

## Risk Factors Comparison 2024-02-23 to 2023-02-17 Form: 10-K

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A wide range of factors could materially affect our future prospects and performance. The matters addressed in Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations, including under "Safe Harbor and Cautionary Statement" and "Critical Accounting Estimates", and Item 7A Quantitative and Qualitative Disclosures About Market Risk, as well as other information included or incorporated in this report, describe many of the significant risks that could affect our businesses, results of operations and financial condition. We are also subject to the risks discussed below. One or more of the risks discussed in this Item 1A. Risk Factors, and others we cannot anticipate, could have material adverse effects on our results of operations and financial condition; and the extent of these effects will depend, at least in part, on the scope, severity, frequency or duration of the specific event or circumstance. In addition, we may take steps to prevent, mitigate or manage potential risks or liabilities, and related developments, and some of those steps may have a material adverse effect on our results of operations and financial condition. Even if an unfavorable outcome does not materialize, these factors, and actions we may take in response, may have a material adverse impact on our reputation or result in substantial expense and disruption. Headings and sub-headings for the Risk Factors below are for reference purposes only and are not intended to limit or affect in any way the meaning or scope of each Risk Factor.

**Risks Primarily Related to Our Insurance Operations Loss Exposures** We may experience losses or disruptions from catastrophes. As a company with significant property and casualty insurance underwriting operations, we may experience losses from man-made or natural catastrophes. Catastrophes include, but are not limited to, windstorms, hurricanes, earthquakes, tornadoes, derechos, hail, severe winter weather, **floods** and wildfires and may include pandemics and events related to terrorism, broad reaching cyberattacks, riots and political and civil unrest. While we employ catastrophe modeling tools in our underwriting process, we cannot predict how severe a potential catastrophe will be before it occurs. The extent of losses from catastrophes is a function of the total amount of losses incurred, the number of insureds affected, the frequency and severity of the events, the effectiveness of our catastrophe risk management program and the adequacy of our reinsurance coverage. **Most catastrophes occur over numerous a small geographic area areas**; however, some catastrophes may produce significant damage in large, heavily populated areas. **We offer insurance and reinsurance coverage against terrorist acts in connection with some of our programs, and in other instances we are legally required to offer terrorism insurance; in both circumstances, we actively manage our exposure, but if there is a covered terrorist attack, we could sustain material losses.** In addition, catastrophes may have a material adverse effect on the investment management and incentive fees earned by our insurance-linked securities (ILS) operations and returns on our investments in ILS funds. Catastrophes also may result in significant disruptions in our insurance and other operations, as well as loss of income and assets. **If The impacts of climate change may results in an increase in the frequency and / or severity of weather-related catastrophes, we which may result in experience additional or elevated catastrophe-related losses or disruptions, which may be material.** The failure of any of the methods we employ to manage our loss exposures could have a material adverse effect on us. We seek to manage our loss exposures in a variety of ways, including adhering to maximum limitations on policies written in defined geographical zones, **limiting program size implementing maximum gross limits by coverage** for each **client insured**, establishing per risk and per occurrence limitations for each event, employing coverage restrictions and following prudent underwriting guidelines for each program written. We also seek to manage our loss exposures through geographic and industry diversification. Underwriting is a matter of judgment, involving assumptions about matters that are inherently unpredictable and beyond our control, and for which historical experience and probability analysis may not provide sufficient guidance. One or more future events could result in claims that substantially exceed our expectations, which could have a material adverse effect on our results of operations and financial condition. In addition, we seek to manage our loss exposures by policy terms, coverage exclusions and choice of legal forum. Disputes relating to coverage and choice of legal forum also arise. As a result, various provisions of our policies, such as choice of forum, or coverage limitations or exclusions, may not be enforceable in the manner we intend and some or all of our methods to manage loss exposures may prove ineffective. The effects of emerging claim and coverage issues on our business are 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 could have a material adverse effect on our results of operations or financial condition by either broadening coverage beyond our underwriting intent or increasing the frequency and / or severity of claims. For example, rising costs, litigation funding, social inflation, **including new or expanded theories of liability**, higher adverse verdicts, and **10K-22** legislative changes, such as extended statutes of limitations, may result in higher and more frequent claims over a longer reporting period than originally expected. In some instances, these changes may not become apparent until after we have issued insurance or reinsurance contracts that are **10K-22** 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. We use analytical models to assist our decision making in key areas such as pricing, reserving and capital modeling and actual results may differ materially from the model outputs and related analyses. We use various modeling techniques and data analytics (e. g., scenarios, predictive and stochastic modeling, and forecasting) to analyze and estimate exposures, loss trends and other risks associated with our insurance and ILS businesses. This includes both proprietary and third-party modeled outputs and related analyses to assist us in, among other things, decision-making related to underwriting, pricing, capital allocation, reserving, investing, reinsurance and catastrophe risk. We incorporate numerous assumptions and forecasts about the future level and variability of policyholder behavior, loss frequency and severity, interest rates, equity markets, inflation, capital requirements, and currency exchange rates,

among others. The modeled outputs and related analyses from both proprietary models and third- party models are subject to various assumptions, uncertainties, model design errors, complexities and the inherent limitations of any statistical analysis, including those arising from the use of historical internal and industry data and assumptions. In addition, the modeled outputs and related analyses may from time to time contain inaccuracies, perhaps in material respects, including as a result of inaccurate inputs or applications thereof (whether due to data error, human error or otherwise). Consequently, actual results may differ materially from our modeled results. Our profitability and financial condition substantially depend on the extent to which our actual experience is consistent with assumptions we use in our models and ultimate model outputs. If, based upon these models or other factors, we misprice our products or fail to appropriately estimate the risks we are exposed to, our business, results of operations and financial condition may be materially adversely affected.

