our income before taxes and net income for the years ended December 31, 2018 and 2017 reconcile to our adjusted net operating income as follows:

	Year Ended December 31,			
	2018		2017	
	Income Before Taxes	Net Income	Income Before Taxes	Net Income
	<i>(in thousands)</i>			
Income as reported	\$ 70,838	\$ 63,830	\$ 55,145	\$ 43,566
Net realized and unrealized losses on investments	5,479	4,374	1,989	1,375
Other expenses	1,100	941	539	575
Impairment of intangible assets	200	200	—	—
Dividend withholding taxes	—	—	—	1,053
Interest expense on leased building the Company is deemed to own for accounting purposes	1,584	1,251	1,256	816
Adjusted net operating income	<u>\$ 79,201</u>	<u>\$ 70,596</u>	<u>\$ 58,929</u>	<u>\$ 47,385</u>

Combined Ratios

The combined ratio is a measure of underwriting performance and represents the relationship of incurred losses, loss adjustment expenses and other operating expenses to net earned premiums. Our combined ratio for the year ended December 31, 2018 was 96.6%. A combined ratio of less than 100% indicates an underwriting profit, while a combined ratio greater than 100% reflects an underwriting loss. In 2018, the combined ratio included \$17.7 million, or 2.2 percentage points, of net adverse reserve development on prior accident years, including \$15.0 million of net adverse reserve development from the Excess and Surplus Lines segment (including \$4.9 million, or 0.9 percentage points, of favorable reserve development on the 2017 catastrophe losses from Hurricanes Harvey, Irma, and Maria), \$5.6 million of net favorable reserve development from the Specialty Admitted Insurance segment, and \$8.2 million of net adverse reserve development from the Casualty Reinsurance segment.

Our combined ratio for the year ended December 31, 2017 was 99.2%. It included \$21.5 million, or 2.9 percentage points, of net adverse reserve development on prior accident years, including \$20.0 million of net adverse reserve development from the Excess and Surplus Lines segment, \$2.7 million of net favorable development from the Specialty Admitted Insurance segment, and \$4.2 million of net adverse reserve development from the Casualty Reinsurance segment. The combined ratio for the year ended December 31, 2017 also includes \$6.9 million, or 0.9 percentage points, of catastrophe losses from Hurricanes Harvey, Irma, and Maria.

All of the Company’s U.S.-domiciled insurance subsidiaries are party to an intercompany pooling agreement that distributes the net underwriting results among the group companies based on their approximate pro-rata level of statutory capital and surplus to the total Company statutory capital and surplus. Additionally, each of the Company’s U.S.-domiciled insurance subsidiaries is a party to a quota share reinsurance agreement that in prior periods ceded 70% of their premiums and losses to JRG Re, and starting January 1, 2018, ceded 70% of their premiums and losses to Carolina Re, an entity domiciled in Bermuda that made an irrevocable election to be taxed as a U.S. domestic corporation under Section 953(d) of the Code effective January 1, 2018. JRG Re also provides stop loss reinsurance to Carolina Re. We report all segment information in this “Management’s Discussion and Analysis of Financial Condition and Results of Operations” prior to the effects of intercompany reinsurance, consistent with the manner in which we evaluate the operating performance of our reportable segments.

Expense Ratios

Our expense ratio was 23.0% and 24.3% for the years ended December 31, 2018 and 2017, respectively. The improvement is due to a 19.9% increase in the net earned premiums of the Excess and Surplus Lines segment including in lines of business which carry relatively low expenses or that have meaningful ceding commissions. Our Excess and Surplus Lines segment has

significant scale and produces a lower expense ratio than our other operating segments. The Excess and Surplus Lines segment is our largest segment and makes up 68.1% of consolidated net earned premiums for the year ended December 31, 2018 (62.5% for the year ended December 31, 2017). Gross fee income for the Company increased from \$28.3 million for the year ended December 31, 2017 to \$28.7 million for the year ended December 31, 2018.

Premiums

Insurance premiums are earned ratably over the terms of our insurance policies, generally twelve months. Reinsurance premiums assumed are earned over the terms of the underlying policies or reinsurance contracts. Contracts and policies written on a “losses occurring” basis cover claims that may occur during the term of the contract or insurance policy, which is typically twelve months. Reinsurance contracts which are written on a “risks attaching” basis cover claims which attach to the underlying insurance policies written during the terms of such contracts. Premiums earned on such contracts usually extend beyond the original term of the reinsurance contract, typically resulting in recognition of premiums earned over a 24-month period in proportion to the level of underlying exposure.

The following table summarizes the change in premium volume by component and business segment:

	Year Ended December 31,		% Change
	2018	2017	
<i>(\$ in thousands)</i>			
Gross written premiums:			
Excess and Surplus Lines	\$ 656,538	\$ 530,120	23.8 %
Specialty Admitted Insurance	374,346	316,430	18.3 %
Casualty Reinsurance	135,889	235,355	(42.3)%
	<u>\$ 1,166,773</u>	<u>\$ 1,081,905</u>	7.8 %
Net written premiums:			
Excess and Surplus Lines	\$ 571,098	\$ 469,891	21.5 %
Specialty Admitted Insurance	55,840	60,957	(8.4)%
Casualty Reinsurance	135,734	235,778	(42.4)%
	<u>\$ 762,672</u>	<u>\$ 766,626</u>	(0.5)%
Net earned premiums:			
Excess and Surplus Lines	\$ 555,684	\$ 463,521	19.9 %
Specialty Admitted Insurance	55,146	68,110	(19.0)%
Casualty Reinsurance	204,568	209,478	(2.3)%
	<u>\$ 815,398</u>	<u>\$ 741,109</u>	10.0 %

Gross written premiums for the Excess and Surplus Lines segment (which represents 56.3% of our consolidated gross written premiums in 2018) increased 23.8% over the prior year. Excluding commercial auto policies, gross written premiums for the Excess and Surplus Lines segment increased 18.5% over the prior year. Policy submissions excluding commercial auto policies were 9.3% higher and 11.2% more policies were bound in 2018 than in 2017. Rates for the Excess and Surplus Lines segment were up 6.5% compared to 2017. The change in gross written premiums was notable in several divisions as shown below:

	Year Ended December 31,		
	2018	2017	% Change
Commercial Auto	\$ 322,126	\$ 247,960	29.9 %
Manufacturers & Contractors	79,160	85,719	(7.7)%
Excess Casualty	66,452	51,160	29.9 %
General Casualty	54,127	38,054	42.2 %
Energy	33,942	29,704	14.3 %
Allied Health	30,450	19,181	58.8 %
Excess Property	16,963	14,447	17.4 %
Life Sciences	16,636	12,981	28.2 %
Small Business	14,808	11,307	31.0 %
All other divisions	21,874	19,607	11.6 %
Excess and Surplus Lines gross written premium	<u>\$ 656,538</u>	<u>\$ 530,120</u>	23.8 %

The components of gross written premiums for the Specialty Admitted Insurance segment (which represents 32.1% of our 2018 consolidated gross written premiums) are as follows:

	Year Ended December 31,		
	2018	2017	% Change
<i>(\$ in thousands)</i>			
Individual risk workers' compensation premium	\$ 55,248	\$ 44,121	25.2%
Fronting and program premium	319,098	272,309	17.2%
Specialty Admitted gross written premium	<u>\$ 374,346</u>	<u>\$ 316,430</u>	18.3%

Individual risk workers' compensation premium growth was driven by exposure growth from higher payrolls of our insureds in a strong economy and increased submission flow.

The premium growth in our fronting business was driven by growth in the gross written premium from our largest agency relationship, which produced \$201.7 million of gross written premium for the year ended December 31, 2018, up from \$183.0 million for the year ended December 31, 2017, as well as new fronting arrangements entered into during the year.

Gross written premiums for the Casualty Reinsurance segment (which represents 11.6% of our consolidated gross written premiums in 2018) decreased 42.3% from the prior year. The reduction in gross written premium in this segment was in line with our expectations and is consistent with our planned reductions for the Casualty Reinsurance segment as we redeploy our capital to where we believe we can make the highest operating returns on tangible equity. The Casualty Reinsurance segment generally writes large casualty-focused treaties that are expected to have lower volatility relative to property and catastrophe treaties. We rarely write stand-alone property reinsurance. When treaties that include property exposure are written, we utilize property occurrence caps, inuring reinsurance protection and low individual risk limits to minimize exposure.

Net Retention

The ratio of net written premiums to gross written premiums is referred to as our net premium retention. Our net premium retention by segment is as follows:

	Year Ended December 31,	
	2018	2017
Excess and Surplus Lines	87.0%	88.6%
Specialty Admitted Insurance	14.9%	19.3%
Casualty Reinsurance	99.9%	100.2%
Total	65.4%	70.9%

The net premium retention for the Specialty Admitted Insurance segment decreased from 2017 to 2018 as a result of growth in the segment's fronting business, which generally has much lower net premium retention than our workers' compensation business. Fronting gross written premium grew 17.2% for the year ended December 31, 2018 compared to the prior year. The net retention on the segment's fronting business was 9.6% and 11.9% in the years ended December 31, 2018 and

2017, respectively, while the net retention on the workers' compensation business was 45.9% and 64.8%, respectively. The significant decline in the net retention from the prior year on the workers' compensation business is due to the 50% third-party quota share reinsurance coverage purchased in this business effective October 1, 2017.

Underwriting Results

The following table compares our combined ratios by segment:

	Year Ended December 31,	
	2018	2017
Excess and Surplus Lines	92.3%	93.6%
Specialty Admitted Insurance	87.4%	95.4%
Casualty Reinsurance	97.5%	100.8%
Total	96.6%	99.2%

Excess and Surplus Lines Segment

Results for the Excess and Surplus Lines segment are as follows:

	Year Ended December 31,		% Change
	2018	2017	
<i>(\$ in thousands)</i>			
Gross written premiums	\$ 656,538	\$ 530,120	23.8%
Net written premiums	\$ 571,098	\$ 469,891	21.5%
Net earned premiums	\$ 555,684	\$ 463,521	19.0%
Losses and loss adjustment expenses	(437,904)	(371,717)	17.8%
Underwriting expenses	(74,946)	(62,111)	20.7%
Underwriting profit ^{(1), (2)}	\$ 42,834	\$ 29,693	44.3%
Ratios:			
Loss ratio	78.8%	80.2%	
Expense ratio	13.5%	13.4%	
Combined ratio	92.3%	93.6%	

(1) *Underwriting Profit is a non-GAAP Measure. See "Reconciliation of Non-GAAP Measures" for a reconciliation to income before tax and for additional information.*

(2) *Underwriting results include gross fee income of \$13.9 million and \$17.0 million for the years ended December 31, 2018 and 2017, respectively.*

The loss ratio of 78.8% for the year ended December 31, 2018 includes \$15.0 million, or 2.7 percentage points, of net adverse development in our loss estimates for prior accident years. The loss ratio of 80.2% for the year ended December 31, 2017 includes \$20.0 million, or 4.3 percentage points, of net adverse development in our loss estimates for prior accident years. The adverse reserve development in this segment in 2017 and 2018 was almost entirely from one large commercial auto account in the 2016 accident year. The loss ratio for the year ended December 31, 2017 also includes \$5.2 million of losses from Hurricanes Harvey, Irma, and Maria primarily related to property losses in Florida. The catastrophe losses represent 1.1 percentage points of loss ratio additions for the year.

The expense ratio for this segment was slightly higher at 13.5% for 2018 compared to 13.4% in 2017. Gross fee income contributed to a reduction in the expense ratio of 2.5 and 3.7 percentage points for the years ended December 31, 2018 and 2017, respectively.

Our commercial auto business has a lower expense ratio and higher loss ratio than our other business in the segment. Commercial auto made up 56.7% of the segment's net earned premiums for 2018 compared to 53.3% for 2017.

As a result of the items discussed above, the underwriting profit of the Excess and Surplus Lines segment increased 44.3%, from \$29.7 million for the year ended December 31, 2017 to \$42.8 million for the year ended December 31, 2018.

Specialty Admitted Insurance Segment

Results for the Specialty Admitted Insurance segment are as follows:

	Year Ended December 31,		% Change
	2018	2017	
	<i>(\$ in thousands)</i>		
Gross written premiums	\$ 374,346	\$ 316,430	18.3 %
Net written premiums	\$ 55,840	\$ 60,957	(8.4)%
Net earned premiums	\$ 55,146	\$ 68,110	(19.0)%
Losses and loss adjustment expenses	(32,623)	(44,863)	(27.3)%
Underwriting expenses	(15,551)	(20,081)	(22.6)%
Underwriting profit ^{(1), (2)}	\$ 6,972	\$ 3,166	120.2 %
Ratios:			
Loss ratio	59.2%	65.9%	
Expense ratio	28.2%	29.5%	
Combined ratio	87.4%	95.4%	

(1) *Underwriting Profit is a non-GAAP Measure. See "Reconciliation of Non-GAAP Measures" for a reconciliation to income before tax and for additional information.*

(2) *Underwriting profit includes fee income of \$14.8 million and \$11.3 million for the years ended December 31, 2018 and 2017, respectively.*

The loss ratio for the year ended December 31, 2018 of 59.2% included \$5.6 million, or 10.1 percentage points, of net favorable development on prior accident years. The loss ratio for the year ended December 31, 2017 of 65.9% included \$2.7 million, or 4.0 percentage points, of net favorable development on prior accident years. The favorable development in both 2018 and 2017 reflects the fact that actual loss emergence of the workers' compensation book for prior accident years has been better than expected.

The expense ratio of the Specialty Admitted Insurance segment was 28.2% for the year ended December 31, 2018 compared to the prior year ratio of 29.5%. The expense ratio declined in 2018 for this segment due to gross fee income from the fronting business which increased 31.0% for the year ended December 31, 2018 compared to the prior year and to ceding commissions received on the 50% third-party quota share reinsurance coverage purchased on individual risk workers' compensation business effective October 1, 2017.

As a result of the items discussed above, the underwriting profit of the Specialty Admitted Insurance segment increased 120.2%, from \$3.2 million for the year ended December 31, 2017 to \$7.0 million for the year ended December 31, 2018.

Casualty Reinsurance Segment

Results for the Casualty Reinsurance segment are as follows:

	Year Ended December 31,		% Change
	2018	2017	
	(\$ in thousands)		
Gross written premiums	\$ 135,889	\$ 235,355	(42.3)%
Net written premiums	\$ 135,734	\$ 235,778	(42.4)%
Net earned premiums	\$ 204,568	\$ 209,478	(2.3)%
Losses and loss adjustment expenses	(129,749)	(138,797)	(6.5)%
Underwriting expenses	(69,716)	(72,446)	(3.8)%
Underwriting profit (loss) ⁽¹⁾	\$ 5,103	\$ (1,765)	—
Ratios:			
Loss ratio	63.4%	66.3%	
Expense ratio	34.1%	34.5%	
Combined ratio	97.5%	100.8%	

(1) *Underwriting loss is a non-GAAP Measure. See “Reconciliation of Non-GAAP Measures” for a reconciliation to income before tax and for additional information.*

The Casualty Reinsurance segment focuses on lower volatility, proportional reinsurance which requires larger ceding commissions resulting in a higher commission expense than in our other segments.

The loss ratio of 63.4% for the year ended December 31, 2018 includes \$8.2 million, or 4.0 percentage points, of net adverse development in our loss estimates for prior accident years. The 2018 adverse reserve development was primarily related to losses from risk profiles and treaty structures that we no longer underwrite. The loss ratio of 66.3% for the year ended December 31, 2017 includes \$4.2 million, or 2.0 percentage points, of net adverse development in our loss estimates for prior accident years. The 2017 adverse reserve development was primarily from two contracts from 2010 through 2013 that had higher than expected reported losses in 2017.

The expense ratio of the Casualty Reinsurance segment was 34.1% for the year ended December 31, 2018 compared to the prior year ratio of 34.5%. The expense ratio for the year ended December 31, 2017 was impacted by the correction of a contingent commission accrual and related commission expense, which increased underwriting expenses by \$2.0 million in the year ended December 31, 2017.

As a result of the items discussed above, the Casualty Reinsurance segment had an underwriting profit of \$5.1 million for the year ended December 31, 2018 compared to an underwriting loss of \$1.8 million for the year ended December 31, 2017.

Other Operating Expenses

In addition to the underwriting, acquisition and insurance expenses of the Excess and Surplus Lines segment, the Specialty Admitted Insurance segment and the Casualty Reinsurance segment discussed previously, other operating expenses for the Company also includes the expenses of the Corporate and Other segment.

Corporate and Other Segment

Other operating expenses for the Corporate and Other segment include personnel costs associated with the Bermuda and U.S. holding companies, professional fees, and various other corporate expenses that are included in our calculation of our expense ratio and our combined ratio. Other operating expenses of the Corporate and Other segment represent the expenses of both the Bermuda and U.S. holding companies that were not reimbursed by our subsidiaries, including costs associated with our internal quota share, rating agencies and strategic initiatives. These costs vary from period-to-period based on the status of these initiatives.

For the years ended December 31, 2018 and 2017, the total operating expenses of the Corporate and Other segment were \$26.9 million and \$25.3 million, representing a 6.2% increase over the prior year. The increases were driven by compensation costs, including stock compensation expenses, associated with increases in headcount and costs associated with the formation and operations of Carolina Re, a new Class 3A reinsurer that has made an irrevocable election to be taxed as a U.S. domestic

corporation under Section 953(d) of the Code effective January 1, 2018. See “Income Tax Expense” for additional discussions regarding this newly formed 953(d) reinsurer.

Investing Results

Net investment income was \$61.3 million for the year ended December 31, 2018 compared to \$61.1 million in the prior year. The change in our net investment income is as follows:

	Year Ended December 31,		% Change
	2018	2017	
	<i>(in thousands)</i>		
Renewable energy LLCs	\$ 2,974	\$ 10,578	(71.9)%
Other private investments	2,191	3,501	(37.4)%
Other invested assets	5,165	14,079	(63.3)%
All other net investment income	56,091	47,040	19.2 %
Total net investment income	\$ 61,256	\$ 61,119	0.2 %

The Company’s private investments, including our renewable energy LLC investments, produced positive returns in 2018, but fell short of the strong prior year results. The decrease in private investments was offset by increased income from our growing fixed income portfolio of bonds and bank loan participations which benefited from rising investment yields in 2018.

Major categories of the Company’s net investment income are summarized as follows:

	Year Ended December 31,	
	2018	2017
	<i>(in thousands)</i>	
Fixed maturity securities	\$ 34,129	\$ 26,833
Bank loan participations	18,279	17,388
Equity securities	5,240	5,045
Other invested assets	5,165	14,079
Cash, cash equivalents, and short-term investments	2,681	1,708
Trading losses	(4)	(4)
Gross investment income	65,490	65,049
Investment expense	(4,234)	(3,930)
Net investment income	\$ 61,256	\$ 61,119

The following table summarizes our investment returns:

	Year Ended December 31,	
	2018	2017
Annualized gross investment yield on:		
Average cash and invested assets	3.8%	4.3%
Average fixed maturity securities	3.7%	3.6%

Of our total cash and invested assets of \$1,850.3 million at December 31, 2018, \$172.5 million represents the cash and cash equivalents portion of the portfolio. The majority of the portfolio, or \$1,184.2 million, is comprised of fixed maturity securities that are classified as available-for-sale and carried at fair value with unrealized gains and losses on these securities reported, net of applicable taxes, as a separate component of accumulated comprehensive income or loss. Also included in our investments are \$261.0 million of bank loan participations, \$78.4 million of equity securities, \$82.0 million of short-term investments, and \$72.3 million of other invested assets.

The \$261.0 million of bank loan participations in our investment portfolio are classified as held-for-investment and reported at amortized cost, net of any allowance for credit losses. Changes in this credit allowance are included in realized gains or losses. At December 31, 2018, there was no allowance for credit losses, as none of the loans in the Company's portfolio were considered impaired. These bank loan participations are primarily senior, secured floating-rate debt rated “BB”, “B”, or “CCC” by Standard & Poor’s or an equivalent rating from another nationally recognized statistical rating organization,

and are therefore below investment grade. Bank loans include assignments of and participations in, performing and non-performing senior corporate debt generally acquired through primary bank syndications and in secondary markets. They consist of, but are not limited to, term loans, the funded and unfunded portions of revolving credit loans, and similar loans and investments. At December 31, 2018 and 2017, the fair value of these securities was \$250.7 million and \$236.5 million, respectively.

The Company invests selectively in private debt and equity opportunities. These investments comprise the Company's other invested assets and are primarily focused in renewable energy, limited partnerships, and bank holding companies. Equity interests in various renewable energy LLCs generated investment income of \$3.0 million and \$10.6 million for the years ended December 31, 2018 and 2017, respectively. The LLCs are managed by an entity for which two of our directors serve as officers, and the Company's Non-Executive Chairman has invested in certain of these LLCs. These investments had a carrying value of \$29.8 million at December 31, 2018. Investments in loans for renewable energy projects had investment income \$1.3 million and \$526,000 for the years ended December 31, 2018 and 2017, respectively. Two of our directors are officers of the entities that issued the loans. The Company has invested in several limited partnerships that invest in concentrated portfolios of publicly-traded small cap equities, loans of middle market private equity sponsored companies, and equity tranches of collateralized loan obligations (CLOs). Income from these partnerships was \$566,000 in 2018 compared to \$2.6 million in 2017. Together, these limited partnerships had a carrying value of \$29.3 million at December 31, 2018. Income from the Company's investments in renewable energy LLCs and limited partnerships is recognized under the equity method of accounting. The Company also holds \$4.5 million of subordinated notes issued by a bank holding company. Interest income from the notes was \$343,000 in both years ended December 31, 2018 and 2017. The Company's Non-Executive Chairman was previously the Lead Independent Director of the bank holding company and an investor in the bank holding company.

For the year ended December 31, 2018, the Company recognized net realized and unrealized investment losses of \$5.5 million, including \$6.0 million of losses for the change in the fair value of equity securities, \$554,000 of net realized investment losses on the sale of fixed maturity securities, \$2.0 million of net realized investment gains on the sale of bank loan securities (including an \$807,000 realized gain on the repayment of the loan to the producer and supplier of power in Puerto Rico described below), and \$858,000 of net realized investment losses from an increase in our bank loan credit allowance.

For the year ended December 31, 2017, the Company recognized net realized investment losses of \$2.0 million. This net loss was made up of an increase in our bank loan credit allowance and an other than temporary impairment on an equity security, offset by net realized gains of \$1.3 million from bank loan securities, \$368,000 from equity securities, and \$328,000 from fixed maturity securities.

In conjunction with its outside investment managers, the Company performs quarterly reviews of all securities within its investment portfolio to determine whether any impairment has occurred.

At December 31, 2017, management concluded that one equity security, based on the severity and duration of the impairment, had experienced an other-than-temporary impairment. Accordingly, the Company recorded an impairment loss of \$1.5 million in 2017. Management concluded that none of the other equity securities with an unrealized loss at December 31, 2017 experienced an other-than-temporary impairment. Management evaluated the near-term prospects of these other equity securities in relation to the severity and duration of the impairment, and management had the ability and intent to hold these securities until a recovery of their fair value.

At December 31, 2017, the Company held a participation in a loan issued by a company that produces and supplies power to Puerto Rico through a power purchase agreement with Puerto Rico Electric Power Authority ("PREPA"), a public corporation and governmental agency of the Commonwealth of Puerto Rico. Management concluded that the loan was impaired at December 31, 2017 and established an allowance for credit losses on the loan of \$759,000 to reduce the loan's carrying value to zero at December 31, 2017. The unpaid principal on the loan was \$807,000 at December 31, 2017. In the first quarter of 2018, the full outstanding principal on the loan was repaid and the Company recognized a realized gain of \$807,000 on the repayment.

Management concluded that none of the loans in the Company's bank loan portfolio were impaired as of December 31, 2018. At December 31, 2017, the aggregate allowance for credit losses was \$3.2 million on five impaired loans with a total carrying value of \$5.1 million and unpaid principal of \$8.4 million. Impairments in the bank loan portfolio at December 31, 2017 largely reflect the impact of declining energy prices on the market values of loans to oil and gas companies in the energy sector.

At December 31, 2018, our available-for-sale fixed maturity securities had net unrealized losses of \$15.2 million representing 1.3% of the amortized cost of the portfolio. Additionally, at December 31, 2018, 100.0% of our fixed maturity security portfolio was rated "BBB-" or better ("investment grade") by Standard & Poor's or had an equivalent rating from another nationally recognized statistical rating organization. The average duration of our investment portfolio was 3.4 years at December 31, 2018.

The amortized cost and fair value of our available-for-sale fixed maturity securities were as follows:

	December 31, 2018			December 31, 2017		
	Cost or Amortized Cost	Fair Value	% of Total Fair Value	Cost or Amortized Cost	Fair Value	% of Total Fair Value
<i>(\$ in thousands)</i>						
Fixed maturity securities, available-for-sale:						
State and municipal	\$ 147,160	\$ 149,295	12.6%	\$ 139,382	\$ 144,366	14.2%
Residential mortgage-backed	208,869	204,109	17.2%	160,379	158,661	15.6%
Corporate	534,024	524,768	44.3%	408,857	413,721	40.7%
Commercial mortgage and asset-backed	199,528	197,025	16.6%	182,595	182,611	18.0%
Obligations of U.S. government corporations and agencies	—	—	—%	35,948	35,847	3.5%
U.S. Treasury securities and obligations guaranteed by the U.S. government	107,803	107,193	9.1%	79,476	78,874	7.8%
Redeemable preferred stock	2,025	1,812	0.2%	2,025	2,018	0.2%
Total fixed maturity securities, available-for-sale:	\$ 1,199,409	\$ 1,184,202	100.0%	\$ 1,008,662	\$ 1,016,098	100.0%

The following table sets forth the composition of the Company's portfolio of fixed maturity securities by rating as of December 31, 2018:

Standard & Poor's or Equivalent Designation	Fair Value	% of Total
	<i>(\$ in thousands)</i>	
AAA	\$ 197,797	16.7%
AA	455,952	38.5%
A	416,282	35.2%
BBB	114,171	9.6%
Below BBB and unrated	—	—%
Total	\$ 1,184,202	100.0%

At December 31, 2018, our portfolio of available-for-sale fixed maturity securities contained corporate fixed maturity securities with a fair value of \$524.8 million. A summary of these securities by industry segment is shown below as of December 31, 2018:

Industry	Fair Value	% of Total
	<i>(\$ in thousands)</i>	
Industrials and other	\$ 128,280	24.4%
Consumer Discretionary	71,902	13.7%
Financial	119,077	22.7%
Health Care	79,896	15.3%
Consumer Staples	62,623	11.9%
Utilities	62,990	12.0%
Total	\$ 524,768	100.0%

Corporate available-for-sale fixed maturity securities include public traded securities and privately placed bonds as shown below as of December 31, 2018:

Public/Private	Fair Value	% of Total
	<i>(\$ in thousands)</i>	
Publicly traded	\$ 480,114	91.5%
Privately placed	44,654	8.5%
Total	\$ 524,768	100.0%

The amortized cost and fair value of our available-for-sale investments in fixed maturity securities summarized by contractual maturity are as follows:

	December 31, 2018		
	Amortized Cost	Fair Value	% of Total Fair Value
	<i>(\$ in thousands)</i>		
Due in:			
One year or less	\$ 52,312	\$ 52,100	4.4%
After one year through five years	406,647	403,126	34.0%
After five years through ten years	213,673	209,155	17.7%
After ten years	116,355	116,875	9.9%
	788,987	781,256	66.0%
Residential mortgage-backed	208,869	204,109	17.2%
Commercial mortgage and asset-backed	199,528	197,025	16.6%
Redeemable preferred stock	2,025	1,812	0.2%
Total	\$ 1,199,409	\$ 1,184,202	100.0%

At December 31, 2018, the Company had no investments in securitizations of alternative-A mortgages or sub-prime mortgages.

Other Expenses

Other expenses for the years ended December 31, 2018 and 2017 were \$1.3 million and \$539,000, respectively. In 2018, these expenses included \$1.4 million of employee severance. In 2017, these expenses included \$535,000 of legal and other professional services related to secondary share offerings in 2017.

Interest Expense

Interest expense was \$11.6 million and \$9.0 million for the years ended December 31, 2018 and 2017, respectively. See “—Liquidity and Capital Resources—Sources and Uses of Funds” for information regarding our senior debt facilities and trust preferred securities.

Amortization of Intangibles

The Company recorded \$597,000 of amortization of intangibles for each of the years ended December 31, 2018 and 2017, respectively.

Goodwill and Impairment

We test goodwill and other intangible assets in each operating segment for impairment at least annually. The fair value of the reporting units is determined by weighting the results of a discounted cash flow analysis and a valuation derived from a market-based approach. Intangible assets are valued using various methodologies. The projection of future cash flows is dependent upon assumptions on the future levels of income as well as business trends, prospects and market and economic conditions.

We perform this assessment to determine whether there has been any impairment in the value of goodwill or intangible assets by comparing its fair value to the net carrying value of the reporting units. If the carrying value exceeds its estimated fair value, an impairment loss is recognized and the asset is written down accordingly.

The Company completed its impairment tests and fair value analysis for goodwill and other intangible assets during the fourth quarter of 2018 and 2017. Falls Lake General was merged into Falls Lake National in the fourth quarter of 2018. In

connection with this merger, Falls Lake General surrendered its licenses to the various state insurance departments and reduced the carrying value of its intangible asset for "State Licenses" to \$0. This caused a \$200,000 impairment in 2018. No impairment was present for the year ended December 31, 2017.

Income Tax Expense

Our effective tax rate fluctuates from period to period based on the relative mix of income reported by country and the respective tax rates imposed by each tax jurisdiction. In 2017, the Company experienced a higher proportion of U.S.-sourced income, resulting in a higher effective tax rate for that year. For U.S.-sourced income, our U.S. federal income tax expense differs from the amounts computed by applying the federal statutory income tax rate (21% in 2018 and 35% in 2017) to income before taxes due primarily to interest income on tax-advantaged state and municipal securities, dividends received income, and excess tax benefits on share based compensation. For the years ended December 31, 2018 and 2017, our effective tax rate was 9.9% and 21.0%, respectively. Income taxes for 2017 included \$1.1 million of U.S. withholding taxes on an intercompany dividend paid from the U.S. holding company to our U.K. intermediate holding company. Income taxes for 2017 also include a \$3.5 million tax benefit as the U.S. net deferred tax liability was remeasured at 21%, down from 35% in prior periods, due to the enactment of the Tax Act.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

The following table summarizes our results for the years ended December 31, 2017 and 2016:

	Year Ended December 31,		% Change
	2017	2016	
<i>(\$ in thousands)</i>			
Gross written premiums	\$ 1,081,905	\$ 737,398	46.7 %
Net retention ⁽¹⁾	70.9%	75.6%	
Net written premiums	\$ 766,626	\$ 557,708	37.5 %
Net earned premiums	\$ 741,109	\$ 515,663	43.7 %
Losses and loss adjustment expenses	(555,377)	(325,421)	70.7 %
Other operating expenses	(179,968)	(160,762)	11.9 %
Underwriting profit ^{(2), (3)}	5,764	29,480	(80.4)%
Net investment income	61,119	52,638	16.1 %
Net realized investment (losses) gains	(1,989)	7,565	—
Other income	361	295	22.4 %
Other expenses	(539)	(1,590)	(66.1)%
Interest expense	(8,974)	(8,448)	6.2 %
Amortization of intangible assets	(597)	(597)	—
Income before taxes	55,145	79,343	(30.5)%
Income tax expense	(11,579)	(4,872)	137.7 %
Net income	\$ 43,566	\$ 74,471	(41.5)%
Adjusted net operating income	\$ 47,385	\$ 71,318	(33.6)%
Ratios:			
Loss ratio	74.9%	63.1%	
Expense ratio	24.3%	31.2%	
Combined ratio	99.2%	94.3%	

(1) Net retention is defined as the ratio of net written premiums to gross written premiums.

(2) See “—Reconciliation of Non-GAAP Measures” for further detail.

(3) Underwriting profit includes fee income of \$28.3 million and \$14.2 million for the years ended December 31, 2017 and 2016, respectively.

We had an underwriting profit of \$5.8 million for the year ended December 31, 2017. This compares to an underwriting profit of \$29.5 million for the prior year. On a consolidated basis, the Company recognized \$21.5 million of net unfavorable reserve development for the year ended December 31, 2017 and \$23.7 million of net favorable reserve development for the year ended December 31, 2016.

The results for the years ended December 31, 2017 and 2016 included certain non-operating items that are significant to the Company. These items (on a pre-tax basis) include:

- \$2.0 million of net realized investment losses and \$7.6 million of net realized investment gains for the years ended December 31, 2017 and 2016, respectively. Net realized investment losses in 2017 were primarily from \$4.0 million of impairment losses on one equity security and an increase in the allowance for credit losses on impaired bank loans, offset by realized gains of \$1.3 million from the sale of bank loan participations, \$328,000 from the sale of fixed maturity securities and \$369,000 from the sale of equity securities. Net realized investment gains in 2016 include net realized gains from equity securities of \$4.8 million and net realized gains from fixed maturity securities of \$1.8 million.

- \$539,000 and \$1.6 million of other expenses for the years ended December 31, 2017 and 2016, respectively. Other expenses for 2017 include \$535,000 of legal and other professional services related to secondary share offerings in 2017. Other expenses for 2016 include \$1.5 million of employee severance costs.
- Interest expense for the years ended December 31, 2017 and 2016 include \$1.3 million and \$1.4 million, respectively, relating to finance expenses in connection with a minority interest in a real estate partnership pursuant to which we are deemed an owner for accounting purposes. The debt is nonrecourse to us and was not arranged by us. See Note 1 to the Notes to the Audited Consolidated Financial Statements for additional information with respect to our minority interest.

Our income before taxes and net income for the years ended December 31, 2017 and 2016 reconcile to our adjusted net operating income as follows:

	Year Ended December 31,			
	2017		2016	
	Income Before Taxes	Net Income	Income Before Taxes	Net Income
	<i>(in thousands)</i>			
Income as reported	\$ 55,145	\$ 43,566	\$ 79,343	\$ 74,471
Net realized investment losses (gains)	1,989	1,375	(7,565)	(5,207)
Other expenses	539	575	1,590	1,136
Dividend withholding taxes	—	1,053	—	—
Interest expense on leased building the Company is deemed to own for accounting purposes	1,256	816	1,412	918
Adjusted net operating income	\$ 58,929	\$ 47,385	\$ 74,780	\$ 71,318

Our combined ratio for the year ended December 31, 2017 was 99.2%. In 2017, the combined ratio included \$21.5 million, or 2.9 percentage points, of adverse reserve development on direct and assumed business underwritten by the Company on prior accident years, including \$20.0 million of adverse reserve development from the Excess and Surplus Lines segment and \$4.2 million of adverse reserve development from the Casualty Reinsurance segment offset partially by \$2.7 million of favorable reserve development from the Specialty Admitted Insurance segment. The combined ratio for the year ended December 31, 2017 also includes \$6.9 million, or 0.9 percentage points, of catastrophe losses from Hurricanes Harvey, Irma, and Maria.

Our combined ratio for the year ended December 31, 2016 was 94.3%. It included \$23.7 million, or 4.6 percentage points, of net favorable reserve development on direct and assumed business underwritten by the Company on prior accident years, including \$24.1 million of favorable reserve development from the Excess and Surplus Lines segment and \$3.8 million of favorable development from the Specialty Admitted Insurance segment, partially offset by \$4.2 million of adverse reserve development from the Casualty Reinsurance segment.

Expense Ratios

Our expense ratio was 24.3% and 31.2% for the years ended December 31, 2017 and 2016, respectively. The reduced expense ratio for 2017 reflects the 53.8% increase in the Excess and Surplus segment's net earned premiums and an increase in fee income for the Company as a whole. Our Excess and Surplus Lines segment (our largest segment with 62.5% of consolidated net earned premiums for the year ended December 31, 2017) has significant scale and produces a lower expense ratio than our other operating segments. Fee income for the Company increased year over year from \$14.2 million to \$28.3 million, as we grew our fee business in both the Excess and Surplus Lines segment and the Specialty Admitted Insurance segment.

Premiums

The following table summarizes the change in premium volume by component and business segment:

	Year Ended December 31,		% Change
	2017	2016	
<i>(\$ in thousands)</i>			
Gross written premiums:			
Excess and Surplus Lines	\$ 530,120	\$ 370,844	42.9%
Specialty Admitted Insurance	316,430	182,221	73.7%
Casualty Reinsurance	235,355	184,333	27.7%
	<u>\$ 1,081,905</u>	<u>\$ 737,398</u>	46.7%
Net written premiums:			
Excess and Surplus Lines	\$ 469,891	\$ 316,922	48.3%
Specialty Admitted Insurance	60,957	55,803	9.2%
Casualty Reinsurance	235,778	184,983	27.5%
	<u>\$ 766,626</u>	<u>\$ 557,708</u>	37.5%
Net earned premiums:			
Excess and Surplus Lines	\$ 463,521	\$ 301,404	53.8%
Specialty Admitted Insurance	68,110	52,281	30.3%
Casualty Reinsurance	209,478	161,978	29.3%
	<u>\$ 741,109</u>	<u>\$ 515,663</u>	43.7%

For the Excess and Surplus Lines segment (which represents 49.0% of our 2017 consolidated gross written premiums), gross written premiums for the year ended December 31, 2017 increased 42.9% over the prior year. Excess and Surplus Lines segment policy submissions, excluding commercial auto, were 8.5% higher and bound policies were 3.0% higher, which was partially offset by a 2.2% decrease in the average premium from \$19,682 to \$19,253. The gross written premiums increase was most notable in the following divisions within the Excess and Surplus Lines segment:

- Commercial Auto division (representing 46.8% of this segment's 2017 business) which increased \$137.9 million (or 125.3%) over the prior year. This division is focused on underwriting the hired and non-owned auto liability exposures for a variety of industry segments with a particular niche for insuring organizations that operate networks connecting independent contractors with customers.
- Excess Casualty division (representing 9.7% of this segment's 2017 business) which increased \$7.6 million (or 17.4%) over the prior year.
- Allied Health division (representing 3.6% of this segment's 2017 business) which increased \$4.8 million (or 33.1%) over the prior year.
- Environmental division (representing 1.5% of this segment's 2017 business) which increased \$2.6 million (or 48.8%) over the prior year; and
- Manufacturers and Contractors division (representing 16.2% of this segment's 2017 business) which increased \$2.4 million (or 2.9%) over the prior year.

The components of gross written premiums for the Specialty Admitted Insurance segment (which represents 29.2% of our 2017 consolidated gross written premiums) are as follows:

	Year Ended December 31,		% Change
	2017	2016	
<i>(\$ in thousands)</i>			
Workers' compensation premiums	\$ 44,121	\$ 39,627	11.3%
Specialty admitted fronting and program business	272,309	142,594	91.0%
Total	<u>\$ 316,430</u>	<u>\$ 182,221</u>	73.7%

A significant portion of the fronting and program business is ceded to third party reinsurers. As a result, our net written premium for this segment increased by less than our gross written premiums, increasing 9.2% and 24.2% for the years ended December 31, 2017 and 2016, respectively.

For the Casualty Reinsurance segment (which represents 21.8% of our 2017 consolidated gross written premiums), gross written premiums increased 27.7%, from \$184.3 million for the year ended December 31, 2016 to \$235.4 million for the year ended December 31, 2017.

Net Retention

Our net premium retention by segment is as follows:

	Year Ended December 31,	
	2017	2016
Excess and Surplus Lines	88.6%	85.5%
Specialty Admitted Insurance	19.3%	30.6%
Casualty Reinsurance	100.2%	100.4%
Total	70.9%	75.6%

The net premium retention for the Excess and Surplus Lines segment increased from 2016 to 2017 due to increased premium on our commercial auto business. We generally retain all of the premium written by the Commercial Auto division.

The net premium retention for the Specialty Admitted Insurance segment decreased from 2016 to 2017 as a result of growth in the segment's fronting and program business, which has much lower net premium retention than our workers' compensation business. Fronting and program gross written premium grew 91.0% from December 31, 2016 to December 31, 2017. Net retention on the segment's fronting and program business was 11.9% and 14.0%, respectively, for the years ended December 31, 2017 and 2016. The net retention on the workers' compensation business was 64.8% and 90.3%, respectively, for the years ended December 31, 2017 and 2016. The significant decline in the net retention from the prior year is due to the 50% quota share reinsurance coverage purchased on this business effective October 1, 2017.

The net retention for the Casualty Reinsurance segment includes adjustments to the estimates of both gross and net written premiums from the prior year that caused this segment's net premium retention to slightly exceed 100% in both periods.

Underwriting Results

The following table compares our combined ratios by segment:

	Year Ended December 31,	
	2017	2016
Excess and Surplus Lines	93.6%	84.3%
Specialty Admitted Insurance	95.4%	94.5%
Casualty Reinsurance	100.8%	100.1%
Total	99.2%	94.3%

Excess and Surplus Lines Segment

Results for the Excess and Surplus Lines segment are as follows:

	Year Ended December 31,		% Change
	2017	2016	
	(\$ in thousands)		
Gross written premiums	\$ 530,120	\$ 370,844	42.9 %
Net written premiums	\$ 469,891	\$ 316,922	48.3 %
Net earned premiums	\$ 463,521	\$ 301,404	53.8 %
Losses and loss adjustment expenses	(371,717)	(188,768)	96.9 %
Underwriting expenses	(62,111)	(65,401)	(5.0)%
Underwriting profit ^{(1), (2)}	\$ 29,693	\$ 47,235	(37.1)%
Ratios:			
Loss ratio	80.2%	62.6%	
Expense ratio	13.4%	21.7%	
Combined ratio	93.6%	84.3%	

(1) Underwriting Profit is a non-GAAP Measure. See “Reconciliation of Non-GAAP Measures” for a reconciliation to income before tax and for additional information.

(2) Underwriting results include fee income of \$17.0 million and \$10.1 million for the years ended December 31, 2017 and 2016, respectively.

Combined Ratio. The combined ratio of the Excess and Surplus Lines segment for the year ended December 31, 2017 was 93.6%, comprised of a loss ratio of 80.2% and an expense ratio of 13.4%. The combined ratio of the Excess and Surplus Lines segment for the year ended December 31, 2016 was 84.3%, comprised of a loss ratio of 62.6% and an expense ratio of 21.7%.

Loss Ratio. The loss ratio of 80.2% for the year ended December 31, 2017 includes \$20.0 million, or 4.3 percentage points, of adverse development in our loss estimates for prior accident years. The adverse reserve development in this segment was almost entirely from one large commercial auto account in the 2016 accident year. The loss ratio for the year ended December 31, 2017 also includes \$5.2 million of losses from Hurricanes Harvey, Irma, and Maria primarily related to property losses in Florida. The catastrophe losses represent 1.1 percentage points of loss ratio additions for the year. The loss ratio of 62.6% for the year ended December 31, 2016 includes \$24.1 million, or 8.0 percentage points, of net favorable development in our loss estimates for prior accident years.

Expense Ratio. The expense ratio decreased from 21.7% in 2016 to 13.4% in 2017. The decrease in the expense ratio is attributable to the 53.8% increase in net earned premiums as well as a decrease in the total amount of operating expenses. Additionally, fee income increased as a percentage of net earned premiums and contributed to a reduction in the expense ratio of 3.7 and 3.3 percentage points for the years ended December 31, 2017 and 2016, respectively.

The reduced expense ratio and higher loss ratio in this segment reflects an increase in the commercial auto premium as a percentage of the segment’s total premium. Our commercial auto business has a lower expense ratio and higher loss ratio than our other business in the segment. Commercial auto made up 46.8% of the segment’s gross written premium for 2017 compared to 29.7% for 2016.

Underwriting Profit. As a result of the items discussed above, underwriting profit of the Excess and Surplus Lines segment decreased by 37.1%, from \$47.2 million for the year ended December 31, 2016 to \$29.7 million for the year ended December 31, 2017.

Specialty Admitted Insurance Segment

Results for the Specialty Admitted Insurance segment are as follows:

	Year Ended December 31,		% Change
	2017	2016	
	<i>(\$ in thousands)</i>		
Gross written premiums	\$ 316,430	\$ 182,221	73.7%
Net written premiums	\$ 60,957	\$ 55,803	9.2%
Net earned premiums	\$ 68,110	\$ 52,281	30.3%
Losses and loss adjustment expenses	(44,863)	(30,897)	45.2%
Underwriting expenses	(20,081)	(18,512)	8.5%
Underwriting profit ^{(1), (2)}	\$ 3,166	\$ 2,872	10.2%
Ratios:			
Loss ratio	65.9%	59.1%	
Expense ratio	29.5%	35.4%	
Combined ratio	95.4%	94.5%	

(1) Underwriting Profit is a non-GAAP Measure. See “Reconciliation of Non-GAAP Measures” for a reconciliation to income before tax and for additional information.

(2) Underwriting profit includes fee income of \$11.3 million and \$4.2 million for the years ended December 31, 2017 and 2016, respectively.

Combined Ratio. The combined ratio of the Specialty Admitted Insurance segment for the year ended December 31, 2017 was 95.4%, comprised of a loss ratio of 65.9% and an expense ratio of 29.5%. This compares to the combined ratio in the prior year of 94.5%, comprised of a loss ratio of 59.1% and an expense ratio of 35.4%.

Loss Ratio. The loss ratio for the year ended December 31, 2017 of 65.9% included \$2.7 million, or 4.0 percentage points of net favorable development on prior accident years. The loss ratio for the year ended December 31, 2016 of 59.1% included \$3.8 million, or 7.3 percentage points of net favorable development on prior accident years. The favorable development in both 2017 and 2016 reflects the fact that actual loss emergence of the workers’ compensation book for prior accident years has been better than expected.

Expense Ratio. The expense ratio of 29.5% for the year ended December 31, 2017 decreased from 35.4% in the prior year. The expense ratio declined in 2017 for this segment primarily due to a 30.3% increase in net earned premiums as the fronting and program business continued to achieve scale. Additionally, fee income reduced the Specialty Admitted Insurance segment’s overall expense ratio 16.5 and 8.0 percentage points for the years ended December 31, 2017 and 2016, respectively.

Underwriting Profit. As a result of the items discussed above, the underwriting profit improved from \$2.9 million for the year ended December 31, 2016 to \$3.2 million for the year ended December 31, 2017.

Casualty Reinsurance Segment

Results for the Casualty Reinsurance segment are as follows:

	Year Ended December 31,		% Change
	2017	2016	
(\$ in thousands)			
Gross written premiums	\$ 235,355	\$ 184,333	27.7%
Net written premiums	\$ 235,778	\$ 184,983	27.5%
Net earned premiums	\$ 209,478	\$ 161,978	29.3%
Losses and loss adjustment expenses	(138,797)	(105,756)	31.2%
Underwriting expenses	(72,446)	(56,416)	28.4%
Underwriting loss ⁽¹⁾	\$ (1,765)	\$ (194)	809.8%
Ratios:			
Loss ratio	66.3%	65.3%	
Expense ratio	34.5%	34.8%	
Combined ratio	100.8%	100.1%	

(1) Underwriting loss is a non-GAAP Measure. See “Reconciliation of Non-GAAP Measures” for a reconciliation to income before tax and for additional information.

Combined Ratio. The combined ratio of the Casualty Reinsurance segment for the year ended December 31, 2017 was 100.8%, comprised of a loss ratio of 66.3% and an expense ratio of 34.5%. This compares to the combined ratio in the prior year of 100.1%, comprised of a loss ratio of 65.3% and an expense ratio of 34.8%.

Loss Ratio. The loss ratio for the year ended December 31, 2017 of 66.3% included \$4.2 million, or 2.0 percentage points, of adverse reserve development in our loss estimates for prior accident years. The loss ratio for the year ended December 31, 2017 also includes \$1.8 million of losses from Hurricanes Harvey and Irma primarily related to nonstandard auto losses in Texas. These catastrophe losses represented 0.8 percentage points of loss ratio additions for the year. The loss ratio for the year ended December 31, 2016 of 65.3% included \$4.2 million, or 2.6 percentage points, of adverse reserve development in our loss estimates for prior accident years.

Expense Ratio. The expense ratio of the Casualty Reinsurance segment decreased from 34.8% for the year ended December 31, 2016 to 34.5% for the year ended December 31, 2017, as net earned premiums increased 29.3% in 2017 while underwriting expenses increased by 28.4%.

Underwriting Results. As a result of the items discussed above, the underwriting loss for the Casualty Reinsurance segment for the year ended December 31, 2017 was \$1.8 million compared to an underwriting loss of \$194,000 for the year ended December 31, 2016.

Other Operating Expenses

In addition to the underwriting, acquisition and insurance expenses of the Excess and Surplus Lines segment, the Specialty Admitted Insurance segment and the Casualty Reinsurance segment discussed previously, other operating expenses also includes the expenses of the Corporate and Other segment.

Corporate and Other Segment

Other operating expenses for the Corporate and Other segment include personnel costs associated with the Bermuda and U.S. holding companies, professional fees and various other corporate expenses that are included in the calculation of our expense ratio and combined ratio. Accordingly, other operating expenses of the Corporate and Other segment represent the expenses of both the Bermuda and U.S. holding companies that were not reimbursed by our subsidiaries, including costs associated with potential acquisitions and other strategic initiatives. These costs vary from period to period based on the status of these initiatives.

For the years ended December 31, 2017 and 2016, the total operating expenses of the Corporate and Other segment were \$25.3 million and \$20.4 million, respectively. The increase in these expenses was primarily related to increases in stock compensation expense resulting from the options and restricted stock units granted in February 2017, increases in public company expenses and other professional service fees.

Investing Results

Net investment income was \$61.1 million for the year ended December 31, 2017 compared to \$52.6 million in the prior year. The change in our net investment income is as follows:

	Year Ended December 31,		% Change
	2017	2016	
	<i>(in thousands)</i>		
Renewable energy LLCs	\$ 10,578	\$ 3,480	204.0 %
Other private investments	3,501	6,056	(42.2)%
Other invested assets	14,079	9,536	47.6 %
All other net investment income	47,040	43,102	9.1 %
Total net investment income	\$ 61,119	\$ 52,638	16.1 %

The \$8.5 million increase in net investment income year-over-year was largely driven by the performance of the Company’s renewable energy LLCs. Net investment income from renewable energy LLCs increased from \$3.5 million for the year ended December 31, 2016 to \$10.6 million for the year ended December 31, 2017. Excluding the private investments, our net investment income increased by \$3.9 million over the prior year due to a 11.7% increase in our cash and invested assets from \$1,442.1 million at December 31, 2016 to \$1,611.1 million at December 31, 2017 and an increase in investment yield.

Major categories of the Company’s net investment income are summarized as follows:

	Year Ended December 31,	
	2017	2016
	<i>(in thousands)</i>	
Fixed maturity securities	\$ 26,833	\$ 25,917
Bank loan participations	17,388	14,486
Equity securities	5,045	5,617
Other invested assets	14,079	9,536
Cash, cash equivalents, and short-term investments	1,708	824
Trading (losses) gains	(4)	18
Gross investment income	65,049	56,398
Investment expense	(3,930)	(3,760)
Net investment income	\$ 61,119	\$ 52,638

The following table summarizes our investment returns:

	Year Ended December 31,	
	2017	2016
Annualized gross investment yield on:		
Average cash and invested assets	4.3%	4.0%
Average fixed maturity securities	3.6%	3.5%

Of our total cash and invested assets of \$1,611.1 million at December 31, 2017, \$163.5 million represents the cash and cash equivalents portion of the portfolio. The majority of the portfolio, or \$1,098.6 million, is comprised of fixed maturity and equity securities that are classified as available-for-sale and carried at fair value with unrealized gains and losses on these securities reported, net of applicable taxes, as a separate component of accumulated comprehensive income or loss. Also included in our investments are \$238.2 million of bank loan participations, \$70.2 million of other invested assets, \$36.8 million of short-term investments, and \$3.8 million of fixed maturity securities classified as trading and held at the U.S. holding company. Our trading portfolio is carried at fair value with changes to the value reported as net investment income in our consolidated income statement.

The \$238.2 million of bank loan participations are classified as held-for-investment and reported at amortized cost, net of an allowance for credit losses. Changes in this credit allowance are included in realized gains or losses. These bank loan participations are primarily senior, secured floating-rate debt which are generally rated “BB,” “B,” or “CCC” by Standard & Poor’s or an equivalent rating from another nationally recognized statistical rating organization, and are therefore below

investment grade. At December 31, 2017 and 2016, the fair market value of these securities was \$236.5 million and \$203.1 million, respectively.

The Company invests selectively in private debt and equity opportunities. These investments comprise the Company's other invested assets and are primarily focused in renewable energy, limited partnerships, and bank holding companies. Equity interests in various renewable energy LLCs managed by affiliates of D. E. Shaw, generated investment income of \$10.6 million and \$3.5 million for the years ended December 31, 2017 and 2016, respectively. These investments had a carrying value of \$32.1 million at December 31, 2017. Investments in loans for renewable energy projects, primarily with affiliates of D. E. Shaw, had investment income \$526,000 and \$450,000 for the years ended December 31, 2017 and 2016, respectively. In 2016, the Company received a \$6.5 million repayment on one note. During 2015, the Company invested a total of \$36.3 million in these notes and received repayments totaling \$30.8 million. The Company has invested in several limited partnerships that invest in concentrated portfolios of publicly-traded small cap equities, loans of middle market private equity sponsored companies, and equity tranches of collateralized loan obligations (CLOs). Income from these partnerships was \$2.6 million in 2017 compared to \$5.3 million in 2016. Together, these limited partnerships had a carrying value of \$26.4 million at December 31, 2017. Income from the Company's investments in renewable energy LLCs and limited partnerships is recognized under the equity method of accounting. The Company also holds \$4.5 million of subordinated notes issued by a bank holding company affiliated with the Non-Executive Chairman of the Company. Interest income from the notes was \$343,000 for the years ended December 31, 2017 and 2016.

For the year ended December 31, 2017, the Company recognized net realized investment losses of \$2.0 million. This net loss was made up of an increase in our bank loan credit allowance and an other than temporary impairment on an equity security, offset by net realized gains of \$1.3 million from bank loan securities, \$368,000 from equity securities, and \$328,000 from fixed maturity securities.

Management concluded that based on the severity and duration of the impairment associated with an equity security, the security had experienced an other-than-temporary impairment. Accordingly, the Company recorded an impairment loss of \$1.5 million in 2017. Management concluded that none of the other equity securities with an unrealized loss at December 31, 2017 and 2016 experienced an other-than-temporary impairment. Management has evaluated the near-term prospects of these other equity securities in relation to the severity and duration of the impairment, and management has the ability and intent to hold these securities until a recovery of their fair value.

At December 31, 2015, the Company held participations in two loans issued by companies that produce and supply power to Puerto Rico through power purchase agreements with PREPA, a public corporation and governmental agency of the Commonwealth of Puerto Rico. PREPA's credit strength and ability to make timely payments was impacted by the economic conditions in Puerto Rico, thus raising doubt about the companies' ability to meet the debt obligations held by the Company. In June 2016, one of the loans was repaid in full at its scheduled maturity. Management concluded that the remaining loan was impaired at December 31, 2016. The loan had a carrying value of \$1.7 million, unpaid principal of \$2.0 million, and an allowance for credit losses of \$177,000 at December 31, 2016. In July 2017, PREPA filed a petition for relief in U.S. District Court under Title III of the Puerto Rico Oversight, Management, and Economic Stability Act. Also in 2017, the devastation caused by Hurricane Maria on the island of Puerto Rico raised additional doubt about PREPA's ability to make payments to the issuer. The maturity of the remaining loan, originally scheduled for November 2017, was deferred until March 2018. Management established an allowance for credit losses of \$759,000 to reduce the loan's carrying value to zero at both September 30, 2017 and December 31, 2017. The unpaid principal on the loan was \$807,000 at December 31, 2017.

The Company's bank loan portfolio includes loans to oil and gas companies in the energy sector. The market values of these loans have been impacted by declining energy prices. At December 31, 2017, the Company's oil and gas exposure in the bank loan portfolio was in four loans with a carrying value of \$7.9 million and an unrealized loss of \$180,000. Management concluded that three of these loans were impaired as of December 31, 2017, and accordingly, an allowance for credit losses of \$2.3 million was established on the loans. After recording this impairment, the loans had a carrying value of \$4.6 million at December 31, 2017 and unpaid principal of \$6.9 million. All of the other loans are current at December 31, 2017. At December 31, 2016, one loan was impaired with a carrying value of \$1.6 million, unpaid principal of \$2.2 million and an allowance for credit losses of \$545,000.

Management also concluded that one non-energy sector loan was impaired at December 31, 2017. At December 31, 2017, the impaired loan had a carrying value of \$561,000, unpaid principal of \$706,000, and an allowance for credit losses of \$145,000. At December 31, 2016, three non-energy sector loans were impaired with a total carrying value of \$3.2 million, unpaid principal of \$3.5 million, and an allowance for credit losses of \$221,000.

The aggregate allowance for credit losses was \$3.2 million at December 31, 2017 on five impaired loans with a total carrying value of \$5.1 million and unpaid principal of \$8.4 million. At December 31, 2016, the aggregate allowance for credit losses was \$943,000 on five impaired loans with a total carrying value of \$6.5 million and unpaid principal of \$7.6 million.

At December 31, 2017, our available-for-sale investment portfolio of fixed maturity and equity securities had net unrealized gains of \$14.6 million representing 1.4% of the cost or amortized cost of the portfolio. Additionally, at December 31, 2017, 99.4% of our fixed maturity security portfolio was rated “BBB-” or better (“investment grade”) by Standard & Poor’s or had an equivalent rating from another nationally recognized statistical rating organization. Fixed maturity securities with ratings below investment grade by Standard & Poor’s or another nationally recognized statistical rating organization at December 31, 2017 had an aggregate fair value of \$6.5 million and an aggregate net unrealized gain of \$305,000. The average duration of our investment portfolio was 3.5 years at December 31, 2017.

The amortized cost and fair value of our investments in available-for-sale securities were as follows:

	December 31, 2017			December 31, 2016		
	Cost or Amortized Cost	Fair Value	% of Total Fair Value	Cost or Amortized Cost	Fair Value	% of Total Fair Value
<i>(\$ in thousands)</i>						
Fixed maturity securities:						
State and municipal	\$ 139,382	\$ 144,366	13.1%	\$ 101,793	\$ 105,841	10.4%
Residential mortgage-backed	160,379	158,661	14.4%	152,703	150,798	14.8%
Corporate	408,857	413,721	37.7%	379,727	378,448	37.2%
Commercial mortgage and asset-backed	182,595	182,611	16.6%	167,967	168,047	16.5%
Obligations of U.S. government corporations and agencies	35,948	35,847	3.3%	64,823	65,014	6.4%
U.S. Treasury securities and obligations guaranteed by the U.S. government	79,476	78,874	7.2%	71,174	71,120	7.0%
Redeemable preferred stock	2,025	2,018	0.2%	2,025	1,809	0.2%
Total	1,008,662	1,016,098	92.5%	940,212	941,077	92.5%
Equity securities:						
Preferred stock	59,102	66,281	6.0%	61,806	64,827	6.4%
Common stock	16,216	16,241	1.5%	12,747	11,574	1.1%
Total	75,318	82,522	7.5%	74,553	76,401	7.5%
Total investments	\$ 1,083,980	\$ 1,098,620	100.0%	\$ 1,014,765	\$ 1,017,478	100.0%

The following table sets forth the composition of the Company’s portfolio of fixed maturity securities (both available-for-sale and trading) by rating as of December 31, 2017:

Standard & Poor’s or Equivalent Designation	Fair Value	% of Total
	<i>(\$ in thousands)</i>	
AAA	\$ 185,202	18.2%
AA	405,296	39.7%
A	315,405	30.9%
BBB	107,473	10.5%
BB	1,611	0.2%
Below BB and unrated	4,919	0.5%
Total	\$ 1,019,906	100.0%

At December 31, 2017, our portfolio of available-for-sale fixed maturity securities contained corporate fixed maturity securities with a fair value of \$413.7 million. A summary of these securities by industry segment is shown below as of December 31, 2017:

Industry	Fair Value	% of Total
<i>(\$ in thousands)</i>		
Industrials and other	\$ 152,129	36.7%
Consumer Discretionary	74,829	18.1%
Financial	69,778	16.9%
Health Care	61,461	14.9%
Utilities	55,524	13.4%
Total	\$ 413,721	100.0%

Corporate available-for-sale fixed maturity securities include public traded securities and privately placed bonds is shown below as of December 31, 2017:

Public/Private	Fair Value	% of Total
<i>(\$ in thousands)</i>		
Publicly traded	\$ 384,812	93.0%
Privately placed	28,909	7.0%
Total	\$ 413,721	100.0%

The amortized cost and fair value of our available-for-sale investments in fixed maturity securities summarized by contractual maturity are as follows:

	December 31, 2017		
	Amortized Cost	Fair Value	% of Total Fair Value
	<i>(\$ in thousands)</i>		
Due in:			
One year or less	\$ 66,852	\$ 66,770	6.6%
After one year through five years	274,095	274,421	27.0%
After five years through ten years	195,333	195,995	19.3%
After ten years	127,383	135,622	13.3%
	663,663	672,808	66.2%
Residential mortgage-backed	160,379	158,661	15.6%
Commercial mortgage and asset-backed	182,595	182,611	18.0%
Redeemable preferred stock	2,025	2,018	0.2%
Total	\$ 1,008,662	\$ 1,016,098	100.0%

At December 31, 2017, the Company had no investments in securitizations of alternative-A mortgages or sub-prime mortgages.

Other Expenses

Other expenses for the years ended December 31, 2017 and 2016 were \$539,000 and \$1.6 million, respectively. In 2017, these expenses include \$535,000 of legal and other professional services related to secondary share offerings in 2017. In 2016, these expenses include \$1.5 million of employee severance costs.

Interest Expense

Interest expense was \$8.9 million and \$8.4 million for the years ended December 31, 2017 and 2016, respectively. See “—Liquidity and Capital Resources—Sources and Uses of Funds” for information regarding our senior bank debt facility and trust preferred securities.

Amortization of Intangibles

The Company recorded \$597,000 of amortization of intangibles for each of the years ended December 31, 2017 and 2016, respectively.

Goodwill and Impairment

The Company completed its impairment tests and fair value analysis for goodwill and other intangible assets during the fourth quarter of 2017 and 2016. No impairment was present for the years ended December 31, 2017 or 2016.

Income Tax Expense

Our effective tax rate fluctuates from period to period based on the relative mix of income reported by country and the respective tax rates imposed by each tax jurisdiction. In 2017, particularly, the Company experienced a higher proportion of U.S.-sourced income, increasing the effective tax rate for the year. For U.S.-sourced income, our U.S. federal income tax expense differs from the amounts computed by applying the federal statutory income tax rate to income before taxes due primarily to interest income on tax-advantaged state and municipal securities (state and municipal securities represented 13.1% and 10.4% of our available-for-sale securities at December 31, 2017 and 2016, respectively), dividends received income, and excess tax benefits on share based compensation. For the years ended December 31, 2017 and 2016, our effective tax rate was 21.0% and 6.1%, respectively. Income taxes for 2017 included \$1.1 million of U.S. withholding taxes on an intercompany dividend paid from the U.S. holding company to our U.K. intermediate holding company. Income taxes for 2017 also include a \$3.5 million tax benefit as the U.S. net deferred tax liability was remeasured at 21%, down from 35% in prior periods, due to the enactment of the Tax Act.

Financial results for 2017 reflect provisional amounts related to the December 2017 enactment of the Tax Act. These provisional estimates are based on the Company's initial analysis and current interpretation of the legislation. Given the complexity of the Tax Act, anticipated guidance from the U.S. Department of the Treasury, and the potential for additional guidance from the Securities and Exchange Commission (SEC) or the Financial Accounting Standards Board, these estimates may be adjusted during 2018.

Liquidity and Capital Resources

Sources of Funds

Dividends

We are organized as a Bermuda holding company with our operations conducted by our wholly-owned subsidiaries. Accordingly, our holding company may receive cash through loans from banks, issuance of equity and debt securities, corporate service fees or dividends received from our subsidiaries and/or other transactions. Our U.S. holding company may receive cash in a similar manner and also through payments from our subsidiaries pursuant to our U.S. consolidated tax allocation agreement.

The payment of dividends by our subsidiaries to us is limited by statute. In general, the laws and regulations applicable to our domestic insurance subsidiaries limit the aggregate amount of dividends or other distributions that they may declare or pay within any 12-month period without advance regulatory approval. Generally, the limitations are based on the greater of statutory net income for the preceding year or 10.0% of statutory surplus at the end of the preceding year. In addition, insurance regulators have broad powers to prevent reduction of statutory surplus to inadequate levels and could refuse to permit the payment of dividends calculated under any applicable formula. See Item 1—“U.S. Insurance Regulation—State Regulation” for additional information. The Bermuda Insurance Act of 1978 prohibits an insurer from declaring or paying a dividend if it is in breach of its minimum solvency margin, its enhanced capital requirement, or its minimum liquidity ratio, or if the declaration or payment of such dividend would cause such a breach. An insurer can declare or pay dividends without prior regulatory approval up to 25% of the total statutory capital and surplus. At December 31, 2018, the maximum combined amount of dividends that can be paid without prior regulatory approval was approximately \$109.8 million. However, this dividend amount is subject to annual enhanced solvency requirement calculations. Additionally, the maximum amount of dividends available to the U.S. holding company from our U.S. insurance subsidiaries during 2019 without regulatory approval is \$24.2 million.

At December 31, 2018, our Bermuda holding company had \$240,000 of cash and cash equivalent assets. At December 31, 2018, our U.S. holding company had \$53.7 million of cash and invested assets, comprised of cash and cash equivalents of \$7.3 million, other invested assets of \$46.1 million, and short-term investments of \$325,000, which are not subject to regulatory restrictions. Additionally, our U.K. intermediate holding company had no invested assets and cash of less than \$10,000 at December 31, 2018.

Our net written premiums to surplus ratio (defined as net written premiums to regulatory capital and surplus) is reviewed by management as well as our rating agency as a component of leverage and efficiency of deployed capital. Our net written premiums to surplus ratio was 1.1x, 1.2x, and 0.9x for the years ended December 31, 2018, 2017, and 2016, respectively.

Credit Agreements

The Company has a \$215.0 million senior revolving credit facility (as amended or amended and restated, the “2013 Facility”). The 2013 Facility is comprised of the following at December 31, 2018:

- A \$102.5 million secured revolving facility utilized by JRG Re to issue letters of credit for the benefit of third-party reinsureds. This portion of our credit facility is secured by our investment securities. At December 31, 2018, the Company had \$75.5 million of letters of credit issued under the secured facility.
- A \$112.5 million unsecured revolving facility to meet the working capital needs of the Company. All unpaid principal on the revolver is due at maturity. Interest accrues quarterly and is payable in arrears at 3-month LIBOR plus a margin which is currently 1.5% and is subject to change according to terms in the credit agreement. At December 31, 2018 and 2017, the Company had a drawn balance of \$73.3 million outstanding on the unsecured revolver.

The 2013 Facility has been amended from time to time since its inception in 2013. On December 7, 2016, the Company entered into an Amended and Restated Credit Agreement for the 2013 Facility which, among other things, extended the maturity date of the Facility until December 7, 2021 and modified other terms including reducing the rate of interest and reducing the number of financial covenants. On June 8, 2017, the Company entered into a First Amendment to the amended and restated 2013 Facility, which among other things, modified the financial covenants and increased the amount of additional debt the Company may incur under new financings, subject to compliance with certain conditions.

The 2013 Facility contains certain financial and other covenants (including risk-based capital, minimum shareholders' equity levels, maximum ratios of total debt outstanding to total capitalization and minimum fixed charge coverage ratios) with which the Company was in compliance at December 31, 2018.

On August 2, 2017, the Company, and its wholly-owned subsidiary, JRG Re, together as borrowers, entered into a credit agreement (the "2017 Facility") that provides the Company with a revolving line of credit of up to \$100 million, which may be used for loans and letters of credit made or issued, at the borrowers' option, on a secured or unsecured basis. Obligations under the 2017 Facility carry a variable rate of interest subject to terms in the credit agreement and will mature 30 days after notice of termination from the lender. The 2017 Facility contains certain financial and other covenants which we are in compliance with at December 31, 2018. The loans and letters of credit made or issued under the revolving line of credit of the 2017 Facility may be used to finance the borrowers' general corporate purposes. At December 31, 2018, unsecured loans of \$30.0 million and secured letters of credit totaling \$7.6 million were outstanding on the 2017 Facility.

In May 2004, we issued \$15.0 million of senior debt due April 29, 2034. The senior debt is not redeemable by the holder or subject to sinking fund requirements. Interest accrues quarterly and is payable in arrears at a floating rate per annum equal to the 3-month LIBOR plus 3.85%. This senior debt is redeemable at par prior to its stated maturity at our option in whole or in part. The terms of the senior debt contain certain covenants, with which we are in compliance at December 31, 2018, and which, among other things, restrict our ability to assume senior indebtedness secured by our U.S. holding company's common stock or its subsidiaries' capital stock or to issue shares of its subsidiaries' capital stock.

Interest payable is included in "accrued expenses" in the accompanying consolidated balance sheets.

The following table summarizes the nature and terms of the junior subordinated debt and trust preferred securities outstanding at December 31, 2018 (including the Company's repurchase of a portion of these trust preferred securities):

	James River Capital Trust I	James River Capital Trust II	James River Capital Trust III	James River Capital Trust IV	Franklin Holdings II (Bermuda) Capital Trust I
	<i>(\$ in thousands)</i>				
Issue date	May 26, 2004	December 15, 2004	June 15, 2006	December 11, 2007	January 10, 2008
Principal amount of trust preferred securities	\$7,000	\$15,000	\$20,000	\$54,000	\$30,000
Principal amount of junior subordinated debt	\$7,217	\$15,464	\$20,619	\$55,670	\$30,928
Carrying amount of junior subordinated debt net of repurchases	\$7,217	\$15,464	\$20,619	\$44,827	\$15,928
Maturity date of junior subordinated debt, unless accelerated earlier	May 24, 2034	December 15, 2034	June 15, 2036	December 15, 2037	March 15, 2038
Trust common stock	\$217	\$464	\$619	\$1,670	\$928
Interest rate, per annum	Three-Month LIBOR plus 4.0%	Three-Month LIBOR plus 3.4%	Three-Month LIBOR plus 3.0%	Three-Month LIBOR plus 3.1%	Three-Month LIBOR plus 4.0%

All of the junior subordinated debt is currently redeemable at 100.0% of the unpaid principal amount at our option.

The junior subordinated debt contains certain covenants with which we are in compliance as of December 31, 2018.

At December 31, 2018 and December 31, 2017, the ratio of total debt outstanding, including both senior debt and junior subordinated debt, to total capitalization (defined as total debt plus total shareholders' equity) was 23.9% and 22.6%, respectively. Having debt as part of our capital structure allows us to generate a higher return on equity and greater book value per share results than we could by using equity capital alone.

Ceded Reinsurance

Our insurance segments enter into reinsurance contracts to limit our exposure to potential losses arising from large risks, to protect against the aggregation of several risks in a common loss occurrence, and to provide additional capacity for growth. Our reinsurance is contracted under excess of loss and quota share reinsurance contracts. In excess of loss reinsurance, the reinsurer agrees to assume all or a portion of the ceding company's losses in excess of a specified amount. The premiums payable to the reinsurer are negotiated by the parties based on their assessment of the amount of risk being ceded to the reinsurer because the reinsurer does not share proportionately in the ceding company's losses. In quota share reinsurance, the reinsurer agrees to assume a specified percentage of the ceding company's losses arising out of a defined class of business in exchange for a corresponding percentage of premiums. For the years ended December 31, 2018, 2017, and 2016 our net premium retention was 65.4%, 70.9% and 75.6%, respectively.

The following is a summary of our Excess and Surplus Lines segment's ceded reinsurance in place as of December 31, 2018:

Line of Business	Company Retention
Casualty	
Primary Specialty Casualty, including Professional Liability	Up to \$1.0 million per occurrence, subject to a \$1.0 million aggregate deductible.
Primary Casualty	Up to \$2.0 million per occurrence. ⁽¹⁾
Excess Casualty	Up to \$1.0 million per occurrence. ⁽²⁾
Property	Up to \$5.0 million per event. ⁽³⁾

(1) Total exposure to any one claim is generally \$1.0 million.

(2) For policies with an occurrence limit up to \$10.0 million, the excess casualty treaty is set such that our retention is no more than \$1.0 million.

(3) The property catastrophe reinsurance treaty has a limit of \$40.0 million with one reinstatement.

In our Excess and Surplus Lines segment, we write a small book of excess property insurance, but we do not write primary property insurance. In our Excess and Surplus Lines segment, we have a surplus share reinsurance treaty in effect that was specifically designed to cover property risks. The surplus share treaty along with facultative reinsurance helps ensure that our net retained limit per risk will be \$5.0 million or less.

We use catastrophe modeling software to analyze the risk of severe losses from hurricanes and earthquakes on our exposure. We utilize the model in our risk selection, pricing, and to manage our overall PML accumulations. A PML is an estimate of the amount we would expect to pay in any one catastrophe event within a given annual probability of occurrence (i.e. a return period or loss exceedance probability). Based upon the modeling of our Excess and Surplus Lines segment, a \$45.0 million gross catastrophe loss would exceed our 1 in 1,000 year PML. In the event of a \$45.0 million gross property catastrophe loss to the Excess and Surplus Lines segment, we estimate our pre-tax cost at approximately \$7.1 million, including reinstatement premiums and net retentions. In addition to this retention, we would retain any losses in excess of our reinsurance coverage limits.

Our Specialty Admitted Insurance segment purchases reinsurance for at least 50% of the exposed limits on specialty admitted property-casualty business. The segment enters into reinsurance contracts for the individual risk workers' compensation business as well as fronting and program business. While the segment focuses on casualty business, incidental property risk is incurred in the fronting and program business. The segment is covered for \$44.0 million in excess of \$1.0 million per occurrence to manage its property exposure to an approximate 1 in 1,000 year PML.

The following is a summary of our Specialty Admitted Insurance segment’s ceded reinsurance in place as of December 31, 2018:

Line of Business	Coverage
Casualty	
Workers’ Compensation	Quota share coverage for 50% of the first \$600,000. ⁽¹⁾⁽²⁾ Excess of loss coverage for \$29.4 million in excess of \$600,000. ⁽¹⁾⁽²⁾
Auto Programs	Quota share coverage for 90% of limits up to \$1.5 million liability and \$5.0 million physical damage per occurrence
General Liability & Professional Liability – Programs	Quota share coverage for 90% - 100% of limits up to \$2.0 million per occurrence.
Property	
Commercial Property within Package - Programs	Quota share coverage for 100% of limits up to \$25.0 million per occurrence.
Catastrophe Coverage	Excess of Loss coverage for \$44.0 million in excess of \$1.0 million

(1) Excluding one program which has quota share coverage for 90% of the first \$1.0 million per occurrence and excess of loss coverage for \$49.0 million in excess of \$1.0 million.

(2) Includes any residual market pools.

In our Casualty Reinsurance segment, we also have limited property catastrophe exposure. In the aggregate, we believe our pre-tax group-wide PML from a 1 in 1,000 year property catastrophe event would not exceed \$10.0 million, inclusive of reinstatement premiums payable.

We also have a clash and contingency reinsurance treaty to cover both the Excess and Surplus Lines and Specialty Admitted Insurance segments in the event of a claims incident involving more than one of our insureds. The treaty covers \$10.0 million in excess of a \$2.0 million retention for loss occurrences within the treaty term. This coverage has two reinstatements in the event we exhaust any of the coverage. As of December 31, 2018, our average net retained limit per risk is \$2.5 million.

The Company’s insurance segments remain liable to policyholders if its reinsurers are unable to meet their contractual obligations under applicable reinsurance agreements. We establish allowances for amounts considered uncollectible. At December 31, 2018, there was no allowance for such uncollectible reinsurance recoverables. To minimize exposure to significant losses from reinsurance insolvencies, the Company evaluates the financial condition of its reinsurers and monitors concentrations of credit risk. The Company generally seeks to purchase reinsurance from reinsurers with A.M. Best financial strength ratings of “A-” (Excellent) or better. The Company’s reinsurance contracts generally require reinsurers that are not authorized as reinsurers under U.S. state insurance regulations or that experience rating downgrades from rating agencies below specified levels to fund their share of the Company’s ceded outstanding losses and loss adjustment expense reserves, typically through the use of irrevocable and unconditional letters of credit. In fronting arrangements, which the Company conducts through its Specialty Admitted Insurance segment, we are subject to credit risk with regard to insurance companies who act as reinsurers for us in such arrangements. We customarily require a collateral trust arrangement to secure the obligations of the insurance entity for whom we are fronting.

At December 31, 2018, we had reinsurance recoverables on unpaid losses of \$467.4 million and reinsurance recoverables on paid losses of \$18.3 million, and all material recoverable amounts were from companies with A.M. Best ratings of “A-” or better or collateral had been posted by the reinsurer for our benefit.

The following table sets forth our most significant reinsurers by amount of reinsurance recoverables and the amount of reinsurance recoverables pertaining to each such reinsurer as well as its A.M. Best rating as of December 31, 2018:

Reinsurer	Reinsurance Recoverable as of December 31, 2018	A.M. Best Rating December 31, 2018
	<i>(in thousands)</i>	
Swiss Reinsurance America Corporation	\$ 151,590	A+
Berkley Insurance Company	47,867	A+
Safety National Casualty	44,130	A+
North Carolina Reinsurance Facility	24,639	Unrated ⁽¹⁾
Munich Reinsurance America	24,057	A+
Endurance Assurance Corporation	22,405	A+
Donegal Mutual Insurance Company	15,787	A
Cincinnati Insurance Company	14,997	A+
American European Insurance Company	13,044	B ⁽¹⁾
Partner Reinsurance Company Limited	12,780	A
Top 10 Total	371,296	
Other	96,075	
Total	\$ 467,371	

(1) These reinsurers are unrated or below A-. All material reinsurance recoverable amounts from these reinsurers are collateralized.

Amounts Recoverable from an Indemnifying Party

The Company is a party to a set of insurance contracts with an insured group of companies under which the Company pays losses and loss adjustment expenses on the contract. The Company has indemnity agreements with this group of insured parties (non-insurance entities) and is contractually entitled to receive reimbursement for a significant portion of the losses and loss adjustment expenses paid on behalf of the insured parties and other expenses incurred by the Company. The insured parties are required to collateralize all amounts currently due to the Company and to provide additional collateral sufficient to cover the amounts that may be recoverable under the indemnity agreements, including among other things case loss and loss adjustment expense reserves, IBNR loss and loss adjustment expense reserves, extra contractual obligations and excess of policy limits liabilities. This collateral is currently provided through a collateral trust arrangement established in favor of the Company by a captive insurance company affiliate of the insured group. At December 31, 2018, the cash equivalent collateral held in the collateral trust arrangement was approximately \$1,099.2 million, which exceeds the amount of claims receivable and unpaid reported losses and loss adjustment expenses outstanding. The Company has ongoing exposure to estimated losses and expenses on these contracts growing at a faster pace than growth in our collateral balances. In addition, we have credit exposure if our estimates of future losses and loss adjustment expenses and other amounts recoverable, which are the basis for establishing collateral balances, are lower than actual amounts paid or payable. The amount of our credit exposure in any of these instances could be material. To mitigate these risks, we closely and frequently monitor our exposure compared to our collateral held, and we request additional collateral when our analysis indicates that we have uncollateralized exposure.

Cash Flows

Our sources of operating funds consist primarily of premiums written, investment income, reinsurance recoveries and proceeds from offerings of debt and equity securities and from sales and redemptions of investments. We use the operating cash flows primarily to pay operating expenses, losses and loss adjustment expenses, and income taxes. Cash flow from operations may differ substantially from net income. The potential for a large claim under an insurance or reinsurance contract means that substantial and unpredictable payments may need to be made within relatively short periods of time. We have generated positive cash flow from operations in each of the three years ended December 31, 2018, 2017, and 2016. The following table summarizes our cash flows:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Cash and cash equivalents provided by (used in):			
Operating activities	\$ 290,028	\$ 207,816	\$ 154,349
Investing activities	(266,772)	(104,741)	(80,764)
Financing activities	(14,294)	(49,364)	(70,207)
Change in cash and cash equivalents	<u>\$ 8,962</u>	<u>\$ 53,711</u>	<u>\$ 3,378</u>

Cash provided by operating activities reflects our growth and the fact that we are collecting premiums receivable at a quicker rate than we are paying loss and loss adjustment expenses. The growth in reserves for losses and loss adjustment expenses exceeded the growth in premiums receivable and reinsurance balances by \$226.6 million in 2018, \$147.7 million in 2017, and \$1.4 million in 2016.

Cash used in investing activities reflects our efforts to enhance the yield in our investment portfolio by investing available cash and cash equivalents into higher yielding fixed maturity securities and bank loan participations. Cash and cash equivalents comprised 9.3%, 10.1% and 7.6% of total cash and invested assets at December 31, 2018, 2017 and 2016, respectively.

Cash used in financing activities is primarily due to dividends to shareholders of \$36.1 million in 2018, \$50.8 million in 2017, and \$66.0 million in 2016. In addition, we drew down \$20.0 million and \$10.0 million on our 2017 Facility in 2018 and 2017, respectively.

Ratings

The A.M. Best financial strength rating for our group's regulated insurance subsidiaries is "A" (Excellent). This rating reflects A.M. Best's opinion of our insurance subsidiaries' financial strength, operating performance and ability to meet obligations to policyholders and is not an evaluation directed towards the protection of investors. The rating for our operating insurance and reinsurance companies of "A" (Excellent) is the third highest rating of the thirteen ratings issued by A.M. Best and is assigned to insurers that have, in A.M. Best's opinion, an excellent ability to meet their ongoing obligations to policyholders.

The financial strength ratings assigned by A.M. Best have an impact on the ability of our regulated subsidiaries to attract and retain agents and brokers and on the risk profiles of the submissions for insurance that our subsidiaries receive. The "A" (Excellent) ratings assigned to our insurance and reinsurance subsidiaries are consistent with our business plans and we believe allow our subsidiaries to actively pursue relationships with the agents and brokers identified in their marketing plans.

Equity

Share activity in 2017 and 2018 includes issuances from stock option exercises and RSU vesting, increasing the number of common shares outstanding from 29,257,566 at December 31, 2016 to 29,696,682 at December 31, 2017 and 29,988,460 at December 31, 2018.

Share Based Compensation Expense

For the years ended December 31, 2018, 2017, and 2016, the Company recognized \$6.2 million, \$7.7 million and \$5.5 million, respectively, of share based compensation expense. As of December 31, 2018, the Company had \$8.4 million of unrecognized share based compensation expense expected to be charged to earnings over a weighted-average period of 1.8 years.

Equity Incentive Plans*Options*

The following table summarizes the option activity:

	Year Ended December 31,					
	2018		2017		2016	
	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price
Outstanding:						
Beginning of year	1,479,236	\$ 27.81	2,234,699	\$ 22.84	2,058,085	\$ 18.11
Granted	—	\$ —	205,244	\$ 42.24	706,203	\$ 32.07
Exercised	(308,025)	\$ 22.01	(898,218)	\$ 18.53	(496,550)	\$ 16.02
Forfeited	(55,887)	\$ 35.69	(62,489)	\$ 30.80	(33,039)	\$ 27.68
End of year	<u>1,115,324</u>	<u>\$ 29.02</u>	<u>1,479,236</u>	<u>\$ 27.81</u>	<u>2,234,699</u>	<u>\$ 22.84</u>
Exercisable, end of year	<u>814,421</u>	<u>\$ 26.46</u>	<u>846,371</u>	<u>\$ 22.35</u>	<u>1,207,479</u>	<u>\$ 18.14</u>

All of the outstanding options vest over two to four years and have a contractual life of seven years from the original date of grant.

RSUs

The following table summarizes the RSU activity:

	Year Ended December 31,					
	2018		2017		2016	
	Shares	Weighted-Average Grant Date Fair Value	Shares	Weighted-Average Grant Date Fair Value	Shares	Weighted-Average Grant Date Fair Value
Unvested, beginning of year	178,882	\$ 37.93	196,800	\$ 24.38	234,922	\$ 21.00
Granted	227,481	\$ 39.74	137,034	\$ 42.20	60,291	\$ 32.03
Vested	(83,384)	\$ 37.61	(132,764)	\$ 24.24	(98,413)	\$ 21.00
Forfeited	(22,837)	\$ 40.21	(22,188)	\$ 26.06	—	\$ —
Unvested, end of year	<u>300,142</u>	<u>\$ 39.22</u>	<u>178,882</u>	<u>\$ 37.93</u>	<u>196,800</u>	<u>\$ 24.38</u>

The vesting period of RSUs granted to employees range from one to five years and vest ratably over the respective vesting period, and the majority vest in three years. All RSUs granted to date to non-employee directors had a one year vesting period.

Contractual Obligations and Commitments

The following table illustrates our contractual obligations and commercial commitments by due date as of December 31, 2018:

	Payments Due by Period				
	Total	Less than 1 year	1–3 years	3–5 years	More than 5 years
	<i>(in thousands)</i>				
Reserve for losses and loss adjustment expenses \$	1,661,459	\$ 528,293	\$ 655,280	\$ 316,228	\$ 161,658
Long-term debt:					
Senior debt	118,300	—	73,300	—	45,000
Junior subordinated debt	104,055	—	—	—	104,055
Operating lease obligations	20,963	3,946	7,297	5,015	4,705
Interest on debt obligations	145,397	11,955	23,647	14,939	94,856
Financing obligations	30,860	30,860	—	—	—
Total	<u>\$ 2,081,034</u>	<u>\$ 575,054</u>	<u>\$ 759,524</u>	<u>\$ 336,182</u>	<u>\$ 410,274</u>

The reserve for losses and loss adjustment expenses represent management’s estimate of the ultimate cost of settling losses. As more fully discussed in “—Critical Accounting Policies—Reserves for Losses and Loss Adjustment Expenses” above, the estimation of losses is based on various complex and subjective judgments. Actual losses paid may differ, perhaps significantly, from the reserve estimates reflected in our consolidated financial statements. Similarly, the timing of payment of our estimated losses is not fixed and there may be significant changes in actual payment activity. The assumptions used in estimating the likely payments due by period are based on our historical claims payment experience and industry payment patterns, but due to the inherent uncertainty in the process of estimating the timing of such payments, there is a risk that the amounts paid in any such period can be significantly different from the amounts disclosed above.