**Loss Reserves** Our results may be affected because actual insured or reinsured losses differ from our loss reserves. Significant periods of time often elapse between the occurrence of an insured or reinsured loss, the reporting of the loss to us and our payment of that loss. To recognize liabilities for unpaid losses, we establish reserves as balance sheet liabilities representing estimates of amounts needed to pay reported and unreported losses and the related loss adjustment expenses. The process of estimating loss reserves is a difficult and complex exercise involving **analytical models with** many variables and subjective judgments. This process may also become more difficult if we experience a period of rising inflation, as has been the case since early 2021. As part of the reserving process, we review historical data and consider the impact of various factors, such as: • trends in claim frequency and severity; • changes in operations; • changes to mix of business, terms and conditions, limits and layers; • emerging economic and social trends; • trends in insurance rates; • inflation or deflation; and • changes in the regulatory and litigation environments. This process assumes that past experience, adjusted for the effects of current developments and anticipated trends, is an appropriate basis for predicting future events. There is no precise method, however, for evaluating the impact of any specific factor on the adequacy of reserves, and actual results will differ from original estimates. As part of the reserving process, we regularly review our loss reserves and make adjustments as necessary. Future increases in loss reserves for our underwriting operations will, and for our programs services operations may, result in additional charges to earnings, which may be material. In addition, as discussed above, we use analytical models to assist our decision making in loss reserving, and actual results may differ materially from the model outputs and related analyses. There is generally greater uncertainty in estimating reserves for long- tail coverages, such as general liability, professional liability and workers' compensation, as they require a longer period of time for claims to be reported and settled. The impact of changes in economic and social inflation and medical costs are also more pronounced for long- tail coverages due to the longer settlement period. In addition, reinsurance reserves are subject to greater uncertainty than insurance reserves primarily because a reinsurer relies on (i) the original underwriting decisions and claims decisions made by ceding companies and (ii) **10K- 23** information and data from ceding companies. 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 ~~10K- 23~~ assume. In addition, reinsurance reserves may be less reliable than insurance reserves because there is generally a longer lapse of time from the occurrence of the event to the reporting of the loss or benefit to the reinsurer and ultimate resolution or settlement of the loss. Reserves for contracts for which we are not the primary insurer, and participate only in excess layers of loss, are also subject to greater uncertainty than insurance reserves for contracts for which we are the primary insurer for many of the same reasons as reinsurance reserves. Changes in the assumptions and estimates used in establishing reserves for our life and annuity reinsurance book could result in material increases in our estimated loss reserves for such business. Our run- off life and annuity reinsurance book exposes us to mortality risk, which is the risk that the level of death claims may differ from that which we assumed in establishing the reserves for our life and annuity reinsurance contracts. Some of our life and annuity reinsurance contracts expose us to longevity risk, which is the risk that an insured person will live longer than expected when the reserves were established, or morbidity risk, which is the risk that an insured person will become critically ill or disabled. Our reserving process for the life and annuity reinsurance book is designed with the objective of establishing appropriate reserves for the risks we assumed. Among other things, this process relies heavily on analysis of mortality, longevity and morbidity trends, lapse rates, interest rates and expenses. As of December 31, ~~2022~~ **2023**, our reserves for life and annuity benefits totaled \$ ~~759-649. 0-1~~ million. We expect mortality, morbidity, longevity, and lapse experience to fluctuate somewhat from period to period, but believe they should remain reasonably predictable over a period of many years. Mortality, longevity, morbidity or lapse experience that is less favorable than the mortality, longevity, morbidity or lapse rates that we used in establishing the reserves for a reinsurance agreement will negatively affect our net income because the reserves we originally set for the risks we assumed may not be sufficient to cover the future claims and expense payments. Furthermore, even if the total benefits paid over the life of the contract do not exceed the expected amount, unexpected increases in the incidence of deaths or illness can result in changes to our assumptions in a given reporting period, adversely affecting our net income in any particular reporting period. If there are **adverse** changes to any of the above factors ~~to the point where a reserve deficiency exists~~, a charge to earnings ~~will~~ **may** be recorded, which may have a material adverse effect on our results of operations and financial condition.

**Ceded Reinsurance** We may be unable to purchase reinsurance protection on terms acceptable to us, or we may be unable to collect on loss recoveries from reinsurers. Our underwriting operations purchase reinsurance and retrocessional reinsurance to manage our net retention on individual risks and mitigate the volatility of losses on our results of operations and financial condition, while providing us with the ability to offer policies with sufficient limits to meet policyholder needs. In addition, we reinsure substantially all of the risks inherent in our program services **and other fronting business businesses**, however, we have certain programs that contain limits on our reinsurers' obligations to us that expose us to underwriting risk, including loss ratio caps, aggregate reinsurance limits or exclusion of the credit risk of producers. See note 12 of the notes to consolidated financial statements included under Item 8 for information about ceded reinsurance for our program services **and other fronting** businesses. The ceding of insurance does not legally discharge us from our primary liability for the full amount of the policies. Reliance on reinsurance recoveries may create credit risk as a result of the reinsurer'

s inability or unwillingness to pay reinsurance claims when due. We generally select well capitalized and highly rated reinsurers and in certain instances we require reinsurers to post substantial collateral to secure the reinsured risks. Deterioration in the credit quality of existing reinsurers or disputes over the terms of reinsurance could result in charges to earnings, which may have a material adverse effect on our results of operations and financial condition. In addition, collateral may not be sufficient to cover the reinsurer's obligation to us, and we may not be able to cause the reinsurer to deliver additional collateral. As of December 31, ~~2022~~ 2023, we were the beneficiary of letters of credit, trust accounts and funds withheld in the aggregate amount of \$ 5. ~~0~~1 billion, collateralizing \$ ~~8~~9. ~~4~~2 billion in reinsurance recoverables. The remaining unsecured reinsurance recoverables are ceded to highly-rated, well capitalized reinsurers. Our reinsurance recoverables are based on estimates, and our actual liabilities may exceed the amount we are able to recover from our reinsurers or any collateral securing the reinsurance recoverables. The failure of a reinsurer to meet its obligations to us, whether due to insolvency, dispute or other unwillingness or inability to pay, or due to our inability to access sufficient collateral to cover our liabilities, could have a material adverse effect on our results of operations and financial condition. **10K- 24** The availability and cost of reinsurance are determined by market conditions beyond our control. There is no guarantee that our desired amounts of reinsurance or retrocessional reinsurance will be available in the marketplace in the future. In addition, available capacity may not be on terms we deem appropriate or acceptable or with companies with whom we want to do ~~10K-24~~ business. This could impact our ability to write certain products and have a material adverse effect on our results of operations and financial condition. Market Competition and Broker Reliance Competition in the insurance and reinsurance markets could reduce profits from our insurance operations. Insurance and reinsurance markets are highly competitive. We compete on an international and regional basis with major United States (U. S.), Bermuda, United Kingdom (U. K.), European, and other international insurers and reinsurers and with underwriting syndicates, some of which have greater financial, marketing, and management resources than we do, have greater access to "big data," and may be able to offer a wider range of, or more sophisticated, commercial and personal lines products. Recent industry consolidation, including business combinations among insurance and other financial services companies, has resulted in larger competitors with even greater financial resources. In addition, capital market participants have created alternative products that are intended to compete with reinsurance products. Similar to other industries, the insurance industry is undergoing rapid and significant technological and other changes. There is increasing focus by traditional insurance industry participants, technology companies, "InsurTech" start-up companies and others on using technology and innovation to simplify and improve the customer experience, increase efficiencies, redesign products, alter business models and effect other potentially disruptive changes in the insurance industry. If we do not anticipate, keep pace with and adapt to technological and other changes impacting the insurance industry, it will harm our ability to compete, decrease the value of our products to customers, and materially and adversely affect our business. Furthermore, innovation, technological change and changing customer preferences in the markets in which we operate also pose other risks to our businesses. For example, they could result in increasing our service, administrative, policy acquisition or general expenses as we seek to distinguish our products and services from those of our competitors or otherwise keep up with such innovation and changes. Increased competition could result in fewer submissions, lower premium rates, and less favorable policy terms and conditions, which could reduce our underwriting profits, or within our program services **and other fronting** operations, our operating profits, and have a material adverse effect on our results of operations and financial condition. The historical cyclicality in the property and casualty insurance industry could have a material adverse effect on our ability to improve or maintain underwriting profits or to grow or maintain premium volume. The insurance and reinsurance markets have historically been cyclical, characterized by extended periods of intense price competition due to excessive underwriting capacity, and more recently alternative sources of capital, as well as ~~brief~~ periods when shortages of capacity permitted more favorable rate levels. Among our competitive strengths have been our specialty product focus and our niche market strategy. These strengths also make us vulnerable in periods of intense competition to actions by other insurance companies who seek to write additional premiums without appropriate regard for underwriting profitability. At times it could be very difficult for us to grow or maintain premium volume levels without sacrificing underwriting profits. If we are not successful in maintaining rates or achieving rate increases, it may be difficult for us to improve or maintain underwriting profits or to grow or maintain premium volume levels. Our efforts to develop new products, expand in targeted markets or improve business processes and workflows may not be successful and may increase or create new risks. From time to time, to protect and grow market share or improve our efficiency, we invest in strategic initiatives to:

- develop products that insure risks we have not previously insured, include new coverages or change coverage terms;
- change commission terms;
- change our underwriting processes;
- improve business processes and workflow to increase efficiencies and productivity and to enhance the experience of our customers and producers;
- expand distribution channels; and
- enter geographic markets where we previously have had relatively little or no market share. **10K- 25** We may not be successful in these efforts, and even if we are successful, they may increase or create the following risks, among others:

- demand for new products or expansion into new markets may not meet our expectations;
- ~~10K-25~~ • new products and expansion into new markets may increase or change our risk exposures, and the data and models we use to manage those exposures may not be as effective as those we use in existing markets or with existing products;
- models underlying automated underwriting and pricing decisions may not be effective;
- efforts to develop new products or markets or to change commission terms may create or increase distribution channel conflicts;
- in connection with the conversion of existing policyholders to a new product, some policyholders' pricing may increase while the pricing for other policyholders may decrease, the net impact of which could negatively impact retention and profit margins; ~~and~~ • changes to our business processes or workflow, including the use of new technologies, may give rise to execution risk; **and** • **increased usage of artificial intelligence by us and third parties and the evolving regulatory landscape may increase underwriting and regulatory risk, while also presenting opportunity risk if we do not leverage artificial intelligence appropriately.** These efforts may require us to make substantial expenditures, which may negatively impact results in the near term, and if not successful, could materially and adversely affect our results of

operations. We depend on a few brokers for a large portion of our revenues and the loss of business provided by any one of them could have a material adverse effect on us. We market our insurance and reinsurance worldwide through insurance and reinsurance brokers. For the year ended December 31, ~~2022~~ **2023**, our top ~~three~~ **five** independent brokers represented ~~28-37~~ % of the gross premiums written by our underwriting operations. Loss of all or a substantial portion of the business provided by one or more of these brokers could have a material adverse effect on our business.