Financing obligations represent obligations for a build-to-suit lease relating to an investment by the Company for a minority interest in a real estate limited partnership pursuant to which we were deemed to be an owner for accounting purposes. Upon adoption of ASU 2016-02, *Leases (Topic 842)* on January 1, 2019, the Company will derecognize the \$30.9 million financing obligation associated with the lease designated as build-to-suit under the previous guidance. The lease will be classified as an operating lease under the new standard. The Company will record a right-of-use asset and lease liability for the lease under the new standard.

The amounts in the above table represent our gross estimates of known liabilities as of December 31, 2018 and do not include any allowance for claims for future events within the time period specified. Accordingly, it is highly likely that the total amounts paid out in the time periods shown will be greater than those indicated in the table.

Interest on debt obligations was calculated using the LIBOR rate as of December 31, 2018 with the assumption that interest rates would remain flat over the remainder of the period that the debt was outstanding.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Reconciliation of Non-GAAP Measures

Reconciliation of Underwriting Profit

We believe that the disclosure of underwriting profit by individual segment and of the Company as a whole is useful to investors, analysts, rating agencies and other users of our financial information in evaluating our performance because our objective is to consistently earn underwriting profits. We evaluate the performance of our segments and allocate resources based primarily on underwriting profit. Our definition of underwriting profit may not be comparable to that of other companies.

The following table reconciles the underwriting profit by individual segment and for the entire Company to consolidated income before U.S. federal income taxes for the years ended December 31, 2018, 2017 and 2016.

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Underwriting profit (loss) of the operating segments:			
Excess and Surplus Lines	\$ 42,834	\$ 29,693	\$ 47,235
Specialty Admitted Insurance	6,972	3,166	2,872
Casualty Reinsurance	5,103	(1,765)	(194)
Total underwriting profit of the operating segments	54,909	31,094	49,913
Other operating expenses of the Corporate and Other segment	(26,903)	(25,330)	(20,433)
Underwriting profit ⁽¹⁾	28,006	5,764	29,480
Net investment income	61,256	61,119	52,638
Net realized investment (losses) gains	(5,479)	(1,989)	7,565
Other income	505	361	295
Other expenses	(1,300)	(539)	(1,590)
Interest expense	(11,553)	(8,974)	(8,448)
Amortization of intangible assets	(597)	(597)	(597)
Income before taxes	\$ 70,838	\$ 55,145	\$ 79,343

(1) Underwriting profit includes gross fee income of \$28.7 million, \$28.3 million, and \$14.2 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Reconciliation of Adjusted Net Operating Income

We define adjusted net operating income as net income excluding certain non-operating expenses such as net realized and unrealized investment gains and losses, expenses related to due diligence costs for various merger and acquisition activities, professional service fees related to the filing of registration statements for the offering of securities, severance costs associated with terminated employees and interest and other expenses on a leased building that we are deemed to own for accounting purposes. We use adjusted net operating income as an internal performance measure in the management of our operations because we believe it gives our management and other users of our financial information useful insight into our results of operations and our underlying business performance. Adjusted net operating income should not be viewed as a substitute for net income calculated in accordance with GAAP, and our definition of adjusted net operating income may not be comparable to that of other companies.

Our income before taxes and net income for the years ended December 31, 2018, 2017 and 2016 reconcile to our adjusted net operating income as follows:

	Year Ended December 31,					
	2018		2017		2016	
	Income Before Taxes	Net Income	Income Before Taxes	Net Income	Income Before Taxes	Net Income
	<i>(in thousands)</i>					
Income as reported	\$ 70,838	\$ 63,830	\$ 55,145	\$ 43,566	\$ 79,343	\$ 74,471
Net realized and unrealized losses (gains) on investments	5,479	4,374	1,989	1,375	(7,565)	(5,207)
Other expenses	1,100	941	539	575	1,590	1,136
Impairment of intangible assets	200	200	—	—	—	—
Dividend withholding taxes	—	—	—	1,053	—	—
Interest expense on leased building the Company is deemed to own for accounting purposes	1,584	1,251	1,256	816	1,412	918
Adjusted net operating income	\$ 79,201	\$ 70,596	\$ 58,929	\$ 47,385	\$ 74,780	\$ 71,318

Tangible Equity and Tangible Equity per Share

Key financial measures that we use to assess our longer term financial performance include the percentage growth in our tangible equity per share and our return on tangible equity. We believe tangible equity is a good measure to evaluate the strength of our balance sheet and to compare returns relative to this measure. Tangible equity before dividends increased 10.9% from \$474.5 million at December 31, 2017 to \$526.1 million at December 31, 2018, largely due to net income of \$63.8 million and \$22.2 million of unrealized losses, net of taxes, on available-for-sale fixed maturity securities. Tangible equity after dividends increased 3.2% from \$474.5 million at December 31, 2017 to \$489.9 million at December 31, 2018. Tangible equity per common share was \$16.34 at December 31, 2018, net of \$1.20 of dividends per share paid by the Company during 2018. The 2018 adjusted net operating income return on average tangible equity was 14.8%, which compares to 9.7% for the full year 2017.

We define tangible equity as the sum of shareholders' equity less goodwill and intangible assets (net of amortization). Our definition of tangible equity may not be comparable to that of other companies, and it should not be viewed as a substitute for shareholders' equity calculated in accordance with GAAP. The following table reconciles shareholders' equity to tangible equity as of December 31, 2018, 2017 and 2016 and reconciles tangible equity to pre dividend tangible equity as of December 31, 2018:

	As of December 31,					
	2018		2017		2016	
	Equity	Equity per share	Equity	Equity per share	Equity	Equity per share
	<i>(in thousands, except per share amounts)</i>					
Shareholders' equity	\$ 709,241	\$ 23.65	\$ 694,699	\$ 23.39	\$ 693,221	\$ 23.69
Less:						
Goodwill	181,831	6.06	181,831	6.12	181,831	6.21
Intangible assets	37,537	1.25	38,334	1.29	38,931	1.33
Tangible equity	\$ 489,873	\$ 16.34	\$ 474,534	\$ 15.98	\$ 472,459	\$ 16.15
Dividends to shareholders for the year ended December 31, 2018	36,246	1.20				
Pre-dividend tangible equity	\$ 526,119	\$ 17.54				

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk is the risk of economic losses due to adverse changes in the estimated fair value of a financial instrument as the result of changes in equity prices, interest rates, foreign currency exchange rates and commodity prices. Our consolidated balance sheets include assets and liabilities with estimated fair values that are subject to market risk. Our primary market risks have been interest rate risk associated with investments in fixed maturities and equity price risk associated with investments in equity securities. We do not have material exposure to foreign currency exchange rate risk or commodity risk.

Interest Rate Risk

Our fixed maturity and preferred stock investments and borrowings are subject to interest rate risk. Increases and decreases in interest rates typically result in decreases and increases, respectively, in the fair value of these financial instruments.

The majority of our investable assets come from premiums paid by policyholders. These funds are invested predominantly in high quality corporate, government and municipal bonds with relatively short durations. The investment portfolio has an average duration of approximately 3.4 years at December 31, 2018, and fixed maturity securities and preferred stock investments in the portfolio have an average rating by at least one nationally recognized rating organization of “AA-”. See Note 2 to the Notes to the Audited Consolidated Financial Statements for disclosure of contractual maturity dates of our fixed maturity portfolio. The changes in the estimated fair value of the fixed maturity portfolio classified as available-for-sale are presented as a component of shareholders’ equity in accumulated other comprehensive income, net of taxes.

We work to manage the impact of interest rate fluctuations on our fixed maturity and preferred stock portfolio. The effective duration is managed with consideration given to the estimated duration of our liabilities. We have investment guidelines that set targets for average duration and maturity.

Our investment manager employs a model to estimate the effect of interest rate risk on the fair values of our fixed maturity and preferred stock securities and our bank loan participations. Our bank loan participations are primarily floating-rate debt, so their fair values are less sensitive to changes in interest rates than our fixed maturity and preferred stock securities. The model estimates the impact of interest rate changes on a wide range of factors, including duration and prepayment. Fair values of borrowings are estimated based on the net present value of cash flows, using a representative set of possible future interest rate scenarios. The model requires that numerous assumptions be made about the future. To the extent that any of the assumptions are invalid, incorrect estimates could result. The usefulness of a single point-in-time model is limited, as it is unable to accurately incorporate the full complexity of market interactions.

The following table summarizes our interest rate risk and shows the effect of hypothetical changes in interest rates as of December 31, 2018. The selected hypothetical changes do not indicate what could be the potential best or worst case scenarios.

As of December 31, 2018					
Estimated Fair Value	Hypothetical Change in Interest Rates (bp=basis points)	Estimated Fair Value after Hypothetical Change in Interest Rates	Estimated Hypothetical Percentage Increase (Decrease) in Fair Value		
<i>(\$ in thousands)</i>					
Total fixed maturity and preferred stock investments	\$ 1,244,942	200 bp decrease	\$ 1,353,626	8.7 %	
		100 bp decrease	1,298,848	4.3 %	
		100 bp increase	1,191,907	(4.3)%	
		200 bp increase	1,141,612	(8.3)%	
Bank Loan Participations	\$ 250,697	200 bp decrease	\$ 254,508	1.5 %	
		100 bp decrease	251,474	0.3 %	
		100 bp increase	250,371	(0.1)%	
Liabilities	\$ 235,374	200 bp decrease	\$ 237,485	0.9 %	
		100 bp decrease	236,372	0.4 %	
		100 bp increase	234,476	(0.4)%	
		200 bp increase	233,668	(0.7)%	

Equity Price Risk

A portion of our portfolio is invested in equity securities, which have historically produced higher long-term returns relative to fixed maturities. We own preferred stocks, generally in the financial services industry, and common stocks. The changes in the estimated fair value of the equity securities portfolio are recognized in net income.

At December 31, 2018, our equity securities portfolio was concentrated in terms of the number of issuers and industries. Such concentrations can lead to higher levels of price volatility.

The following table summarizes our equity price risk and shows the effect of a hypothetical 35% increase or decrease in the fair value of our equity securities portfolio as of December 31, 2018. We believe that this range represents a reasonably likely scenario, as the largest annual increases and decreases in the S&P 500 Index in the past twenty-five years were 34.1% (1995) and (38.5%) (2008), respectively. The selected hypothetical changes do not indicate what could be the potential best or worst case scenarios.

	As of December 31, 2018		
	Estimated Fair Value	Hypothetical Price Change	Estimated Fair Value after Hypothetical Change in Prices
		<i>(\$ in thousands)</i>	
Equity securities	\$ 78,385	35% increase	\$ 105,820
		35% decrease	50,950

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The report of our independent registered public accounting firm and our Consolidated Financial Statements and required Financial Statement Schedules are filed pursuant to this Item 8 and are included later in this report. See Index to Financial Statements and Schedules on page F-1.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

Item 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), as appropriate, to allow timely decisions regarding required disclosure. In connection with the preparation of this Annual Report on Form 10-K, our management carried out an evaluation, under the supervision and with the participation of our CEO and CFO, as of December 31, 2018, of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) and 15d-15(e) under the Exchange Act. Based upon this evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of December 31, 2018.

Management’s Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting includes those policies and procedures that: pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has conducted an assessment, including testing, of the effectiveness of our internal control over financial reporting as of December 31, 2018. In making its assessment of internal control over financial reporting, management used the criteria in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, the Company's management has concluded that, as of December 31, 2018, the Company's internal control over financial reporting was effective.

Ernst & Young LLP, the independent registered public accounting firm that audited the Consolidated Financial Statements of the Company included in this Annual Report, has audited the effectiveness of internal control over financial reporting as of December 31, 2018. Their attestation report, which expresses an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2018, is included with our financial statements.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during our quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

The effectiveness of any system of controls and procedures is subject to certain limitations, and, as a result, there can be no assurance that our controls and procedures will detect all errors or fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system will be attained.

Item 9B. OTHER INFORMATION

None.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 is incorporated by reference to the definitive James River Group Holdings, Ltd. Proxy Statement to be filed with the SEC not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 11. EXECUTIVE COMPENSATION

The information required by Item 11 is incorporated by reference to the definitive James River Group Holdings, Ltd. Proxy Statement to be filed with the SEC not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by Item 12 is incorporated by reference to the definitive James River Group Holdings, Ltd. Proxy Statement to be filed with the SEC not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by Item 13 is incorporated by reference to the definitive James River Group Holdings, Ltd. Proxy Statement to be filed with the SEC not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 is incorporated by reference to the definitive James River Group Holdings, Ltd. Proxy Statement to be filed with the SEC not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

PART IV

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) (1) and (2) Financial Statements and Financial Statement Schedules.

See “Index to Financial Statements and Schedules” on Page F-1.

(3) Exhibits

Exhibit Number	Description
3.1	<u>Certificate of Incorporation of James River Group Holdings, Ltd. (incorporated by reference to Exhibit 3.1 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)</u>
3.2	<u>Certificate of Incorporation on Change of Name (incorporated by reference to Exhibit 3.2 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)</u>
3.3	<u>Memorandum of Association of James River Group Holdings, Ltd. (incorporated by reference to Exhibit 3.3 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)</u>
3.4	<u>Certificate of Deposit of Memorandum of Increase of Share Capital, dated December 24, 2007 (incorporated by reference to Exhibit 3.4 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)</u>
3.5	<u>Certificate of Deposit of Memorandum of Increase of Share Capital, dated October 7, 2009 (incorporated by reference to Exhibit 3.5 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)</u>
3.6	<u>Third Amended and Restated Bye-Laws of James River Group Holdings, Ltd. (incorporated by reference to Exhibit 3.6 to the Annual Report on Form 10-K filed on March 12, 2015, Commission File No. 001-36777)</u>
4.1	<u>Form of Certificate of Common Shares (incorporated by reference to Exhibit 4.1 of Amendment No. 3 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on December 9, 2014)</u>
4.2	Indenture, dated as of May 26, 2004, by and between James River Group, Inc. and Wilmington Trust Company, as Trustee, relating to Floating Rate Senior Debentures Due 2034+
4.3	Indenture, dated as of May 26, 2004, by and between James River Group, Inc. and Wilmington Trust Company, as Trustee, relating to Floating Rate Junior Subordinated Debentures Due 2034+
4.4	Amended and Restated Declaration of Trust of James River Capital Trust I, dated as of May 26, 2004, by and among James River Group, Inc., as Sponsor, Wilmington Trust Company, as Institutional Trustee and Delaware Trustee, the Regular Trustees (as defined therein), and the holders, from time to time, of undivided beneficial interests in James River Capital Trust I+
4.5	Preferred Securities Guarantee Agreement, dated as of May 26, 2004, by James River Group, Inc., as Guarantor, and Wilmington Trust Company, as Preferred Guarantee Trustee, for the benefit of the holders of James River Capital Trust I+
4.6	Indenture, dated as of December 15, 2004, by and between James River Group, Inc. and Wilmington Trust Company, as Trustee, relating to Floating Rate Junior Subordinated Deferrable Interest Debentures Due 2034+
4.7	Amended and Restated Declaration of Trust of James River Capital Trust II, dated as of December 15, 2004, by and among James River Group, Inc., as Sponsor, Wilmington Trust Company, as Institutional Trustee and Delaware Trustee, the Administrators (as defined therein), and the holders, from time to time, of undivided beneficial interests in the James River Capital Trust II+
4.8	Guarantee Agreement, dated as of December 15, 2004, by James River Group, Inc., as Guarantor, and Wilmington Trust Company, as Guarantee Trustee, for the benefit of the holders, from time to time, of the capital securities of James River Capital Trust II+
4.9	Indenture, dated June 15, 2006, by and between James River Group, Inc. and Wilmington Trust Company, as Trustee, relating to Floating Rate Junior Subordinated Deferrable Interest Debentures Due 2036+
4.10	Amended and Restated Declaration of Trust of James River Capital Trust III, dated as of June 15, 2006, by and among James River Group, Inc., as Sponsor, Wilmington Trust Company, as Institutional Trustee and Delaware Trustee, the Administrators (as defined therein) and the holders, from time to time, of undivided beneficial interests in the James River Capital Trust III+
4.11	Guarantee Agreement, dated as of June 15, 2006, by James River Group, Inc., as Guarantor, and Wilmington Trust Company, as Guarantee Trustee, for the benefit of the holders, from time to time, of the capital securities of James River Capital Trust III+
4.12	Indenture, dated December 11, 2007, by and between James River Group, Inc. and Wilmington Trust Company, as Trustee, relating to Fixed/Floating Rate Junior Subordinated Deferrable Interest Debentures Due 2037+

Exhibit Number	Description
4.13	Amended and Restated Declaration of Trust, dated December 11, 2007, by and among James River Group, Inc., as Sponsor, Wilmington Trust Company, as Institutional Trustee and Delaware Trustee and the Administrators (as defined therein) and the holders, from time to time, of undivided beneficial interests in James River Capital Trust IV+
4.14	Guarantee Agreement, dated as of December 11, 2007, by James River Group, Inc., as Guarantor, and Wilmington Trust Company, as Guarantee Trustee, for the benefit of the holders, from time to time, of the capital securities of James River Capital Trust IV+
4.15	Indenture, dated as of January 10, 2008, among James River Group Holdings, Ltd. and Wilmington Trust Company, as Trustee relating to Fixed/Floating Rate Junior Subordinated Deferrable Interest Debentures Due 2038+
4.16	Amended and Restated Declaration of Trust, dated as of January 10, 2008, by and among James River Group Holdings, Ltd., as Sponsor, Wilmington Trust Company, as Institutional Trustee and Delaware Trustee and the Administrators (as defined therein) for the benefit of the holders, from time to time, of undivided beneficial interest in Franklin Holdings II (Bermuda) Capital Trust I+
4.17	Guarantee Agreement, dated as of January 10, 2008, by and among James River Group Holdings, Ltd., as Guarantor, and Wilmington Trust Company, as Guarantee Trustee, for the benefit of the holders, from time to time, of the capital securities of Franklin Holdings II (Bermuda) Capital Trust I+
10.1	Amended and Restated Credit Agreement, dated as of December 7, 2016, by and among James River Group Holdings, Ltd., JRG Reinsurance Company, Ltd., KeyBank National Association, as Administrative Agent and Letter of Credit Issuer, and the financial institutions that are parties thereto (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed on December 9, 2016, Commission File No. 001-36777).
10.2	First Amendment to Amended and Restated Credit Agreement, dated June 8, 2017, among James River Group Holdings, Ltd., JRG Reinsurance Company Ltd., KeyBank National Association, as Administrative Agent, and the financial institutions that are parties thereto (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed on June 13, 2017, Commission File No. 001-36777).
10.3	Continuing Guaranty of Payment, dated as of June 5, 2013, by James River Group, Inc., as Guarantor, pursuant to Credit Agreement, dated as of June 5, 2013, among James River Group Holdings, Ltd. and JRG Reinsurance Company Ltd., KeyBank National Association, as Administrative Agent and as Letter of Credit Issuer, and certain Lender parties (incorporated by reference to Exhibit 10.2 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)
10.4	Continuing Guaranty of Payment, dated as of December 15, 2015, by James River Group Holdings UK Limited, pursuant to Credit Agreement, dated as of June 5, 2013, among James River Group Holdings, Ltd. and JRG Reinsurance Company Ltd., KeyBank National Association, as Administrative Agent and as Letter of Credit Issuer, and certain Lender parties (incorporated by reference to Exhibit 10.5 to the Annual Report on Form 10-K filed on March 10, 2016, Commission File No. 001-36777)
10.5	Credit Agreement, dated as of August 2, 2017, among James River Group Holdings, Ltd., JRG Reinsurance Company Ltd. and BMO Harris Bank N.A. (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed on August 3, 2017, Commission File No. 001-3677)
10.6	Pledge and Security Agreement, dated as of August 2, 2017, by and between JRG Reinsurance Company Ltd., and BMO Harris Bank N.A. (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K filed on August 3, 2017, Commission File No. 001-3677)
10.7	Form of Director and Officer Indemnification Agreement (incorporated by reference to Exhibit 10.7 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)
10.8	Amended and Restated James River Group Holdings, Ltd. Equity Incentive Plan (incorporated by reference to Exhibit 10.8 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)*
10.9	Form of Stock Option Agreement (Amended and Restated James River Group Holdings, Ltd. Equity Incentive Plan) (incorporated by reference to Exhibit 10.9 of the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 7, 2014)*
10.10	First Amendment to the Amended and Restated James River Group Holdings, Ltd. Equity Incentive Plan (incorporated by reference to Exhibit 10.10 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*

Exhibit Number	Description
10.11	<u>James River Group Holdings, Ltd. 2014 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.11 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*</u>
10.12	<u>Amendment to the James River Group Holdings, Ltd. 2014 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed on May 3, 2017, Commission File No. 001-36777)*</u>
10.13	<u>Form of Nonqualified Share Option Agreement (James River Group Holdings, Ltd. 2014 Long-Term Incentive Plan)(incorporated by reference to Exhibit 10.12 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*</u>
10.14	<u>Form of Restricted Share Award Agreement (James River Group Holdings, Ltd. 2014 Long-Term Incentive Plan)(incorporated by reference to Exhibit 10.13 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*</u>
10.15	<u>Form of Restricted Share Unit Award Agreement (James River Group Holdings, Ltd. 2014 Long-Term Incentive Plan)(incorporated by reference to Exhibit 10.14 of Amendment No. 3 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on December 9, 2014)*</u>
10.16	<u>James River Group Holdings, Ltd. 2014 Non-Employee Director Incentive Plan (incorporated by reference to Exhibit 10.15 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*</u>
10.17	<u>Form of Restricted Share Award Agreement (James River Group Holdings, Ltd. 2014 Non-Employee Director Incentive Plan) (incorporated by reference to Exhibit 10.16 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*</u>
10.18	<u>Form of Restricted Share Unit Award Agreement (James River Group Holdings, Ltd., 2014 Non-Employee Director Incentive Plan) (incorporated by reference to Exhibit 10.17 of Amendment No. 3 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on December 9, 2014)*</u>
10.19	<u>James River Management Company, Inc. Leadership Recognition Program (incorporated by reference to Exhibit 10.18 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*</u>
10.20	<u>Amended and Restated Employment Agreement, dated December 12, 2017, by and between James River Group Holdings, Ltd. and Robert P. Myron (incorporated by reference to Exhibit 10.20 to Annual Report on Form 10-K filed on March 1, 2018, Commission File No. 001-36777)*</u>
10.21	<u>Employment Agreement, dated December 19, 2016, by and among James River Group Holdings, Ltd., James River Group, Inc., and Sarah C. Doran (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on December 22, 2016, Commission File No. 001-36777)*</u>
10.22	<u>Amendment to Employment Agreement dated December 19, 2016, between Sarah C. Doran and James River Group Holdings, Ltd., and its subsidiary, James River Group, Inc. (incorporated by reference to Exhibit 10.1 to the Current Report on Form 10-Q filed on November 8, 2018, Commission File No. 001-36777)*</u>
10.23	<u>Amended and Restated Employment Agreement, dated January 15, 2018, by and among James River Group, Inc., certain subsidiaries of James River Group, Inc. and Richard Schmitzer (incorporated by reference to Exhibit 10.22 to Annual Report on Form 10-K filed on March 1, 2018, Commission File No. 001-36777)*</u>
10.24	<u>James River Management Company, Inc. Leadership Recognition Program Award Letter, dated September 30, 2011 to Richard Schmitzer (incorporated by reference to Exhibit 10.22 of Amendment No. 1 to the Registration Statement on Form S-1, Registration No. 333-199958, filed with the Commission on November 24, 2014)*</u>
10.25	<u>Employment Agreement, dated April 2, 2018, by and among James River Group, Inc., certain subsidiaries of James River Group, Inc. and Steven J. Hartman (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on May 4, 2018, Commission File No. 001-36777)*</u>
10.26	<u>Separation and Release Agreement, dated October 26, 2018, by and among James River Group, Inc., certain subsidiaries of James River Group, Inc. and Steven J. Hartman*</u>
10.27	<u>Amended and Restated Employment Agreement, dated January 17, 2018, by and among JRG Reinsurance, Ltd. and Dennis R. Johnson (incorporated by reference to Exhibit 10.25 to Annual Report on Form 10-K filed on March 1, 2018, Commission File No. 001-36777)*</u>
10.28	<u>Termination of Employment Agreement, dated April 13, 2018, between JRG Reinsurance Company Ltd. and Dennis Johnson (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed on April 16, 2018, Commission File No. 001-36777)*</u>
10.29	<u>Employment Agreement, dated April 13, 2018, between James River Group, Inc., certain subsidiaries of James River Group, Inc. and Dennis Johnson (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on April 16, 2018, Commission File No. 001-36777)*</u>

- 10.30 [Employment Agreement, dated September 17, 2018, by and among James River Group, Inc., certain subsidiaries of James River Group, Inc. and Terry McCafferty, as supplemented by a letter agreement dated October 12, 2018*](#)
- 10.31 [Employment Agreement, dated April 5, 2018, by and among JRG Reinsurance Company, Ltd. and Daniel Heinlein*](#)
- 10.32 [Registration Rights Agreement, dated as of December 17, 2014, by and among \(1\) James River Group Holdings, Ltd.; \(2\)\(a\) D. E. Shaw CH-SP Franklin, L.L.C., a Delaware limited liability company, D. E. Shaw CF-SP Franklin, L.L.C., a Delaware limited liability company, and D. E. Shaw Oculus Portfolios, L.L.C., a Delaware limited liability company; and \(b\) The Goldman Sachs Group, Inc., a Delaware corporation, and Goldman Sachs JRVF Investors Offshore, L.P., a Cayman Islands exempted limited partnership and \(3\) the persons identified as "Management Investors" on the signature pages thereto \(incorporated by reference to Exhibit 10.25 to the Annual Report on Form 10-K filed on March 12, 2015, Commission File No. 001-36777\)](#)
- 10.33 [Separation and Release Agreement, dated December 12, 2017, by and among James River Group Holdings, Ltd., James River Group, Inc., and J. Adam Abram \(incorporated by reference to Exhibit 10.28 to Annual Report on Form 10-K filed on March 1, 2018, Commission File No. 001-36777\)*](#)

Exhibit Number	Description
21.1	List of subsidiaries of James River Group Holdings, Ltd.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm
31.1	Principal Executive Officer Certification pursuant to Rule 13a-14(a)/15d-14(a).
31.2	Principal Financial Officer Certification pursuant to Rule 13a-14(a)/15d-14(a).
32.1	Principal Executive Officer and Principal Financial Officer Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Denotes a management contract or compensatory plan or arrangement.

+ Exhibit not filed with the Securities and Exchange Commission pursuant to Item 601(b)(4)(iii) of Regulation S-K. The Company will furnish a copy to the SEC upon request.

Item 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

JAMES RIVER GROUP HOLDINGS, LTD.

By: /s/ Robert P. Myron

February 27, 2019

Robert P. Myron
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>NAME</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/ Robert P. Myron</u> Robert P. Myron	President, Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2019
<u>/s/ Sarah C. Doran</u> Sarah C. Doran	Chief Financial Officer (Principal Financial Officer)	February 27, 2019
<u>/s/ Michael E. Crow</u> Michael E. Crow	Principal Accounting Officer	February 27, 2019
<u>/s/ J. Adam Abram</u> J.Adam Abram	Director, Non-Executive Chairman of the Board	February 27, 2019
<u>/s/ Janet Cowell</u> Janet Cowell	Director	February 27, 2019
<u>/s/ Christopher L. Harris</u> Christopher L. Harris	Director	February 27, 2019
<u>/s/ Bryan Martin</u> Bryan Martin	Director	February 27, 2019
<u>/s/ Jerry R. Masters</u> Jerry R. Masters	Director	February 27, 2019
<u>/s/ Michael T. Oakes</u> Michael T. Oakes	Director	February 27, 2019
<u>/s/ Ollie L. Sherman, Jr.</u> Ollie L. Sherman, Jr.	Director	February 27, 2019
<u>/s/ Sundar Srinivasan</u> Sundar Srinivasan	Director	February 27, 2019
<u>/s/ David Zwilling</u> David Zwilling	Director	February 27, 2019

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES**INDEX TO FINANCIAL STATEMENTS AND SCHEDULES**

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JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Report of Independent Registered Public Accounting Firm

The Shareholders and the Board of Directors
James River Group Holdings, Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of James River Group Holdings, Ltd. and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income and comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the financial statement schedules listed in the Index at Item 15(a) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 27, 2019, expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2003.

Pittsburgh, Pennsylvania
February 27, 2019

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Report of Independent Registered Public Accounting Firm

The Shareholders and the Board of Directors
James River Group Holdings, Ltd.

Opinion on Internal Control over Financial Reporting

We have audited James River Group Holdings, Ltd. and subsidiaries' internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), (the COSO criteria). In our opinion, James River Group Holdings, Ltd. and subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of income and comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and related notes and financial statement schedules listed in the Index at Item 15(a) and our report dated February 27, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP
Pittsburgh, Pennsylvania
February 27, 2019

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES
Consolidated Balance Sheets

	December 31,	
	2018	2017
	<i>(in thousands)</i>	
Assets		
Invested assets:		
Fixed maturity securities:		
Available-for-sale, at fair value (amortized cost: 2018 – \$1,199,409; 2017 – \$1,008,662)	\$ 1,184,202	\$ 1,016,098
Trading, at fair value (amortized cost: 2018 – \$0; 2017 – \$3,801)	—	3,808
Equity securities, at fair value (cost: 2018 – \$77,152; 2017 – \$75,318)	78,385	82,522
Bank loan participations held-for-investment, at amortized cost, net of allowance	260,972	238,214
Short-term investments	81,966	36,804
Other invested assets	72,321	70,208
Total invested assets	1,677,846	1,447,654
Cash and cash equivalents	172,457	163,495
Accrued investment income	11,110	8,381
Premiums receivable and agents' balances, net	307,899	352,436
Reinsurance recoverable on unpaid losses	467,371	302,524
Reinsurance recoverable on paid losses	18,344	11,292
Prepaid reinsurance premiums	112,498	91,979
Deferred policy acquisition costs	54,450	72,365
Intangible assets, net	37,537	38,334
Goodwill	181,831	181,831
Deferred tax assets, net	1,054	—
Income taxes receivable	—	2,806
Other assets	94,379	83,598
Total assets	\$ 3,136,776	\$ 2,756,695

See accompanying notes.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES
Consolidated Balance Sheets

	December 31,	
	2018	2017
	<i>(in thousands, except share amounts)</i>	
Liabilities and shareholders' equity		
Liabilities:		
Reserve for losses and loss adjustment expenses	\$ 1,661,459	\$ 1,292,349
Unearned premiums	386,473	418,114
Payables to reinsurers	61,662	56,268
Senior debt	118,300	98,300
Junior subordinated debt	104,055	104,055
Accrued expenses	51,792	39,295
Deferred tax liabilities, net	—	5,247
Income taxes payable	1,915	—
Other liabilities	41,879	48,368
Total liabilities	2,427,535	2,061,996
Commitments and contingent liabilities	—	—
Shareholders' equity:		
Common Shares – \$0.0002 par value; 200,000,000 shares authorized. 2018 and 2017: 29,988,460 and 29,696,682 shares issued and outstanding, respectively	6	6
Preferred Shares – 2018 and 2017: \$0.00125 par value; 20,000,000 shares authorized; no shares issued and outstanding	—	—
Additional paid-in capital	645,310	636,149
Retained earnings	79,753	48,198
Accumulated other comprehensive (loss) income	(15,828)	10,346
Total shareholders' equity	709,241	694,699
Total liabilities and shareholders' equity	\$ 3,136,776	\$ 2,756,695

See accompanying notes.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES
Consolidated Statements of Income and Comprehensive Income

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands, except share amounts)</i>		
Revenues:			
Gross written premiums	\$ 1,166,773	\$ 1,081,905	\$ 737,398
Ceded written premiums	(404,101)	(315,279)	(179,690)
Net written premiums	762,672	766,626	557,708
Change in net unearned premiums	52,726	(25,517)	(42,045)
Net earned premiums	815,398	741,109	515,663
Net investment income	61,256	61,119	52,638
Net realized and unrealized (losses) gains on investments	(5,479)	(1,989)	7,565
Other income	14,424	17,386	10,361
Total revenues	885,599	817,625	586,227
Expenses:			
Losses and loss adjustment expenses	600,276	555,377	325,421
Other operating expenses	201,035	196,993	170,828
Other expenses	1,300	539	1,590
Interest expense	11,553	8,974	8,448
Amortization of intangible assets	597	597	597
Total expenses	814,761	762,480	506,884
Income before income taxes	70,838	55,145	79,343
Income tax expense (benefit):			
Current	12,867	11,943	(221)
Deferred	(5,859)	(364)	5,093
	7,008	11,579	4,872
Net income	\$ 63,830	\$ 43,566	\$ 74,471
Other comprehensive (losses) income:			
Net unrealized (losses) gains, net of taxes of \$(444) in 2018, \$2,707 in 2017, and \$(1,723) in 2016	(22,203)	9,219	(2,059)
Total comprehensive income	\$ 41,627	\$ 52,785	\$ 72,412
Per share data:			
Basic earnings per share	\$ 2.14	\$ 1.48	\$ 2.56
Diluted earnings per share	\$ 2.11	\$ 1.44	\$ 2.49
Dividend declared per share	\$ 1.20	\$ 1.70	\$ 2.25
Weighted-average common shares outstanding:			
Basic	29,887,990	29,461,717	29,063,075
Diluted	30,307,101	30,273,149	29,894,378

See accompanying notes.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Consolidated Statements of Changes in Shareholders' Equity

	Number of Common Shares Outstanding	Common Shares (Par)	Preferred Shares	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Total Shareholders' Equity
<i>(in thousands, except share amounts)</i>							
Balances at December 31, 2015	28,941,547	\$ 6	\$ —	\$ 630,820	\$ 47,026	\$ 3,186	\$ 681,038
Net income	—	—	—	—	74,471	—	74,471
Other comprehensive loss	—	—	—	—	—	(2,059)	(2,059)
Dividends	—	—	—	—	(66,265)	—	(66,265)
Exercise of stock options and related excess tax benefits	260,672	—	—	1,536	—	—	1,536
Vesting of RSUs and related excess tax benefits	55,347	—	—	(992)	—	—	(992)
Compensation expense under share incentive plans	—	—	—	5,492	—	—	5,492
Balances at December 31, 2016	29,257,566	\$ 6	\$ —	\$ 636,856	\$ 55,232	\$ 1,127	\$ 693,221
Net income	—	—	—	—	43,566	—	43,566
Other comprehensive loss	—	—	—	—	—	9,219	9,219
Dividends	—	—	—	—	(50,600)	—	(50,600)
Exercise of stock options and related excess tax benefits	358,967	—	—	(6,213)	—	—	(6,213)
Vesting of RSUs and related excess tax benefits	80,149	—	—	(2,182)	—	—	(2,182)
Compensation expense under share incentive plans	—	—	—	7,688	—	—	7,688
Balances at December 31, 2017	29,696,682	\$ 6	\$ —	\$ 636,149	\$ 48,198	\$ 10,346	\$ 694,699
Net income	—	—	—	—	63,830	—	63,830
Other comprehensive loss	—	—	—	—	—	(22,203)	(22,203)
Dividends	—	—	—	—	(36,246)	—	(36,246)
Exercise of stock options	237,319	—	—	4,045	—	—	4,045
Vesting of RSUs	54,459	—	—	(1,112)	—	—	(1,112)
Compensation expense under share incentive plans	—	—	—	6,228	—	—	6,228
Cumulative effect of adoption of ASU No. 2016-01, net of taxes	—	—	—	\$ —	\$ 4,682	\$ (4,682)	\$ —
Cumulative effect of adoption of ASU No. 2018-02	—	—	—	\$ —	\$ (711)	\$ 711	\$ —
Balances at December 31, 2018	29,988,460	\$ 6	\$ —	\$ 645,310	\$ 79,753	\$ (15,828)	\$ 709,241

See accompanying notes.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES
Consolidated Statements of Cash Flows

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Operating activities			
Net income	\$ 63,830	\$ 43,566	\$ 74,471
Adjustments to reconcile net income to net cash provided by operating activities:			
Deferred policy acquisition costs	(93,188)	(123,577)	(105,659)
Amortization of policy acquisition costs	111,103	116,001	101,624
Net realized investment losses (gains)	5,479	1,989	(7,565)
Impairment of intangible assets	200	—	—
Distributions from equity method investments	7,499	7,333	3,467
Income from equity method investments	(3,540)	(13,209)	(8,743)
Trading securities purchases, sales, and maturities, net	3,804	1,250	—
Deferred U.S. federal income tax (benefit) expense	(5,859)	(364)	5,093
Provision for depreciation and amortization	4,215	2,123	2,414
Share based compensation expense	6,228	7,688	5,492
Excess tax benefits from equity incentive plan transactions	(2,699)	(2,115)	3,191
Change in operating assets and liabilities:			
Reserve for losses and loss adjustment expenses	369,110	348,484	158,543
Unearned premiums	(31,641)	27,551	89,459
Premiums receivable and agents' balances	44,537	(87,121)	(88,630)
Reinsurance balances	(187,024)	(113,665)	(68,497)
Payable to insurance companies	(2,029)	445	(950)
Other	3	(8,563)	(9,361)
Net cash provided by operating activities	290,028	207,816	154,349
Investing activities			
Securities available-for-sale:			
Purchases – fixed maturity securities	(418,011)	(270,014)	(300,135)
Sales – fixed maturity securities	95,793	77,781	110,124
Maturities and calls – fixed maturity securities	129,139	121,890	135,472
Purchases – equity securities	(7,507)	(5,540)	(3,680)
Sales – equity securities	5,578	3,522	14,850
Bank loan participations:			
Purchases	(203,328)	(240,799)	(156,638)
Sales	123,114	138,214	51,077
Maturities	58,742	69,740	97,097
Other invested assets:			
Purchases	(6,993)	(8,913)	(2,365)
Return of capital	921	—	226
Maturities and repayments	—	—	6,500
Securities receivable or payable, net	2,268	(2,525)	1,018
Short-term investments, net	(45,162)	14,040	(31,574)
Other	(1,326)	(2,137)	(2,736)
Net cash used in investing activities	(266,772)	(104,741)	(80,764)
Financing activities			
Senior debt issuances	20,000	10,000	—
Dividends paid	(36,123)	(50,832)	(65,988)
Issuances of common shares under equity incentive plans	5,172	1,708	2,260
Common share repurchases	(2,239)	(9,448)	(4,907)
Other financing activities	(1,104)	(792)	(1,572)
Net cash used in financing activities	(14,294)	(49,364)	(70,207)
Change in cash and cash equivalents	8,962	53,711	3,378
Cash and cash equivalents at beginning of year	163,495	109,784	106,406
Cash and cash equivalents at end of year	\$ 172,457	\$ 163,495	\$ 109,784
Supplemental information			
Income taxes paid (refunded), net	\$ 8,174	\$ 9,848	\$ (59)
Interest paid	\$ 11,269	\$ 8,909	\$ 8,121

See accompanying notes.

James River Group Holdings, LTD. and Subsidiaries**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016****1. Accounting Policies****Organization**

James River Group Holdings, Ltd. (referred to as “JRG Holdings” or, with its subsidiaries, the “Company”) is an exempted holding company registered in Bermuda, organized for the purpose of acquiring and managing insurance and reinsurance entities.

The Company owns five insurance companies based in the United States (“U.S.”) focused on specialty insurance niches and two Bermuda-based reinsurance companies as described below:

- James River Group Holdings UK Limited (“James River UK”) is an insurance holding company formed in 2015 in the United Kingdom (“U.K.”). The Company contributed James River Group, Inc. (“James River Group”), a U.S. insurance holding company, to James River UK in 2015.
- James River Group is a Delaware domiciled insurance holding company formed in 2002, which owns all of the Company’s U.S.-based subsidiaries, either directly or indirectly through one of its wholly-owned U.S. subsidiaries. James River Group oversees the Company’s U.S. insurance operations and maintains all of the outstanding debt in the U.S.
- James River Insurance Company (“James River Insurance”) is an Ohio domiciled excess and surplus lines insurance company that, with its wholly-owned insurance subsidiary, James River Casualty Company, is authorized to write business in every state and the District of Columbia.
- Falls Lake National Insurance Company (“Falls Lake National”) is an Ohio domiciled insurance company which wholly owns Stonewood Insurance Company (“Stonewood Insurance”), a North Carolina domiciled company, and Falls Lake Fire and Casualty Company, a California domiciled company. Falls Lake National began writing specialty admitted fronting and program business in late 2013. Falls Lake Fire and Casualty Company began operations in 2016.
- JRG Reinsurance Company, Ltd. (“JRG Re”) was formed in 2007 and commenced operations in 2008. JRG Re, a Bermuda domiciled reinsurer, primarily provides non-catastrophe casualty reinsurance to U.S. third parties and to the Company’s U.S.-based insurance subsidiaries.
- Carolina Re Ltd (“Carolina Re”) was formed in 2018 and provides reinsurance to the Company’s U.S.-based insurance subsidiaries. Carolina Re is also the cedent on a stop loss reinsurance treaty with JRG Re.

Basis of Presentation and Principles of Consolidation

The consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles (“GAAP”), which vary in some respects from statutory accounting practices (“SAP”) which are prescribed or permitted by the various state insurance departments in the U.S. or by insurance regulators in Bermuda. The accompanying consolidated financial statements include the accounts and operations of the Company and its subsidiaries. Intercompany transactions and balances have been eliminated.

Estimates and Assumptions

Preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying disclosures. Those estimates are inherently subject to change, and actual results may ultimately differ from those estimates.

Fixed Maturity and Equity Securities

Fixed maturity securities classified as “available-for-sale” are carried at fair value, and unrealized gains and losses on such securities, net of any deferred taxes, are reported as a separate component of accumulated other comprehensive income. Fixed maturity securities purchased for short-term resale are classified as “trading” and are carried at fair value with unrealized gains and losses included in earnings as a component of net investment income. The Company does not have any securities classified as “held-to-maturity”.

Fair value generally represents quoted market value prices for securities traded in the public marketplace or prices analytically determined using bid or closing prices for securities not traded in the public marketplace.

James River Group Holdings, LTD. and Subsidiaries**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016**

Premiums and discounts on mortgage-backed securities and asset-backed securities are amortized or accrued using the constant yield method which considers anticipated prepayments at the date of purchase. To the extent that the estimated lives of such securities change as a result of changes in estimated prepayment rates, the adjustments are included in net investment income using the retrospective method.

Realized investment gains or losses are determined on a specific identification basis. Interest income is recognized as earned, and dividend income is recognized on the ex-dividend date.

The Company evaluates its available-for-sale fixed maturity securities regularly to determine whether there are declines in value that are other-than-temporary. The Company's outside investment managers assist the Company in this evaluation. When the Company determines that a security has experienced an other-than-temporary impairment, the impairment loss is recognized as a realized investment loss. The factors that the Company considers in evaluating whether such an other-than-temporary impairment has occurred include the amount and percentage that fair value is below amortized cost and the length of time that fair value has been below amortized cost. In addition, the Company considers the credit quality rating of the security, with a special emphasis on securities downgraded below investment grade. Management does not intend to sell available-for-sale fixed maturity securities in an unrealized loss position, and it is not "more likely than not" that the Company will be required to sell these securities before a recovery in fair value to their amortized cost basis occurs.