**Financial Strength and Credit Ratings** Our insurance companies and senior debt are rated by various rating agencies, and a downgrade or potential downgrade in one or more of these ratings could have a material adverse effect on us. Financial strength ratings are an important factor in establishing the competitive position of insurance and reinsurance companies. Our senior debt ratings also affect the availability and cost of capital. Certain of our insurance and reinsurance company subsidiaries and our senior debt securities are rated by various rating agencies. Our financial strength and debt ratings are subject to periodic review, and are subject to revision or withdrawal at any time. The financial strength ratings of our insurance subsidiaries are significantly influenced by their statutory surplus amounts and leverage and capital adequacy ratios and other financial metrics. Rating agencies may implement changes to their ratings methodologies or internal models that have the effect of increasing or decreasing the amount of capital our insurance subsidiaries must hold or restrict how the company may deploy its capital in order to maintain its current ratings. For example, for certain of our insurance subsidiaries, rating agencies may take into account in their calculations the collateral provided to us by reinsurers. A change in this practice could adversely impact our ratings. We cannot be sure that we will be able to retain our current, or any future, ratings. If our ratings are reduced from their current levels by one or more rating agencies, our competitive position in our target markets within the insurance industry could suffer and it would be more difficult for us to market our products. A ratings downgrade could result in a substantial loss of business as policyholders and ceding company clients move to other companies with higher claims-paying and financial strength ratings. In addition, a downgrade could trigger contract provisions that allow cedents to terminate their reinsurance contracts on terms disadvantageous to us or require us to collateralize our obligations through trusts or letters of credit. A ratings downgrade could also have a material adverse effect on our liquidity, including the availability of our letter of credit facilities, and limit our access to capital markets, increase our cost of borrowing or issuing debt and require us to post collateral. The amount of capital that our insurance subsidiaries have and must hold to maintain their financial strength and credit ratings and meet other requirements can vary significantly from time to time and is sensitive to a number of factors, some of which are outside of our control. Capital requirements for our insurance subsidiaries are prescribed by the applicable insurance regulators, while rating agencies establish requirements that inform ratings for our insurance subsidiaries and senior debt securities. Projecting surplus and the related capital requirements is complex and requires making assumptions regarding how our business will perform within the broader macroeconomic environment. Insurance regulators and rating **10K-26** agencies evaluate company capital through financial models that calculate minimum capitalization requirements based on risk-based capital formulas for property and casualty insurance groups and their subsidiaries. In any particular year, capital levels and risk-based capital requirements may increase or decrease depending on a variety of factors including the mix of business written by our insurance subsidiaries and correlation or diversification in the business profile, the amount of additional capital our insurance subsidiaries must hold to support business growth, the value of securities in our investment portfolio, changes in interest rates and foreign currency exchange rates, as well as changes to the regulatory and rating agency models used to determine our required capital. ~~10K-26~~ Insurance Regulation Our insurance subsidiaries are subject to supervision and regulation that may have a material adverse effect on our operations and financial condition. Our insurance subsidiaries are subject to supervision and regulation by the regulatory authorities in the various jurisdictions in which they conduct business, including foreign and U. S. state insurance regulators. Regulatory authorities have broad regulatory, supervisory and administrative powers relating to, among other things, data protection and data privacy, cybersecurity, solvency standards, licensing, coverage requirements, product terms and conditions, policy rates and forms, business and claims practices, disclosures to consumers, and the form and content of financial reports. In some instances, we follow practices based on our interpretations of regulations or practices that we believe may be generally followed by the industry. These practices may turn out to be different from the interpretations of regulatory authorities. Insurance regulatory authorities have broad authority to initiate investigations or other proceedings, and, in connection with a failure to comply with applicable laws and regulations, could impose adverse consequences, including fines, penalties, injunctions, denial or revocation of an operating license or approval, increased scrutiny or oversight, limitations on engaging in a particular business, or redress to clients. These actions also could result in negative publicity, reputational damage or harm to client, employee or other relationships. Additionally, regulatory and legislative authorities continue to implement enhanced or new regulatory requirements to assure the stability of insurance companies or enhance policyholder protections or, in certain instances, intended to prevent or mitigate future financial crises. Regulatory authorities also may seek to exercise their supervisory or enforcement authority in new or more extensive ways, such as increased capital requirements. These actions, if they occur, could affect the competitive market, as well as the way we conduct our business or manage our capital, and could result in lower revenues and higher costs. As a result, such actions could have a material adverse effect on our results of operations and financial condition. Regulators may challenge our use of fronting arrangements in states in which our capacity providers are not licensed. Our program services **and other fronting** business enters into fronting arrangements with general agents and domestic and foreign insurers that want to access specific U. S. property and casualty insurance business in states in which the capacity providers are not licensed or are not authorized to write particular lines of insurance. Some state insurance regulators may object to these fronting arrangements. In certain states, an insurance commissioner has the authority to prohibit an authorized insurer from acting as an issuing carrier for an unauthorized insurer. In addition, insurance departments in states in which there is no such statutory or regulatory prohibition, could deem the assuming insurer to be transacting insurance business without a license and the issuing carrier to be aiding and abetting the unauthorized sale of insurance. If regulators in any of the states where we conduct our fronting business were to prohibit or limit those arrangements, we would be prevented or limited from conducting

that business for which a capacity provider is not authorized in those states, unless and until the capacity provider is able to obtain the necessary licenses. This could have a material adverse effect on our results of operations and financial condition.

**Insurance- Linked Securities** Our ILS operations and our management of third- party capital may expose us to risks. Some of our operating subsidiaries may owe certain legal duties and obligations to third- party investors. A failure to fulfill any of those duties or obligations could result in significant liabilities, penalties or other losses, and harm our businesses and results of operations. In addition, third- party investors may decide not to renew their investments in the funds we manage, which could materially impact the financial condition of those funds, and could, in turn, have a material adverse effect on our results of operations and financial condition. Moreover, we may not be able to maintain or raise additional third- party capital for the funds we manage or for potential new funds and therefore we may forego existing or potential fee income and other income generating opportunities. For example, investment performance at Nephila, as well as the broader ILS market, has been adversely impacted by consecutive years of elevated catastrophe losses, as well as by the COVID- 19 pandemic in 2020. These events, as well as volatility in the capital markets, also have impacted investor decisions around allocation of capital to ILS, which in turn have impacted, and may continue to impact, our capital raises and redemptions within the funds we manage, as well as new funds, resulting in a decline in assets under management. See "Critical Accounting Estimates- Goodwill and Intangible **10K- 27** Assets" under Item 7. Management's Discussion & Analysis of Financial Condition and Results of Operations for discussion and considerations of these impacts on the valuation of goodwill and intangible assets attributed to our Nephila ILS operations.