Effective January 1, 2018, with the adoption of ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, equity securities (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) are measured at fair value with changes in fair value recognized in net investment income. Prior to the adoption of ASU 2016-01, changes in the fair value of equity securities were recognized net of taxes as a component of accumulated other comprehensive income.

Bank Loan Participations Held-for-Investment and Allowance for Credit Losses

Bank loan participations held-for-investment are managed by a specialized outside investment manager and are generally stated at their outstanding unpaid principal balances net of unamortized premiums or discounts and net of any allowance for credit losses. Interest income is accrued on the unpaid principal balance. Discounts and premiums are amortized to income using the interest method.

Generally, the accrual of interest on a bank loan participation is discontinued when the contractual payment of principal or interest has become 90 days past due or management has serious doubts about further collectability of principal or interest. A bank loan participation may remain on accrual status if it is in the process of collection and is either guaranteed or well secured. Interest received on nonaccrual loans generally is reported as investment income. There were no bank loans on nonaccrual status at December 31, 2018 or 2017.

Generally, bank loan participations are restored to accrual status when the obligation is brought current, has performed in accordance with the contractual terms for a reasonable period of time, and the ultimate collectability of the total contractual principal and interest is no longer in doubt.

The allowance for credit losses is maintained at a level believed adequate by management to absorb estimated probable credit losses. Management's periodic evaluation of the adequacy of the allowance is based on consultations and advice of the Company's specialized investment manager, known and inherent risks in the portfolio, adverse situations that may affect the borrower's ability to repay, the estimated value of any underlying collateral, current economic conditions, and other relevant factors. When an observable market price for a loan is available, the Company has recorded an allowance equal to the difference between the fair value and the amortized cost of bank loans that it has determined to be impaired as a practical expedient for an estimate of probable future cash flows to be collected on those bank loans. If an observable market price for a loan is not available, the Company records an allowance equal to the difference between the present value of expected future cash flows discounted at the loan's effective interest rate and the amortized cost of the loan. Bank loans are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

Other Invested Assets

Other invested assets at December 31, 2018 and 2017 include the Company's interests in private debt and equity investments. The investments are primarily focused in renewable energy, limited partnerships, and bank holding companies. Equity interests in various limited liability companies ("LLCs") and limited partnerships are accounted for under the equity method, as the Company has determined that the equity method best reflects its economic interest in the underlying equity investment. For certain note agreements, original discounts and commitment fees received are recognized over the terms of the notes under the effective interest method.

James River Group Holdings, LTD. and Subsidiaries**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016****Short-Term Investments**

Short-term investments are carried at cost, which approximates fair value. Short-term investments have maturities greater than three months but less than one year at the date of purchase.

Cash Equivalents

The Company considers highly liquid investments with maturities of three months or less at the date of purchase to be cash equivalents.

Direct Written Premiums

Direct written premiums are earned on a pro rata basis over the terms of the policies, generally 12 months. The portion of premiums written applicable to the unexpired terms of the policies in force is recorded as unearned premiums. Policies are accounted for on an individual basis, with no aggregation by counterparty.

Assumed Reinsurance Premiums

Assumed reinsurance written premiums include amounts reported by brokers and ceding companies, supplemented by the Company's own estimates of premiums when reports have not been received. Premiums on the Company's excess of loss and pro rata reinsurance contracts are estimated when the business is underwritten. For excess of loss contracts, the deposit premium, as defined in the contract, is generally recorded as an estimate of premiums written at the inception date of the treaty. Estimates of premiums written under pro rata contracts are recorded in the period in which the underlying risks are expected to begin and are based on information provided by the brokers and the ceding companies.

Reinsurance premium estimates are reviewed by management periodically. Any adjustment to these estimates is recorded in the period in which it becomes known.

Reinsurance premiums assumed are earned over the terms of the underlying policies or reinsurance contracts. Contracts and policies written on a "losses occurring" basis cover claims that may occur during the term of the contract or policy, which is typically 12 months. Accordingly, the premium is earned evenly over the term. Contracts which are written on a "risks attaching" basis cover claims which attach to the underlying insurance policies written during the terms of such contracts. Premiums earned on such contracts usually extend beyond the original term of the reinsurance contract, typically resulting in recognition of premiums earned over a 24-month period in proportion to the level of underlying exposure. Contracts are accounted for on an individual basis, with no aggregation by counterparty.

Premiums Receivable and Agents' Balances, Net

Premiums receivable and agents' balances are carried at face value net of any allowance for doubtful accounts. The allowance for doubtful accounts represents an estimate of amounts considered uncollectible based on the Company's assessment of the collectability of receivables that are past due. Receivables greater than 90 days past due were \$4.5 million and \$2.6 million at December 31, 2018 and 2017, respectively. The allowance for doubtful accounts was \$3.9 million and \$2.8 million at December 31, 2018 and 2017, respectively. Bad debt expense was \$1.5 million for the year ended December 31, 2018, \$1.0 million for the year ended December 31, 2017, and \$813,000 for the year ended December 31, 2016. Receivables written off against the allowance for doubtful accounts totaled \$313,000 for the year ended December 31, 2018, \$408,000 for the year ended December 31, 2017, and \$1.5 million for the year ended December 31, 2016. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

Deferred Policy Acquisition Costs

Costs which are incrementally or directly related to the successful acquisition of new or renewal insurance business are deferred. These deferred costs are primarily commissions to agents, ceding commissions paid on reinsurance assumed, premium taxes, and the portion of underwriting fixed compensation and payroll related fringe benefits directly related to an insurance contract that has been acquired, net of ceding commissions related to reinsurance ceded. Amortization of such policy acquisition costs is charged to expense in proportion to premium earned over the estimated policy life. To the extent that unearned premiums on existing policies are not adequate to cover projected related costs and expenses, deferred policy acquisition costs are charged to earnings. The Company considers anticipated investment income in determining whether a premium deficiency exists.

Reinsurance and Adjustable Features of Insurance and Reinsurance Contracts

Certain premiums and losses are ceded to other insurance companies or assumed from other insurance companies under various excess of loss and quota-share reinsurance contracts. The Company enters into ceded reinsurance contracts to limit its

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exposure to large losses, to limit exposure on new lines of insurance written by the Company, and to provide additional capacity for growth.

Premiums, commissions, and losses and loss adjustment expenses on reinsured business are accounted for on a basis consistent with that used in accounting for the original policies issued and the terms of the reinsurance contracts. Reinsurance recoverables and prepaid reinsurance premiums are reported as assets. Other amounts payable to insurance companies and reinsurers or receivable from insurance companies and reinsurers are netted where the right of offset exists. The Company receives ceding commissions in connection with certain ceded reinsurance. The ceding commissions are recorded as a reduction of other operating expenses.

Certain reinsurance contracts of the Casualty Reinsurance segment include provisions that adjust premiums or acquisition expenses based upon the loss experience under the contracts. Premiums written and earned, as well as related acquisition expenses are recorded based upon the projected loss experience under the contracts.

The Company's Specialty Admitted Insurance segment writes insurance under specialty admitted fronting and program arrangements. The fronting and program arrangements may contain contractual provisions that adjust acquisition expenses based upon loss experience under the contracts. The specialty admitted fronting and program arrangements are significantly reinsured. These reinsurance contracts may also contain provisions that adjust premiums or acquisition expenses based upon the loss experience under the contracts. Premiums written and earned, as well as related acquisition expenses, are recorded based upon the projected experience under the contracts.

Other Income

Other income is principally comprised of fee income earned on policies for which the Company has no exposure to underwriting risk. Fee income of \$13.9 million, \$17.0 million, and \$10.1 million is included in other income for the years ended December 31, 2018, 2017, and 2016, respectively. Fees are earned on a pro rata basis over the service period of the underlying business. Policies are accounted for on an individual basis, with no aggregation by counterparty.

Income Taxes

Deferred tax assets and deferred tax liabilities are provided for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of assets and liabilities and their respective U.S. tax basis. Deferred tax assets and liabilities are measured using enacted U.S. corporate tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Deferred tax assets are reduced by a valuation allowance only when management believes it is more likely than not that some, or all, of the deferred tax assets will not be realized.

Goodwill

Goodwill is tested annually for impairment in the fourth quarter of each calendar year, or more frequently if events or changes in circumstances indicate that the carrying amount of the Company's reporting units, including goodwill, may exceed their fair values. The Company first assesses qualitative factors in determining whether it is necessary to perform the quantitative goodwill impairment test. If management determines that it is more likely than not that the fair value of a reporting unit is less than the carrying value based on qualitative factors then they will perform the quantitative goodwill impairment test. For the quantitative goodwill impairment testing, the fair value of the reporting units is determined using a combination of a market approach and an income approach which projects the future cash flows produced by the reporting units and discounts those cash flows to their present value. The projection of future cash flows is necessarily dependent upon assumptions on the future levels of income as well as business trends, prospects, market, and economic conditions. The results of the two approaches are weighted to determine the fair value of each reporting unit. When the fair value is less than the carrying value of the net assets of the reporting unit, including goodwill, an impairment loss is charged to operations. To determine the amount of any goodwill impairment, the implied fair value of reporting unit goodwill is compared to the carrying amount of that goodwill. The implied fair value of goodwill is determined in the same manner as the amount of goodwill recognized in a business combination is determined. That is, the fair value of a reporting unit is assigned to all of the assets and liabilities of that unit (including any unrecognized intangible assets) as if the reporting unit had been acquired in a business combination. The excess of the fair value of a reporting unit over the amounts assigned to its assets and liabilities is the implied fair value of goodwill.

Intangible Assets, Net

Intangible assets are initially recognized and measured at fair value. Specifically identified intangible assets with indefinite lives include trademarks and state insurance licenses and authorities. Other specifically identified intangible assets with lives

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ranging from 7.0 to 27.5 years represent relationships with brokers. These intangible assets are amortized on a straight-line basis over their estimated useful lives.

Intangible assets with indefinite useful lives are reviewed for impairment at least annually. In evaluating whether there has been impairment to the intangible asset, management determines the fair value of the intangible asset and compares the resulting fair value to the carrying value of the intangible asset. If the carrying value exceeds the fair value, the intangible asset is written down to fair value, and the impairment is reported through earnings. The Company evaluates intangible assets with definite lives for impairment when impairment indicators are noted.

Impairment of Long-Lived Assets

Long-lived assets with finite lives are tested for impairment whenever recognized events or changes in circumstances indicate the carrying value of these assets may not be recoverable. If indicators of impairment are present, fair value is calculated using estimated future cash flows expected to be generated from the use of those assets. An impairment loss is recognized only if the carrying amount of a long-lived asset or asset group is not recoverable and exceeds its fair value. The carrying amount of a long-lived asset or asset group is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset or asset group. That assessment is based on the carrying amount of the asset or asset group at the date it is tested for recoverability. An impairment loss is measured as the amount by which the carrying amount of a long-lived asset or asset group exceeds its fair value.

Property and Equipment, Net

Property and equipment, which is included in “other assets” in the accompanying consolidated balance sheets, is reported at cost less accumulated depreciation and is depreciated principally on a straight-line basis over the estimated useful lives of the depreciable assets, generally three to ten years.

In the event the Company has been deemed the owner for accounting purposes of construction projects in lease arrangements, the estimated construction costs incurred to date are recorded as assets in property and equipment, net and included in “other assets” in the accompanying consolidated balance sheets. Upon occupancy of facilities under lease, the Company assesses whether arrangements qualify for sales recognition under the sale-leaseback accounting guidance. If the Company continues to be the deemed owner for accounting purposes, the cost of the building is depreciated over its estimated useful life.

Reserve for Losses and Loss Adjustment Expenses

The reserve for losses and loss adjustment expenses represents the estimated ultimate cost of all reported and unreported losses and loss adjustment expenses incurred and unpaid at the balance sheet date. The Company does not discount this reserve. The process of estimating the reserve for losses and loss adjustment expenses requires a high degree of judgment and is subject to a number of variables. The reserve for losses and loss adjustment expenses is estimated using individual case-basis valuations and statistical analyses. Those estimates are subject to the effects of trends in loss severity and frequency.

The Company utilizes various actuarially-accepted reserving methodologies in determining the continuum of expected outcomes for its reserves. These methodologies utilize various inputs, including management’s initial expected loss ratio (the ratio of losses and loss adjustment expenses incurred to net earned premiums), expected reporting patterns and payment patterns for losses and loss adjustment expenses (based on insurance industry data and the Company’s own experience), and the Company’s actual paid and reported losses and loss adjustment expenses. An internal actuary reviews these results and (after applying appropriate professional judgment and other actuarial techniques that are considered necessary) presents recommendations to the Company’s management. Management uses this information and its judgment to make decisions on the final recorded reserve for losses and loss adjustment expenses. Management believes that the use of judgment is necessary to arrive at a best estimate for the reserve for losses and loss adjustment expenses given the long-tailed nature of the business generally written by the Company and the limited operating experience of the Casualty Reinsurance segment, the fronting and program business in the Specialty Admitted Insurance segment, and the commercial auto business in the Excess and Surplus Lines segment.

Catastrophes of significant magnitude, including hurricanes and earthquakes, involve complex coverage issues. In estimating the reserve for losses and loss adjustment expenses for these catastrophes, management uses case reserve estimates based on information obtained from site inspections by the Company’s adjustors and the terms of coverage provided in the policies. Management estimates reserves for incurred but not reported claims for these catastrophes using judgment based on an assessment of the Company’s property insurance exposures where the catastrophes occur and the Company’s progress in settling claims.

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Although management believes that the reserve for losses and loss adjustment expenses is reasonable, it is possible that the Company's actual incurred losses and loss adjustment expenses will not develop in a manner consistent with the assumptions inherent in the determination of these reserves. Specifically, the Company's actual ultimate loss ratio could differ from management's initial expected loss ratio and/or the Company's actual reporting patterns for losses could differ from the expected reporting patterns. Accordingly, the ultimate settlement of losses and the related loss adjustment expenses may vary significantly from the estimates included in the Company's consolidated financial statements. These estimates are reviewed continually by management and are adjusted as necessary as experience develops or new information becomes known; such adjustments are included in current operations.

Share Based Compensation

The Company expenses the fair value of share equity awards over the vesting period of the award on a straight-line basis. The Black-Scholes-Merton option pricing model is used to value the options granted (see Note 11). Forfeitures of share-based awards are recognized as they occur. As the share based compensation expense is incurred, a corresponding increase to additional paid-in capital in shareholders' equity is recognized. Share based compensation expense is reflected in "other operating expenses" in the accompanying consolidated statements of income and comprehensive income.

Financing Obligations

In a lease arrangement where the Company made a minority investment in a partnership that was involved in the construction of a building, the Company was deemed the owner for accounting purposes during the construction period. The Company recorded an asset for the amount of the total project costs and the related financing obligation is included in "other liabilities" in the accompanying consolidated balance sheets. Once construction was completed, the Company determined the arrangement did not qualify for sale-lease back treatment. Accordingly, the Company continues to reduce the obligation over the lease term as payments are made and depreciates the asset over its useful life. The Company does not report rent expense for the portion of the rent payment determined to be related to the assets which are owned for accounting purposes. Rather, this portion of the rent payment under the lease is recognized as a reduction of the financing obligation and as interest expense.

Upon adoption of ASU 2016-02, *Leases (Topic 842)* on January 1, 2019, the Company will derecognize assets of \$22.6 million and liabilities of \$30.9 million associated with the above lease that was designated as build-to-suit under the previous guidance, and record a cumulative-effect adjustment to retained earnings of \$8.3 million. The lease will be classified as an operating lease under the new standard. The Company will record a right-of-use asset and lease liability for the lease under the new standard.

Variable Interest Entities

Entities that do not have sufficient equity at risk to allow the entity to finance its activities without additional financial support or in which the equity investors, as a group, do not have the characteristic of a controlling financial interest are referred to as variable interest entities ("VIE"). A VIE is consolidated by the variable interest holder that is determined to have the controlling financial interest (primary beneficiary) as a result of having both the power to direct the activities of a VIE that most significantly impact the VIE's economic performance and the obligation to absorb losses or right to receive benefits from the VIE that could potentially be significant to the VIE. The Company determines whether it is the primary beneficiary of an entity subject to consolidation based on a qualitative assessment of the VIE's capital structure, contractual terms, nature of the VIE's operations and purpose, and the Company's relative exposure to the related risks of the VIE on the date it becomes initially involved in the VIE. The Company reassesses its VIE determination with respect to an entity on an ongoing basis.

The Company holds interests in VIEs through certain equity method investments included in "other invested assets" in the accompanying consolidated balance sheets. The Company has determined that it should not consolidate any of the VIEs as it is not the primary beneficiary in any of the relationships. Although the investments resulted in the Company holding variable interests in the entities, they did not empower the Company to direct the activities that most significantly impact the economic performance of the entities. The Company's investments related to these VIEs totaled \$29.8 million and \$32.1 million as of December 31, 2018 and 2017, respectively, representing the Company's maximum exposure to loss.

Earnings Per Share

Basic earnings per share excludes dilution and is computed by dividing net income by the weighted-average number of common shares outstanding for the period. Diluted earnings per share reflects the dilution that could occur if securities or other contracts to issue common shares or common share equivalents were exercised or converted into common shares as calculated using the treasury stock method. When inclusion of common share equivalents increases the earnings per share or reduces the

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loss per share, the effect on earnings is anti-dilutive, and the diluted net earnings or net loss per share is computed excluding these common share equivalents.

The following represents a reconciliation of the numerator and denominator of the basic and diluted earnings per share computations contained in the consolidated financial statements.

	Net Income (Numerator)	Weighted-Average Common Shares (Denominator)	Earnings Per Share
<i>(in thousands, except per share data)</i>			
Year ended December 31, 2018			
Basic	\$ 63,830	29,887,990	\$ 2.14
Common share equivalents	—	419,111	(0.03)
Diluted	<u>\$ 63,830</u>	<u>30,307,101</u>	<u>\$ 2.11</u>
Year ended December 31, 2017			
Basic	\$ 43,566	29,461,717	\$ 1.48
Common share equivalents	—	811,432	(0.04)
Diluted	<u>\$ 43,566</u>	<u>30,273,149</u>	<u>\$ 1.44</u>
Year ended December 31, 2016			
Basic	\$ 74,471	29,063,075	\$ 2.56
Common share equivalents	—	831,303	(0.07)
Diluted	<u>\$ 74,471</u>	<u>29,894,378</u>	<u>\$ 2.49</u>

Common share equivalents relate to our outstanding equity awards (stock options and RSUs).

For the years ended December 31, 2018 and 2017, common share equivalents of 180,329 shares and 174,380 shares, respectively, are excluded from the calculations of diluted earnings per share as their effects are anti-dilutive. For the year ended December 31, 2016, all common share equivalents are dilutive.

Adopted Accounting Standards

Effective January 1, 2018, the Company adopted Accounting Standards Update (“ASU”) 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The guidance applies to all companies that either enter into contracts with customers to transfer goods or services or enter into contracts for the transfer of nonfinancial assets, unless those contracts are within the scope of other standards, such as insurance contracts. Under this guidance, a company recognizes revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. Judgments required in adopting this update included identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. The adoption of ASU 2014-09 had no impact on reported fee income and there was no cumulative effect of initially applying the update.

Effective January 1, 2018, the Company adopted ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. Among other things, this ASU requires equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income. Upon adoption on January 1, 2018, the Company made a \$4.7 million cumulative-effect adjustment to increase retained earnings and reduce accumulated other comprehensive income. The adoption of ASU 2016-01 did not materially impact the Company's financial position, cash flows, or total comprehensive income. The Company's results of operations were impacted as changes in fair value of equity instruments are now presented in net income rather than other comprehensive (loss) income. For the year ended December 31, 2018, the respective impact on net income was a reduction of \$4.7 million (\$0.16 reduction in basic and diluted earnings per share).

Effective January 1, 2018, the Company adopted ASU 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. This update was issued as a result of the enactment of Public Law No. 115-97, informally titled the Tax Cuts and Jobs Act (the "Tax Act"), on December

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22, 2017. The ASU allows for the option to reclassify the stranded tax effects resulting from the implementation of the Tax Act out of accumulated other comprehensive income and into retained earnings. As the adoption of ASU 2016-01 in 2018 resulted in the reclassification of the entire unrealized balance on equity securities from accumulated other comprehensive income into retained earnings, only the stranded tax effects on the unrealized balances of fixed income securities were impacted by the adoption of ASU 2018-02. The reclassification resulted in a \$711,000 decrease to the Company's retained earnings with a corresponding increase to accumulated other comprehensive income in the first quarter of 2018.

Prospective Accounting Standards

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. Under current guidance for lessees, leases are only included on the balance sheet if they are designated as capital leases. This update will require the recognition of a right-of-use asset and a corresponding lease liability, discounted to the present value, for all leases that extend beyond 12 months. This ASU is effective for annual and interim reporting periods beginning after December 15, 2018. In the third quarter of 2018, the FASB issued ASU 2018-10 to clarify certain aspects of the guidance and ASU 2018-11, which provides an optional alternative transition method to initially apply the new leases standard at the adoption date (collectively, with ASU 2016-02, Topic 842). Topic 842 now allows for the use of either the modified retrospective adoption method or the alternative transition method. The Company has completed its evaluation and will adopt the new standard on January 1, 2019 using a modified retrospective transition method, applying the transition provisions at the beginning of the period of adoption. The Company will elect the package of practical expedients permitted under the transition guidance within the new standard and will not elect to use hindsight in determining the lease term. The new standard will not be applied to leases with an initial term of 12 months or less. Upon adoption of the new standard, the Company will derecognize assets of \$22.6 million and liabilities of \$30.9 million associated with a lease that was designated as build-to-suit under the previous guidance, and record a cumulative-effect adjustment to retained earnings of \$8.3 million. The lease will be classified as an operating lease under the new standard. The Company will record right-of-use assets of \$17.2 million and lease liabilities of \$17.8 million at adoption of the new standard. The new standard will not materially impact the Company's results of operations or cash flows, and will not impact compliance under the covenants of our current credit agreements.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. Current GAAP delays the recognition of credit losses until it is probable a loss has been incurred. The update will require financial assets measured at amortized cost, such as bank loan participations held for investment, to be presented at the net amount expected to be collected by means of an allowance for credit losses that runs through net income. Credit losses relating to available-for-sale debt securities will also be recorded through an allowance for credit losses, with the amount of the allowance limited to the amount by which fair value is below amortized cost. This ASU is effective for annual and interim reporting periods beginning after December 15, 2019. Upon adoption, this ASU will be applied using the modified-retrospective approach, by which a cumulative-effect adjustment will be made to retained earnings as of the beginning of the first reporting period presented. The Company has not yet completed the analysis of how adopting this ASU will affect the Company's financial statements.

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2. Investments

The Company's available-for-sale fixed maturity securities are summarized as follows:

	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
<i>(in thousands)</i>				
December 31, 2018				
Fixed maturity securities:				
State and municipal	\$ 147,160	\$ 3,422	\$ (1,287)	\$ 149,295
Residential mortgage-backed	208,869	577	(5,337)	204,109
Corporate	534,024	1,516	(10,772)	524,768
Commercial mortgage and asset-backed	199,528	310	(2,813)	197,025
U.S. Treasury securities and obligations guaranteed by the U.S. government	107,803	235	(845)	107,193
Redeemable preferred stock	2,025	—	(213)	1,812
Total fixed maturity securities, available-for-sale	\$ 1,199,409	\$ 6,060	\$ (21,267)	\$ 1,184,202
December 31, 2017				
Fixed maturity securities:				
State and municipal	\$ 139,382	\$ 5,587	\$ (603)	\$ 144,366
Residential mortgage-backed	160,379	723	(2,441)	158,661
Corporate	408,857	7,503	(2,639)	413,721
Commercial mortgage and asset-backed	182,595	714	(698)	182,611
Obligations of U.S. government corporations and agencies	35,948	—	(101)	35,847
U.S. Treasury securities and obligations guaranteed by the U.S. government	79,476	37	(639)	78,874
Redeemable preferred stock	2,025	—	(7)	2,018
Total fixed maturity securities, available-for-sale	\$ 1,008,662	\$ 14,564	\$ (7,128)	\$ 1,016,098

The amortized cost and fair value of available-for-sale investments in fixed maturity securities at December 31, 2018 are summarized, by contractual maturity, as follows:

	Amortized Cost	Fair Value
<i>(in thousands)</i>		
One year or less	\$ 52,312	\$ 52,100
After one year through five years	406,647	403,126
After five years through ten years	213,673	209,155
After ten years	116,355	116,875
Residential mortgage-backed	208,869	204,109
Commercial mortgage and asset-backed	199,528	197,025
Redeemable preferred stock	2,025	1,812
Total	\$ 1,199,409	\$ 1,184,202

Actual maturities may differ for some securities because borrowers have the right to call or prepay obligations with or without penalties.

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The following table shows the Company's gross unrealized losses and fair value for available-for-sale securities aggregated by investment category and the length of time that individual securities have been in a continuous unrealized loss position:

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
<i>(in thousands)</i>						
December 31, 2018						
Fixed maturity securities:						
State and municipal	\$ 19,733	\$ (284)	\$ 47,018	\$ (1,003)	\$ 66,751	\$ (1,287)
Residential mortgage-backed	49,180	(743)	105,778	(4,594)	154,958	(5,337)
Corporate	243,384	(5,089)	155,902	(5,683)	399,286	(10,772)
Commercial mortgage and asset-backed	106,423	(1,229)	51,805	(1,584)	158,228	(2,813)
U.S. Treasury securities and obligations guaranteed by the U.S. government	17,618	(51)	54,201	(794)	71,819	(845)
Redeemable preferred stock	1,812	(213)	—	—	1,812	(213)
Total fixed maturity securities, available-for-sale	\$ 438,150	\$ (7,609)	\$ 414,704	\$ (13,658)	\$ 852,854	\$ (21,267)
December 31, 2017						
Fixed maturity securities:						
State and municipal	\$ 40,117	\$ (318)	\$ 10,662	\$ (285)	\$ 50,779	\$ (603)
Residential mortgage-backed	50,447	(261)	84,193	(2,180)	134,640	(2,441)
Corporate	113,464	(846)	66,954	(1,793)	180,418	(2,639)
Commercial mortgage and asset-backed	53,965	(244)	25,299	(454)	79,264	(698)
Obligations of U.S. government corporations and agencies	3,024	(1)	32,154	(100)	35,178	(101)
U.S. Treasury securities and obligations guaranteed by the U.S. government	50,760	(430)	26,707	(209)	77,467	(639)
Redeemable preferred stock	2,018	(7)	—	—	2,018	(7)
Total fixed maturity securities, available-for-sale	\$ 313,795	\$ (2,107)	\$ 245,969	\$ (5,021)	\$ 559,764	\$ (7,128)

The Company held securities of 222 issuers that were in an unrealized loss position at December 31, 2018 with a total fair value of \$852.9 million and gross unrealized losses of \$21.3 million. None of the fixed maturity securities with unrealized losses has ever missed, or been delinquent on, a scheduled principal or interest payment.

At December 31, 2018, 100.0% of the Company's fixed maturity security portfolio was rated "BBB-" or better ("investment grade") by Standard & Poor's or received an equivalent rating from another nationally recognized rating agency.

Management concluded that none of the fixed maturity securities with an unrealized loss at December 31, 2018, 2017, and 2016 experienced an other-than-temporary impairment. Management does not intend to sell available-for-sale securities in an unrealized loss position, and it is not "more likely than not" that the Company will be required to sell these securities before a recovery in their value to their amortized cost basis occurs.

At December 31, 2017, management concluded that based on the severity and duration of the impairment associated with an equity security, the security had experienced an other-than-temporary impairment. Accordingly, the Company recorded an impairment loss of \$1.5 million in 2017. Management concluded that none of the other equity securities with an unrealized loss at December 31, 2017 and 2016 experienced an other-than-temporary impairment.

Bank loan participations generally have a credit rating that is below investment grade (i.e. below "BBB-" for Standard & Poor's) at the date of purchase. These bank loans are primarily senior, secured floating-rate debt rated "BB", "B", or "CCC" by Standard & Poor's or an equivalent rating from another nationally recognized rating agency. These bank loans include

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assignments of, and participations in, performing and non-performing senior corporate debt generally acquired through primary bank syndications and in secondary markets. Bank loans consist of, but are not limited to, term loans, the funded and unfunded portions of revolving credit loans, and other similar loans and investments. Management believed that it was probable at the time that these loans were acquired that the Company would be able to collect all contractually required payments receivable.

At December 31, 2017 and 2016, the Company held a participation in a loan issued by a company that produces and supplies power to Puerto Rico through a power purchase agreement with Puerto Rico Electric Power Authority ("PREPA"), a public corporation and governmental agency of the Commonwealth of Puerto Rico. Management concluded that the loan was impaired at December 31, 2016 and established an allowance for credit losses on the loan of \$177,000. After recording this impairment, the loan had a carrying value of \$1.7 million at December 31, 2016 and unpaid principal of \$2.0 million. At December 31, 2017, management concluded that the loan was still impaired and established an allowance for credit losses of \$759,000 to reduce the loan's carrying value to zero at December 31, 2017. The unpaid principal on the loan was \$807,000 at December 31, 2017. In the first quarter of 2018, the full outstanding principal on the loan was repaid and the Company recognized a realized gain of \$807,000 on the repayment.

Management concluded that none of the loans in the Company's bank loan portfolio were impaired as of December 31, 2018. At December 31, 2017, the aggregate allowance for credit losses was \$3.2 million on five impaired loans with a total carrying value of \$5.1 million and unpaid principal of \$8.4 million. At December 31, 2016, the aggregate allowance for credit losses was \$943,000 on five impaired loans with a total carrying value of \$6.5 million and unpaid principal of \$7.6 million. At December 31, 2017 and 2016, impairments in the bank loan portfolio largely reflect the impact of declining energy prices on the market values of loans to oil and gas companies in the energy sector.

The average recorded investment in impaired bank loans was \$2.6 million, \$5.8 million, and \$6.4 million during the years ended December 31, 2018, 2017, and 2016, respectively, and investment income of \$125,000, \$300,000, and \$297,000 was recognized during the time that the loans were impaired. The Company recorded realized losses of \$858,000 and \$2.4 million, and realized gains of \$415,000, during the years ended December 31, 2018, 2017, and 2016, respectively, for changes in the fair value of impaired bank loans.

At December 31, 2018, unamortized discounts on bank loan participations were \$1.8 million, and unamortized premiums were \$17,000. At December 31, 2017, unamortized discounts on bank loan participations were \$1.1 million, and unamortized premiums were \$3,000.

Major categories of the Company's net investment income are summarized as follows:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Fixed maturity securities	\$ 34,129	\$ 26,833	\$ 25,917
Bank loan participations	18,279	17,388	14,486
Equity securities	5,240	5,045	5,617
Other invested assets	5,165	14,079	9,536
Cash, cash equivalents, short-term investments, and other	2,681	1,708	824
Trading (losses) gains	(4)	(4)	18
Gross investment income	65,490	65,049	56,398
Investment expense	(4,234)	(3,930)	(3,760)
Net investment income	\$ 61,256	\$ 61,119	\$ 52,638

Changes in unrealized gains or losses on securities held for trading are recorded as trading gains or losses within net investment income. Net investment income for the year ended December 31, 2018 included \$4,000 of net trading losses, all relating to securities sold during 2018. Net investment income for the year ended December 31, 2017 included \$4,000 of net trading losses, all of which related to securities still held at December 31, 2017. Net investment income for the year ended December 31, 2016 included \$18,000 of net trading gains, all of which related to securities still held at December 31, 2016.

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**Notes to Consolidated Financial Statements
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The Company's net realized and unrealized losses and gains on investments are summarized as follows:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Fixed maturity securities:			
Gross realized gains	\$ 422	\$ 840	\$ 1,916
Gross realized losses	(976)	(512)	(106)
	(554)	328	1,810
Equity securities:			
Gross realized gains	—	429	4,761
Gross realized losses	(62)	(1,591)	—
Changes in fair values of equity securities	(5,970)	—	—
	(6,032)	(1,162)	4,761
Bank loan participations:			
Gross realized gains	2,279	2,407	2,827
Gross realized losses	(1,166)	(3,557)	(1,832)
	1,113	(1,150)	995
Short-term investments and other:			
Gross realized gains	—	1	3
Gross realized losses	(6)	(6)	(4)
	(6)	(5)	(1)
Total	\$ (5,479)	\$ (1,989)	\$ 7,565

The following table summarizes the change in the Company's available-for-sale gross unrealized gains or losses by investment type:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Change in gross unrealized gains (losses):			
Fixed maturity securities	\$ (22,643)	\$ 6,571	\$ (1,350)
Equity securities	—	5,356	(2,433)
Total	\$ (22,643)	\$ 11,927	\$ (3,783)

The Company invests selectively in private debt and equity opportunities. These investments, which together comprise the Company's other invested assets, are primarily focused in renewable energy, limited partnerships, and bank holding companies.

	Carrying Value		Investment Income		
	December 31,		Year Ended December 31,		
	2018	2017	2018	2017	2016
	<i>(in thousands)</i>		<i>(in thousands)</i>		
Renewable energy LLCs ^(a)	\$ 29,795	\$ 32,063	\$ 2,974	\$ 10,578	\$ 3,480
Renewable energy notes receivable ^(b)	8,750	7,278	1,282	526	450
Limited partnerships ^(c)	29,276	26,367	566	2,632	5,263
Bank holding companies ^(d)	4,500	4,500	343	343	343
Total other invested assets	\$ 72,321	\$ 70,208	\$ 5,165	\$ 14,079	\$ 9,536

James River Group Holdings, LTD. and Subsidiaries**Notes to Consolidated Financial Statements
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- (a) The Company's Corporate and Other segment owns equity interests ranging from 2.6% to 32.8% in various LLCs whose principal objective is capital appreciation and income generation from owning and operating renewable energy production facilities (wind and solar). The LLCs are managed by an entity for which two of our directors serve as officers, and the Company's Non-Executive Chairman has invested in certain of these LLCs. The equity method is used to account for the Company's LLC investments. Income for the LLCs primarily reflects adjustments to the carrying values of investments in renewable energy projects to their determined fair values. The fair value adjustments are included in revenues for the LLCs. Expenses for the LLCs are not significant and are comprised of administrative and interest expenses. The Company received cash distributions from these investments totaling \$5.8 million and \$5.6 million for the years ended December 31, 2018 and 2017, respectively.
- (b) The Company's Corporate and Other segment has invested in notes receivable for renewable energy projects. At December 31, 2018, the Company holds one \$8.8 million note issued by an entity for which two of our directors serve as officers. The amount invested in the note was \$7.3 million at December 31, 2017. Interest on the note, which matures in 2021, is fixed at 15%. Interest income on the note was \$1.3 million and \$526,000 for the years ended December 31, 2018 and 2017, respectively. In 2016, the outstanding balance of a \$6.5 million note was fully repaid. Income prior to repayment of the note was \$450,000 for the year ended December 31, 2016.
- (c) The Company owns investments in limited partnerships that invest in concentrated portfolios including publicly-traded small cap equities, loans of middle market private equity sponsored companies, equity tranches of collateralized loan obligations ("CLOs"), and tranches of distressed home loans. Income from the partnerships is recognized under the equity method of accounting. The Company's Corporate and Other segment held an investment in a limited partnership with a carrying value of \$3.1 million and \$3.0 million at December 31, 2018 and 2017, and recognized investment income of \$70,000, \$394,000, and \$455,000 for the years ended December 31, 2018, 2017 and 2016, respectively. The Company's Excess and Surplus Lines segment holds investments in limited partnerships of \$26.2 million and \$23.4 million at December 31, 2018 and 2017, respectively. Investment income of \$496,000, \$2.2 million, and \$4.8 million were recognized on these investments for the years ended December 31, 2018, 2017, and 2016, respectively. At December 31, 2018, the Company's Excess and Surplus Lines segment has outstanding commitments to invest another \$625,000 in these limited partnerships.
- (d) The Company's Corporate and Other segment holds \$4.5 million of subordinated notes issued by a bank holding company for which the Company's Non-Executive Chairman was previously the Lead Independent Director and an investor and for which one of the Company's directors was an investor and is currently a lender (the "Bank Holding Company"). Interest on the notes, which mature in 2023, is fixed at 7.6% per annum. Interest income on the notes was \$343,000 in each of the years ended December 31, 2018, 2017 and 2016.

The Company previously held common shares issued by the Bank Holding Company. Dividend income of \$299,000 was recorded on the shares for the year ended December 31, 2016. Realized investment gains of \$409,000 and \$3.6 million were recognized on the sale of the common shares for the years ended December 31, 2017 and 2016, respectively.

At December 31, 2018 and 2017, the Company held an investment in a collateralized loan obligation (CLO) where one of the underlying loans was issued by the Bank Holding Company. The investment, with a carrying value of \$4.2 million at December 31, 2018, is classified as an available-for-sale fixed maturity.

The Company maintains fixed maturity securities, short-term investments, accrued investment income, and cash and cash equivalents amounting to \$471.4 million at December 31, 2018 in trust accounts or on deposit as collateral for outstanding letters of credit issued as security to third-party reinsureds on reinsurance assumed by JRG Re.

At December 31, 2018 and 2017, cash and investments with a fair value of \$25.5 million and \$16.5 million, respectively, were on deposit with state insurance departments to satisfy regulatory requirements.

At December 31, 2018, the Company held no investments in securitizations of alternative-A mortgages or sub-prime mortgages.

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3. Deferred Policy Acquisition Costs

An analysis of deferred policy acquisition costs is as follows:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Balance at beginning of period	\$ 72,365	\$ 64,789	\$ 60,754
Policy acquisition costs deferred:			
Commissions	72,473	107,387	92,736
Underwriting and other issue expenses	20,715	16,190	12,923
	93,188	123,577	105,659
Amortization of policy acquisition costs	(111,103)	(116,001)	(101,624)
Net change	(17,915)	7,576	4,035
Balance at end of period	\$ 54,450	\$ 72,365	\$ 64,789

4. Goodwill and Intangible Assets

On December 11, 2007, the Company completed an acquisition of James River Group by acquiring 100% of the outstanding shares of James River Group common stock, referred to herein as the "Merger". The transaction was accounted for under the purchase method of accounting, and goodwill and intangible assets were recognized by the Company as a result of the transaction.

All of the Company's goodwill is an asset of the Excess and Surplus Lines segment. The Company's annual testing performed in the fourth quarter of 2018, 2017 and 2016 indicated that no impairment of goodwill had occurred. The carrying amount of goodwill at December 31, 2018 and 2017 was \$181.8 million. Accumulated goodwill impairment losses were \$99.6 million at December 31, 2018 and 2017. The most recent goodwill impairment losses occurred in 2010.

Specifically identifiable intangible assets were acquired in the Merger. During the fourth quarters of 2018, 2017 and 2016, the indefinite-lived intangible assets for trademarks and insurance licenses and authorities were tested for impairment. Intangible assets for broker relationships that have specific lives and are subject to amortization were also reviewed for impairment. In the Specialty Admitted Insurance segment, Falls Lake General Insurance Company was merged into Falls Lake National in the fourth quarter of 2018. In connection with this merger, Falls Lake General Insurance Company surrendered its licenses to the various state insurance departments and reduced the carrying value of its intangible asset for "State Licenses" to \$0. This caused a \$200,000 impairment in 2018 in the Specialty Admitted Insurance segment. There were no impairments recognized in 2017 or 2016.

The gross carrying amounts and accumulated amortization for each major specifically identifiable intangible asset class were as follows:

	Weighted-Average Life (Years)	December 31,			
		2018		2017	
		Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
		<i>(in thousands)</i>			
Trademarks	Indefinite	\$ 22,200	\$ —	\$ 22,200	\$ —
Insurance licenses and authorities	Indefinite	8,964	—	9,164	—
Identifiable intangibles not subject to amortization		31,164	—	31,364	—
Broker relationships	24.6	11,611	5,238	11,611	4,641
Identifiable intangible assets subject to amortization		11,611	5,238	11,611	4,641
		\$ 42,775	\$ 5,238	\$ 42,975	\$ 4,641

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Future estimated amortization of specifically identifiable intangible assets as of December 31, 2018 is as follows (*in thousands*):

2019	\$	597
2020		538
2021		363
2022		363
2023		363
Thereafter		4,149
Total	\$	6,373

The table below summarizes the changes in the net carrying values of intangible assets by segment for 2018:

	December 31, 2017 Net Carrying Value	Amortization	Impairment Losses	December 31, 2018 Net Carrying Value
<i>(in thousands)</i>				
Excess and Surplus Lines				
Trademarks	\$ 19,700	\$ —	\$ —	\$ 19,700
Insurance licenses and authorities	4,900	—	—	4,900
Broker relationships	6,327	(362)	—	5,965
	<u>30,927</u>	<u>(362)</u>	<u>—</u>	<u>30,565</u>
Specialty Admitted Insurance				
Trademarks	2,500	—	—	2,500
Insurance licenses and authorities	4,265	—	(200)	4,065
Broker relationships	642	(235)	—	407
	<u>7,407</u>	<u>(235)</u>	<u>(200)</u>	<u>6,972</u>
Total identifiable intangible assets	<u>\$ 38,334</u>	<u>\$ (597)</u>	<u>\$ (200)</u>	<u>\$ 37,537</u>

The table below summarizes the changes in the net carrying values of intangible assets by segment for 2017:

	December 31, 2016 Net Carrying Value	Amortization	Impairment Losses	December 31, 2017 Net Carrying Value
<i>(in thousands)</i>				
Excess and Surplus Lines				
Trademarks	\$ 19,700	\$ —	\$ —	\$ 19,700
Insurance licenses and authorities	4,900	—	—	4,900
Broker relationships	6,689	(362)	—	6,327
	<u>31,289</u>	<u>(362)</u>	<u>—</u>	<u>30,927</u>
Specialty Admitted Insurance				
Trademarks	2,500	—	—	2,500
Insurance licenses and authorities	4,265	—	—	4,265
Broker relationships	877	(235)	—	642
	<u>7,642</u>	<u>(235)</u>	<u>—</u>	<u>7,407</u>
Total identifiable intangible assets	<u>\$ 38,931</u>	<u>\$ (597)</u>	<u>\$ —</u>	<u>\$ 38,334</u>

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Amortization of intangible assets was \$362,000 for the Excess and Surplus Lines segment and \$235,000 for the Specialty Admitted Insurance segment for the year ended December 31, 2016.

5. Property and Equipment, Net

Property and equipment, net of accumulated depreciation, is included in "other assets" on the consolidated balance sheets and consists of the following:

	December 31,	
	2018	2017
	<i>(in thousands)</i>	
Building, leased for which the Company has been deemed the owner for accounting purposes (Note 21)	\$ 30,971	\$ 30,902
Electronic data processing hardware and software	7,423	6,156
Furniture and equipment	2,662	2,659
Property and equipment, cost basis	41,056	39,717
Accumulated depreciation	(17,745)	(14,716)
Property and equipment, net	<u>\$ 23,311</u>	<u>\$ 25,001</u>

6. Reserve for Losses and Loss Adjustment Expenses

In establishing the reserve for losses and loss adjustment expenses, the Company's internal actuaries estimate an initial expected ultimate loss ratio for each of our lines of business by accident year (or for our Casualty Reinsurance segment, on a contract by contract basis). Input from the Company's underwriting and claims departments, including premium pricing assumptions and historical experience, are considered by the Company's internal actuaries in estimating the initial expected loss ratios. The Company's internal actuaries generally utilize five actuarial methods in their estimation process for the reserve for losses and loss adjustment expenses. These five methods utilize, to varying degrees, the initial expected loss ratio, detailed statistical analysis of past claims reporting and payment patterns, claims frequency and severity, paid loss experience, industry loss experience, and changes in market conditions, policy forms, exclusions, and exposures.