~~Developments at our Markel CATCo operations could have a material adverse effect on us. In December 2018, the U. S. Department of Justice (DOJ), U. S. Securities and Exchange Commission (SEC) and Bermuda Monetary Authority (BMA) initiated inquiries into loss reserves recorded in late 2017 and early 2018 at Markel CATCo Re Ltd. (the Markel CATCo Inquiries). In September 2021, each of the SEC and DOJ notified us that it had concluded its investigation and does not intend 10K- 27 to take any action against Markel CATCo Investment Management Ltd. There are currently no pending requests from the BMA, and it has been over two years since the BMA has contacted the Company in relation to the Markel CATCo Inquiries. Matters related to or arising from our Markel CATCo operations, including matters of which we are currently unaware, could result in additional claims, litigation, investigations, enforcement actions or proceedings. For example, while prior litigation was dismissed or settled, additional litigation may be filed by investors in the Markel CATCo Funds. We also could become subject to increased regulatory scrutiny, investigations or proceedings in any of the jurisdictions where we operate. If any regulatory authority takes action against us or we enter into an agreement to settle a matter, we may incur sanctions or be required to pay substantial fines or implement remedial measures that could prove costly or disruptive to our businesses and operations. An unfavorable outcome in one or more of these matters, and others we cannot anticipate, could have a material adverse effect on our results of operations and financial condition. Even if an unfavorable outcome does not materialize, these matters, and actions we may take in response, could have an adverse impact on our reputation, limit our access to capital markets and result in substantial expense and disruption. In addition, we may take steps to mitigate potential risks or liabilities related to or arising from our Markel CATCo operations. For example, see note 21 of the notes to consolidated financial statements included under Item 8 for information regarding a buy- out transaction that accelerated a full return of remaining capital to investors in the Markel CATCo Funds, which are currently in run- off. Other steps we may take to mitigate potential risks or liabilities related to or arising from our Markel CATCo operations could have a material impact on our results of operations or financial condition.~~

**Risks Primarily Related to Our Investments and Access to Capital** Changes in Economic Conditions Our investment results may be impacted by changes in interest rates, U. S. and international monetary and fiscal policies as well as broader economic conditions. We receive premiums from customers for insuring their risks. We invest these funds until they are needed to pay policyholder claims. Fluctuations in the value of our investment portfolio can occur as a result of changes in interest rates and U. S. and international fiscal, monetary and trade policies as well as broader economic conditions (including, for example, equity market conditions and significant or prolonged inflation or deflation). Although we attempt to take measures to manage the risks of investing in these changing environments, we may not be able to mitigate our sensitivity to them effectively. Despite our mitigation efforts, which include duration and currency targets for asset portfolios, compliance monitoring of these targets and means to reasonably and effectively match asset duration and currency to the duration and currency of the loss reserves, changes in interest rates and U. S. and international fiscal, monetary and trade policies as well as broader economic conditions could have a material adverse effect on our investment results and, consequently, our results of operations and financial condition. We invest a significant portion of our shareholders' equity in equity securities, which may result in significant variability in our investment results and net income and may have a material adverse effect on shareholders' equity. Additionally, our equity investment portfolio is concentrated, and declines in the value of these significant investments could have a material adverse effect on our financial results and on our ability to carry out our business plans. Equity securities were ~~59-64~~ **61-58** % and ~~61-58~~ **2023 and 2022 and 2021**, respectively. Equity securities have historically produced higher returns than fixed maturity securities over long periods of time; however, investing in equity securities may result in significant variability in investment returns from one period to the next. In volatile financial markets, we could experience significant declines in the fair value of our equity investment portfolio, which would result in a material decrease in net income and shareholders' equity. Our equity portfolio is concentrated in particular issuers and industries and, as a result, a decline in the fair value of these concentrated investments also could result in a material decrease in net income and shareholders' equity. A material decrease in shareholders' equity may have a material adverse effect on our ability to carry out our business plans. We may require additional capital in the future, which may not be available or may only be available on unfavorable terms. To the extent that cash flows generated by our operations are insufficient to fund future operating requirements, or that our capital position is adversely impacted by a decline in the fair value of our investment portfolio, losses from catastrophe events or otherwise, we may need to raise additional funds through financings or curtail our growth. We also may be required to liquidate fixed maturity securities or equity securities, which may