In applying these methods to develop an estimate of the reserve for losses and loss adjustment expenses, our internal actuaries use judgment to determine three key parameters for each accident year and line of business: the initial expected loss ratios, the incurred and paid loss development factors and the weighting of the five actuarial methods to be used for each accident year and line of business. For the Excess and Surplus Lines and Specialty Admitted Insurance segments, the internal actuaries perform a study on each of these parameters annually and make recommendations for the initial expected loss ratios, the incurred and paid loss development factors and the weighting of the five actuarial methods by accident year and line of business. Members of management's Reserve Committee review and approve the parameter review actuarial recommendations, and these approved parameters are used in the reserve estimation process for the next four quarters at which time a new parameter study is performed. For the Casualty Reinsurance segment, periodic assessments are made on a contract by contract basis with the goal of keeping the initial expected loss ratios and the incurred and paid loss development factors as constant as possible until sufficient evidence presents itself to support adjustments. Method weights are generally less rigid for the Casualty Reinsurance segment given the heterogeneous nature of the various contracts, and the potential for significant changes in mix of business within individual treaties.

Different reserving methods are appropriate in different situations, and the Company's internal actuaries use their judgment and experience to determine the weighting of the methods to use for each accident year and each line of business and, for our Casualty Reinsurance segment, on a contract by contract basis. For example, the current accident year has very little incurred and paid loss development data on which to base reserve projections. As a result, the Company relies heavily on the initial expected loss ratio in estimating reserves for the current accident year. The Company generally sets the initial expected loss ratio for the current accident year consistent with the internal actuaries' pricing assumptions. We believe that this is a reasonable and appropriate reserving assumption for the current accident year since our pricing assumptions are actuarially driven and since the Company expects to make an acceptable return on the new business written. If actual loss emergence is better than our initial expected loss ratio assumptions, we will experience favorable development and if it is worse than our initial expected loss ratio assumptions, we will experience adverse development. Conversely, sufficient incurred and paid loss

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development data is available for the oldest accident years, so more weight is given to this development data and less weight is given to the initial expected loss ratio.

The following table provides a reconciliation of the beginning and ending reserve balances for losses and loss adjustment expenses, net of reinsurance, to the gross amounts reported in the consolidated balance sheets:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Reserve for losses and loss adjustment expenses net of reinsurance recoverables at beginning of period	\$ 989,825	\$ 761,128	\$ 653,534
Add: Incurred losses and loss adjustment expenses net of reinsurance:			
Current year	582,604	533,905	349,137
Prior years	17,672	21,472	(23,716)
Total incurred losses and loss and adjustment expenses	600,276	555,377	325,421
Deduct: Loss and loss adjustment expense payments net of reinsurance:			
Current year	86,355	103,205	39,473
Prior years	309,658	223,475	178,354
Total loss and loss adjustment expense payments	396,013	326,680	217,827
Reserve for losses and loss adjustment expenses net of reinsurance recoverables at end of period	1,194,088	989,825	761,128
Add: Reinsurance recoverables on unpaid losses and loss adjustment expenses at end of period	467,371	302,524	182,737
Reserve for losses and loss adjustment expenses gross of reinsurance recoverables on unpaid losses and loss adjustment expenses at end of period	<u>\$ 1,661,459</u>	<u>\$ 1,292,349</u>	<u>\$ 943,865</u>

The foregoing reconciliation shows that \$17.7 million of adverse development was experienced in 2018 on the reserve for losses and loss adjustment expenses held at December 31, 2017. This adverse reserve development included \$15.0 million of adverse development in the Excess and Surplus Lines segment, including \$20.7 million of adverse development in the commercial auto line of business that was primarily related to the 2016 contract year with one insured. The adverse development for commercial auto was partially offset by \$5.7 million of favorable development in other Excess and Surplus Lines underwriting divisions primarily from favorable development in the Excess Property underwriting division related to the 2017 hurricanes. Favorable reserve development in the Specialty Admitted Insurance segment was \$5.6 million and primarily came from accident years 2014 through 2016, as loss emergence on our workers' compensation business written prior to 2016 continued to develop more favorably than we had anticipated. In addition, \$8.2 million of adverse development occurred in the Casualty Reinsurance segment, with a majority of this adverse development coming from accident years at least four years old and treaties the Company has since non-renewed.

The foregoing reconciliation shows that \$21.5 million of adverse development was experienced in 2017 on the reserve for losses and loss adjustment expenses held at December 31, 2016. This adverse reserve development included \$20.0 million of adverse development in the Excess and Surplus Lines segment, including \$38.7 million of adverse development in the commercial auto line of business that was primarily related to the 2016 contract year with one insured. The adverse development for commercial auto was partially offset by favorable development of \$18.6 million in other Excess and Surplus Lines underwriting divisions primarily from the 2014 through 2016 accident years. This favorable development occurred because our actuarial studies at December 31, 2017 for the Excess and Surplus Lines segment indicated that our loss experience on our casualty business excluding commercial auto continued to be below our initial expected ultimate loss ratios. The Company also experienced \$2.7 million of favorable development on prior accident years in the Specialty Admitted Insurance segment primarily from accident years 2010 through 2015, as losses on our workers' compensation business written prior to 2016 continued to develop more favorably than we had anticipated. The Casualty Reinsurance segment experienced \$4.2 million of adverse development on prior accident years primarily from two contracts from 2010 through 2013 that had higher than expected reported losses in 2017.

The foregoing reconciliation shows that a \$23.7 million redundancy developed in 2016 on the reserve for losses and loss adjustment expenses held at December 31, 2015. This favorable reserve development included \$24.1 million of favorable

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development in the Excess and Surplus Lines segment primarily from the 2013, 2014 and 2015 accident years with favorable development of \$4.5 million, \$10.7 million and \$10.0 million, respectively. This favorable development occurred because our actuarial studies at December 31, 2016 for the Excess and Surplus Lines segment indicated that our loss experience on our casualty business continued to be below our initial expected ultimate loss ratios. The Company also experienced \$3.8 million of favorable development on prior accident years in the Specialty Admitted Insurance segment primarily from accident years 2010 through 2014, as losses on our workers' compensation business written prior to 2015 continued to develop more favorably than we had anticipated. The Casualty Reinsurance segment experienced \$4.2 million of adverse development on prior accident years primarily from two contracts from 2012 and 2013 that had higher than expected reported losses in 2016.

The following tables present incurred and paid losses and loss adjustment expenses, net of reinsurance as of December 31, 2018 for: (1) the Excess and Surplus Lines segment split between all excess and surplus lines business excluding commercial auto and commercial auto, (2) the Specialty Admitted Insurance segment split between individual risk workers' compensation and fronting and programs, and (3) the Casualty Reinsurance segment. The information provided herein about incurred and paid accident year claims development for the years ended December 31, 2017 and prior is presented as unaudited supplementary information.

Excess and Surplus Lines — Excluding Commercial Auto**Incurred losses and loss adjustment expenses, net of reinsurance (in thousands)**

Accident Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009	\$ 114,834	\$ 110,783	\$ 106,480	\$ 98,502	\$ 86,691	\$ 81,764	\$ 83,431	\$ 83,846	\$ 85,470	\$ 85,807
2010		78,424	80,569	78,117	73,035	69,080	69,964	70,294	70,913	71,312
2011			111,190	119,927	114,473	106,564	106,381	106,130	106,643	106,536
2012				97,908	98,672	97,829	96,497	97,306	99,619	101,271
2013					96,729	96,064	85,433	81,009	82,830	83,855
2014						114,942	104,092	90,267	82,232	84,074
2015							126,443	113,417	104,847	102,434
2016								138,507	125,093	126,050
2017									144,349	131,897
2018										167,004
Total										\$ 1,060,240

Cumulative paid losses and loss adjustment expenses, net of reinsurance (in thousands)

Accident Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009	\$ 29,860	\$ 41,687	\$ 51,731	\$ 61,548	\$ 67,293	\$ 71,245	\$ 76,091	\$ 79,014	\$ 81,496	\$ 82,560
2010		13,673	26,418	35,812	45,641	52,071	57,371	61,307	64,214	65,246
2011			27,684	53,109	72,732	81,696	90,884	94,998	98,684	99,798
2012				6,944	33,757	49,604	63,216	74,869	82,545	88,812
2013					3,867	14,509	30,382	44,421	59,641	66,553
2014						3,412	16,969	28,212	43,891	58,774
2015							4,048	17,164	34,801	55,911
2016								5,180	22,852	46,045
2017									5,290	22,956
2018										6,000
Total										\$ 592,655
All outstanding losses and loss adjustment expenses prior to 2009, net of reinsurance (33 claims outstanding)										\$ 12,187
Total outstanding losses and loss adjustment expenses, net of reinsurance										\$ 479,772

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Excess and Surplus Lines — Commercial Auto

Incurred losses and adjustment expenses, net of reinsurance (in thousands)

<u>Accident Year</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
2013	\$ 1,255	\$ 1,300	\$ 1,451	\$ 1,351	\$ 1,301	\$ 1,277
2014		20,487	14,071	17,233	18,953	19,779
2015			30,109	33,113	35,149	36,139
2016				74,340	109,286	126,791
2017					207,355	208,743
2018						255,881
Total						\$ 648,610

Cumulative paid losses and loss adjustment expenses, net of reinsurance (in thousands)

<u>Accident Year</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
2013	\$ 60	\$ 1,182	\$ 1,285	\$ 1,291	\$ 1,275	\$ 1,275
2014		6,166	8,645	12,679	16,359	18,678
2015			8,356	15,234	24,282	31,592
2016				18,295	54,054	89,381
2017					41,467	107,377
2018						45,136
Total						\$ 293,439
Total outstanding losses and loss adjustment expenses, net of reinsurance						\$ 355,171

Specialty Admitted — Individual Risk Workers' Compensation

Incurred losses and loss adjustment expenses, net of reinsurance (in thousands)

<u>Accident Year</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
2009	\$ 28,691	\$ 28,526	\$ 27,535	\$ 28,116	\$ 27,795	\$ 26,171	\$ 26,169	\$ 26,232	\$ 26,194	\$ 25,660
2010		27,209	28,736	30,464	30,373	28,963	28,938	27,590	27,098	27,099
2011			37,834	41,421	40,154	38,999	38,311	37,455	36,594	36,593
2012				32,116	32,420	31,490	29,689	28,255	28,174	28,186
2013					12,525	13,668	12,786	11,578	10,907	10,909
2014						16,638	16,652	14,620	13,890	12,704
2015							20,938	21,274	19,741	18,376
2016								21,678	20,299	18,050
2017									24,869	22,071
2018										16,432
Total										\$ 216,080

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Cumulative paid losses and loss adjustment expenses, net of reinsurance (in thousands)

Accident Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009	\$ 7,277	\$ 16,945	\$ 21,095	\$ 22,646	\$ 24,231	\$ 24,192	\$ 24,350	\$ 24,418	\$ 25,660	\$ 25,660
2010		7,157	16,245	21,805	23,898	25,210	25,477	26,345	26,352	26,358
2011			10,123	23,127	29,021	33,204	34,240	34,287	34,334	34,614
2012				9,222	20,308	24,755	26,435	26,897	26,932	26,963
2013					4,487	8,723	9,846	10,246	10,263	10,309
2014						4,633	10,648	12,041	12,236	12,282
2015							6,604	13,285	15,118	15,889
2016								4,664	10,227	12,135
2017									6,546	12,782
2018										4,497
Total										\$ 181,489
All outstanding losses and loss adjustment expenses prior to 2009, net of reinsurance (4 claims outstanding)										\$ 1,056
Outstanding losses and loss adjustment expenses assumed from involuntary workers' compensation pools										\$ 4,966
Total outstanding losses and loss adjustment expenses, net of reinsurance										\$ 40,613

Specialty Admitted — Fronting and Programs

Incurred losses and loss adjustment expenses, net of reinsurance (in thousands)

Accident Year	2013	2014	2015	2016	2017	2018
2013	\$ 104	\$ 80	\$ 52	\$ 52	\$ 52	\$ 52
2014		3,460	3,468	3,818	3,425	3,228
2015			7,136	9,632	9,358	8,974
2016				11,542	15,670	14,682
2017					21,229	24,271
2018						21,758
Total						\$ 72,965

Cumulative paid losses and loss adjustment expenses, net of reinsurance (in thousands)

Accident Year	2013	2014	2015	2016	2017	2018
2013	\$ 28	\$ 52	\$ 52	\$ 52	\$ 52	\$ 52
2014		883	1,687	2,369	2,728	2,854
2015			2,058	4,666	6,165	6,919
2016				1,894	5,123	6,888
2017					1,223	6,682
2018						\$ 885
Total						\$ 24,280
Total outstanding losses and loss adjustment expenses, net of reinsurance						\$ 48,685

James River Group Holdings, LTD. and Subsidiaries

Notes to Consolidated Financial Statements
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Casualty Reinsurance

Incurred losses and loss adjustment expenses, net of reinsurance (in thousands)

Accident Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009	\$ 34,587	\$ 28,244	\$ 24,125	\$ 26,458	\$ 27,078	\$ 27,116	\$ 26,989	\$ 26,931	\$ 26,980	\$ 27,168
2010		64,413	60,476	61,068	62,714	61,344	60,949	60,978	61,619	62,605
2011			114,908	103,123	97,366	97,812	98,993	99,282	101,276	103,196
2012				148,251	132,388	131,281	135,594	136,813	139,978	143,305
2013					133,230	130,361	131,352	134,446	137,801	143,124
2014						118,881	115,927	114,636	116,981	121,200
2015							119,157	108,870	108,699	109,117
2016								112,759	105,533	103,544
2017									134,628	128,472
2018										121,529
Total										\$ 1,063,260

Cumulative paid losses and loss adjustment expenses, net of reinsurance (in thousands)

Accident Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009	\$ 6,487	\$ 9,926	\$ 12,956	\$ 16,466	\$ 19,672	\$ 21,646	\$ 23,024	\$ 23,796	\$ 24,649	\$ 25,209
2010		21,918	31,500	38,430	44,921	49,263	52,761	54,659	57,013	58,707
2011			48,688	61,922	68,616	78,164	87,267	90,287	94,627	97,715
2012				73,124	81,859	97,215	113,943	121,026	128,567	133,606
2013					59,756	75,094	93,902	108,396	119,256	127,732
2014						41,421	58,601	76,302	89,899	101,366
2015							40,021	53,986	68,002	80,208
2016								36,268	50,905	65,409
2017									47,739	72,891
2018										30,903
Total										\$ 793,746
All outstanding losses and loss adjustment expenses prior to 2009, net of reinsurance										\$ 333
Total outstanding losses and loss adjustment expenses, net of reinsurance										\$ 269,847

The reconciliation of the net incurred and paid claims development tables to the reserve for losses and loss adjustment expenses in the consolidated balance sheet at December 31, 2018 is as follows (in thousands):

E&S – excluding commercial auto	\$ 479,772
E&S – commercial auto	355,171
Specialty Admitted – individual risk workers' compensation	40,613
Specialty Admitted – fronting and programs	48,685
Casualty Reinsurance	269,847
Net reserve for losses and loss adjustment expenses	1,194,088
Reinsurance recoverables on unpaid losses	467,371
Gross reserve for losses and loss adjustment expenses	\$ 1,661,459

The following is unaudited supplementary information about average annual percentage payouts of incurred claims by age, net of reinsurance, for the Excess and Surplus Lines segment and the Specialty Admitted Insurance segments as of December 31, 2018. The Specialty Admitted Insurance segment's first full year of writing fronting and programs business was 2014, so the average annual percentage payouts for fronting and programs only shows five years of payout information.

James River Group Holdings, LTD. and Subsidiaries

**Notes to Consolidated Financial Statements
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	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>
E&S – excluding commercial auto	10.0%	16.0%	17.4%	18.0%	14.5%	7.9%	5.6%	3.4%	1.1%	2.3%
E&S – commercial auto	21.0%	38.9%	15.6%	14.3%	6.5%	3.7%				
Specialty Admitted – individual risk workers’ compensation	28.7%	33.8%	13.8%	6.2%	3.3%	1.3%	1.0%	0.2%	0.5%	0.0%
Specialty Admitted – fronting and programs	7.7%	16.7%	7.2%	1.5%	0.2%					
Casualty Reinsurance	27.5%	17.7%	12.5%	8.7%	6.1%	4.5%	3.4%	2.7%	2.2%	1.9%

In determining the cumulative number of reported claims, the Company measures claim counts by individual claimant for individual risk workers’ compensation policies in the Specialty Admitted Insurance segment. In the Excess and Surplus Lines insurance segment and for fronting and programs in the Specialty Admitted Insurance segment, the Company measures claim counts by claim event. The claim counts include all claims reported, even if the Company does not establish a liability for the claim (i.e. reserve for loss and loss adjustment expenses).

The Casualty Reinsurance segment typically assumes written premium under quota share arrangements. The Company typically does not have direct access to claim frequency information underlying its assumed quota arrangements given the nature of that business. In addition, multiple claims are often aggregated by the ceding company before being reported to the Company. We do not use claim frequency information in the Casualty Reinsurance segment in the determination of loss reserves or for other internal purposes. Based on these considerations, the Company does not believe providing claims frequency information is practicable as it relates to the Casualty Reinsurance segment.

The table below provides information on IBNR liabilities and claims frequency for: (1) the Excess and Surplus Lines segment split between commercial auto and all non commercial auto, and (2) the Specialty Admitted Insurance segment split between individual risk workers’ compensation and fronting and programs:

Excess and Surplus Lines — Excluding Commercial Auto

<u>Accident Year</u>	<u>Incurred Losses and Loss Adj Expenses</u>	<u>IBNR</u>	<u>Cumulative # of Reported Claims</u>
		<i>(\$ in thousands)</i>	
2009	\$ 85,807	\$ 2,188	1,698
2010	71,312	2,890	1,380
2011	106,536	3,919	1,465
2012	101,271	4,339	1,765
2013	83,855	10,248	2,298
2014	84,074	12,440	2,106
2015	102,434	21,215	2,434
2016	126,050	44,649	2,754
2017	131,897	79,836	2,630
2018	167,004	135,018	3,242

James River Group Holdings, LTD. and Subsidiaries

**Notes to Consolidated Financial Statements
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Excess and Surplus Lines — Commercial Auto

Accident Year	Incurred Losses and Loss Adj Expenses	IBNR	Cumulative # of Reported Claims
		<i>(\$ in thousands)</i>	
2013	\$ 1,277	\$ 1	54
2014	19,779	653	7,761
2015	36,139	1,761	41,723
2016	126,791	9,206	88,746
2017	208,743	23,777	132,191
2018	255,881	155,760	91,798

Specialty Admitted - Individual Risk Workers' Compensation

Accident Year	Incurred Losses and Loss Adj Expenses	IBNR	Cumulative # of Reported Claims
		<i>(\$ in thousands)</i>	
2009	\$ 25,660	\$ —	\$ 1,490
2010	27,099	699	1,604
2011	36,593	1,786	1,814
2012	28,186	1,020	1,323
2013	10,909	510	540
2014	12,704	422	850
2015	18,376	2,177	975
2016	18,050	5,010	833
2017	22,071	6,434	1,087
2018	16,432	5,422	1,170

James River Group Holdings, LTD. and Subsidiaries
**Notes to Consolidated Financial Statements
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Specialty Admitted — Fronting and Programs

Accident Year	Incurred Losses and Loss Adj Expenses	IBNR	Cumulative # of Reported Claims
		<i>(\$ in thousands)</i>	
2013	\$ 52	\$ —	22
2014	3,228	238	856
2015	8,974	1,076	1,355
2016	14,682	3,203	2,792
2017	24,271	10,083	6,572
2018	21,758	16,058	5,874

Casualty Reinsurance

Accident Year	Incurred Losses and Loss Adj Expenses	IBNR
		<i>(\$ in thousands)</i>
2009	\$ 27,168	\$ 431
2010	62,605	937
2011	103,196	1,427
2012	143,305	2,397
2013	143,124	3,330
2014	121,200	5,450
2015	109,117	14,595
2016	103,544	26,675
2017	128,472	52,785
2018	121,529	55,052

The Company has not provided insurance coverage that could reasonably be expected to produce material levels of asbestos claims activity. In addition, management does not believe that the Company is exposed to environmental liability claims other than those which it has specifically underwritten and priced as an environmental exposure.

7. Reinsurance

The Company remains liable to policyholders if its reinsurers are unable to meet their contractual obligations under applicable reinsurance agreements. To minimize exposure to significant losses from reinsurance insolvencies, the Company evaluates the financial condition of its reinsurers and monitors concentrations of credit risk. The Company's reinsurance contracts generally require reinsurers that are not authorized as reinsurers under U.S. state insurance regulations or that experience rating downgrades from rating agencies below specified levels to fund their share of the Company's ceded outstanding losses and loss adjustment expense reserves, typically through the use of irrevocable and unconditional letters of credit. In fronting arrangements, which the Company conducts through its Specialty Admitted Insurance segment, the Company is subject to credit risk with regard to insurance companies who act as reinsurers for the Company in such arrangements. The Company customarily requires a collateral trust arrangement to secure the obligations of the insurance entity for whom it is fronting.

At December 31, 2018, the Company had reinsurance recoverables on unpaid losses of \$467.4 million and reinsurance recoverables on paid losses of \$18.3 million. All material reinsurance recoverables are from companies with A.M. Best Company ratings of "A-" (Excellent) or better, or are collateralized with letters of credit or by a trust agreement.

At December 31, 2018, reinsurance recoverables on unpaid losses from the Company's three largest reinsurers were \$151.6 million, \$47.9 million, and \$44.1 million, representing 52.1% of the total balance.

James River Group Holdings, LTD. and Subsidiaries

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At December 31, 2018, prepaid reinsurance premiums ceded to three reinsurers totaled \$30.8 million, \$13.4 million, and \$9.6 million, representing 47.8% of the total balance.

Premiums written, premiums earned, and losses and loss adjustment expenses incurred are summarized as follows:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Written premiums:			
Direct	\$ 1,027,222	\$ 843,719	\$ 549,700
Assumed	139,551	238,186	187,698
Ceded	(404,101)	(315,279)	(179,690)
Net	<u>\$ 762,672</u>	<u>\$ 766,626</u>	<u>\$ 557,708</u>
Earned premiums:			
Direct	\$ 990,221	\$ 842,182	\$ 483,166
Assumed	208,192	173,472	164,771
Ceded	(383,015)	(274,545)	(132,274)
Net	<u>\$ 815,398</u>	<u>\$ 741,109</u>	<u>\$ 515,663</u>
Losses and loss adjustment expenses:			
Direct	\$ 769,490	\$ 626,318	\$ 314,920
Assumed	131,346	142,818	108,029
Ceded	(300,560)	(213,759)	(97,528)
Net	<u>\$ 600,276</u>	<u>\$ 555,377</u>	<u>\$ 325,421</u>

8. Senior Debt

The Company has a \$215.0 million senior revolving credit facility (as amended or amended and restated, the "2013 Facility"). The 2013 Facility is comprised of the following at December 31, 2018:

- A \$102.5 million secured revolving facility utilized by JRG Re to issue letters of credit for the benefit of third-party reinsureds. This portion of our credit facility is secured by our investment securities. At December 31, 2018, the Company had \$75.5 million of letters of credit issued under the secured facility.
- A \$112.5 million unsecured revolving facility to meet the working capital needs of the Company. All unpaid principal on the revolver is due at maturity. Interest accrues quarterly and is payable in arrears at LIBOR plus a margin which is currently 1.5%, which is subject to change according to terms in the credit agreement. At December 31, 2018 and 2017, the Company had a drawn balance of \$73.3 million outstanding on the unsecured revolver.

James River Group Holdings, Ltd. and JRG Re are borrowers on the 2013 Facility. The 2013 Facility has been amended from time to time since its inception in 2013. On December 7, 2016, the Company entered into an Amended and Restated Credit Agreement for the Facility which, among other things, extended the maturity date of the Facility until December 7, 2021 and modified other terms including reducing the rate of interest and reducing the number of financial covenants. On June 8, 2017, the Company entered into a First Amendment to the 2013 Facility, which among other things, modified the financial covenants and increased the amount of additional debt which the Company may incur under new financings, subject to compliance with certain conditions.

A subsidiary of the Bank Holding Company is one of the lenders for the Facility, with a \$25.0 million commitment allocation on the total \$215.0 million 2013 Facility.

The 2013 Facility contains certain financial and other covenants (including risk-based capital, minimum shareholders' equity levels, maximum ratios of total debt outstanding to total capitalization and minimum fixed charge coverage ratios) with which the Company was in compliance, at December 31, 2018.

James River Group Holdings, LTD. and Subsidiaries**Notes to Consolidated Financial Statements
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On August 2, 2017, the Company and its wholly-owned subsidiary, JRG Re, together as borrowers, entered into a credit agreement (the "2017 Facility") that provides the Company with a revolving line of credit of up to \$100.0 million, which may be used for loans and letters of credit made or issued, at the borrowers' option, on a secured or unsecured basis. The loans and letters of credit made or issued under the revolving line of credit may be used to finance the Borrowers' general corporate purposes. Obligations under the 2017 Facility will carry a variable rate of interest subject to terms in the credit agreement and will mature 30 days after notice of termination from the lender. Interest accrues quarterly and is payable in arrears at variable rates which are subject to change according to terms in the credit agreement. At December 31, 2018, unsecured loans of \$30.0 million and secured letters of credit totaling \$7.6 million were outstanding under the facility.

In order to secure borrowings and letters of credit made or issued under the secured portion of the revolving line of credit, JRG Re entered into a pledge and security agreement on August 2, 2017 with the lender, pursuant to which JRG Re will pledge certain investment securities. In the event the Company elects to pledge investment securities as collateral for the secured portion of the revolving credit facility, the Company will enter into a similar pledge and security agreement.

The lender under the credit agreement and its affiliate is a joint lead arranger under the Company's Amended and Restated Credit Agreement dated as of December 7, 2016, as amended, and its affiliate was also an underwriter in the December 2014 initial public offering of the Company's common shares.

The 2017 Facility contains certain financial and other covenants which we are in compliance with at December 31, 2018.

On May 26, 2004, James River Group issued \$15.0 million of unsecured, floating rate senior debentures (the "Senior Debt"), due April 29, 2034 unless accelerated earlier, through an indenture. The Senior Debt is not redeemable by the holder and is not subject to sinking fund requirements. Interest accrues quarterly and is payable in arrears at a per annum rate of the three-month LIBOR on the Determination Date (as defined in the indenture) plus 3.85%. The Senior Debt is redeemable prior to its stated maturity in whole or in part, at the option of James River Group.

The terms of the indenture generally provide that so long as the Senior Debt is outstanding, neither James River Group nor any of its subsidiaries may:

- assume or permit to exist any indebtedness that is secured by any encumbrance on the capital stock of James River Group or any of its subsidiaries which is senior to the Senior Debt; or
- issue, sell, transfer or otherwise dispose of any shares of, securities convertible into, or warrants, rights or options to subscribe for or purchase shares of, capital stock of any subsidiary.

The terms of the Senior Debt contain certain covenants, with which we are in compliance at December 31, 2018, and which, among other things, restrict our ability to assume senior indebtedness secured by our U.S. holding company's common stock or its subsidiaries' capital stock or to issue shares of its subsidiaries' capital stock.

Interest payable is included in "accrued expenses" in the accompanying consolidated balance sheets.

9. Junior Subordinated Debt

The Company issued trust preferred securities ("Trust Preferred Securities") through James River Capital Trust I, James River Capital Trust II, James River Capital Trust III, James River Capital Trust IV, and Franklin Holdings II (Bermuda) Capital Trust I, (each, a "Trust"; collectively, the "Trusts"). These Delaware statutory trusts are sponsored and wholly-owned by the Company. Each Trust was created solely for the purpose of issuing the Trust Preferred Securities.

Each Trust used proceeds from the sale of its Trust Preferred Securities to purchase the Company's floating rate junior subordinated debentures (the "Junior Subordinated Debt") issued to the Trust under an indenture (each, an "Indenture"; collectively, the "Indentures"). The Junior Subordinated Debt is the sole asset of each Trust, and the Trust Preferred Securities are the sole liabilities of each Trust. The Company purchased all of the outstanding common stock of the Trusts, and the investment in the Trusts is included in "other assets" in the accompanying consolidated balance sheets.

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The following table summarizes the nature and terms of the Junior Subordinated Debt and Trust Preferred Securities:

	James River Capital Trust I	James River Capital Trust II	James River Capital Trust III	James River Capital Trust IV	Franklin Holdings II (Bermuda) Capital Trust I
	<i>(\$ in thousands)</i>				
Issue date	May 26, 2004	December 15, 2004	June 15, 2006	December 11, 2007	January 10, 2008
Principal amount of Trust Preferred Securities	\$7,000	\$15,000	\$20,000	\$54,000	\$30,000
Principal amount of Junior Subordinated Debt	\$7,217	\$15,464	\$20,619	\$55,670	\$30,928
Carrying amount of Junior Subordinated Debt net of repurchases	\$7,217	\$15,464	\$20,619	\$44,827	\$15,928
Maturity date of Junior Subordinated Debt, unless accelerated earlier	May 24, 2034	December 15, 2034	June 15, 2036	December 15, 2037	March 15, 2038
Trust common stock	\$217	\$464	\$619	\$1,670	\$928
Interest rate, per annum	Three-Month LIBOR plus 4.0%	Three-Month LIBOR plus 3.4%	Three-Month LIBOR plus 3.0%	Three-Month LIBOR plus 3.1%	Three-Month LIBOR plus 4.0%

All of the Junior Subordinated Debt is currently redeemable at 100.0% of the unpaid principal amount at the Company's option. Interest on the Trust Preferred Securities and interest paid to the Trusts on the Junior Subordinated Debt is payable quarterly in arrears at a per annum rate as described in the table above. The Company has the right to defer interest payments on the Junior Subordinated Debt for up to five years without triggering an event of default.

The Trust Preferred Securities are subject to mandatory redemption in a like amount (a) upon repayment of all of the Junior Subordinated Debt on the stated maturity date, (b) contemporaneously with the optional prepayment of all of the Junior Subordinated Debt in conjunction with a special event (as defined), and (c) five years or more after the issue date, contemporaneously with the optional prepayment, in whole or in part, of the Junior Subordinated Debt. The Indentures contain certain covenants which the Company is in compliance with as of December 31, 2018.

Interest payable is included in "accrued expenses" on the accompanying consolidated balance sheets.

10. Capital Stock

The Company's authorized share capital consists of 200,000,000 common shares, par value \$0.0002 per share (29,988,460 shares issued and outstanding at December 31, 2018) and 20,000,000 undesignated preferred shares, par value \$0.00125 per share (no shares issued or outstanding).

Share activity in 2017 and 2018 includes issuances from stock option exercises and RSU vesting, increasing the number of common shares outstanding from 29,257,566 at December 31, 2016 to 29,696,682 at December 31, 2017 and 29,988,460 at December 31, 2018.

The Company has 4,321,463 common shares reserved for future issuance upon exercise or vesting of equity awards, as applicable.

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The Board of Directors declared the following cash dividends in 2018, 2017, and 2016:

Date of Declaration	Dividend per Common Share	Payable to Shareholders of Record on	Payment Date	Total Amount
2018				
February 22, 2018	\$0.30	March 12, 2018	March 30, 2018	\$ 9,049,476
May 1, 2018	\$0.30	June 11, 2018	June 29, 2018	\$ 9,066,023
August 1, 2018	\$0.30	September 10, 2018	September 28, 2018	\$ 9,080,519
November 7, 2018	\$0.30	December 14, 2018	December 28, 2018	\$ 9,088,542
Total	\$1.20			\$ 36,284,560
2017				
February 14, 2017	\$0.30	March 13, 2017	March 31, 2017	\$ 8,878,147
May 2, 2017	\$0.30	June 12, 2017	June 30, 2017	\$ 8,917,471
August 1, 2017	\$0.30	September 11, 2017	September 29, 2017	\$ 8,943,279
November 1, 2017	\$0.30	December 15, 2017	December 28, 2017	\$ 8,974,196
November 1, 2017	\$0.50	December 15, 2017	December 28, 2017	\$ 14,956,994
Total	\$1.70			\$ 50,670,087
2016				
February 16, 2016	\$0.20	March 14, 2016	March 28, 2016	\$ 5,848,561
May 3, 2016	\$0.20	June 13, 2016	June 30, 2016	\$ 5,873,582
August 3, 2016	\$0.20	September 12, 2016	September 30, 2016	\$ 5,882,342
November 1, 2016	\$0.30	December 16, 2016	December 29, 2016	\$ 8,847,431
November 1, 2016	\$1.35	December 16, 2016	December 29, 2016	\$ 39,813,440
Total	\$2.25			\$ 66,265,356

Included in the dividends are \$391,000, \$450,000 and \$664,000 of dividend equivalents on RSUs, of which \$557,000, \$434,000 and \$666,000 were payable as of December 31, 2018, 2017, and 2016, respectively.

11. Equity Awards

Equity Incentive Plans

The Company's shareholders have approved various equity incentive plans, including the Amended and Restated 2009 Equity Incentive Plan (the "Legacy Plan"), the 2014 Long Term Incentive Plan ("2014 LTIP"), and the 2014 Non-Employee Director Incentive Plan ("2014 Director Plan") (collectively, the "Plans"). All awards issued under the Plans are issued at the discretion of the Board of Directors. Under the Legacy Plan, employees received non-qualified stock options. Options are outstanding under the Legacy Plan; however, no additional awards may be granted.

Employees are eligible to receive non-qualified stock options, incentive stock options, share appreciation rights, performance shares, restricted shares, RSUs, and other awards under the 2014 LTIP. The maximum number of shares available for issuance under the 2014 LTIP is 4,171,150, and at December 31, 2018, 1,724,865 shares are available for grant.

Non-employee directors of the Company are eligible to receive non-qualified stock options, share appreciation rights, performance shares, restricted shares, RSUs, and other awards under the 2014 Director Plan. The maximum number of shares available for issuance under the 2014 Director Plan is 50,000, and at December 31, 2018, 21,663 shares are available for grant.

Generally, awards issued under the 2014 LTIP and 2014 Director Plan vest immediately in the event that an award recipient is terminated without Cause (as defined), and in the case of the 2014 LTIP for Good Reason (as defined), at any time following a Change in Control (as defined in the applicable plans).

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Options

The following table summarizes the option activity:

	Year Ended December 31,					
	2018		2017		2016	
	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price
Outstanding:						
Beginning of year	1,479,236	\$ 27.81	2,234,699	\$ 22.84	2,058,085	\$ 18.11
Granted	—	\$ —	205,244	\$ 42.24	706,203	\$ 32.07
Exercised	(308,025)	\$ 22.01	(898,218)	\$ 18.53	(496,550)	\$ 16.02
Forfeited	(55,887)	\$ 35.69	(62,489)	\$ 30.80	(33,039)	\$ 27.68
End of year	<u>1,115,324</u>	<u>\$ 29.02</u>	<u>1,479,236</u>	<u>\$ 27.81</u>	<u>2,234,699</u>	<u>\$ 22.84</u>
Exercisable, end of year	<u>814,421</u>	<u>\$ 26.46</u>	<u>846,371</u>	<u>\$ 22.35</u>	<u>1,207,479</u>	<u>\$ 18.14</u>

All of the outstanding options vest over two to four years and have a contractual life of seven years from the original date of grant. All of the outstanding options have an exercise price equal to the fair value of the underlying shares at the date of grant.

The intrinsic value of each option is determined based on the difference between the fair value of the underlying share and the exercise price of the underlying option. The total intrinsic value of options exercised during 2018, 2017 and 2016 was \$4.6 million, \$20.4 million and \$10.2 million, respectively. The aggregate intrinsic value of options outstanding at December 31, 2018, 2017 and 2016 was \$9.4 million, \$18.5 million and \$41.8 million, respectively. The aggregate intrinsic value of options exercisable at December 31, 2018, 2017 and 2016 was \$8.5 million, \$14.9 million and \$28.3 million, respectively. The fair value used for calculating intrinsic values was \$36.54, \$40.01 and \$41.55 at December 31, 2018, 2017 and 2016, respectively.

The weighted-average remaining contractual life of the options outstanding and options exercisable at December 31, 2018 is 3.6 years and 3.3 years, respectively. There were no options granted in 2018. The weighted-average fair value of options granted during 2017 and 2016 was \$8.21 and \$5.55, respectively. The value of the options granted was estimated at the date of grant using the Black-Scholes-Merton option pricing model using the following assumptions:

	Year Ended December 31,	
	2017	2016
Risk-free interest rate	1.97%	1.23%
Dividend yield	2.85%	2.50%
Expected share price volatility	27.39%	25.00%
Expected life	5.0 years	5.0 years

The risk-free interest rate assumption is based on the five-year U.S. Treasury rate at the date of the grant. The dividend yield assumption was based upon dividends expected to be declared over the life of the options at the date of grant. In 2017, the share price volatility assumption was based upon the Company's 100-day realized volatility. In years prior to 2017, as a relatively new public company, the share price volatility assumption was based upon historical data for property-casualty companies which the Company deemed to be its peers. The expected life is determined using the simplified method, which factors in the average of the midpoint and the contractual term of each tranche in determining a single expected life. The simplified method is used as the Company does not have sufficient historical exercise data to estimate an expected term.

The Black-Scholes-Merton option pricing model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions including expected share price volatility. Because the Company's share options have characteristics significantly different from those of traded options and because changes in the subjective input assumptions can materially affect the fair value estimate, the existing models do not necessarily provide a reliable single measure of the fair value of such share options.

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RSUs

The following table summarizes RSU activity:

	Year Ended December 31,					
	2018		2017		2016	
	Shares	Weighted-Average Grant Date Fair Value	Shares	Weighted-Average Grant Date Fair Value	Shares	Weighted-Average Grant Date Fair Value
Unvested, beginning of year	178,882	\$ 37.93	196,800	\$ 24.38	234,922	\$ 21.00
Granted	227,481	\$ 39.74	137,034	\$ 42.20	60,291	\$ 32.03
Vested	(83,384)	\$ 37.61	(132,764)	\$ 24.24	(98,413)	\$ 21.00
Forfeited	(22,837)	\$ 40.21	(22,188)	\$ 26.06	—	\$ —
Unvested, end of year	300,142	\$ 39.22	178,882	\$ 37.93	196,800	\$ 24.38

The vesting period of RSUs granted to employees range from one to five years and vest ratably over the respective vesting period, with the majority vesting in three years. All RSUs granted to date to non-employee directors had a one year vesting period. The total fair value of shares vested in 2018, 2017 and 2016 was \$3.2 million, \$5.5 million and \$3.8 million, respectively. The holders of RSUs are entitled to dividend equivalents. The dividend equivalents are settled in cash at the same time that the underlying RSUs vest and are subject to the same risk of forfeiture as the underlying shares. The fair value of the RSUs granted is based on the market price of the underlying shares.

Compensation Expense

Share based compensation expense is recognized on a straight line basis over the vesting period. The amount of expense and related tax benefit is summarized below:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Share based compensation expense	\$ 6,228	\$ 7,688	\$ 5,492
U.S. tax benefit on share based compensation expense	\$ 716	\$ 2,093	\$ 1,532

As of December 31, 2018, the Company had \$8.4 million of unrecognized share based compensation expense expected to be charged to earnings over a weighted-average period of 1.8 years.

12. Income Taxes

Under current Bermuda law, James River Group Holdings, Ltd. and its Bermuda based subsidiaries, JRG Re and Carolina Re, are not required to pay any Bermuda taxes on their income or capital gains. Those companies have received an undertaking from the Minister of Finance in Bermuda that, in the event of any taxes being imposed, the Company will be exempt from taxation in Bermuda until March 2035.

Distributions from the Company's U.S. subsidiaries to its U.K. intermediate holding company, James River UK, are generally subject to a 5% dividend withholding tax. James River Group paid a \$21.1 million dividend to James River UK during 2017 and remitted \$1.1 million of dividend withholding taxes to the U.S. tax authorities for the year ending December 31, 2017. No similar distributions occurred in 2018 or 2016.

The Company's U.S. subsidiaries are subject to federal, state and local corporate income taxes, and other taxes applicable to U.S. corporations. In addition, Carolina Re is subject to Federal income taxes as a result of its irrevocable election to be taxed as a U.S. domestic corporation under Section 953(d) of the Code. The Company's U.S.-domiciled subsidiaries and Carolina Re file a consolidated U.S. federal income tax return.

The Company's U.S.-based subsidiaries are generally no longer subject to income tax examination by U.S. income tax authorities for the tax years ending before January 1, 2015.

Financial results for 2017 reflect provisional amounts related to the December 2017 enactment of the Tax Act.

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The Company did not record any amounts related to the changes in loss reserve discounting required by the Tax Act during 2017. These changes required the IRS to publish new discount factors based on loss payment patterns and interest rates determined under the Tax Act. During 2018, factors were published that allowed us to adjust our current and deferred tax liabilities based on the provisions of the Tax Act. The Tax Act has specific transition provisions associated with reserve discounting. The initial impact of the adjustments in 2018 was an increase to our deferred tax asset for the additional discount as of December 31, 2017 of \$8.8 million offset by an increase to our deferred tax liability of \$8.8 million representing the 8 year transition provision required by the Tax Act. During 2018, \$1.1 million of this transition provision was recognized in our current provision and adjusted out of our deferred tax liability. There were other provisions of the Tax Act for which the Company finalized its estimates during 2018, and the impact of these was immaterial.

The expected income tax provision computed from pre-tax income at the weighted-average tax rate has been calculated as the sum of the pre-tax income in each jurisdiction multiplied by that jurisdiction's applicable Federal statutory tax rate. Federal statutory tax rates of 0% and 21% have been used in 2018 for Bermuda and the U.S., respectively. A Federal statutory rate of 35% has been used for the U.S. in 2017 and 2016. U.S. deferred taxes were remeasured at 21% in 2017, down from 35% in 2016. U.S. income before Federal income taxes was \$37.5 million, \$50.1 million, and \$18.3 million for the years ending December 31, 2018, 2017, and 2016, respectively. A reconciliation of the difference between the Company's Federal income tax provision on U.S. income and the expected Federal tax provision on U.S. income using the weighted-average tax rate as well as a reconciliation to total tax expense is as follows:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Federal income tax expense at applicable statutory rates	\$ 7,875	\$ 17,541	\$ 6,401
Tax-exempt investment income	(272)	(586)	(643)
Dividends received deduction	(307)	(792)	(880)
Excess tax benefits on share based compensation	(567)	(2,114)	—
Effect of tax rate reduction on deferred tax liability	220	(3,498)	—
Other	145	(90)	(6)
Federal income tax expense	\$ 7,094	\$ 10,461	\$ 4,872
U.S. state income tax (benefit) expense	(86)	65	—
U.S. dividend withholding tax	—	1,053	—
Total income tax expense	\$ 7,008	\$ 11,579	\$ 4,872

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The significant components of net deferred tax assets (liabilities) at the corporate income tax rate of 21% for the years ended December 31, 2018 and 2017 are summarized as follows:

	December 31,	
	2018	2017
	<i>(in thousands)</i>	
Deferred tax assets:		
Accrued compensation expenses	\$ 2,456	\$ 1,712
Reserve for losses and loss adjustment expenses	7,482	3,036
Unearned premiums	5,711	1,709
Share based compensation	1,352	1,143
Allowance for doubtful accounts	829	579
Deferred policy acquisition costs	—	1,509
Property and equipment	1,909	1,601
Invested asset impairments	—	791
Other	1,903	1,564
Total deferred tax assets	21,642	13,644
Deferred tax liabilities:		
Intangible assets	7,461	7,521
Net unrealized gains	887	2,578
Deferred policy acquisition costs	3,491	—
Equity method investments	8,582	8,348
Other	167	444
Total deferred tax liabilities	20,588	18,891
Net deferred tax assets (liabilities)	\$ 1,054	\$ (5,247)

Deferred income taxes have not been accrued with respect to certain undistributed earnings of foreign subsidiaries. If the earnings were to be distributed, as dividends or otherwise, such amounts may be subject to withholding taxation in the jurisdiction of the paying entity. The Company asserts that U.S. unremitted earnings as of December 31, 2018 will be permanently reinvested in the U.S. and, accordingly, no provision for withholding taxes arising in respect to U.S. unremitted earnings has been made.