result in realized investment losses. Any further sources of capital, including capacity needed for letters of credit, if available at all, may be on terms that are unfavorable to us. Our access to additional sources of capital will depend on a variety of factors, such as market conditions, the general availability of ~~10K-28~~ credit, the availability of credit to the industries in which we operate, our results of operations, financial condition, credit ratings and credit capacity, as well as pending litigation or regulatory investigations. Our ability to borrow under our revolving credit facility and letter of credit facilities is contingent on our compliance with the covenants and other requirements under those facilities. Similarly, our access to capital may be impaired if regulatory authorities or rating agencies take negative actions against us. Our inability to obtain adequate capital when needed could have a negative impact on our ability to invest in, or take advantage of opportunities to expand, our businesses, such as possible acquisitions or the creation of new ventures, and inhibit our ability to refinance our existing indebtedness on terms acceptable to us. Any of these effects could have a material adverse effect on our results of operations and financial condition. ~~Our A~~ failure to comply with covenants and other requirements under our credit facilities, senior debt and other indebtedness could have a material adverse effect on us. The agreements and indentures relating to our credit facilities, senior debt and other indebtedness, including letter of credit facilities used by certain of our subsidiaries, contain covenants and other requirements. If we fail to comply with those covenants or requirements, the lenders, noteholders or counterparties under those agreements and indentures could declare a default and demand immediate repayment of all amounts owed to them. In addition, where applicable, our lenders may cancel their commitments to lend or issue letters of credit or require us to pledge additional or a different type of collateral. A default under one debt agreement may also put us at risk of a cross- default **10K-28** under other debt agreements or other arrangements. Any of these effects could have a material adverse effect on our results of operations and financial condition. Our liquidity and our ability to meet our debt and other obligations, and pay dividends on our preferred stock, depend on the receipt of funds from our subsidiaries. We are a holding company, and as a result, our cash flow and our ability to meet our debt and other obligations, and pay dividends on our preferred stock, depend upon the earnings of our subsidiaries and on the distribution of earnings, loans or other payments by our subsidiaries to us. The payment of dividends by our insurance subsidiaries, which account for a significant portion of our operating cash flows, may require prior regulatory notice or approval or may be restricted by capital requirements imposed by regulatory authorities. Similarly, our insurance subsidiaries may require capital contributions from us to satisfy their capital requirements. In addition, our reinsurance contracts typically allow the cedent, upon a reduction in an insurance company's capital in excess of specified amounts, to terminate its contract on terms disadvantageous to us or to exercise other remedies that may adversely affect us. Those contract provisions may have the effect of limiting distributions by our insurance subsidiaries to us. Risks Related to All of Our Operations Legal and Regulatory Risks The legal and regulatory requirements applicable to our businesses are extensive. Failure to comply could have a material adverse effect on us. Each of our businesses is highly dependent on the ability to engage on a daily basis in a large number of financial and operational activities, including, among others, insurance underwriting, claim processing, investment activities, the management of third- party capital and providing products and services to businesses and consumers, many of which are highly complex. These activities are subject to internal guidelines and policies, as well as legal and regulatory requirements, including, among others, those related to privacy and data security, economic and trade sanctions, anti- corruption, anti- bribery and global finance and investments, customer protection and insurance matters. Our continued expansion into new businesses, distribution channels and markets brings about additional requirements. While we believe that we have adopted adequate and effective risk management and compliance programs, compliance risks remain, particularly as we become subject to additional rules and regulations. Failure to comply with, or to obtain, appropriate authorizations or exemptions under any applicable laws and regulations could result in restrictions on our ability to do business or undertake activities that are regulated in one or more of the jurisdictions in which we conduct business. Any such failure could also subject us to fines, penalties, equitable relief and changes to our business practices. In addition, a failure to comply could result in defaults under our senior unsecured debt agreements or credit facilities or damage our businesses or our reputation. Compliance with applicable laws and regulations is ~~time consuming and~~ personnel- and systems- intensive. Shareholder activism, the current political environment, and the current high level of government intervention and regulatory reform may lead to substantial **and complex** new regulations and compliance obligations. Any changes in, or the enactment of new, ~~applicable~~ laws and regulations may increase the complexity of the regulatory environment in which we operate, which could materially increase our direct and indirect **costs for** compliance ~~costs~~ and other expenses of doing business, and have a material adverse effect on our results of operations and financial condition. **For example, failure to implement data management and security controls in the use of artificial intelligence by us or third party providers may subject us to data privacy, intellectual property and general regulatory risk, particularly in light of emerging regulation on the use of artificial intelligence**. Losses from legal and regulatory actions may have a material adverse effect on us. From time to time we may be involved in various legal actions, including at times multi- party or class action litigation, some of which involve claims for substantial ~~10K-29~~ or indeterminate amounts. A significant unfavorable outcome in one or more of these actions could have a material adverse effect on our results of operations and financial condition. We are also involved from time to time in various regulatory actions, investigations and inquiries, including market conduct exams by insurance regulatory authorities. If a regulatory authority takes action against us or we enter into a consent order or agreement to settle a matter, a regulatory authority has the option to require us to pay substantial fines or implement remedial measures that could prove costly or disruptive to our businesses and operations. Even if an unfavorable outcome does not materialize, these matters could have an adverse impact on our reputation and result in substantial expense and disruption. See note 21 of the notes to consolidated financial statements included under Item 8 and Item 3 Legal Proceedings. We are subject to laws and regulations relating to economic and trade sanctions and bribery and corruption, the violation of which could have a material adverse effect on us. We are required to comply with the economic and trade sanctions and embargo programs administered by the U. S. Department of the Treasury's Office of Foreign Assets Control and similar multi- national bodies and governmental agencies worldwide, as well as applicable anti- corruption ~~laws~~ and anti- bribery **laws**

and regulations of the U. S. and other jurisdictions where we operate. In some cases, we must comply with many a large number of new 10K- 29 economic, financial and trade sanctions that are imposed over a short period of time, as occurred with the Russia- Ukraine conflict. A violation of a sanction, embargo program, or anti- corruption law, could subject us, and individual employees, to a regulatory enforcement action as well as significant civil and criminal penalties. In addition, a violation could result in defaults under our outstanding indebtedness or credit facilities or damage our businesses or our reputation. Those penalties or defaults, or damage to our businesses or reputation, could have a material adverse effect on our results of operations and financial condition. In some cases, the requirements and limitations applicable to the global operations of U. S. companies and their affiliates are more restrictive than, and may even conflict with, those applicable to non- U. S. companies and their affiliates, which also could have a material adverse effect on our results of operations and financial condition. Employee error and misconduct may be difficult to detect and prevent and may result in significant losses. We run the risk There have been a number of cases involving misconduct by employees across in a broad range of industries in recent years, and we run the risk of misconduct by our employees businesses. Instances of misconduct, fraud, illegal acts, errors, failure to document transactions properly or to obtain proper internal authorization, or failure to comply with regulatory requirements or our internal policies may result in losses or reputational damage. It is not always possible to detect, deter or prevent employee errors or misconduct or fraud, and the controls and trainings that we have in place to mitigate these prevent and detect this activity-activities may not be sufficient or effective in all cases. Global Operations We manage our global operations through a network of business entities, which could result in inconsistent management, governance and oversight practices. We manage our global operations through a network of business entities located in the U. S., Bermuda, the U. K., Europe, Canada, the Middle East, Asia and elsewhere Australia. These business entities are managed by executives, and supported by shared and centralized services; however, for certain of our businesses, subsidiary- level management is responsible for day- to- day operations, profitability, personnel decisions, the growth of the business, and legal and regulatory compliance, including adherence to applicable local laws. Operating through subsidiary- level management can make it difficult for us to implement strategic decisions and coordinated procedures throughout our global operations. In addition, some of our business entities operate with management, sales, and support personnel that may be insufficient to support growth in their respective locations and industries, without significant central oversight and coordination. We continue to enhance our operating management, governance and oversight procedures to effectively support, and improve transparency throughout, our global operations and network of business entities; however, our operating strategy nonetheless could result in inconsistent management, governance, and oversight practices, which may have a material adverse effect on our results of operations and financial condition. We have substantial international operations and investments, which expose us to increased political, civil, operational and economic risks. A substantial portion of our revenues and income is derived from our operations and investments outside the U. S., including from the U. K., Bermuda and, Europe, Canada, the Middle East, Asia and Australia. Our international operations and investments expose us to increased political, civil, operational and economic risks. Deterioration or volatility in foreign and international financial markets or general economic and political and civil conditions could adversely affect our operating results, financial condition and liquidity. Concerns about the economic conditions, capital markets, political, civil and economic stability and solvency of certain countries may contribute to global market volatility. Political and civil changes in the jurisdictions where we operate and elsewhere, some of which may be disruptive, can also interfere with our customers and our activities in a particular location. Our international operations also may be subject to a number of additional risks, particularly in emerging economies, including restrictions such as price controls, capital controls, currency exchange limits, ownership limits and other restrictive or anti- competitive governmental actions or requirements, which could have a material adverse effect on our businesses. 10K- 30 General economic, market or industry conditions could lead to investment losses, adverse effects on our businesses and limit our access to the capital markets. General economic and market conditions and industry specific conditions, including extended economic recessions or expansions; prolonged periods of slow economic growth; inflation or deflation; fluctuations and volatility in foreign currency exchange rates, commodity and energy prices and interest rates; volatility in the credit and capital markets; changes in U. S. government debt ratings; the imposition of tariffs and other changes in international trade regulation and other factors, could lead to: substantial realized and unrealized investment losses in future periods; declines in demand for, or increased frequency and severity of claims made under, our insurance products; disruptions in global supply chains and increased costs of inputs for our products and services; reduced demand for our services and the products we sell and distribute; changes in the carrying value of our other assets and liabilities; and limited or no access to the capital markets. Any of these impacts could have a material adverse effect on our results of operations, financial condition, debt and financial strength ratings or our insurance subsidiaries' capital. Results for many of our Market Ventures businesses have been, and may continue to be, adversely affected by increased costs of labor and materials and declines, including, with respect to increased materials costs, due to shortages in demand for the availability of certain products, higher shipping costs and inflation services due to 10K- 30 economic and industry specific conditions. Our efforts to mitigate the impact of these impacts cost increases may not be successful and, even when they are successful, there may be a time lag before the impacts of these efforts are reflected in our results. Our businesses, results of operations and financial condition could be adversely affected by the ongoing regional or military conflict-conflicts between Russia and Ukraine and related disruptions in the global economy. The global economy has been, and may in the future be, negatively impacted by the regional or military conflict-conflicts, for example, the on- going conflicts between Russia and Ukraine and between Israel and Hamas. While we We may have no operations in Russia or Ukraine areas affected by a conflict, and some of our businesses have been, and may continue to be, adversely affected by this a conflict and its effects. Within our underwriting operations, we may have insurance contracts with exposure to losses attributed to a the Russia- Ukraine conflict, which we discuss under Item 7 Management's Discussion & Analysis of Financial Condition and Results of Operations. Our other operations do not also may have significant direct exposure to customers and vendors in Russia or Ukraine an affected