The Company had no reserve for future tax contingencies or liabilities (“unrecognized tax benefits”) at December 31, 2018 or 2017.

The U.S. imposes a 1% excise tax on reinsurance premiums paid to non-U.S. reinsurers with respect to risks located in the U.S. The rates of tax are established based on the nature of the risk, unless reduced by an applicable U.S. tax treaty. For the years ended December 31, 2018, 2017, and 2016, the Company paid \$823,000, \$3.4 million, and \$2.6 million, respectively, of federal excise taxes on its intercompany reinsurance transactions. The Company also paid excise taxes of \$2.1 million, \$2.2 million, and \$1.6 million for the years ended December 31, 2018, 2017, and 2016, respectively, on written premiums assumed from third-party insurers with respect to risks located in the U.S. These excise taxes are reflected as “other operating expenses” in the Company’s consolidated income statements.

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13. Other Operating Expenses and Other Expenses

Other operating expenses consist of the following:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Amortization of policy acquisition costs	\$ 111,103	\$ 116,001	\$ 101,624
Other underwriting expenses of the insurance segments	63,029	55,662	48,771
Other operating expenses of the Corporate and Other segment	26,903	25,330	20,433
Total	<u>\$ 201,035</u>	<u>\$ 196,993</u>	<u>\$ 170,828</u>

Other expenses consist of the following:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Employee severance	\$ 1,386	\$ 147	\$ 1,492
Income on leased building the Company is deemed to own for accounting purposes (see Note 21)	(623)	(248)	(196)
Legal and professional services related to secondary share offerings	337	535	281
Other	—	105	13
Impairment of intangible asset	200	—	—
Total	<u>\$ 1,300</u>	<u>\$ 539</u>	<u>\$ 1,590</u>

14. Employee Benefits

The Company and its subsidiaries offer savings plans (the “Savings Plans”) which qualify under Section 401(k) of the U.S. Internal Revenue Code. Participants may contribute certain percentages of their pre-tax salary to the Savings Plans subject to statutory limitations. The Company and its subsidiaries match employee contributions at various rates up to a maximum contribution of 6.0% of the participant’s earnings subject to certain statutory limits. For the years ended December 31, 2018, 2017, and 2016, the expense associated with the Savings Plans totaled \$2.9 million, \$2.5 million, and \$1.9 million, respectively.

15. Commitments and Contingent Liabilities

The Company is a party to various lawsuits arising in the ordinary course of its operations. The Company believes that the ultimate resolution of these matters will not materially impact its financial position, cash flows, or results of operations.

The Company leases certain office space under operating leases that expire at various times and are subject to renewal options at market rates prevailing at the time of renewal. Rental expense for such leases was \$4.6 million, \$4.2 million, and \$3.7 million for the years ended December 31, 2018, 2017, and 2016, respectively.

As of December 31, 2018, future minimum payments under non-cancelable operating leases for office space are as follows (in thousands):

2019	\$ 3,946
2020	3,790
2021	3,507
2022	2,639
2023	2,376
Thereafter	4,705
	<u>\$ 20,963</u>

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Included in the future minimum lease payments is \$15.2 million related to the building constructed and owned by a partnership in which the Company has a minority investment (see Note 21).

The Company's Specialty Admitted Insurance segment entered into an agreement to lease certain policy management software. The five year lease began January 1, 2015. Lease expense for the year ended December 31, 2018 was \$440,000 and total remaining payments of \$468,000 will be paid in 2019.

The Company's reinsurance subsidiary, JRG Re, entered into three letter of credit facilities with banks as security to third-party reinsureds on reinsurance assumed by JRG Re. JRG Re has established custodial accounts to secure these letters of credit. Under a \$100.0 million facility, \$52.6 million of letters of credit were issued through December 31, 2018 which were secured by deposits of \$65.7 million. Under the 2013 Facility, \$75.5 million of letters of credit were issued through December 31, 2018 which were secured by deposits of \$94.0 million. Under the 2017 Facility, \$7.6 million of letters of credit were issued through December 31, 2018 which were secured by deposits of \$10.2 million. JRG Re has also established trust accounts to secure its obligations to selected reinsureds. The total amount deposited in the trust accounts for the benefit of third-party reinsureds was \$301.5 million at December 31, 2018 (see Note 2).

The Company is a party to a set of insurance contracts with an insured group of companies under which the Company pays losses and loss adjustment expenses on the contract. The Company has indemnity agreements with this group of insured parties (non-insurance entities) and is contractually entitled to receive reimbursement for a significant portion of the losses and loss adjustment expenses paid on behalf of the insured parties and other expenses incurred by the Company. The insured parties are required to collateralize all amounts currently due to the Company and to provide additional collateral sufficient to cover the amounts that may be recoverable under the indemnity agreement, including among other things case loss and loss adjustment expense reserves, IBNR loss and loss adjustment expense reserves, extra contractual obligations and excess of policy limits liabilities. This collateral is currently provided through a collateral trust arrangement established in favor of the Company by a captive insurance company affiliate of the insured group. At December 31, 2018, the cash equivalent collateral held in the collateral trust arrangement was approximately \$1,099.2 million, which exceeds the amount of claims receivable and unpaid reported losses and loss adjustment expenses outstanding. The Company has ongoing exposure to estimated losses and expenses on these contracts growing at a faster pace than growth in our collateral balances. In addition, we have credit exposure if our estimates of future losses and loss adjustment expenses and other amounts recoverable, which are the basis for establishing collateral balances, are lower than actual amounts paid or payable. The amount of our credit exposure in any of these instances could be material. To mitigate these risks, we closely and frequently monitor our exposure compared to our collateral held, and we request additional collateral when our analysis indicates that we have uncollateralized exposure.

16. Other Comprehensive (Loss) Income

The following table summarizes the components of other comprehensive (loss) income:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Unrealized (losses) gains arising during the period, before U.S. income taxes	\$ (23,201)	\$ 11,091	\$ 2,790
U.S. income taxes	483	(2,374)	(414)
Unrealized (losses) gains arising during the period, net of U.S. income taxes	(22,718)	8,717	2,376
Less reclassification adjustment:			
Net realized investment (losses) gains	(554)	(835)	6,572
U.S. income taxes	39	333	(2,137)
Reclassification adjustment for investment (losses) gains realized in net income	(515)	(502)	4,435
Other comprehensive (loss) income	<u>\$ (22,203)</u>	<u>\$ 9,219</u>	<u>\$ (2,059)</u>

In addition to the \$554,000 and \$835,000 of realized investment losses and \$6.6 million of realized investment gains on available-for-sale fixed maturity securities for the years ended December 31, 2018, 2017, and 2016, the Company recognized \$1.1 million of realized investment gains, \$1.2 million of realized investment losses, and \$995,000 of realized investment gains in the respective years on its investments in bank loan participations. 2018 also includes net realized losses of \$6.0 million for the change in net unrealized gains on equity securities in accordance with the Company's adoption of ASU 2016-01 effective January 1, 2018.

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17. Segment Information

The Company has four reportable segments, three of which are separately managed business units and the fourth (“Corporate and Other”) includes the Company’s remaining operations. The Excess and Surplus Lines segment primarily offers commercial excess and surplus lines liability and excess property insurance products. The Specialty Admitted Insurance segment offers workers’ compensation insurance coverage as well as specialty admitted fronting and program business. The Casualty Reinsurance segment offers commercial liability and non-catastrophe property reinsurance to U.S. insurance companies and to the Company’s U.S.-based insurance subsidiaries. The Corporate and Other segment consists of certain management and treasury activities of James River Group, James River UK, and JRG Holdings as well as interest expense associated with senior debt and Junior Subordinated Debt, and investment income from investments classified as trading or other invested assets. The accounting policies of the reportable segments are the same as those described in the summary of significant accounting policies.

Segment revenues for each reportable segment consist of net earned premiums, net investment income, and realized and unrealized (losses) gains on investments. Segment profit (loss) for each reportable segment is measured by underwriting profit (loss), which is generally defined as net earned premiums less losses and loss adjustment expenses and other operating expenses of the operating segments. Gross fee income of the Excess and Surplus Lines segment are included in that segment’s underwriting profit (loss). Gross fee income of \$13.9 million, \$17.0 million and \$10.1 million was included in underwriting profit for the years ended December 31, 2018, 2017 and 2016, respectively. Segment results are reported prior to the effects of the intercompany reinsurance agreements between the Company’s insurance subsidiaries. All gross written premiums and net earned premiums for all periods presented were generated from policies issued to U.S. based insureds.

	Excess and Surplus Lines	Specialty Admitted Insurance	Casualty Reinsurance	Corporate and Other	Total
	<i>(in thousands)</i>				
As of and for the Year Ended					
December 31, 2018					
Gross written premiums	\$ 656,538	\$ 374,346	\$ 135,889	\$ —	\$ 1,166,773
Net earned premiums	555,684	55,146	204,568	—	815,398
Segment revenues	580,785	56,717	243,178	4,919	885,599
Net investment income	14,456	3,262	38,838	4,700	61,256
Interest expense	—	—	—	11,553	11,553
Underwriting profit of operating segments	42,834	6,972	5,103	—	54,909
Segment goodwill	181,831	—	—	—	181,831
Segment assets	972,111	633,689	1,453,754	77,222	3,136,776

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	Excess and Surplus Lines	Specialty Admitted Insurance	Casualty Reinsurance	Corporate and Other	Total
	<i>(in thousands)</i>				
As of and for the Year Ended December 31, 2017					
Gross written premiums	\$ 530,120	\$ 316,430	\$ 235,355	\$ —	\$ 1,081,905
Net earned premiums	463,521	68,110	209,478	—	741,109
Segment revenues	493,853	70,366	240,751	12,655	817,625
Net investment income	15,014	2,532	31,507	12,066	61,119
Interest expense	—	—	—	8,974	8,974
Underwriting profit (loss) of operating segments	29,693	3,166	(1,765)	—	31,094
Segment goodwill	181,831	—	—	—	181,831
Segment assets	843,486	439,416	1,379,866	93,927	2,756,695
As of and for the Year Ended December 31, 2016					
Gross written premiums	\$ 370,844	\$ 182,221	\$ 184,333	\$ —	\$ 737,398
Net earned premiums	301,404	52,281	161,978	—	515,663
Segment revenues	331,090	55,412	190,064	9,661	586,227
Net investment income	18,051	2,542	27,257	4,788	52,638
Interest expense	—	—	—	8,448	8,448
Underwriting profit (loss) of operating segments	47,235	2,872	(194)	—	49,913
Segment goodwill	181,831	—	—	—	181,831
Segment assets	740,144	300,519	1,195,230	110,640	2,346,533

The following table reconciles the underwriting profit (loss) of insurance segments by individual segment to income before taxes:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Underwriting profit (loss) of the operating segments:			
Excess and Surplus Lines	\$ 42,834	\$ 29,693	\$ 47,235
Specialty Admitted Insurance	6,972	3,166	2,872
Casualty Reinsurance	5,103	(1,765)	(194)
Total underwriting profit of operating segments	54,909	31,094	49,913
Other operating expenses of the Corporate and Other segment	(26,903)	(25,330)	(20,433)
Underwriting profit	28,006	5,764	29,480
Net investment income	61,256	61,119	52,638
Net realized and unrealized (losses) gains on investments	(5,479)	(1,989)	7,565
Other income	505	361	295
Other expenses	(1,300)	(539)	(1,590)
Interest expense	(11,553)	(8,974)	(8,448)
Amortization of intangible assets	(597)	(597)	(597)
Income before income taxes	\$ 70,838	\$ 55,145	\$ 79,343

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The Company currently has 15 underwriting divisions, including 13 in the Excess and Surplus Lines segment, one in the Specialty Admitted Insurance segment, and one in the Casualty Reinsurance segment. Each underwriting division focuses on a specific industry group or coverage.

Gross written premiums by segment and underwriting division are presented below:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Commercial Auto	\$ 322,126	\$ 247,960	\$ 110,050
Manufacturers and Contractors	79,160	85,719	83,279
Excess Casualty	66,452	51,160	43,574
General Casualty	54,127	38,097	36,858
Energy	33,942	29,704	29,709
Allied Health	30,450	19,181	14,413
Excess Property	16,963	14,447	14,083
Life Sciences	16,636	12,981	11,132
Small Business	14,808	11,307	9,104
Professional Liability	5,916	6,326	8,361
Environmental	10,499	7,920	5,321
Medical Professionals	1,774	2,297	2,739
Sports and Entertainment	3,685	3,021	2,221
Total Excess and Surplus Lines segment	656,538	530,120	370,844
Specialty Admitted Insurance segment	374,346	316,430	182,221
Casualty Reinsurance segment	135,889	235,355	184,333
Total	\$ 1,166,773	\$ 1,081,905	\$ 737,398

The Company does business with two brokers that generated \$358.3 million and \$81.4 million of gross written premiums for the Excess and Surplus Lines segment for the year ended December 31, 2018, representing 30.7% (BB&T Insurance Services) and 7.0% of consolidated gross written premiums and 54.6% and 12.4% of the Excess and Surplus Lines segment's gross written premiums, respectively. The Company has agency contracts with various branches within the aforementioned brokers. No other broker generated 10.0% or more of the gross written premiums for the Excess and Surplus Lines segment for the year ended December 31, 2018. The Company does business with one insured (Rasier LLC) that generated \$294.3 million of gross written premiums and \$13.9 million of gross fee income for the Excess and Surplus Lines segment for the year ended December 31, 2018, representing 25.2% of consolidated gross written premiums and 44.8% of the Excess and Surplus Lines segment's gross written premiums. No other insured generated 10.0% or more of the gross written premiums for the Excess and Surplus Lines segment.

The Specialty Admitted Insurance segment accepts applications for insurance from a variety of sources, including independent retail agents, program administrators and managing general agents ("MGAs"). The Company does business with one agency (Atlas General Insurance Services) that generated \$201.7 million of gross written premiums for the Specialty Admitted Insurance segment for the year ended December 31, 2018, representing 17.3% of the consolidated gross written premiums and 53.9% of the Specialty Admitted Insurance segment's gross written premiums. No other agency generated 10.0% or more of the gross written premiums for the Specialty Admitted Insurance segment for the year ended December 31, 2018.

The Company does business with two brokers that generated \$54.0 million and \$42.3 million of gross written premiums for the Casualty Reinsurance segment for the year ended December 31, 2018, representing 4.6% and 3.6% of consolidated gross written premiums and 39.8% and 31.1% of the Casualty Reinsurance segment's gross written premiums, respectively. No other broker generated 10.0% or more of the gross written premiums for the Casualty Reinsurance segment for the year ended December 31, 2018. The Casualty Reinsurance segment assumed business from three unaffiliated ceding companies that generated \$83.4 million, \$22.1 million, and \$20.8 million of gross written premiums for the year ended December 31, 2018, representing 7.1%, 1.9%, and 1.8% of consolidated gross written premiums and 61.4%, 16.2%, and 15.3% of the Casualty Reinsurance segment's gross written premiums, respectively.

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18. Fair Value Measurements

Three levels of inputs are used to measure fair value of financial instruments: (1) Level 1: quoted price (unadjusted) in active markets for identical assets, (2) Level 2: inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the instrument, and (3) Level 3: inputs to the valuation methodology are unobservable for the asset or liability.

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability in the principal or most advantageous market in an orderly transaction between market participants on the measurement date.

To measure fair value, the Company obtains quoted market prices for its investment securities from its outside investment managers. If a quoted market price is not available, the Company uses prices of similar securities. Values for U.S. Treasury and publicly-traded equity securities are generally based on Level 1 inputs which use the market approach valuation technique. The values for all other fixed maturity securities (including state and municipal securities and obligations of U.S. government corporations and agencies) generally incorporate significant Level 2 inputs, and in some cases, Level 3 inputs, using the market approach and income approach valuation techniques. There have been no changes in the Company's use of valuation techniques since December 31, 2016.

The Company reviews fair value prices provided by its outside investment managers for reasonableness by comparing the fair values provided by the managers to those provided by its investment custodian. The Company also reviews and monitors changes in unrealized gains and losses. The Company has not historically adjusted security prices. The Company obtains an understanding of the methods, models and inputs used by the investment managers and independent pricing services, and controls are in place to validate that prices provided represent fair values. The Company's control process includes, but is not limited to, initial and ongoing evaluation of the methodologies used, a review of specific securities and an assessment for proper classification within the fair value hierarchy, and obtaining and reviewing internal control reports for our investment manager that obtains fair values from independent pricing services.

Assets measured at fair value on a recurring basis as of December 31, 2018 are summarized below:

	Fair Value Measurements Using			Total
	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	
<i>(in thousands)</i>				
Fixed maturity securities, available-for-sale:				
State and municipal	\$ —	\$ 149,295	\$ —	\$ 149,295
Residential mortgage-backed	—	204,109	—	204,109
Corporate	—	524,768	—	524,768
Commercial mortgage and asset-backed	—	192,797	4,228	197,025
U.S. Treasury securities and obligations guaranteed by the U.S. government	106,651	542	—	107,193
Redeemable preferred stock	—	1,812	—	1,812
Total fixed maturity securities, available-for-sale	\$ 106,651	\$ 1,073,323	\$ 4,228	\$ 1,184,202
Equity securities:				
Preferred stock	\$ —	\$ 60,740	\$ —	\$ 60,740
Common stock	16,674	757	214	17,645
Total equity securities	\$ 16,674	\$ 61,497	\$ 214	\$ 78,385
Short-term investments	\$ 1,250	\$ 80,716	\$ —	\$ 81,966

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Assets measured at fair value on a recurring basis as of December 31, 2017 are summarized below:

	Fair Value Measurements Using			Total
	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	
	<i>(in thousands)</i>			
Fixed maturity securities, available-for-sale:				
State and municipal	\$ —	\$ 144,366	\$ —	\$ 144,366
Residential mortgage-backed	—	158,661	—	158,661
Corporate	—	413,721	—	413,721
Commercial mortgage and asset-backed	—	177,931	4,680	182,611
Obligations of U.S. government corporations and agencies	—	35,847	—	35,847
U.S. Treasury securities and obligations guaranteed by the U.S. government	78,265	609	—	78,874
Redeemable preferred stock	—	2,018	—	2,018
Total fixed maturity securities, available-for-sale	\$ 78,265	\$ 933,153	\$ 4,680	\$ 1,016,098
Equity securities:				
Preferred stock	\$ —	\$ 66,281	\$ —	\$ 66,281
Common stock	15,507	734	—	16,241
Total equity securities	\$ 15,507	\$ 67,015	\$ —	\$ 82,522
Trading securities:				
Fixed maturity securities	\$ —	\$ 3,808	\$ —	\$ 3,808
Short-term investments	\$ 1,000	\$ 35,804	\$ —	\$ 36,804

A reconciliation of the beginning and ending balances of available-for-sale fixed maturity securities and equity securities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) is shown below:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Beginning balance	\$ 4,680	\$ 5,000	\$ 5,000
Transfers out of Level 3	—	—	—
Transfers in to Level 3	—	—	—
Purchases	214	—	—
Sales	—	—	—
Maturities and calls	(452)	(320)	—
Amortization of discount	—	—	—
Total gains or losses (realized/unrealized):			
Included in earnings	—	—	—
Included in other comprehensive income	—	—	—
Ending balance	\$ 4,442	\$ 4,680	\$ 5,000

The Company held one available-for-sale fixed maturity security at December 31, 2018 and 2017 for which the fair value was determined using significant unobservable inputs (Level 3). A market approach using prices in trades of comparable securities was utilized to determine a fair value of \$4.2 million for the security at December 31, 2018 and \$4.7 million at December 31, 2017. At December 31, 2018, the Company held one equity security for which the fair value was determined

James River Group Holdings, LTD. and Subsidiaries

**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016**

using significant unobservable inputs (Level 3). A market approach using prices in trades of comparable securities was utilized to determine a fair value of \$214,000 for the security at December 31, 2018.

Transfers out of Level 3 occur when the Company is able to obtain reliable prices from pricing vendors for which the Company was previously unable to obtain reliable prices. Transfers in to Level 3 occur when the Company is unable to obtain reliable prices for securities from pricing vendors and instead must use broker price quotes.

There were no transfers between Level 1 and Level 2 during 2018, 2017 or 2016. The Company recognizes transfers between levels at the beginning of the reporting period.

There were no realized gains or losses included in earnings for the year ended December 31, 2018 attributable to the change in unrealized gains or losses relating to Level 3 assets valued at fair value on a recurring basis that are still held at December 31, 2018.

The Company measures certain bank loan participations at fair value on a non-recurring basis during the year as part of the Company's impairment evaluation when loans are determined by management to be impaired.

Assets measured at fair value on a nonrecurring basis are summarized below:

	Fair Value Measurements Using			Total
	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	
<i>(in thousands)</i>				
December 31, 2018				
Bank loan participations held-for-investment	\$ —	\$ —	\$ —	\$ —
December 31, 2017				
Bank loan participations held-for-investment	\$ —	\$ —	\$ 5,111	\$ 5,111

Management concluded that none of the bank loan participations held-for-investment were impaired as of December 31, 2018. At December 31, 2017, bank loan participations held for investment that were determined to be impaired were written down to their fair value of \$5.1 million.

In the determination of the fair value for bank loan participations and certain high yield bonds, the Company's investment manager endeavors to obtain data from multiple external pricing sources. External pricing sources may include brokers, dealers and price data vendors that provide a composite price based on prices from multiple dealers. Such external pricing sources typically provide valuations for normal institutional size trading units of such securities using methods based on market transactions for comparable securities, and various relationships between securities, as generally recognized by institutional dealers. For investments in which the investment manager determines that only one external pricing source is appropriate or if only one external price is available, the relevant investment is generally recorded at fair value based on such price.

Investments for which external sources are not available or are determined by the investment manager not to be representative of fair value are recorded at fair value as determined by the Company, with input from its investment managers and valuation specialists as considered necessary. In determining the fair value of such investments, the Company considers one or more of the following factors: type of security held, convertibility or exchangeability of the security, redeemability of the security (including the timing of redemptions), application of industry accepted valuation models, recent trading activity, liquidity, estimates of liquidation value, purchase cost, and prices received for securities with similar terms of the same issuer or similar issuers. At December 31, 2018, there were no investments for which external sources were unavailable to determine fair value. At December 31, 2017, there was one bank loan participation with an unpaid principal balance of \$807,000 and a carrying value of zero for which external sources were unavailable to determine fair value.

James River Group Holdings, LTD. and Subsidiaries

Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016

The carrying values and fair values of financial instruments are summarized below:

	December 31,			
	2018		2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
	<i>(in thousands)</i>			
Assets				
Fixed maturity securities, available-for-sale	\$ 1,184,202	\$ 1,184,202	\$ 1,016,098	\$ 1,016,098
Equity securities	78,385	78,385	82,522	82,522
Fixed maturity securities, trading	—	—	3,808	3,808
Bank loan participations held-for-investment	260,972	250,697	238,214	236,532
Cash and cash equivalents	172,457	172,457	163,495	163,495
Short-term investments	81,966	81,966	36,804	36,804
Other invested assets – notes receivable	13,250	18,687	11,778	17,104
Liabilities				
Senior debt	118,300	118,317	98,300	97,884
Junior subordinated debt	104,055	117,057	104,055	116,569

The fair values of fixed maturity securities and equity securities have been determined using quoted market prices for securities traded in the public market or prices using bid or closing prices for securities not traded in the public marketplace. The fair values of cash and cash equivalents and short-term investments approximate their carrying values due to their short-term maturity.

The fair values of other invested assets-notes receivable, senior debt, and Junior Subordinated Debt at December 31, 2018 and 2017 were determined by calculating the present value of expected future cash flows under the terms of the note agreements or debt agreements, as applicable, discounted at an estimated market rate of interest at December 31, 2018 and 2017, respectively.

The fair values of bank loan participations held-for-investment, senior debt, and Junior Subordinated Debt at December 31, 2018 and 2017 were determined using inputs to the valuation methodology that are unobservable (Level 3).

19. Statutory Matters

U.S.

U.S. state insurance laws and regulations prescribe accounting practices for determining statutory net income and capital and surplus for insurance companies. In addition, state regulators may permit statutory accounting practices that differ from prescribed practices. Statutory accounting practices prescribed or permitted by regulatory authorities for the Company's insurance subsidiaries differ from U.S. GAAP. The principal differences between SAP and GAAP as they relate to the financial statements of the Company's insurance subsidiaries are (a) policy acquisition costs are expensed as incurred under SAP, whereas they are deferred and amortized under GAAP, (b) certain assets are not admitted for purposes of determining surplus under SAP, (c) the classification and carrying amounts of investments in certain securities are different under SAP and GAAP, and (d) the criteria for providing asset valuation allowances and the methodologies used to determine the amount thereof are different under SAP and GAAP.

James River Group Holdings, LTD. and Subsidiaries
**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016**

Combined net income, statutory capital and surplus and minimum required statutory capital and surplus, as determined in accordance with statutory accounting practices, for the U.S. insurance subsidiaries as of December 31, 2018, 2017, and 2016 and for the years then ended are summarized as follows:

	2018	2017	2016
	<i>(in thousands)</i>		
Statutory net income	\$ 6,770	\$ 31,881	\$ 13,468
Statutory capital and surplus	241,668	219,132	184,859
Minimum required statutory capital and surplus	24,850	25,000	25,000

Risk-Based Capital (“RBC”) requirements promulgated by the National Association of Insurance Commissioners require property-casualty insurers to maintain minimum capitalization levels determined based on formulas incorporating various business risks of the insurance subsidiaries. As of December 31, 2018, the insurance subsidiaries’ adjusted capital and surplus exceeds their authorized control level RBC.

Bermuda

The Company has two Bermuda-based insurance subsidiaries: JRG Re, a Class 3B insurer and Carolina Re, a Class 3A insurer. Under the Bermuda Insurance Act 1978 and related regulations, an insurer must maintain minimum statutory capital and surplus at the greater of a minimum solvency margin (“MSM”) and the Enhanced Capital Requirement (“ECR”), which is the higher of the MSM and capital calculated by the Bermuda Solvency Capital Requirement (“BSCR”) model or an approved internal model. The combined Bermuda insurers minimum statutory solvency margin required at December 31, 2018 was approximately \$161.3 million (2017: \$109.9 million). Actual combined statutory capital and surplus at December 31, 2018 was \$439.4 million (2017: \$409.2 million). The insurers had combined statutory net income of \$86.5 million for 2018, \$20.1 million for 2017, and \$74.7 million for 2016. The ECR for the year ended December 31, 2017 was \$275.4 million. The BSCR models for the year ended December 31, 2018 will not be filed with the Bermuda Monetary Authority until April 30, 2019. The Company believes that the minimum statutory capital and surplus requirements will be met.

The insurers must also maintain a minimum liquidity ratio in which the value of its relevant assets is not less than 75.0% of the amount of its relevant liabilities for general business. Relevant assets include cash and cash equivalents, fixed maturities, quoted alternative investments, accrued interest income, premiums receivable, losses recoverable from reinsurers, and funds withheld. The relevant liabilities include total insurance provisions and other liabilities less deferred income taxes and letters of credit, guarantees and other instruments. As of December 31, 2018 the minimum liquidity ratio requirements were met.

20. Dividend Restrictions

U.S.

The insurance statutes of the U.S.-based insurance subsidiaries’ states of domicile limit the amount of dividends that they may pay annually without first obtaining regulatory approval. Generally, the limitations are based on the greater of statutory net income for the preceding year or 10.0% of statutory surplus at the end of the preceding year. The maximum amount of dividends available to James River Group from its U.S. insurance subsidiaries during 2019 without regulatory approval is \$24.2 million. However, U.S. insurance regulators have broad powers to prevent the reduction of statutory surplus to inadequate levels and could refuse to permit the payment of dividends.

Distributions from the Company’s U.S.-based subsidiaries to its U.K. intermediate holding company, James River UK, are generally subject to a 5% dividend withholding tax. The payment of any dividends by the Company’s U.S.-based subsidiaries directly to a Bermuda-based entity is subject to U.S. taxes at a 30.0% tax rate. JRG Holdings has determined that earnings of its U.S. subsidiaries have been and will be indefinitely reinvested in U.S. operations.

Bermuda

The Bermuda Insurance Act of 1978 prohibits an insurer from declaring or paying a dividend if it is in breach of its minimum solvency margin, its enhanced capital requirement, or its minimum liquidity ratio, or if the declaration or payment of such dividend would cause such a breach. An insurer can declare or pay dividends without prior regulatory approval up to 25% of the total statutory capital and surplus. At December 31, 2018, the maximum combined amount of dividends that can be paid without prior regulatory approval was approximately \$109.8 million. However, this dividend amount is subject to annual enhanced solvency requirement calculations.

James River Group Holdings, LTD. and Subsidiaries
**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016**

As of December 31, 2018, JRG Holdings had consolidated retained earnings of \$79.8 million, all of which was available for the payment of dividends to shareholders.

21. Other Related Party Transactions

The Company leases a commercial office building which houses the Company's Richmond, Virginia operations under the terms of a non-cancelable lease from an entity with which it is affiliated. As a result of being deemed the owner for accounting purposes, the building is recorded as an asset and the related financing obligation is recorded as a liability on the accompanying consolidated balance sheets. Since the arrangement did not qualify for sale-lease back treatment upon completion of the asset's construction, the Company continues to reduce the obligation over the lease term as payments are made and depreciates the asset over its useful life. Both the financing obligation and the lease had initial 10-year terms which started in 2007. In 2015, the term of the lease and financing obligation were extended until 2026. The arrangements provide for 2% fixed annual rent increases.

Upon adoption of ASU 2016-02, *Leases (Topic 842)* on January 1, 2019, the Company will derecognize assets of \$22.6 million and liabilities of \$30.9 million associated with the above lease that was designated as build-to-suit under the previous guidance, and record a cumulative-effect adjustment to retained earnings of \$8.3 million. The lease will be classified as an operating lease under the new standard. The Company will record a right-of-use asset and lease liability for the lease under the new standard.

The Non-Executive Chairman of the Board and former Chief Executive Officer of the Company owns a plane that the Company periodically leases. Total fees paid by the Company for the use of this plane were \$123,000, \$314,000, and \$246,000 for 2018, 2017, and 2016, respectively.

Upon the Company's initial public offering in 2014, the Company entered into a consulting agreement (the "Consulting Agreement") with one of the Company's Independent Directors. Under the terms of the Consulting Agreement, the director received \$150,000 in 2016 and \$37,500 in 2017 for investment and other business consulting services. The Consulting Agreement was terminated on March 31, 2017.

22. Subsequent Events

On February 20, 2019, the Board of Directors declared a cash dividend of \$0.30 per share. The dividend is payable on March 29, 2019 to shareholders of record on March 11, 2019.

On February 20, 2019, the Board of Directors granted awards under the 2014 LTIP and the 2014 Director Plan to the Company's employees and directors. RSUs for 167,295 shares were awarded with a fair value on the date of grant of \$42.07 per share. The RSUs vest over one to three year periods, depending on the award.

On January 31, 2019, the Company repaid \$20.0 million of unsecured borrowings on its 2017 Facility, reducing the balance of unsecured loans outstanding under the facility to \$10.0 million.

23. Unaudited Selected Quarterly Financial Data

The following is a summary of the unaudited quarterly results of operations:

	2018 Quarter				2018
	First	Second	Third	Fourth	Year
	<i>(in thousands, except per share data)</i>				
Gross written premiums	\$ 298,116	\$ 293,378	\$ 279,969	\$ 295,310	\$ 1,166,773
Total revenues	218,344	228,041	224,692	214,522	885,599
Net income	15,633	16,984	19,581	11,632	63,830
Comprehensive (loss) income	(2,914)	10,426	15,192	18,923	41,627
Earnings per share:					
Basic (1)	\$ 0.53	\$ 0.57	\$ 0.65	\$ 0.39	\$ 2.14
Diluted (1)	\$ 0.52	\$ 0.56	\$ 0.64	\$ 0.38	\$ 2.11

James River Group Holdings, LTD. and Subsidiaries

**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016**

	2017 Quarter				2017
	First	Second	Third	Fourth	Year
	<i>(in thousands, except per share data)</i>				
Gross written premiums	\$ 224,179	\$ 281,475	\$ 338,351	\$ 237,900	\$ 1,081,905
Total revenues	176,402	202,394	220,866	217,963	817,625
Net income	18,450	14,541	10,351	224	43,566
Comprehensive income (loss)	22,484	21,249	11,067	(2,015)	52,785
Earnings per share:					
Basic (1)	\$ 0.63	\$ 0.49	\$ 0.35	\$ 0.01	\$ 1.48
Diluted (1)	\$ 0.61	\$ 0.48	\$ 0.34	\$ 0.01	\$ 1.44

For the second quarter of 2017, the Casualty Reinsurance segment was impacted by a correction of the accrual for a contingent commission liability and related commission expense. As a result of this correction, net income for the second quarter of 2017 was reduced by \$2.0 million.

- (1) Since the weighted-average shares for the quarter are calculated independently of the weighted-average shares for the year, quarterly earnings per share may not total to annual earnings per share.

James River Group Holdings, LTD. and Subsidiaries
**Notes to Consolidated Financial Statements
Years ended December 2018, 2017, and 2016**
SCHEDULE I
JAMES RIVER GROUP HOLDINGS, LTD.
Summary of Investments—Other than Investments in Related Parties

Type of Investment	Cost or Amortized Cost	Fair Value	Amount at which shown on Balance Sheet ⁽¹⁾
	<i>(in thousands)</i>		
Fixed maturity securities, available-for-sale:			
State and municipal	\$ 147,160	\$ 149,295	\$ 149,295
Residential mortgage-backed	208,869	204,109	204,109
Corporate	534,024	524,768	524,768
Commercial mortgage and asset-backed	199,528	197,025	197,025
U.S. Treasury securities and obligations guaranteed by the U.S. government	107,803	107,193	107,193
Redeemable preferred stock	2,025	1,812	1,812
Total fixed maturity securities, available-for-sale	1,199,409	1,184,202	1,184,202
Equity securities, available-for-sale			
Preferred Stock	57,689	60,740	60,740
Common Stock	19,463	17,645	17,645
Total equity securities	77,152	78,385	78,385
Bank loan participations, held-for-investment, net of allowance	260,972	250,697	260,972
Short-term investments	81,966	81,966	81,966
Other invested assets			29,276
Total invested assets			<u>\$ 1,634,801</u>

(1) Differences between the amounts in this column and the amounts in the consolidated balance sheet are due to this schedule excluding investments in related parties.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Condensed Financial Information of Registrant

Balance Sheets (Parent Company)

	December 31,	
	2018	2017
	<i>(in thousands)</i>	
Assets		
Cash and cash equivalents	\$ 240	\$ 2,849
Investment in subsidiaries	882,407	910,610
Due from subsidiaries	5,775	—
Other assets	1,579	2,351
Total assets	<u>\$ 890,001</u>	<u>\$ 915,810</u>
Liabilities and shareholders' equity		
Liabilities:		
Accrued expenses	\$ 2,322	\$ 1,406
Senior debt	103,300	83,300
Junior subordinated debt	15,928	15,928
Notes payable to subsidiary	40,000	100,000
Due to subsidiaries	18,605	20,043
Other liabilities	605	434
Total liabilities	<u>180,760</u>	<u>221,111</u>
Commitments and contingent liabilities	—	—
Shareholders' equity:		
Class A common shares	6	6
Additional paid-in capital	645,310	636,149
Retained earnings	79,753	48,198
Accumulated other comprehensive (loss) income	(15,828)	10,346
Total shareholders' equity	<u>709,241</u>	<u>694,699</u>
Total liabilities and shareholders' equity	<u>\$ 890,001</u>	<u>\$ 915,810</u>

See accompanying notes.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES
Condensed Financial Information of Registrant
Statements of Income and Comprehensive Income (Parent Company)

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Revenues:			
Other income	\$ 58	\$ 49	\$ 44
Total revenues	58	49	44
Expenses:			
Other operating expenses	13,768	10,375	9,467
Other expenses	337	640	293
Interest expense	5,122	4,130	3,974
Total expenses	19,227	15,145	13,734
Loss before equity in net income of subsidiaries	(19,169)	(15,096)	(13,690)
Equity in net income of subsidiaries	82,999	58,662	88,161
Net income	\$ 63,830	\$ 43,566	\$ 74,471
Other comprehensive (loss) income:			
Equity in other comprehensive (losses) earnings of subsidiaries	(22,203)	9,219	(2,059)
Total comprehensive income	\$ 41,627	\$ 52,785	\$ 72,412

See accompanying notes.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Condensed Financial Information of Registrant

Statements of Cash Flows (Parent Company)

	Year Ended December 31,		
	2018	2017	2016
Operating activities			
Net income	\$ 63,830	\$ 43,566	\$ 74,471
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Provision for depreciation and amortization	176	176	157
Share based compensation expense	6,228	7,688	5,492
Equity in undistributed earnings of subsidiaries	6,000	(23,662)	(88,161)
Changes in operating assets and liabilities:	(5,653)	684	(1,889)
Net cash provided by (used in) operating activities	70,581	28,452	(9,930)
Investing activities			
Dividends from subsidiaries	—	20,000	80,000
Net cash provided by investing activities	—	20,000	80,000
Financing activities			
Dividends paid	(36,123)	(50,832)	(65,988)
Senior debt issuance	20,000	10,000	—
Senior debt repayments	—	—	—
Subsidiary note repayments	(60,000)	—	—
Debt issue costs paid	—	—	(442)
Issuances of common shares under equity incentive plans	5,172	1,708	2,260
Common share repurchases	(2,239)	(9,448)	(4,907)
Net cash used in financing activities	(73,190)	(48,572)	(69,077)
Change in cash and cash equivalents	(2,609)	(120)	993
Cash and cash equivalents at beginning of period	2,849	2,969	1,976
Cash and cash equivalents at end of period	\$ 240	\$ 2,849	\$ 2,969
Supplemental information			
Interest paid	\$ 5,052	\$ 4,612	\$ 4,676

See accompanying notes.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES**Condensed Financial Information of Registrant****Notes to Condensed Financial Statements****1. Accounting Policies****Organization**

James River Group Holdings, Ltd. (the "Company") is an exempted holding company registered in Bermuda, organized for the purpose of acquiring and managing insurance and reinsurance entities.

Basis of Presentation

The accompanying condensed financial statements have been prepared using the equity method. Under the equity method, the investment in consolidated subsidiaries is stated at cost plus equity in undistributed earnings of consolidated subsidiaries since the date of acquisition. These condensed financial statements should be read in conjunction with the Company's consolidated financial statements.

Estimates and Assumptions

Preparation of the financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying disclosures. Those estimates are inherently subject to change, and actual results may ultimately differ from those estimates.

Adopted Accounting Standards

Effective January 1, 2018, the Company adopted ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. Among other things, this ASU requires equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income. Upon adoption on January 1, 2018, the Company made a \$4.7 million cumulative-effect adjustment to increase retained earnings and reduce accumulated other comprehensive income. The adoption of ASU 2016-01 did not materially impact the Company's financial position, cash flows, or total comprehensive income. The Company's results of operations were impacted as changes in fair value of equity instruments are now presented in net income rather than other comprehensive (loss) income. For the year ended December 31, 2018, the respective impact on net income was a reduction of \$4.7 million.

Effective January 1, 2018, the Company adopted ASU 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. This update was issued as a result of the enactment of Public Law No. 115-97, informally titled the Tax Cuts and Jobs Act (the "Tax Act"), on December 22, 2017. The ASU allows for the option to reclassify the stranded tax effects resulting from the implementation of the Tax Act out of accumulated other comprehensive income and into retained earnings. As the adoption of ASU 2016-01 in 2018 resulted in the reclassification of the entire unrealized balance on equity securities from accumulated other comprehensive income into retained earnings, only the stranded tax effects on the unrealized balances of fixed income securities were impacted by the adoption of ASU 2018-02. The reclassification resulted in a \$711,000 decrease to the Company's retained earnings with a corresponding increase to accumulated other comprehensive income in the first quarter of 2018.

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Supplementary Insurance Information

(in thousands)

	Deferred Policy Acquisition Costs	Reserve for Losses and Loss Adjustment Expenses	Unearned Premiums	Net Earned Premiums	Net Investment Income	Losses and Loss Adjustment Expenses	Amortization of Policy Acquisition Costs	Other Operating Expenses	Net Written Premiums
December 31, 2018									
Excess and Surplus Lines	\$ 16,736	\$ 960,562	\$ 175,231	\$ 555,684	\$ 14,456	\$ 437,904	\$ 48,299	\$ 88,865	\$ 571,098
Specialty Admitted	(1,829)	426,315	84,659	55,146	3,262	32,623	(1,792)	15,551	55,840
Casualty Reinsurance	39,543	274,582	126,583	204,568	38,838	129,749	64,596	69,716	135,734
Corporate and Other	—	—	—	—	4,700	—	—	26,903	—
Total	\$ 54,450	\$ 1,661,459	\$ 386,473	\$ 815,398	\$ 61,256	\$ 600,276	\$ 111,103	\$ 201,035	\$ 762,672
December 31, 2017									
Excess and Surplus Lines	\$ 17,050	\$ 759,043	\$ 149,047	\$ 463,521	\$ 15,014	\$ 371,717	\$ 45,158	\$ 79,136	\$ 469,891
Specialty Admitted	(725)	271,446	73,649	68,110	2,532	44,863	5,605	20,081	60,957
Casualty Reinsurance	56,040	261,860	195,418	209,478	31,507	138,797	65,238	72,446	235,778
Corporate and Other	—	—	—	—	12,066	—	—	25,330	—
Total	\$ 72,365	\$ 1,292,349	\$ 418,114	\$ 741,109	\$ 61,119	\$ 555,377	\$ 116,001	\$ 196,993	\$ 766,626
December 31, 2016									
Excess and Surplus Lines	\$ 14,808	\$ 575,280	\$ 137,290	\$ 301,404	\$ 18,051	\$ 188,768	\$ 46,669	\$ 75,467	\$ 316,922
Specialty Admitted	1,767	128,795	84,156	52,281	2,542	30,897	5,968	18,512	55,803
Casualty Reinsurance	48,214	239,790	169,117	161,978	27,257	105,756	48,987	56,416	184,983
Corporate and Other	—	—	—	—	4,788	—	—	20,433	—
Total	\$ 64,789	\$ 943,865	\$ 390,563	\$ 515,663	\$ 52,638	\$ 325,421	\$ 101,624	\$ 170,828	\$ 557,708

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Reinsurance

	Direct Amount	Ceded to Other Companies	Assumed from Other Companies	Net Amount	Percentage of Amount Assumed to Net
<i>(in thousands)</i>					
Year Ended December 31, 2018					
Excess and Surplus Lines Written Premiums	\$ 656,538	\$ 85,440	\$ —	\$ 571,098	—
Specialty Admitted Written Premiums	370,684	318,506	3,662	55,840	6.6%
Casualty Reinsurance Written Premiums	—	155	135,889	135,734	100.1%
Total Written Premiums	<u>\$ 1,027,222</u>	<u>\$ 404,101</u>	<u>\$ 139,551</u>	<u>\$ 762,672</u>	18.3%
Year Ended December 31, 2017					
Excess and Surplus Lines Written Premiums	\$ 530,077	\$ 60,229	\$ 43	\$ 469,891	—
Specialty Admitted Written Premiums	313,642	255,473	2,788	60,957	4.6%
Casualty Reinsurance Written Premiums	—	(423)	235,355	235,778	99.8%
Total Written Premiums	<u>\$ 843,719</u>	<u>\$ 315,279</u>	<u>\$ 238,186</u>	<u>\$ 766,626</u>	31.1%
Year Ended December 31, 2016					
Excess and Surplus Lines Written Premiums	\$ 370,802	\$ 53,922	\$ 42	\$ 316,922	—
Specialty Admitted Written Premiums	178,898	126,418	3,323	55,803	6.0%
Casualty Reinsurance Written Premiums	—	(650)	184,333	184,983	99.6%
Total Written Premiums	<u>\$ 549,700</u>	<u>\$ 179,690</u>	<u>\$ 187,698</u>	<u>\$ 557,708</u>	33.7%

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Valuation and Qualifying Accounts

	Balance at Beginning of Period	<u>Additions</u> Amounts Charged to Expense	<u>Deductions</u> Amounts Written Off or Disposals	Balance at End of Period
<i>(in thousands)</i>				
Year Ended December 31, 2018				
Allowance for Doubtful Accounts	\$ 2,757	\$ 1,504	\$ (313)	\$ 3,948
Allowance for Credit Losses on Bank Loans	3,219	950	(4,169)	—
Total	<u>\$ 5,976</u>	<u>\$ 2,454</u>	<u>\$ (4,482)</u>	<u>\$ 3,948</u>
Year Ended December 31, 2017				
Allowance for Doubtful Accounts	\$ 2,136	\$ 1,029	\$ (408)	\$ 2,757
Allowance for Credit Losses on Bank Loans	943	2,424	(148)	3,219
Total	<u>\$ 3,079</u>	<u>\$ 3,453</u>	<u>\$ (556)</u>	<u>\$ 5,976</u>
Year Ended December 31, 2016				
Allowance for Doubtful Accounts	\$ 2,778	\$ 814	\$ (1,456)	\$ 2,136
Allowance for Credit Losses on Bank Loans	4,310	(791)	(2,576)	943
Total	<u>\$ 7,088</u>	<u>\$ 23</u>	<u>\$ (4,032)</u>	<u>\$ 3,079</u>

JAMES RIVER GROUP HOLDINGS, LTD. AND SUBSIDIARIES

Supplementary Information Concerning Property Casualty Insurance Operations

	Year Ended December 31,		
	2018	2017	2016
	<i>(in thousands)</i>		
Deferred policy acquisition costs	\$ 54,450	\$ 72,365	\$ 64,789
Reserve for losses and loss adjustment expenses	1,661,459	1,292,349	943,865
Unearned premiums	386,473	418,114	390,563
Net earned premiums	815,398	741,109	515,663
Net investment income	61,256	61,119	52,638
Losses and loss adjustment expenses incurred:			
Current year	582,604	533,905	349,137
Prior year	17,672	21,472	(23,716)
Total losses and loss adjustment expenses incurred	600,276	555,377	325,421
Amortization of policy acquisition costs	111,103	116,001	101,624
Paid losses and loss adjustment expenses, net of reinsurance	396,013	326,680	217,827
Net written premiums	762,672	766,626	557,708

SEPARATION AND RELEASE AGREEMENT

This Separation and Release Agreement (the “Agreement”) is entered into among James River Group, Inc. (the “Parent Company”), its subsidiaries Stonewood Insurance Company (“SIC”), Falls Lake Insurance Management Company, Inc. (“FLIMCO”), Falls Lake National Insurance Company (formerly Stonewood National Insurance Company), Falls Lake General Insurance Company, and Falls Lake Fire and Casualty Company (together, the “Subsidiary Companies”) and Steven J. Hartman (“Employee”) (Parent Company and Subsidiary Companies and Employee will be collectively referred to hereinafter as the “Parties”).

WHEREAS, Employee is employed by the Parent Company and Subsidiary Companies (together, the “Company”) as the President and Chief Executive Officer of the Subsidiary Companies pursuant to an amended and restated employment agreement dated April 2, 2018 (the “Employment Agreement”);

WHEREAS, Employee’s employment by the Company ended on October 18, 2018 (the “Separation Date”);

WHEREAS, the Parties seek to fully and finally settle all existing claims, whether or not now known, arising out of Employee’s separation from the Company on the terms set forth herein;

NOW THEREFORE, the Parties mutually understand and agree as follows:

1. Payments to Employee.

(a) FLIMCO shall pay to Employee “Severance Pay” and an “Additional Separation Payment” subject to Employee’s satisfying all of the following conditions: (i) the Company’s timely receipt of this Agreement executed by Employee and Employee’s not exercising his right of revocation (as described below) of this Agreement; (ii) the expiration of the seven (7)-day period within which Employee may revoke the Release (the “Revocation Period”) and Employee’s not timely revoking the Release; and in the case of the Additional Separation Payment, the condition set forth in Section 1(e). Severance Pay means: (x) an amount equal to Employee’s annual base salary of \$497,474.88 for a period of eighteen (18) months, amounting to an aggregate total of \$746,212.32, after the Separation Date, which shall be paid in periodic installments in accordance with FLIMCO’s normal payroll practices in effect as of the Separation Date commencing on the first payroll cycle which is at least ten (10) business days after the 45th day after the Separation Date; (y) the unpaid portion of the discretionary bonus awarded to Employee for 2017, in the gross amount of \$80,107.00, which shall be paid at the time provided for the payment of such portion of the 2017 bonus when it was awarded; and (z) the continuation of coverage under all employee benefit insurance plans in which Employee was a participant as of the Separation Date, to the extent such post-employment coverage is authorized by such plans, at FLIMCO’s expense for the period of eighteen (18) months after the Separation Date, provided, however if post-employment coverage is not authorized under such health insurance plan, then FLIMCO will pay Employee a lump sum of \$13,572.72 on the first payroll cycle described above. Additional Separation Payment means a payment in the gross amount of \$497,474.88, which Employee would not otherwise be entitled to receive under the Employment Agreement, with the Additional Separation Payment to be paid in 2019, on or before March 15, 2019.

(b) All payments pursuant to this Agreement will be subject to all applicable taxes and other lawful withholdings. For purposes of this Agreement, “Separation Date” means the date of Employee’s “separation from service” within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended (the “Code”), and the regulations promulgated thereunder (“Section 409A”). Each payroll period payment described in this Section 1 shall be treated as a separate payment for purposes of Section 409A.

(c) Appendix A to this agreement details vested and unvested options awards and unvested restricted share units as of the Separation Date. Any restricted share units or stock option awards to Employee that have not vested by the Separation Date shall not vest (“Unvested Equity Awards”).

(d) Notwithstanding any provision of this Agreement to the contrary, all compensation and benefits paid pursuant to Section 1(a) of this Agreement shall cease and Executive shall promptly return any amount paid under Section 1(a) to FLIMCO if Employee violates any of the terms of Section 4 or Section 5 of the Employment Agreement during the Restricted Period (as defined in the Employment Agreement), including, without limitation, disclosure of the fact of Employee’s separation from the Company prior to the public disclosure of the same by Holdings Group (as

defined in the Employment Agreement). Employee acknowledges that this separation information constitutes Confidential Information as defined in, and that is subject to, Section 4(a)(i) of the Employment Agreement. In addition to these remedies, the Parent Company, the Subsidiary Companies and the Holdings Group (as defined in the Employment Agreement) shall have all other remedies provided by the Employment Agreement and by law for the breach of Section 4 or Section 5 of the Employment Agreement.

(e) Notwithstanding any provision of this Agreement to the contrary, Employee acknowledges that he is not entitled to receive the Additional Separation Payment under the terms of the Employment Agreement. In addition to the conditions set forth in Section 1(a) to the payment of the Additional Separation Payment, it shall be an additional condition for payment of the Additional Separation Payment that Employee not trade in (buy or sell) any securities of James River Group Holdings, Ltd. ("JRGH") until 48 hours after the widespread public release of JRGH's results for the quarter ended September 30, 2018.

2. Consideration. Employee acknowledges that the Severance Pay, the Additional Separation Payment, and other consideration set forth herein exceeds that to which Employee would otherwise be entitled upon separation from the Company without providing a release of claims under the normal operation of the Company's benefit plans, policies, and/or practices. Irrespective of whether Employee signs this Agreement, Employee will retain any rights Employee may otherwise have to medical, dental, and vision benefits continuation coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1986, as amended, or other applicable law (which rights will be explained in greater detail in a separate notice provided to Employee), and will be paid all compensation and benefits earned through the Separation Date, as follows:

(a) accrued but yet unpaid base salary earned through the Separation Date will be paid on the first payroll date following the Separation Date; and

(b) reasonable business expenses incurred, but not paid prior to, the Separation Date will be reimbursed within forty-five (45) days after the Separation Date.

3. Waiver and Release. For valuable consideration from FLIMCO on behalf of the Company, receipt of which is hereby acknowledged, Employee waives, releases, and forever discharges the Parent Company and the Subsidiary Companies, and their current and former parents, subsidiaries, divisions, affiliates, shareholders, officers, directors, attorneys, agents, employees, successors, and assigns (collectively referred to as the "Company Releasees") from any and all rights, causes of action, claims or demands, whether express or implied, known or unknown, that arise on or before the date that Employee executes this Agreement, which Employee has or may have against the Company and/or the Company Releasees, including, but not limited to, any rights, causes of action, claims, or demands relating to or arising out of the following:

(a) anti-discrimination, anti-harassment, and anti-retaliation laws, such as the Age Discrimination in Employment Act, the Older Workers Benefit Protection Act, and Executive Order 11141, which prohibit employment discrimination based on age; Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1866 (42 U.S.C. § 1981), the Equal Pay Act, and Executive Order 11246, which prohibit discrimination based on race, color, national origin, religion, or sex, and prohibit sexual harassment or sexual abuse; the Genetic Information Nondiscrimination Act, which prohibits discrimination on the basis of genetic information; the Americans With Disabilities Act and Sections 503 and 504 of the Rehabilitation Act of 1973, which prohibit discrimination based on disability; and the laws of North Carolina and Bermuda that prohibit employment discrimination or wage discrimination;

(b) other employment laws, such as the United States Worker Adjustment and Retraining Notification Acts, which requires that advance notice be given of certain workforce reductions; the Employee Retirement Income Security Act of 1974, which, among other things, protects employee benefits; the Family and Medical Leave Act, which requires employers to provide leaves of absence under certain circumstances; the laws of North Carolina and Bermuda which regulate wage and hour matters, including all forms of compensation, vacation pay, sick pay, compensatory time, overtime, commissions, bonuses, and meal and break periods; state family, medical, and military leave laws, which require employers to provide leaves of absence under certain circumstances; the Sarbanes Oxley Act; and any other federal, state, or local laws relating to employment;

(c) tort, contract, and quasi-contract claims, such as claims with respect to Unvested Equity Awards or claims for breach of the Employment Agreement, wrongful discharge, physical or personal injury, intentional or negligent infliction of emotional distress, fraud, fraud in the inducement, negligent misrepresentation, defamation, invasion of privacy, interference with contract or with prospective economic advantage, breach of implied contract, unjust enrichment, promissory estoppel, breach of covenants of good faith and fair dealing, negligent hiring, negligent supervision, negligent retention, and similar or related claims; and

(d) all remedies of any type, including, but not limited to, damages and injunctive relief, in any action that may be brought on Employee's behalf against the Company and/or the Company Releasees by any government agency or other entity or person.

Employee understands that Employee is releasing claims about which Employee may not know anything at the time Employee executes this Agreement. Employee acknowledges that it is Employee's intent to release such unknown claims, even though Employee recognizes that someday Employee might learn new facts relating to Employee's employment or learn that some or all of the facts Employee currently believes to be true are untrue, and even though Employee might then regret having signed this Agreement. Nevertheless, Employee acknowledges Employee's awareness of that risk and agrees that this Agreement shall remain effective in all respects in any such case. Employee expressly waives all rights Employee might have under any laws intended to protect Employee from waiving unknown claims.

4. Excluded Claims. Notwithstanding anything to the contrary in this Agreement, the waiver and release contained in this Agreement shall exclude any rights or claims (a) that may arise after the date on which Employee executes this Agreement; (b) that cannot be released under applicable law (such as worker's compensation and unemployment compensation claims); and (c) for indemnification or coverage under director's and officer's insurance. In addition, the Parties agree that this Agreement shall not adversely affect, alter, or extinguish any vested right that Employee may have with respect to (x) the vested non-qualified options listed on Appendix A (which shall remain exercisable in accordance with the terms of the James River Group Holdings, Ltd. 2014 Long-Term Incentive Plan, as amended, and the Non-Qualified Share Option Agreement entered into in connection with such options), and (y) any pension or other retirement benefits to which Employee is or will be entitled by virtue of Employee's employment with the Company, and nothing in this Agreement shall prohibit Employee from enforcing such rights. Moreover, nothing in this Agreement shall prevent or preclude Employee from challenging in good faith the validity of this Agreement, nor does it impose any conditions precedent, penalties, or costs for doing so, unless specifically authorized by applicable law.

5. No Other Claims. Except to the extent previously disclosed by Employee in writing to the Company, Employee represents and warrants that Employee has (a) filed no claims, lawsuits, charges, grievances, or causes of action of any kind against the Company and/or the Company Releasees and, to the best of Employee's knowledge, Employee possesses no claims (including Fair Labor Standards Act ["FLSA"], sexual harassment, sexual abuse and worker's compensation claims); (b) received any and all compensation (including overtime compensation), meal periods, and rest periods to which Employee may have been entitled, and Employee is not currently aware of any facts or circumstances constituting a violation by the Company and/or the Company Releasees of the FLSA or other applicable wage, hour, meal period, and/or rest period laws; and (c) not suffered any work-related injury or illness within the twelve (12) months preceding Employee's execution of this Agreement, and Employee is not currently aware of any facts or circumstances that would give rise to a worker's compensation claim against the Company and/or the Company Releasees.

6. Wage Deduction Orders. Employee represents and warrants that Employee is not subject to any wage garnishment or deduction orders that would require payment to a third party of any portion of the Severance Pay. Any exceptions to the representation and warranty contained in this Paragraph must be described in writing and attached to the executed copy of this Agreement that Employee submits to the Company. Such disclosure shall not disqualify Employee from receiving Separation Pay under this Agreement; provided, however, that the amount of Severance Pay described in Paragraph 1 shall be reduced in accordance with any such wage garnishment or deduction order as required by applicable law.

7. Duty to Cooperate. Employee agrees that for one year after the Separation Date Employee will remain reasonably available to the Company as needed to assist in the smooth transition of Employee's duties to one or more other employees of the Company, without additional compensation to Employee, provided, however, Employee's obligations with respect to transition duties under this Paragraph shall not exceed 15 hours in any calendar month. Employee also agrees to reasonably assist the Company in pending or threatened litigation and any other administrative and regulatory proceedings, which currently exist or which may arise in the future.

8. Non-Disparagement. Employee will refrain from making negative or disparaging remarks about the Company or the Company Releasees. Employee will not provide information or issue statements regarding the Company or the Company Releasees, or take any other action, that would cause the Company or the Company Releasees embarrassment or humiliation or otherwise cause or contribute to them being held in disrepute. Likewise, the Company and Parent Company will not cause their directors, officers, managers, employees, or agents to provide information or issue statements regarding Employee, or take any other action, that would cause Employee embarrassment or humiliation or otherwise cause or contribute to Employee being held in disrepute. Nothing in this Agreement shall be deemed to preclude Employee, or the Company, the Parent Company or their directors, officers, managers, employees, or agents, from providing truthful testimony or statements in a legal or arbitration proceeding or pursuant to subpoena, court order, or similar legal process, or from providing truthful information to government or regulatory agencies.

9. Non-Admission of Liability. The Parties agree that nothing contained in this Agreement is to be construed as an admission of liability, fault, or improper action on the part of either of the Parties.

10. Return of Company Property. Employee represents and warrants that, by the Separation Date, Employee has returned all property belonging to the Company, including, but not limited to, all keys, access cards, office equipment, computers, cellular telephones, notebooks, documents, records, files, written materials, electronically stored information, credit cards bearing the Company's name, and other Company property (originals or copies in whatever form) in Employee's possession or under Employee's control, with the exception of this Agreement, the Employment Agreement, compensation and benefits-related documents concerning Employee, and documents Employee has received in his capacity as a shareholder of the Parent Company.

11. Consultation With Legal Counsel. The Company hereby advises Employee to consult with an attorney prior to signing this Agreement.

12. Review and Revocation Periods. Employee acknowledges that Employee has been given at least twenty-one (21) days to consider this Agreement from the date that it was first given to Employee. Employee agrees that changes in the terms of this Agreement, whether material or immaterial, do not restart the running of the twenty-one (21)-day consideration period. Employee shall have seven (7) days from the date that Employee executes the Agreement to revoke Employee's acceptance of the Agreement by delivering written notice of revocation within the seven (7)-day period to the following Company contact:

James River Group, Inc.
1414 Raleigh Road, Suite 405
Chapel Hill, North Carolina 27517
Attn: Robert P. Myron, Chief Executive Officer

If Employee does not revoke acceptance, this Agreement will become effective and irrevocable by Employee on the eighth day after Employee has executed it.

13. Choice of Law. This Agreement shall be construed and administered in accordance with the laws of North Carolina, without regard to the principles of conflicts of law which might otherwise apply.

14. Severability. Should any provision of this Agreement or the provisions of the Employment Agreement incorporated in this Agreement be held to be illegal, void or unenforceable, such provision shall be of no force and effect. However, the illegality or unenforceability of any such provision shall have no effect upon, and shall not impair the enforceability of, any other provision of this Agreement.

15. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument. A copy of an executed counterpart that is delivered electronically as a PDF attachment to an email or by facsimile shall be deemed to be an original signed counterpart.

16. Binding Effect. This Agreement shall be binding upon and inure to the benefit of Employee, the Company, and the Company Releasees, and their respective representatives, predecessors, heirs, successors, and assigns, provided, however, this Agreement may not be assigned by Employee, and any assignment by Employee shall be null and void.

17. Entire Agreement. This Agreement contains the complete understanding between the Parties as to the subject matter contained herein, and no other promises or agreements shall be binding unless signed by both an authorized representative of the Company and Employee. In signing this Agreement, the Parties are not relying on any fact, statement, or assumption not set forth in this Agreement. Notwithstanding the foregoing, Employee understands and agrees that Section 4 (Confidential Information and Privileged Information), Section 5 (Non-Competition), Section 8 (409A Compliance), Section 9 (Uniqueness of Services; Acknowledgments), Section 10 (Further Acknowledgments), Section 11 (Notices), and Section 17 (Dispute Resolution) of the Employment Agreement remain in full force and effect after the Separation Date, are not superseded by this Agreement, and are incorporated herein by reference.

18. Arbitration. Any dispute arising under, enforcing, or challenging the validity of this Agreement is subject to the Dispute Resolution provisions (Section 17) of the Employment Agreement, as incorporated herein.

19. Representation and Warranty of Understanding. By signing below, Employee represents and warrants that Employee: (a) has carefully read and understands the terms of this Agreement; (b) is entering into the Agreement knowingly, voluntarily and of Employee's own free will; (c) understands its terms and significance and intends to abide by its provisions without exception; (d) has not made any false statements or representations in connection with this Agreement; and (e) has not transferred or assigned to any person or entity not a party to this Agreement any claim or right released hereunder, and Employee agrees to indemnify the Company and hold it harmless against any claim (including claims for attorney's fees or costs actually incurred, regardless of whether litigation has commenced) based on or arising out of any alleged assignment or transfer of a claim by Employee.

/s/ Steven J. Hartman
Steven J. Hartman
Dated: October 26, 2018

James River Group, Inc.

By: /s/ Robert P. Myron
Name: Robert P. Myron
Title: President and Chief Executive Officer
Dated: October 26, 2018

Stonewood Insurance Company

By: /s/ Sarah C. Doran
Name: Sarah C. Doran
Title: Chairman
Dated: October 26, 2018

Falls Lake Insurance Management Company, Inc.

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

Dated: October 26, 2018

Falls Lake National Insurance Company

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

Dated: October 26, 2018

Falls Lake General Insurance Company

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

Dated: October 26, 2018

Falls Lake Fire and Casualty Company

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

Dated: October 26, 2018

APPENDIX A

Schedule of vested and unvested Options and Unvested Restricted Share Units as of Separation Date

A. Vested and Unvested Non-Qualified Options

Grant Date	Grant Amount	Strike Price	Vested	Unvested	Expiration Date
2/16/2016	41,014	\$32.07	27,342	13,672	2/15/2023

B. Unvested Restricted Share Units

Grant Date	Unvested Restricted Share Units
2/16/2016	1,183
2/14/2017	5,692
2/21/18	10,073

James River Group, Inc.
1414 Raleigh Road, Suite 405, Chapel Hill, NC 27517

September 17, 2018

Mr. Terry McCafferty

Dear Terry:

The purpose of this letter (the "Agreement") is to confirm our agreement as of the Effective Date (as hereinafter defined) with respect to the terms of your employment by James River Group, Inc. (the "Parent Company") to serve as President and Chief Executive Officer of Parent Company subsidiaries Stonewood Insurance Company ("SIC"), Falls Lake Insurance Management Company, Inc. ("FLIMCO"), Falls Lake National Insurance Company (formerly Stonewood National Insurance Company), Falls Lake General Insurance Company, and Falls Lake Fire and Casualty Company (together, the "Companies", and each individually a "Company"). In consideration of the mutual promises contained in this Agreement, the parties to this Agreement hereby agree as follows:

1. EMPLOYMENT AND TERM. Effective as of October 15, 2018 (the "Effective Date"), the Companies each agrees to employ you (the "Executive") as its President and Chief Executive Officer, and Executive hereby accepts such employment on the terms hereinafter set forth. The term of this Agreement shall commence as of the Effective Date and end on December 31, 2019, subject to the termination provisions of Section 6. The term of this Agreement shall thereafter be automatically renewed for additional one year periods unless written notice to the contrary shall be given by the Parent Company or Executive to the other party not less than ninety (90) days prior to the end of the initial or any renewal term that the term shall not thereafter be renewed ("Non-Renewal Notice"), subject to the termination provisions of Section 6. The initial term plus any renewals thereof shall hereafter be referred to as the "Term".

2. COMPENSATION.

(a) Salary. Executive shall be paid a base salary of not less than three hundred seventy-five thousand dollars (\$375,000.00) per year, payable in periodic installments by FLIMCO in accordance with its normal payroll practices.

(b) Bonus and Long-Term Incentive Plan. For each fiscal year during the Term in which Executive is employed by the Company as of the last day of such fiscal year, Executive shall be eligible to receive a discretionary bonus (each, a "Bonus") in an amount as the Board of Directors of James River Group Holdings, Ltd. ("Holdings") (other than Executive, if Executive is a member of such board), in its discretion, may determine based on Executive's performance during such fiscal year, two thirds of which

Bonus shall be paid on or before March 15 of the subsequent fiscal year and one third of which shall be paid one year later. Executive's target cash bonus for each calendar year he is employed will be 100% of his base salary, provided that the determination of whether Executive will be awarded a cash bonus and the amount of the cash bonus will be determined by the Board of Directors of Holdings (the "Holdings Board") in its discretion. In addition, Executive shall be eligible to participate in any long-term incentive plan of the Holdings Group (as defined below) ("LTIP") in effect from time to time. For long term incentive equity grants, Executive will have a target equity grant equivalent in value to 100% of his base

salary for each calendar year he is employed, provided that the determination of whether Executive will be awarded an LTIP equity award and the amount of the award will be determined by the Holdings Board in its discretion. Options to acquire common shares (the "Shares") of Holdings ("Options") will be valued using a Black Scholes valuation model, and restricted share units ("RSUs") of Holdings will be valued based upon the closing price of Holdings' publicly traded Shares on the day of the grant. Executive shall receive an initial equity grant of three hundred fifty-five thousand dollars (\$355,000.00) at the November 2018 meeting of the Holdings Board, vesting over three years pro-rata. Executive shall receive a guaranteed bonus of one hundred-seventy-five thousand dollars (\$175,000.00) payable by March 15, 2019. Executive shall receive an additional equity grant of two hundred twenty thousand dollars (\$220,000.00) in February 2019, vesting over three years pro-rata. For the avoidance of doubt, the three hundred fifty-five thousand dollars (\$355,000.00) and one hundred seventy-five thousand dollars (\$175,000.00) and two hundred twenty thousand dollars (\$220,000.00) payments described above will be in place of, not in addition to, the 100% target bonus and the 100% target equity grant, each of which will be applicable for the calendar year 2019 and will be determined by the Holdings Board in the first quarter of 2020.

(c) Vacation, Benefits. During the Term Executive shall also be entitled to participate in all employee benefit plans, and other fringe benefits generally available to executive employees of the Parent Company and its subsidiaries at the employer's expense. Executive will be entitled to a total of 27 days of paid vacation per annum (not subject to carry over to subsequent years), which will be pro-rated for the first and last year of the Term;

(d) Expense Reimbursements. Executive will be entitled to business expense reimbursement for all reasonable business expenses upon the presentation of reasonably itemized statements of such expenses in accordance with the Companies' policies and procedures. FLIMCO will also reimburse Executive for documented reasonable moving expenses incurred in connection with his moving from the Chicago, IL area to the Raleigh, NC area (defined as being in Raleigh, NC or within 30 miles of Raleigh, NC). FLIMCO will also reimburse Executive for documented reasonable expenses incurred for twelve (12) months of travel between Chicago, Illinois and Raleigh, North Carolina and twelve (12) months of temporary housing in the Raleigh, NC area. The amount of expenses eligible for reimbursement during any tax year of Executive shall not affect the expenses eligible for reimbursement in any other tax year. The right to reimbursement provided in this Agreement is not subject to liquidation or exchange for another benefit. In no event shall the reimbursement of an eligible expense occur later than the earlier of

(i) six (6) months from the date of incurrence and (ii) the end of the calendar year following the calendar year in which such expense was incurred.

(e) Withholdings and Deductions. All payments and compensation under this Agreement shall be subject to all required federal, state and local withholdings and deductions, and such deductions as Executive may instruct FLIMCO to take that are authorized by applicable law.

(f) Claw-Back. Executive acknowledges that to the extent required by applicable law or written company policy adopted by the Holdings Board to implement the requirements of such law (including without limitation Section 304 of the Sarbanes Oxley Act and Section 954 of the Dodd Frank Act), any bonus and other incentive compensation (if any) shall be subject to any clawback, forfeiture, recoupment or similar requirement ("Clawback Rights") as the Holdings Board may determine in its sole discretion is necessary or desirable to implement such law or policy. Holdings may only exercise Clawback Rights with respect to any bonus and other incentive compensation received during the three completed fiscal years immediately preceding the date on which Holdings is required to prepare an accounting restatement and, if applicable, any transition period resulting from a change in fiscal year within or immediately following the three completed fiscal years.

3. DUTIES. Executive shall report exclusively and directly to the Chief Executive Officer of the Parent Company ("CEO"), and to the Boards of Directors of the Companies (the "Companies Boards").

Executive shall perform all duties normally associated with the position of President and Chief Executive Officer, and such other reasonable duties as may be assigned to him by the CEO, including without limitation overseeing subsidiaries of the Companies. Executive will devote his entire working time, attention, and energies to carrying out and fulfilling his duties and responsibilities under this Agreement. Executive agrees to abide by all policies applicable to employees of the Parent Company and the Companies adopted by their respective boards of directors. Executive represents that he is able and willing to engage in routine business travel as is necessary to perform his duties as President and CEO and to further the Parent Company's and the Companies' business interests. Executive must relocate to the Raleigh, North Carolina area by September 2019 (the "Relocation Date") as a condition of continued employment.

4. CONFIDENTIAL INFORMATION; PRIVILEGED INFORMATION AND NON-DISPARAGEMENT.

(a) Executive will not at any time during the Term or thereafter:

(i) reveal, divulge, or make known to any person, firm, or corporation or use for his personal benefit or the benefit of others (except the Companies, the Parent Company, Holdings, and any of Holdings' other direct or indirect subsidiaries (hereinafter referred to as "Affiliates," and all of the foregoing, the "Holdings Group")), directly or indirectly, any confidential or proprietary information received or developed by him during the course of his employment. For the purposes of this Section 4(a)(i) confidential and proprietary information ("Confidential Information") shall be defined to

mean (1) all historical and pro forma projections of loss ratios incurred by the Holdings Group; (2) all historical and pro forma actuarial data relating to the Holdings Group; (3) historical and pro forma financial results, revenue statements, and projections for the Holdings Group; (4) all information relating to the Holdings Group's systems and software (other than the portion thereof provided by the vendor to all purchasers of such systems and software); (5) all information relating to SIC's unique underwriting approach; (6) all information relating to plans for, or internal or external discussions regarding, acquisitions of or mergers with any business or line of business; (7) non-public business plans; (8) all other information relating to the financial, business, or other affairs of the Holdings Group including their customers; and (9) any information about any shareholder of Holdings or any of its Affiliates, or any of their officers or employees, that has been furnished or made available to Executive as a result of his position with the Companies. Section 4(a)(i) shall not apply to Executive following the termination of his employment with the Parent Company and the Companies with respect to any Confidential Information known or made generally available to the general public or within the industry by persons other than Executive or a person acting with or at the request of Executive; or

(ii) reveal, divulge, or make known to any person, firm, or corporation, or use for his personal benefit or the benefit of others (except the Holdings Group), directly or indirectly, the name or names of any Customers (as defined in Section 5 below) of the Holdings Group, nor will he reveal, divulge, or make known to any person, firm, or corporation or use for his personal benefit or the benefit of others (except the Holdings Group), directly or indirectly, any trade secrets or any knowledge or information concerning any business methods or operational procedures engaged in by the Holdings Group (collectively, "Privileged Information"); provided, however, the restrictions set forth in this Section 4(a)(ii) shall not apply to Executive following the termination of his employment with the Parent Company and the Companies with respect to any Privileged Information known or made generally available to the general public or within the industry by persons other than Executive or a person acting with or at the request of Executive.

(b) Notwithstanding any provision of this Agreement to the contrary, under 18 U.S.C. §1833(b), "An individual shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that (A) is made (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other

document filed in a lawsuit or other proceeding, if such filing is made under seal.” Nothing in this Agreement or any other policy of the Companies is intended to conflict with this statutory protection, and no director, officer, or member of management has the authority to impose any rule to the contrary.

(c) Executive will not at any time during the Term or thereafter make negative or disparaging remarks about the Holdings Group or their respective current and former parents, subsidiaries, divisions, affiliates, shareholders, officers, directors, attorneys, agents, employees, successors, and assigns (“Holdings Protected Parties”). Executive will not provide information or issue statements regarding the Holdings Group or the Holdings Protected Parties, or take any other action, that would cause the Holdings Group or the Holdings Protected Parties embarrassment or humiliation or otherwise cause or contribute to them being held in disrepute. Nothing in this Agreement shall be deemed to preclude Executive from providing truthful testimony or statements in a legal or arbitration proceeding or pursuant to subpoena, court order, or similar legal process, or from providing truthful information to government or regulatory agencies.

5. NON-COMPETITION.

(a) Executive acknowledges and agrees that as the Companies’ President and CEO (i) he will be responsible for and directly involved in developing goodwill and relationships for the benefit of the Companies with Agents, Customers, and Fronting/Program Business Relationships (all as defined below), including personal contact with Agents, Customers, and Fronting/Program Business Relationships, and supervising others who develop and maintain Agent, Customer, and Fronting/Program Business Relationship goodwill and relationships; (ii) he will be provided and have access to the Holdings Group’s Confidential Information and Privileged Information, and will be compensated for the development, and supervising the development, of the same; (iii) he will be responsible for and directly involved in developing goodwill and relationships for the benefit of the Holdings Group with Fronting/Program Business Relationships; and (iv) he will have unique insight into and knowledge of the skills, talents and capabilities of the Companies’ key employees.

(b) Executive agrees that during his employment by the Parent Company and the Companies he will not compete against the Holdings Group in any manner, including without limitation by engaging in, or by assisting any other person or entity to engage in, or by having an ownership interest in, any Competitive Business (as defined below) in the Territory (as defined below), or by engaging in any conduct described in clauses (b)(i), (ii), (iii), (iv), (v), (vi), (vii) or (viii) below. Executive further agrees that after his employment by the Parent Company and the Companies ends, he will not during the Restricted Period (as defined below):

(i) be employed in any management, customer relationship or sales capacity by any insurance company that engages in Competitive Business in the Territory (as defined below) to provide services to or on behalf of such insurance company in the Territory that compete with the Companies’ products or services;

(ii) be employed in any management, customer relationship or sales capacity by any entity that was a Fronting/Program Business Relationship during the Final Year to provide services to or on behalf of such Fronting/Program Business Relationship in the Territory;

(iii) solicit any entity that was a Fronting/Program Business Relationship during the Final Year to produce, underwrite and/or administer insurance policies in the Territory on behalf of an insurance company that competes against any of the Companies or any Protected Holdings Group Company in the Territory;

(iv) solicit any Customer to buy any insurance products or services offered in the Territory by the Companies during the Final Year;

(v) solicit any Prospective Customer to buy any insurance products or services offered in the Territory by the Companies during the Final Year;

(vi) solicit any Agent doing business in the Territory (A) to assist any individual or entity who was a customer of the Companies during the Final Year to obtain any insurance products or services that compete with any insurance products and services offered by the Companies in the Territory, or (B) to make referrals on behalf of such customers with respect to such insurance products or services that compete with any insurance products and services offered by the Companies in the Territory;

(vii) induce or persuade any Agent, Customer or Fronting/Program Business Relationship not to do business with, or to switch business from, or reduce business with, the Companies or any Protected Holdings Group Company; or

(viii) solicit, or assist others in soliciting, Key Employees (as defined below) to either leave the Companies or to engage in a Competitive Business.

(c) For purposes of this Agreement, the following capitalized terms shall have the meanings set forth below:

(i) “Agent” shall mean any insurance agent, insurance broker, wholesale agent, general agent, or other person (A) who acted on behalf of any customer of the Companies to obtain insurance from the Companies, or who referred any insurance business to the Companies, during the Final Year, and (B) with respect to which either Executive had (I) Confidential Information or Privileged Information or (II) account responsibility either directly or through managing employees with such account responsibility.

(ii) “Competitive Business” shall mean the insurance business of acquiring, holding, and/or underwriting (A) individual risk workers’ compensation insurance, or (B) other specialty admitted fronting/program insurance business.

(iii) “Customer” shall mean any of the customers of the Companies who purchased insurance products that were in effect in the Final Year from, or were provided services in the Final Year by, the Companies, and with respect to which Executive had relationship responsibilities or direct contact, or access to Confidential Information or Privileged Information relating to the customer.

(iv) “Final Year” means the twelve-month period immediately preceding Executive’s last day of employment with the Parent Company and the Companies.

(v) “Fronting/Program Business Relationship” means a general managing agent or program administrator that has a contractual relationship with any of the Companies or any Protected Holdings Group Company to produce, underwrite and/or administer insurance policies on behalf of such company.

(vi) “Key Employees” shall mean any executive, managerial, sales, marketing, or supervisory level employees of the Companies under Executive’s direct or indirect management authority during the Final Year.

(vii) “Prospective Customer” shall mean any potential customer of the Companies who was actually engaged in discussions with any of the Companies during the Final Year (either directly or through an Agent) to purchase insurance products or services from the Companies, and Executive was actively involved in such discussions, provided, however, a Prospective Customer does not include any such potential customer that decided to discontinue discussions with the Companies, and notified the Companies of that decision, before Executive’s last day of employment.

(viii) “Protected Holdings Group Company” shall mean any Holdings Group insurance company (other than the Companies) that: (A) was a party to a contractual relationship with a Fronting/Program Business Relationship in effect in the Final Year; and (B) Executive was involved in obtaining such contractual relationship with such Holdings Group company.

(ix) “Restricted Period” shall mean eighteen (18) months, except that in the event of “Company Non-Renewal Termination” (as defined herein), “Restricted Period shall mean twelve (12) months.

(x) “Territory” shall mean, (A) with respect to clauses (b)(i), (iv), (v) and (vi) above, each and every state or other United States jurisdiction (“State(s)”) where any of the Companies is authorized to underwrite, and was actually engaged in underwriting during the Final Year, individual risk workers’ compensation insurance or other specialty admitted fronting/program insurance business; and (B) with respect to clauses (b)(ii) and (iii) above, each and every State where any of the Companies or a Protected Holdings Group Company is authorized to underwrite insurance, and was actually engaged in underwriting insurance through a Fronting/Program Business Relationship during the Final Year.

(d) The restrictions contained in this Section 5 shall not prevent: (i) the ownership by Executive of not more than three percent (3%) of the securities of any class of any corporation, whether or not such corporation is engaged in any Competitive Business, which are publicly traded on any securities exchange or any “over the counter” market; or (ii) after Executive’s employment by the Parent Company and the Companies ends, Executive’s being employed by a subsidiary or division of an insurance company that engages in Competitive Business as long as both (A) such subsidiary or division does not engage in Competitive Business in the Territory, and (B) Executive does not provide services to or assist the subsidiaries or divisions of such company that engage in Competitive Business in the Territory.

6. TERMINATION. Executive’s employment hereunder shall terminate under the following circumstances:

(a) Termination for Cause. The Parent Company may terminate the employment of Executive for Cause at any time by providing written notice to Executive specifying the cause of the termination. For the purposes of this Agreement, “Cause” means that: (i) Executive willfully violated Sections 4 or 5 of this Agreement; (ii) Executive grossly neglected his duties hereunder; (iii) Executive was convicted of a felony or a crime involving moral turpitude (meaning a crime that includes the commission of an act of depravity, dishonesty, or bad morals); (iv) Executive has committed an act of dishonesty, fraud, or embezzlement against any entity in the Holdings Group; (v) Executive willfully and/or knowingly breached this Agreement in any material respect or willfully violated the Parent Company’s or the Companies’ written policies which have been provided to him; (vi) Executive willfully failed or refused to follow the lawful instructions of the CEO or any of the Companies’ Boards that are consistent with this Agreement (“Insubordination”); or (vii) Executive fails to relocate to the Raleigh, NC area by the Relocation Date. In the event that the Parent Company provides written notice of termination for Cause pursuant to Section 6(a)(ii) or (vi), Executive shall be entitled to cure any alleged neglect of his duties or Insubordination, to the extent curable, within thirty (30) days of receiving written notice from the Company specifying the factual basis for its belief that Executive grossly neglected his duties hereunder or engaged in Insubordination. If Executive is terminated for Cause, Executive’s compensation shall terminate on the date of such termination, and all equity awards, whether vested or unvested at that time, shall be immediately forfeited and canceled effective as of the date of such termination.

(b) Company Termination Without Cause. The Parent Company may terminate Executive at any time without Cause, with or without prior notice. If (i) the Parent Company delivers a timely Non-Renewal Notice and Executive has not timely delivered a timely Non-Renewal Notice, (ii) Executive

continues in employment with the Parent Company through the last day of the Term and (iii) the parties have not executed a written agreement applicable to Executive's employment after the expiration of the Term, the Executive's employment shall terminate on the last day of the Term (a "Company Non-Renewal Termination").

(c) Termination by Executive for Good Reason. Executive may, at his option, terminate this Agreement for Good Reason in accordance with the terms of this Section 6(c). "Good Reason" shall mean the occurrence of any one or more of the following events without the prior consent of Executive:

(i) A material diminution in Executive's authority, duties or responsibilities, or requiring Executive to report directly to a person or persons other than

(i) the Parent Company's CEO or Board of Directors, or (y) the Companies' Boards;

(i) A diminution in Executive's Base Salary; or

(ii) Any action or inaction by the Parent Company or the Companies which constitutes a material breach of the terms of this Agreement;

and, in each case, the failure by the Parent Company or the Companies, as applicable, to cure such condition within the thirty (30) day period after receipt of written notice from Executive specifying in detail the factual basis for his belief that he has Good Reason to resign ("Good Reason Notice"). Executive must deliver a Good Reason Notice to the Parent Company and the Companies within thirty (30) calendar days after the initial existence of a Good Reason condition, and, if the Parent Company or the Companies, as applicable, fails to timely cure such Good Reason condition, Executive must terminate his employment within one year after the initial existence of such Good Reason condition, and any failure by Executive to timely comply with either of these requirements shall constitute a waiver of Executive's right to resign for Good Reason for such condition.

(d) Termination due to Death or Disability. Executive's employment hereunder shall terminate upon his death. The Parent Company may terminate Executive's employment if he is prevented from performing his responsibilities under this Agreement because of "Disability." A "Disability" means that Executive is unable to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than 12 months, or is, by reason of any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than 12 months, receiving income replacement benefits for a period of not less than three months under an accident or disability insurance benefit plan covering Executive ("Disability Plan"). If Executive is unable to perform his responsibilities, by reason of any accident, illness, or mental, or physical impairment, for a period that is reasonably anticipated by the Parent Company to be longer than the waiting period in the Disability Plan, then, at the Parent Company's request, Executive shall promptly apply for such income replacement benefits.

(e) Expiration of Term. If (i) Executive delivers a timely Non-Renewal Notice pursuant to Section 1 (whether or not the Parent Company has timely delivered a timely Non-Renewal Notice), (ii) Executive continues in employment with the Parent Company through the last day of the Term, and (iii) the parties have not executed a written agreement applicable to Executive's employment after the expiration of the Term, the Executive's employment shall terminate on the last day of the Term ("Executive Non-Renewal Termination").

7. COMPENSATION AND BENEFITS UPON TERMINATION.

(a) If, during the Term, the Parent Company terminates Executive's employment without Cause, there is a Company Non-Renewal Termination, or Executive terminates his employment for Good

Reason, then:

(i) as soon as practicable following such termination but no later than ten (10) days after the Termination Date (as defined below), FLIMCO shall pay to Executive his accrued but yet unpaid base salary earned through the Termination Date and any accrued, but unused vacation pay through the Termination Date (the “Accrued Obligations”);

(ii) within forty-five (45) days following the Termination Date, FLIMCO shall reimburse Executive for reasonable expenses incurred, but not paid prior to the Termination Date;

(iii) subject to the execution and delivery of a general release (which release shall not alter or result in the waiver of Executive’s right to exercise the portion of any stock option or other equity award that vested through the Termination Date, or any rights under this Section 7(a)) in a form acceptable to the Parent Company within forty five (45) days after the Termination Date (the “Release Expiration Date”), which release has not been revoked, Executive is entitled to receive:

(A) In the event of a termination without Cause or for Good Reason (I) before or 12 months or more after a Change in Control (as defined in Section 7(d)), an amount equal to Executive's base salary for a period of eighteen (18) months after the Termination Date, or (II) within twelve (12) months after a Change in Control, an amount equal to Executive's base salary for a period of thirty (30) months after the Termination Date, or (B) in the event of a Company Non-Renewal Termination, an amount equal to Executive's base salary for a period of twelve (12) months after the Termination Date, which, in any case shall be paid in periodic installments in accordance with FLIMCO's normal payroll practices in effect as of the Termination Date commencing on the first payroll cycle which is at least ten (10) business days after the 45th day after the Termination Date;

(B) the continuation of coverage under all employee benefit insurance plans in which Executive was a participant as of the Termination Date, to the extent such post-employment coverage is authorized by such plans, at FLIMCO’s expense for the period of eighteen (18) after the Termination Date (for a termination without Cause or for Good Reason) or the period of twelve (12) months after the Termination Date (for a Company Non-Renewal Termination), provided, however if post-employment coverage is not authorized under such health insurance plan, then FLIMCO will pay Executive the premium cost for health insurance coverage that FLIMCO would have paid if Executive had continued being a participant in such health insurance plan during the applicable 12 month or 18 month period; and

(C) any unpaid discretionary bonus awarded to Executive for the year prior to the year in which the Termination Date occurs, which shall be paid in a lump sum on the normal bonus payment date for Parent Company bonuses for such preceding fiscal year.

(iv) In the event that Executive fails to execute the Release on or prior to the Release Expiration Date, Executive shall not be entitled to any payments or benefits pursuant to Section 7(a)(iii). Notwithstanding the foregoing, if the Release could become effective during the calendar year following the calendar year of the Termination Date, then no such payments that constitute “deferred compensation” under Internal Revenue Code Section 409A shall be made earlier than the first day of the calendar year following the calendar year of the Termination Date.

(b) If Executive’s employment is terminated as a result of death or by the Parent Company for Cause or because of Disability, or if a termination of employment occurs pursuant to Section 6(e) as a result of Executive’s delivering a timely Non-Renewal Notice:

(i) within ten (10) days following the Termination Date, FLIMCO shall pay to Executive the Accrued Obligations; and

(ii) within forty-five (45) days following the Termination Date, FLIMCO shall reimburse Executive for reasonable expenses incurred, but not paid prior to the Termination Date.

(c) Except for payments provided under Sections 7(a)(i), 7(a)(ii), and 7(b), all compensation and benefits paid pursuant to this Section 7 shall cease and Executive shall promptly return any amount paid under Section 7(a)(iii) to FLIMCO if Executive violates any of the terms of Sections 4 or 5 above during the Restricted Period. In addition to these remedies, the Parent Company, the Companies and the Holdings Group shall have all other remedies provided by this Agreement and by law for the breach of Sections 4 or 5 above.

(d) For purposes of this Agreement, "Termination Date" means the date of Executive's "separation from service" within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), and the regulations promulgated thereunder ("Section 409A"). For purposes of this Agreement, "Change in Control" means (and, for purposes of this definition only, capitalized terms have the meaning defined in the James River Group Holdings, Ltd. 2014 Long-Term Incentive Plan, as amended) the first to occur of the following events:

- i. the purchase or other acquisition (other than from Holdings), in a single transaction or series of related transactions, by any person, entity or group of persons, within the meaning of Section 13(d) or 14(d) of the Exchange Act (excluding, for this purpose, Holdings or its subsidiaries or any employee benefit plan of Holdings or its subsidiaries), of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Act) of 50% or more of either the then-outstanding Shares or the combined voting power of Holdings' then-outstanding voting securities entitled to vote generally in the election of directors;
- ii. consummation of a reorganization, merger, amalgamation or consolidation involving Holdings, in each case with respect to which persons who were the shareholders of Holdings immediately prior to such reorganization, merger, amalgamation or consolidation do not, immediately thereafter, own more than 50% of, respectively, the Shares and the combined voting power entitled to vote generally in the election of directors of the reorganized, merged, amalgamated or consolidated corporation's then- outstanding voting securities; or
- iii. a liquidation or dissolution of Holdings, or the sale of all or substantially all of the assets of Holdings; provided, however, an event described above shall be considered a Change in Control hereunder only if it also constitutes a "change in control event" under Section 409A of the Code, to the extent necessary to avoid the adverse tax consequences thereunder with respect to any payment subject to Section 409A of the Code.

(e) Executive's rights with respect to the vesting and exercise after the Termination Date, of any stock option or vesting of any other equity award shall be governed by any applicable award agreement and the James River Group Holdings, Ltd. Long-Term Incentive Plan, as amended.

8. 409A COMPLIANCE. This Agreement shall be interpreted and administered in a manner so that any amount or benefit payable hereunder shall be paid or provided in a manner that is either exempt from or compliant with the requirements Section 409A and applicable Internal Revenue Service guidance and Treasury Regulations issued thereunder (and any applicable transition relief under Section 409A). Notwithstanding anything else contained in this Agreement to the contrary, if Executive is a "specified employee" under Holdings' specified employee policy as in effect on the Termination Date, or if no such policy is then in effect, within the meaning of Section 409A, any payment required to be made to Executive hereunder upon or following the Termination Date shall be delayed until after the six-month anniversary of Executive's "separation from service" (as such term is defined in Section 409A) to the extent necessary to comply with, and avoid imposition on Executive of any additional tax, interest, or penalty imposed under, Section 409A. Should payments be delayed in accordance with the preceding sentence, the accumulated payment that would have been made but for

the period of the delay shall be paid in a single lump sum during the ten (10) day period following the six- month anniversary of the Termination Date. Each payroll period payment described in Section 7(a)(iii)(A) shall be treated as a separate payment for purposes of Section 409A.

9. UNIQUENESS OF SERVICES; ACKNOWLEDGEMENTS. Executive acknowledges that the services to be rendered under the provisions of this Agreement are of a special, unique, and extraordinary character; involve access to and development of Confidential Information and Privileged Information; involve developing and protecting customer relationships and goodwill; and that it would be difficult or impossible to replace such services and that, by reason thereof, Executive agrees and consents that if he violates any of the provisions of Sections 4 and 5 of this Agreement, the Parent Company, the Companies and/or any entity in the Holdings Group, in addition to any other rights and remedies available under this Agreement or otherwise, shall be entitled to an injunction to be issued by a court of competent jurisdiction restricting Executive from committing or continuing any violation of Sections 4 and 5 of this Agreement.

10. FURTHER ACKNOWLEDGEMENTS. Executive further acknowledges and agrees that the restrictions contained in Sections 4 and 5 above are reasonable and necessary to protect the legitimate interest of the Holdings Group, in view of, among other things, the short duration of the restrictions; the narrow scope of the restrictions; the Holdings Group's interests in protecting its trade secrets, Confidential Information, and Privileged Information (which Executive agrees would be useful to competitors for more than eighteen (18) months) and its customer relationships and goodwill; Executive's background and capabilities which will allow him to seek and accept employment without violation of the restrictions; and Executive's entitlements under this Agreement. If any provision contained in Sections 4 or 5 above is adjudged unreasonable by a court of competent jurisdiction or arbitrator in any proceeding, then such provision shall be deemed modified as provided in Sections 4 or 5 above or by reducing the scope of such provision, the period of time during which such provision is applicable and/or the geographic area to which such provision applies, to the extent necessary for such provision to be adjudged reasonable and enforceable.

11. NOTICES. Any notices provided for or permitted by this Agreement shall be in writing and shall be deemed to have been duly given when delivered in person or three (3) days after it is mailed if delivered by registered or certified mail, return receipt requested, postage prepaid, addressed to the party for whom intended at such party's address set forth above (for the Parent Company) or to the address listed in the Parent Company's records (for Executive), or to such other address as such party may designate by notice in writing given in the manner provided herein.

12. SECTION HEADINGS. The section heading in this Agreement are for convenience of reference only, and they form no part of this Agreement and shall not affect its interpretation.

13. ENTIRE AGREEMENT; AMENDMENTS; COUNTERPARTS. This Agreement constitutes the entire agreement and understanding among Executive, the Parent Company and the Companies with respect to the subject matter hereof and shall supersede any and all other prior agreements and understandings, whether oral or written, relating thereto or the employment of Executive by the Parent Company and the Companies. This Agreement may not be rescinded, modified, or amended, unless an amendment is agreed to in a writing signed by Executive and by an officer of the Parent Company specifically authorized by its Board of Directors (other than Executive), and any waiver shall be set forth in writing and signed by the party to be charged. This Agreement may be executed in any number of counterparts, including by facsimile, each of which shall be an original, but all of which together shall constitute one and the same instrument.

14. PARTIAL INVALIDITY. The invalidity or unenforceability, by statute, court decision, or otherwise, of any term or condition of this Agreement shall not affect the validity or enforceability of any other term or condition hereof.

15. GOVERNING LAW. This Agreement shall be construed and administered in accordance with the laws of North Carolina, without regard to the principles of conflicts of law which might otherwise apply.

16. ASSIGNABILITY. This Agreement may not be assigned by Executive, and any purported assignment by Executive shall be null and void. All of the terms and conditions of this Agreement shall be binding upon and inure to the benefit of the Parent Company and its successors (including without limitation any successor to the Parent Company's business as the result of a merger or consolidation of the Parent Company, whether or not the Parent Company survives such merger or consolidation) and assigns. Successors to the Company shall include, without limitation, any corporation or corporations acquiring, directly or indirectly, all or substantially all of the assets of the Parent Company whether by merger, consolidation, purchase, or otherwise and such successor shall thereafter be deemed the "Parent Company" for purposes hereof.

17. DISPUTE RESOLUTION.

(a) Arbitration. In the event of disputes between the parties with respect to the terms and conditions of this Agreement, such disputes shall be resolved by and through an arbitration proceeding to be conducted under the auspices of the American Arbitration Association (or any like organization successor thereto) in Raleigh, North Carolina; provided, however, that either party may seek temporary or preliminary injunctive relief with respect to appropriate matters (including, without limitation, enforcement of Sections 4 and 5 above) from a court in aid of arbitration. Such arbitration proceeding shall be conducted pursuant to the commercial arbitration rules (formal or informal) of the American Arbitration Association in as expedited a manner as is then permitted by such rules (the "Arbitration"). Both the foregoing agreement of the parties to arbitrate any and all such claims, and the results, determination, finding, judgment, and/or award rendered through such Arbitration, shall be final and binding on the parties to this Agreement and may be specifically enforced by legal proceedings.

(b) Procedure. Such Arbitration may be initiated by written notice from either the Parent Company or Executive to the other which shall be a compulsory and binding proceeding on each party. The Arbitration shall be conducted by an arbitrator selected in accordance with the procedures of the American Arbitration Association. Time is of the essence of this arbitration procedure, and the arbitrator shall be instructed and required to render his or her decision within thirty (30) days following completion of the Arbitration.

(c) Venue and Jurisdiction. Any action to compel arbitration hereunder or otherwise relating to this Agreement shall be brought exclusively in either a state court or federal court located in Raleigh, North Carolina, provided that, with respect to an action brought in North Carolina, if a federal court has jurisdiction over the subject matter thereof, then such action shall be brought in federal court, and the Parent Company, the Companies and Executive hereby irrevocably submit with regard to any such action or proceeding for itself and in respect to its property, generally and unconditionally, to the jurisdiction of the aforesaid courts.

(d) Waiver of Jury Trial. IN THE EVENT OF ANY LITIGATION WITH RESPECT TO ANY MATTER CONNECTED WITH THIS AGREEMENT OR THE AGREEMENTS OR TRANSACTIONS CONTEMPLATED HEREUNDER ALL OF THE PARTIES HERETO WAIVE ALL RIGHTS TO A TRIAL BY JURY.

18. COOPERATION. Executive agrees that, upon reasonable notice and without the necessity of the Company obtaining a subpoena or court order, Executive shall provide reasonable cooperation in connection with any suit, action or proceeding (or any appeal from any suit, action or proceeding), or the decision to commence on behalf of the Company any suit, action or proceeding, and any investigation and/or defense of any claims asserted against any of the Company's or its Affiliates' current or former directors, officers, employees, shareholders, partners, members, agents or representatives of any of the foregoing, which relates to events occurring during Executive's employment hereunder by the Company as to which Executive may have relevant information (including but not limited to furnishing relevant information and materials to the Company or its designee and/or providing testimony at depositions and at trial), provided that with respect to such cooperation occurring following termination of Executive's employment, the Company shall reimburse Executive for expenses reasonably incurred in

connection therewith and shall schedule such cooperation to the extent reasonably practicable so as not to unreasonably interfere with Executive's business or personal affairs. Notwithstanding anything to the contrary, in the event the Company requests cooperation from Executive after his employment with the Company has terminated and at a time when Executive is not receiving any severance pay from the Company, Executive shall not be required to devote more than 40 hours of his time per year with respect to this Section 18, except that such 40 hour cap shall not include or apply to any time spent testifying at a deposition or at trial, or spent testifying before or being interviewed by any administrative or regulatory agency.

Kindly indicate your acceptance of this Agreement by signing and returning a copy of this letter to me.

Very truly yours,

James River Group Inc.

By: /s/ Robert P. Myron

Name: Robert P. Myron

Title: President and Chief Executive Officer

Title: President and Chief Executive Officer

ACCEPTED AND AGREED TO THIS 24th DAY OF September, 2018

Stonewood Insurance Company

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

Falls Lake Insurance Management Company, Inc.

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

Falls Lake National Insurance Company

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

Falls Lake General Insurance Company

By: /s/ Sarah C. Doran

Name: Sarah C. Doran

Title: Chairman

JRG Reinsurance Company, Ltd.
Wellesley House, 2nd Floor
90 Pitts Bay Road
Pembroke HM 08 Bermuda

April 5, 2018

Mr. Daniel Heinlein

Dear Daniel:

The purpose of this letter (the "Agreement") is to confirm that we have agreed to amend and restate as of the Effective Date (as hereinafter defined) our prior agreement with respect to the terms of your employment by JRG Reinsurance Company, Ltd. (the "Company"). In consideration of the mutual promises contained in this Agreement, the parties to this Agreement hereby agree as follows:

1. EMPLOYMENT AND TERM. Effective as of April 1, 2018 (the "Effective Date"), the Company agrees to employ you (the "Executive") as Chief Executive Officer and President, subject to Bermuda Department of Immigration approval. Executive hereby accepts such employment on the terms hereinafter set forth. The term of this Agreement shall be one year commencing as of the Effective Date and ending on the date immediately preceding the first anniversary of the Effective Date, subject to the termination provisions of Section 6. The term of this Agreement shall thereafter be automatically renewed for additional one year periods unless written notice to the contrary shall be given by either party to the other not less than sixty (60) days prior to the end of the initial or any renewal term that the term shall not thereafter be renewed ("Non-Renewal Notice"), subject to the termination provisions of Section 6. The initial term plus any renewals thereof shall hereafter be referred to as the "Term."

2. COMPENSATION.

(a) Salary. During the Term Executive shall be paid a base salary of not less than three hundred twenty thousand dollars (\$320,000) per year, payable in periodic installments in accordance with the Company's normal payroll practices.

(b) Bonus. Executive shall be eligible to receive such discretionary bonuses as the Board of Directors ("Board") of James River Group Holdings, Ltd. ("Holdings") (other than Executive, if Executive is a member of the Board), in its discretion, may determine based on Executive's performance during each fiscal year during the Term, which shall be paid on or before March 15 of the subsequent fiscal year.

(c) Vacation, Benefits. Executive shall also be entitled, during the Term, to participate in all employee benefit plans and other fringe benefits or plans of the Company generally available to executive employees of the Holdings Group (as defined below) or generally available to the Company's Bermuda-based executive employees, at the Company's expense, including:

(i) a total of five (5) weeks of paid vacation per annum (subject to the Company's carry over policies), which will be pro-rated for the first and last year of the Term.

(ii) business expense reimbursement for all reasonable business expenses upon the presentation of reasonably itemized statements of such expenses in accordance with the Company's policies and procedures. The amount of expenses eligible for reimbursement during any tax year of Executive shall not affect the expenses eligible for reimbursement in any other tax year. The right to reimbursement provided in this Agreement is not subject to liquidation or exchange for another benefit. In no event shall the reimbursement of an eligible expense occur later than the earlier of (i) six (6) months from the date of incurrence and (ii) the end of the calendar year following the calendar year in which such expense was incurred.

(iii) tax equalization payments pursuant to the Company's tax equalization policies ("Tax Equalization Policies"), provided that such tax equalization payments shall be made no later than the end of the second calendar year after the year in which the Executive's income tax return is required to be filed (including any extensions) for the year to which the compensation subject to the tax equalization payment relates, or, if later, the second calendar year beginning after the latest year in which the Executive's foreign tax return or payment is required to be filed or made for the year to which the compensation subject to the tax equalization payment relates, and further provided that if the right to such tax equalization proceeds arises as a result of audit, litigation, or similar proceeding, such tax equalization payments are scheduled and made in accordance with the tax gross-up payment provisions of Treas. Reg. §1.409A-3(i)(1)(v).

(d) Housing Expense. The Company shall reimburse Executive for up to \$12,000 per month for Executive's "Housing Expense." For purposes of this provision, "Housing Expense" means the rent, all utility expenses and renters insurance paid by Executive for a residence in Bermuda for each month during the Term in which Executive resides in such residence for the entire month, provided that Executive provides a copy of the lease and any other documentation relating to such rent payments as requested by the Company. Such Housing Expense reimbursement payments will be made by the end of the month following the month in which documentation of rent and other payments are provided to the Company.

(e) Withholdings and Deductions. All payments and compensation under this Agreement shall be subject to all required federal, state and local withholdings and deductions, and such deductions as Executive may instruct the Company to take that are authorized by applicable law.

(f) Clawback. Executive acknowledges that to the extent required by applicable law or written company policy adopted by the Board to implement the requirements of such law (including without limitation Section 304 of the Sarbanes Oxley Act and Section 954 of the Dodd Frank Act), any bonus and other incentive compensation (if any) shall be subject to any clawback, forfeiture, recoupment or similar requirement as the Board may determine in its sole discretion is necessary or desirable to implement such law or policy.

3. DUTIES. Executive shall perform all duties normally associated with the positions of Chief Executive Officer and President and such other reasonable duties as may be assigned to him by the Chief Executive Officer of Holdings ("CEO"). Executive shall report solely and directly to the CEO and to the Board of Directors of the Company ("Company Board"). Executive will devote his entire working time, attention, and energies to carrying out and fulfilling his duties and responsibilities under this Agreement. Executive agrees to abide by all policies applicable to employees of the Holdings Group (as defined below) adopted by the Board. Executive's duties will be performed at the Company's offices in Bermuda in accordance with the Company's operating guidelines, and Executive represents that he is able and willing to engage in international travel as is necessary to perform his duties as Chief Executive Officer and President and to further the Company's business interests.

4. CONFIDENTIAL INFORMATION AND PRIVILEGED INFORMATION.

(a) Executive will not at any time during the Term or thereafter:

(i) reveal, divulge, or make known to any person, firm, or corporation or use for his personal benefit or the benefit of others (except the Company, Holdings and each of Holdings' direct and indirect subsidiaries (hereinafter referred to collectively as "Affiliates," and the Company, Holdings and such Affiliates collectively, the "Holdings Group")), directly or indirectly, any confidential or proprietary information received or developed by him during the course of his employment. For the purposes of this Section 4(a)(i) confidential and proprietary information ("Confidential Information") shall be defined to mean (1) all historical and pro forma projections of loss ratios incurred by the Holdings Group; (2) all historical and pro forma actuarial data relating to the Holdings Group; (3) historical and pro forma financial results, revenue statements, and projections for the Holdings Group; (4) all information relating to the

Holdings Group's systems and software (other than the portion thereof provided by the vendor to all purchasers of such systems and software); (5) all information relating to the Company's unique underwriting approach; (6) all information relating to plans for, or internal or external discussions regarding, acquisitions of or mergers with any business or line of business; (7) non-public business plans; (8) all other information relating to the financial, business, or other affairs of the Holdings Group including their customers; and (9) any information about any shareholder of Holdings or any of its Affiliates, or any of the officers or employees of any member of the Holdings Group, that has been furnished or made available to Executive as a result of his position with the Company. Section 4(a)(i) shall not apply to Executive following the termination of his employment with the Company with respect to any Confidential Information known or made generally available to the general public or within the industry by persons other than Executive or a person acting with or at the request of Executive; or

(ii) reveal, divulge, or make known to any person, firm, or corporation, or use for his personal benefit or the benefit of others (except the Holdings Group), directly or indirectly, the name or names of any Customers (as defined in Section 5 below) of the Holdings Group, nor will he reveal, divulge, or make known to any person, firm, or corporation or use for his personal benefit or the benefit of others (except the Holdings Group), directly or indirectly, any trade secrets or any knowledge or information concerning any business methods or operational procedures engaged in by the Holdings Group (collectively, "Privileged Information"); provided, however, the restrictions set forth in this Section 4(a)(ii) shall not apply to Executive following the termination of his employment with the Company with respect to any Privileged Information known or made generally available to the general public or within the industry by persons other than Executive or a person acting with or at the request of Executive.

5. NON-COMPETITION.

(a) Executive acknowledges and agrees that as the Company's Chief Executive Officer and President (i) he will be responsible for and directly involved in developing customer goodwill and relationships for the benefit of the Holdings Group, including personal contact with customers and supervising others who contact customers and develop customer goodwill and relationships; (ii) he will be provided and have access to the Holdings Group's Confidential Information and Privileged Information, and will be compensated for the development, and supervising the development, of the same and (iii) he will have unique insight into and knowledge of the skills, talents and capabilities of the Holdings Group's key employees. Executive also acknowledges and agrees that at the inception of his employment with the Company it was agreed that he would be bound by noncompetition restrictions.

(b) Executive agrees that during his employment by the Company he will not compete against the Holdings Group in any manner, including without limitation by engaging in, or by assisting any other person or entity to engage in, or by having an ownership interest in, any insurance business that competes with the Holdings Group, or by engaging in any conduct described in clauses (b)(i), (ii), (iii), or (iv) below. Executive further agrees that after his employment by the Company ends, he will not during the Restricted Period:

(i) compete against the Company by engaging in, or by assisting any other person or entity to engage in, or by having an ownership interest in, any Competitive Business in the Territory (as defined below);

(ii) compete against the Holdings Group by soliciting any Customer of the Holdings Group to provide any goods or services in competition against the Holdings Group;

(iii) induce or persuade any Customer of the Holdings Group not to do business with, or to switch business from, or reduce business with, the Holdings Group;

(iv) solicit, or assist others in soliciting, Key Employees (as defined below) to either leave the Holdings Group or to engage in a Competitive Business.

(c) For purposes of this Agreement, the following capitalized terms shall have the meanings set forth below:

(i) “Restricted Period” shall mean the twelve (12) month period immediately following Executive’s last day of employment with the Company.

(ii) “Competitive Business” shall mean reinsurance business.

(iii) “Territory” shall mean (i) Bermuda, (ii) each and every state or other United States jurisdiction (“State(s)”) where the Holdings Group is licensed or admitted at the end of the Term; and (iii) North America, South America, Europe, Asia Australia and Africa.

(iv) “Customer” shall mean any customer of the Holdings Group that (A) purchased products or services from the Company during the twelve month period immediately preceding Executive’s last day of employment with the Company (the “Final Year”), and (B) about which Executive either had Confidential Information or Privileged Information or personal or management responsibility for customer contact or service.

(v) “Key Employees” shall mean any executive, managerial, sales, marketing, or supervisory level employees of the Holdings Group under Executive’s direct or indirect management authority during the Final Year.

(d) The restrictions contained in this Section 5 shall not prevent the purchase or passive ownership by Executive of not more than three percent (3%) of the securities of any class of any corporation, whether or not such corporation is engaged in any Competitive Business, which are publicly traded on any securities exchange or any “over the counter” market.

6. TERMINATION. Executive’s employment hereunder shall terminate under the following circumstances:

(a) Termination for Cause. The Company may terminate the employment of Executive for Cause at any time by providing written notice to Executive specifying the cause of the termination. For the purposes of this Agreement, “Cause” means that: (i) Executive willfully violated Sections 4 or 5 of this Agreement; (ii) Executive grossly neglected his duties hereunder; (iii) Executive was convicted of a felony or a crime involving moral turpitude (meaning a crime that includes the commission of an act of depravity, dishonesty, or bad morals); (iv) Executive has committed an act of dishonesty, fraud, or embezzlement against the Holdings Group; or (v) Executive willfully and/or knowingly breached this Agreement in any material respect or willfully and/or knowingly violated the Company’s operating guidelines. In the event that the Company provides written notice of termination for Cause pursuant to Section 6(a)(ii), Executive shall be entitled to cure any alleged neglect of his duties, to the extent curable, within thirty (30) days of receiving written notice from the Company specifying the factual basis for its belief that Executive grossly neglected his duties hereunder. If Executive is terminated for Cause, Executive’s compensation shall terminate on the date of such termination, and all equity awards, whether vested or unvested at that time, shall be immediately forfeited and canceled effective as of the date of such termination.

(b) Company Termination Without Cause; Company Non-Renewal Termination. The Company may terminate Executive at any time without Cause, with or without prior notice. If (i) the Company delivers a timely Non-Renewal Notice and Executive has not timely delivered a timely Non-Renewal Notice, (ii) Executive continues in employment with the Company through the last day of the Term, and (iii) the parties have not executed a written agreement applicable to Executive’s employment

after the expiration of the Term, then Executive's employment shall terminate on the last day of the Term (a "Company Non-Renewal Termination").

(c) Termination by Executive for Good Reason. Executive may, at his option, terminate this Agreement for Good Reason. "Good Reason" shall mean the occurrence of any one or more of the following events without the prior consent of Executive:

- (i) A material diminution in Executive's authority, duties or responsibilities, or requiring Executive to report directly to a person or persons other than the Chief Executive Officer of Holdings or the Company Board;
- (ii) A material diminution in Executive's Base Salary; or
- (iii) Any action or inaction by the Company which constitutes a material breach of the terms of this Agreement;

and, in each case, the failure by the Company to cure such condition within the thirty (30) day period after receipt of written notice from Executive specifying in detail the factual basis for his belief that he has Good Reason to resign ("Good Reason Notice"). Executive must deliver a Good Reason Notice within thirty (30) calendar days after the initial existence of a Good Reason condition, and, if the Company fails to timely cure such Good Reason condition, Executive must terminate his employment within one year after the initial existence of such Good Reason condition, and any failure by Executive to timely comply with either of these requirements shall constitute a waiver of Executive's right to resign for Good Reason for such condition.

(d) Termination due to Death or Disability. Executive's employment hereunder shall terminate upon his death. The Company may terminate Executive's employment if he is prevented from performing his responsibilities under this Agreement because of "Disability." A "Disability" means that Executive is unable to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than 12 months, or is, by reason of any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than 12 months, receiving income replacement benefits for a period of not less than three months under an accident or disability insurance benefit plan covering Company employees ("Disability Plan"). If Executive is unable to perform his responsibilities, by reason of any accident, illness, or mental, or physical impairment, for a period that is reasonably anticipated by the Company to be longer than the waiting period in the Disability Plan, then, at the Company's request, Executive shall promptly apply for such income replacement benefits.

(e) Expiration of Term. If (i) Executive delivers a timely Non-Renewal Notice pursuant to Section 1 (whether or not the Company has timely delivered a timely Non-Renewal Notice), (ii) Executive continues in employment with the Company through the last day of the Term, and (iii) the parties have not executed a written agreement applicable to Executive's employment after the expiration of the Term, then Executive's employment shall terminate on the last day of the Term ("Executive Non-Renewal Termination").

7. COMPENSATION AND BENEFITS UPON TERMINATION.

(a) If the Company terminates Executive's employment without Cause during the Term, or there is a Company Non-Renewal Termination, or Executive terminates his employment for Good Reason during the Term, then:

(i) as soon as practicable following such termination but no later than ten (10) days after the Termination Date (as defined below), the Company shall pay to Executive his accrued but yet unpaid base salary earned through the Termination Date and any accrued, but unused vacation pay through the Termination Date (the “Accrued Obligations”);

(ii) within forty-five (45) days following the Termination Date, the Company shall reimburse Executive for reasonable expenses incurred, but not paid prior to the Termination Date;

(iii) any accrued but unpaid Tax Equalization Policy obligations of the Company shall be paid in accordance with such policy; and

(iv) subject to the execution and delivery of a general release (which Release shall not alter or result in the waiver of Executive’s right to exercise the portion of any stock option or other equity award that vested through the Termination Date, or any rights under this Section 7(a)) in a form acceptable to the Company (“Release”) within forty five (45) days after the Termination Date (the “Release Expiration Date”), which Release has not been revoked, Executive is entitled to receive:

(1) (A) in the event of a termination without Cause or for Good Reason (I) before a Change in Control (as defined in Section 7(d)), an amount equal to Executive’s base salary for a period of eighteen (18) months after the Termination Date, or (II) within twelve (12) months after a Change in Control, an amount equal to Executive’s base salary for a period of twenty-four (24) months after the Termination Date, or (B) in the event of a Company Non-Renewal Termination, an amount equal to Executive’s base salary for a period of twelve (12) months after the Termination Date, which, in any case, shall be paid in periodic installments in accordance with the Company’s normal payroll practices commencing on the first payroll cycle on or after the 45th day after the Termination Date, unless such amount is required to be delayed pursuant to Section 8 below;

(2) the continuation of coverage under all employee benefit insurance plans in which Executive was a participant as of the Termination Date, to the extent such post-employment coverage is authorized by such plans, at the Company’s expense for a period of twelve (12) months after the Termination Date, provided, however if post-employment coverage is not authorized under the Company’s health insurance plan, then the Company will pay Executive the premium cost for health insurance coverage that the Company would have paid if Executive had continued being a participant in the Company’s health insurance plan during such twelve month period; and

(3) any unpaid discretionary bonus awarded to Executive for the year prior to the year in which the Termination Date occurs, which shall be paid in a lump sum on the normal bonus payment date.

(v) In the event that Executive fails to execute the Release on or prior to the Release Expiration Date, Executive shall not be entitled to any payments or benefits pursuant to Section 7(a)(iii). Notwithstanding the foregoing, if the Release could become effective during the calendar year following the calendar year of the Termination Date, then no such payments that constitute “deferred compensation” under Internal Revenue Code Section 409A shall be made earlier than the first day of the calendar year following the calendar year of the Termination Date.

(b) If Executive is terminated by the Company for Cause or due to death or Disability, or if an Executive Non-Renewal Termination occurs pursuant to Section 6(e):

(i) within ten (10) days following the Termination Date, the Company shall pay to Executive the Accrued Obligations;

(ii) within forty-five (45) days following the Termination Date, the Company shall reimburse Executive for reasonable expenses incurred, but not paid prior to the Termination Date; and

(iii) any accrued but unpaid Tax Equalization Policy obligations of the Company shall be paid in accordance with such policy.

(c) Upon termination of Executive's employment for any reason, the Company will repatriate Executive and Executive's dependent family members (one return airline ticket each) to a location in the United States of Executive's choice, but should Executive commence alternative employment in Bermuda, the Company will no longer be responsible for Executive's repatriation. If the Company terminates Executive's employment without Cause during the Term, or there is a Company Non-Renewal Termination, or if Executive terminates his employment for Good Reason, or if Executive's employment ends as result of death, Disability, or an Executive Non-Renewal Termination pursuant to Section 6(e), then the Company will also pay Executive's documented, reasonable additional relocation expenses to a location in the United States for Executive and Executive's family (or Executive's family in the event of death) that are incurred within three (3) months after the Termination Date, which will be paid by the end of the month following the month in which documentation is submitted. The conditions for reimbursement of business expenses set forth in Section 2(c)(ii) apply to the reimbursement of relocation expenses.

(d) If Executive violates any of the terms of Sections 4 or 5 above during the Restricted Period, then, except for payments provided under Sections 7(a)(i), 7(a)(ii), 7(a)(iii) and 7(b), all compensation and benefits paid pursuant to this Section 7 shall cease and Executive shall promptly return any amount paid under Section 7(a)(iv) to the Company. In addition to these remedies, the Company shall have all other remedies provided by this Agreement and by law for the breach of Sections 4 or 5 above.

(e) For purposes of this Agreement, "Termination Date" means the date of Executive's "separation from service" within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), and the regulations promulgated thereunder ("Section 409A"). For purposes of this Agreement, "Change in Control" means (and, for purposes of this definition only, capitalized terms have the meaning defined in the James River Group Holdings, Ltd. Long-Term Incentive Plan, as amended the "Plan") the first to occur of the following events:

- i. the purchase or other acquisition (other than from the Company), in a single transaction or series of related transactions, by any person, entity or group of persons, within the meaning of Section 13(d) or 14(d) of the Exchange Act (excluding, for this purpose, the Company or its subsidiaries or any employee benefit plan of the Company or its subsidiaries), of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Act) of 50% or more of either the then-outstanding Shares or the combined voting power of the Company's then-outstanding voting securities entitled to vote generally in the election of directors;
- ii. consummation of a reorganization, merger, amalgamation or consolidation involving the Company, in each case with respect to which persons who were the shareholders of the Company immediately prior to such reorganization, merger, amalgamation or consolidation do not, immediately thereafter, own more than 50% of, respectively, the Shares and the combined voting power entitled to vote generally in the election of directors of the reorganized, merged, amalgamated or consolidated corporation's then-outstanding voting securities; or
- iii. a liquidation or dissolution of the Company, or the sale of all or substantially all of the assets of the Company; provided, however, an event described above shall be considered a Change in Control hereunder only if it also constitutes a "change in control event" under Section 409A of the Code, to the extent necessary to avoid the adverse tax consequences thereunder with respect to any payment subject to Section 409A of the Code.

(f) Executive's rights after the Termination Date with respect to the vesting and exercise of any equity awarded to Executive shall be governed by the Plan and any applicable equity award agreement.

8. 409A COMPLIANCE. This Agreement shall be interpreted and administered in a manner so that any amount or benefit payable hereunder shall be paid or provided in a manner that is either exempt from or compliant with the requirements Section 409A and applicable Internal Revenue Service guidance and Treasury Regulations issued thereunder (and any applicable transition relief under Section 409A). Notwithstanding anything else contained in this Agreement to the contrary, if Executive is a "specified employee" under Holdings' specified employee policy as in effect on the Termination Date, or if no such policy is then in effect, within the meaning of Section 409A, any payment required to be made to Executive hereunder upon or following the Termination Date shall be delayed until after the six-month anniversary of Executive's "separation from service" (as such term is defined in Section 409A) to the extent necessary to comply with, and avoid imposition on Executive of any additional tax, interest, or penalty imposed under, Section 409A. Should payments be delayed in accordance with the preceding sentence, the accumulated payment that would have been made but for the period of the delay shall be paid in a single lump sum during the ten (10) day period following the six-month anniversary of the Termination Date. Each payroll period payment described in Section 7(a)(iv)(1) shall be treated as a separate payment for purposes of Section 409A.

9. UNIQUENESS OF SERVICES; ACKNOWLEDGEMENTS. Executive acknowledges that the services to be rendered under the provisions of this Agreement are of a special, unique, and extraordinary character; involve access to and development of Confidential Information and Privileged Information; involve developing and protecting customer relationships and goodwill; and that it would be difficult or impossible to replace such services and that, by reason thereof, Executive agrees and consents that if he violates any of the provisions of Sections 4 and 5 of this Agreement, the Company, in addition to any other rights and remedies available under this Agreement or otherwise, shall be entitled to an injunction to be issued by a court of competent jurisdiction restricting Executive from committing or continuing any violation of Sections 4 and 5 of this Agreement.

10. FURTHER ACKNOWLEDGEMENTS. Executive further acknowledges and agrees that the restrictions contained in Sections 4 and 5 above are reasonable and necessary to protect the legitimate interest of the Holdings Group, in view of, among other things, the short duration of the restrictions; the narrow scope of the restrictions; the Holdings Group's interests in protecting its trade secrets, Confidential Information, and Privileged Information (which Executive agrees has value to competitors for more than eighteen (18) months) and its customer relationships and goodwill; Executive's background and capabilities which will allow him to seek and accept employment without violation of the restrictions; and Executive's entitlements under this Agreement. If any provision contained in Sections 4 or 5 above is adjudged unreasonable by a court of competent jurisdiction in any proceeding, then such provision shall be deemed modified as provided in Sections 4 or 5 above or by reducing the period of time during which such provision is applicable and/or, if applicable, the geographic area to which such provision applies, to the extent necessary for such provision to be adjudged reasonable and enforceable.

11. NOTICES. Any notices provided for or permitted by this Agreement shall be in writing and shall be deemed to have been duly given when delivered in person or three (3) days after it is mailed if delivered by registered or certified mail, return receipt requested, postage prepaid, addressed to the party for whom intended at such party's address set forth above (for the Company) or to the address listed in the Company's records (for Executive), or to such other address as such party may designate by notice in writing given in the manner provided herein.

12. SECTION HEADINGS. The section heading in this Agreement are for convenience of reference only, and they form no part of this Agreement and shall not affect its interpretation.

13. ENTIRE AGREEMENT; AMENDMENTS; COUNTERPARTS. This Agreement constitutes the entire agreement and understanding between Executive and the Company with respect to the subject matter hereof and shall supersede any and all other prior agreements and understandings, whether oral or written, relating thereto or the employment of Executive by the Company. This Agreement may not be rescinded, modified, or amended,

unless an amendment is agreed to in a writing signed by Executive and by an officer of the Company specifically authorized by the Board (other than Executive), and any waiver shall be set forth in writing and signed by the party to be charged. This Agreement may be executed in any number of counterparts, including by facsimile, each of which shall be an original, but all of which together shall constitute one and the same instrument.

14. PARTIAL INVALIDITY. The invalidity or unenforceability, by statute, court decision, or otherwise, of any term or condition of this Agreement shall not affect the validity or enforceability of any other term or condition hereof.

15. GOVERNING LAW. This Agreement shall be construed and administered in accordance with the laws of Bermuda, without regard to the principles of conflicts of law which might otherwise apply.

16. ASSIGNABILITY. This Agreement may not be assigned by Executive. All of the terms and conditions of this Agreement shall be binding upon and inure to the benefit of the Company and its successors and assigns. Successors to the Company shall include, without limitation, any corporation or corporations acquiring, directly or indirectly, all or substantially all of the assets of the Company whether by merger, consolidation, purchase, or otherwise and such successor shall thereafter be deemed the "Company" for purposes hereof.

17. DISPUTE RESOLUTION.

(a) Arbitration. In the event of disputes between the parties with respect to the terms and conditions of this Agreement, such disputes shall be resolved by and through an arbitration proceeding to be conducted under the auspices of the American Arbitration Association (or any like organization successor thereto) in either Bermuda or the city of Raleigh, North Carolina; provided, however, that either party may seek temporary, preliminary, and or permanent injunctive relief with respect to appropriate matters (including, without limitation, enforcement of Sections 4 and 5 above) without resort to arbitration. Such arbitration proceeding shall be conducted pursuant to the commercial arbitration rules (formal or informal) of the American Arbitration Association in as expedited a manner as is then permitted by such rules (the "Arbitration"). Both the foregoing agreement of the parties to arbitrate any and all such claims, and the results, determination, finding, judgment, and/or award rendered through such Arbitration, shall be final and binding on the parties to this Agreement and may be specifically enforced by legal proceedings. This Section 17(a) is without prejudice to the Executive's statutory right to complain to an employment inspector and/or employment tribunal under Bermuda's Employment Act 2.

(b) Procedure. Such Arbitration may be initiated by written notice from either party to the other which shall be a compulsory and binding proceeding on each party. The Arbitration shall be conducted by an arbitrator selected in accordance with the procedures of the American Arbitration Association. Time is of the essence of this arbitration procedure, and the arbitrator shall be instructed and required to render his or her decision within thirty (30) days following completion of the Arbitration

(c) Venue and Jurisdiction. Any action to compel arbitration hereunder or otherwise relating to this Agreement shall be brought exclusively in either a Bermuda court or a state court or federal court located in Raleigh, North Carolina, provided that, with respect to an action brought in North Carolina, if a federal court has jurisdiction over the subject matter thereof, then such action shall be brought in federal court, and the Company and Executive hereby irrevocably submit with regard to any such action or proceeding for itself and in respect to its property, generally and unconditionally, to the jurisdiction of the aforesaid courts.

(d) Waiver of Jury Trial. IN THE EVENT OF ANY LITIGATION WITH RESPECT TO ANY MATTER CONNECTED WITH THIS AGREEMENT OR THE AGREEMENTS OR TRANSACTIONS CONTEMPLATED HEREUNDER ALL OF THE PARTIES HERETO WAIVE ALL RIGHTS TO A TRIAL BY JURY.

SUBSIDIARIES OF JAMES RIVER GROUP HOLDINGS, LTD.

Subsidiary	Jurisdiction of Incorporation or Formation
Carolina Re, Ltd.	Bermuda
Falls Lake Fire and Casualty Company	California
Falls Lake Insurance Management Company, Inc.	Delaware
Falls Lake National Insurance Company	Ohio
Franklin Holdings II (Bermuda) Capital Trust I	Delaware
James River Capital Trust I	Delaware
James River Capital Trust II	Delaware
James River Capital Trust III	Delaware
James River Capital Trust IV	Delaware
James River Casualty Company	Virginia
James River Group Holdings UK Limited	United Kingdom
James River Group, Inc.	Delaware
James River Insurance Company	Ohio
James River Management Company, Inc.	Delaware
James River Richmond Real Estate, LLC	Virginia
JRG Reinsurance Company, Ltd.	Bermuda
Potomac Risk Services, Inc.	Virginia
Stonewood Insurance Company	North Carolina

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-8 Nos. 333-200995 and 333-217743) of James River Group Holdings, Ltd. and
- (2) Registration Statement (Form S-3 No. 333-208903) of James River Group Holdings, Ltd.;

of our reports dated February 27, 2019, with respect to the consolidated financial statements and schedules of James River Group Holdings, Ltd. and the effectiveness of internal control over financial reporting of James River Group Holdings, Ltd. included in this Annual Report (Form 10-K) of James River Group Holdings, Ltd. for the year ended December 31, 2018.

/s/ Ernst & Young LLP

Pittsburgh, Pennsylvania
February 27, 2019

CERTIFICATION

I, Robert P. Myron, certify that:

1. I have reviewed this annual report on Form 10-K of James River Group Holdings, Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2019

/s/ Robert P. Myron

Robert P. Myron

President and Chief Executive Officer

(Principal Executive Officer)

CERTIFICATION

I, Sarah C. Doran, certify that:

1. I have reviewed this annual report on Form 10-K of James River Group Holdings, Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2019

/s/ Sarah C. Doran

Sarah C. Doran

Chief Financial Officer

(Principal Financial Officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report of James River Group Holdings, Ltd. (the "Company") on Form 10-K for the period ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Robert P. Myron, Chief Executive Officer of the Company, and Sarah C. Doran, Chief Financial Officer of the Company, certify, to the best of our knowledge, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Robert P. Myron

Robert P. Myron
President and Chief Executive Officer
(Principal Executive Officer)
February 27, 2019

/s/ Sarah C. Doran

Sarah C. Doran
Chief Financial Officer
(Principal Financial Officer)
February 27, 2019