**area**. However, certain **Certain** of our businesses ~~have experienced, and may continue to experience~~, shortages in materials and increased costs for transportation, energy, and raw materials due in part to the negative impact of **a the Russia-Ukraine conflict** on the global economy. Furthermore, governments in the U. S., U. K., and European Union, among others, **may have each imposed—impose** export controls on certain products and financial and economic sanctions on certain industry sectors and parties in **Russia-affected areas**. These export controls and sanctions, or our failure to comply with them, could result in restrictions on our ability to do business in one or more of the jurisdictions in which we conduct business or have the other adverse effects discussed above under this Item 1A. Risk Factors under "We are subject to laws and regulations relating to economic and trade sanctions and bribery and corruption, the violation of which could have a material adverse effect on us." We are unable to predict the impact ~~the an~~ ongoing conflict ~~will may~~ have on our businesses or the global economy. The impact ~~of further escalation—~~ of geopolitical tensions related to ~~this these~~ **conflict-conflicts**, including increased trade barriers or restrictions on global trade, is unknown and could result in, among other things, heightened cybersecurity threats, supply disruptions, protracted or increased inflation, increased energy costs, lower consumer demand, fluctuations in interest and foreign exchange rates and increased volatility in financial markets, any of which could adversely affect our businesses, results of operations and financial condition. In addition, ~~the an~~ ongoing conflict may have the effect of triggering or intensifying many of the risks described under this Item 1A Risk Factors under Risks Primarily Related to Our Insurance Operations, Risks Primarily Related to Our Investments and Access to Capital, and Risks Related to All of Our Operations. Acquisitions, Integration and **Retention Reliance on Management and Personnel** The integration of acquired ~~companies-businesses~~ may not be as successful as we anticipate. We have completed, and expect to complete, acquisitions in an effort to achieve profitable growth in our underwriting and other insurance operations and to create additional value on a diversified basis in our Market Ventures operations. Acquisitions present operational, regulatory, strategic and financial risks, as well as risks associated with liabilities arising from the previous operations of the acquired ~~companies-businesses~~. We also must make decisions about the degree to which we integrate acquisitions into our existing businesses, operations and systems, and over what timeframe. Those decisions may adversely affect how successfully the acquired businesses perform, both in the short- term and in the long- term. All of these risks are magnified in the case of a large acquisition. Integration of the operations, **systems** and personnel of acquired ~~companies-businesses~~ may prove more difficult than anticipated, which may result in failure to achieve financial objectives associated with the acquisition or diversion of management attention **and other resources**. In addition, integration of formerly privately- held companies into the management and internal control and financial reporting systems of a publicly- held company presents additional risks. See note 3 of the notes to consolidated financial statements included under Item 8 for information about our recent acquisitions. ~~10K-31~~ Impairment in the value of our goodwill or other intangible assets could have a material adverse effect on our operating results and financial condition. As of December 31, **2022-2023**, goodwill and intangible assets totaled \$ 4. **4-2** billion and represented **34-28** % of shareholders' equity. We record goodwill and intangible assets at fair value upon the acquisition of a business. Goodwill represents the excess of amounts paid to acquire businesses over the fair value of the net assets acquired. Goodwill and indefinite- lived intangible assets are evaluated for impairment annually, or more frequently if events or circumstances indicate that their carrying value may not be recoverable. Declines in operating results, divestitures, sustained market declines and other factors that impact the fair value of a reporting unit could result in an impairment of goodwill or intangible assets and, in turn, a charge to net income. Such a charge could have a material adverse effect on our results of operations or financial condition. Developments that adversely affect the future cash flows or earnings of an acquired business may cause the goodwill or intangible assets recorded for it to be impaired. See "Critical Accounting Estimates- Goodwill and Intangible Assets" included under Item 7 Management' s Discussion and Analysis of Financial Condition and Results of Operations and note 8 of the notes to consolidated financial statements included under Item 8 for information about our goodwill and intangible assets. **10K- 31** The loss of, **or failure to successfully implement succession planning for**, one or more key executives or an inability to attract and retain qualified personnel **in our various businesses** could have a material adverse effect on us. Our success depends on our ability to retain the services of our existing key executives, **implement successful succession planning** and to attract and retain additional qualified personnel in the future. The temporary or permanent loss of the services of any of our key executives or the inability to hire and retain other highly qualified personnel in the future could have a material adverse effect on our ability to conduct or grow our business. **Additionally, in our decentralized business model, we rely on qualified personnel to manage and operate our various businesses. In our decentralized business model, we need qualified and competent management to direct day- to- day business activities of our operating subsidiaries and to manage changes in future business operations due to changing business or regulatory environments. Our operating subsidiaries also need qualified and competent personnel to execute business plans and serve their customers, suppliers and other stakeholders. Our inability to recruit, train and retain qualified and competent managers and personnel could negatively affect the operating results, financial condition and liquidity of our subsidiaries and Market Group as a whole**. Information Technology Systems and Third- Party Systems and Service Providers Information technology systems that we use could fail or suffer a security breach or cyberattack, which could have a material adverse effect on us or result in the loss of regulated or sensitive information. Our businesses are dependent upon the operational effectiveness and security of our enterprise systems and those maintained by third parties. Among other things, we rely on these systems to interact with producers, insureds, customers, clients, and other third parties, to perform actuarial and other modeling functions, to underwrite business, to prepare policies and process premiums, to process claims and make claims payments, to prepare internal and external financial statements and information, as well as to engage in a wide variety of other business activities. A significant failure of our enterprise systems, or those of third parties upon which we may rely, whether because of a natural disaster, network outage or a cyberattack on those systems, including ransomware, could compromise our personal, confidential and proprietary information as well as that of our customers and business partners, impede or interrupt our business operations and could result in other negative consequences, including remediation costs, loss of



revenue, additional regulatory scrutiny and fines, litigation and monetary and reputational damages. In addition, if we are unable to innovate, develop and acquire new technology, it may leave us more susceptible to these attacks. Like other companies, we have been subject to cyberattacks, malicious viruses and malware, and denial of service attacks and expect that this will continue in the future with greater sophistication and frequency. Despite any controls or protective actions we take against such attacks, those measures may be insufficient to prevent, or mitigate the effects of, a natural disaster, network outage or a cyberattack on our systems. This could result in liability to us, cause our data to be corrupted or stolen and cause us to commit resources to correct those failures. In addition, we are subject to numerous data privacy and cybersecurity laws and regulations enacted in the jurisdictions in which we do business. A misuse or mishandling of personal, confidential or proprietary information being sent to or received from a customer, business partner, employee or third party could damage our businesses or our reputation or result in significant monetary damages, regulatory enforcement actions, fines and criminal prosecution in one or more jurisdictions. For example, under the European General Data Protection Regulation there are significant punishments for non-compliance which could result in a penalty of up to 4 % of a firm's global annual revenue. In addition, a violation of data privacy laws and regulations could result in defaults under our outstanding indebtedness or credit facilities. Those monetary damages, penalties, regulatory or legal actions or defaults, or the damage to our businesses or reputation, could have a material adverse effect on our results of operations and financial condition. Third parties who we utilize to perform certain functions are also subject to these risks, and their failure to adhere to these laws and regulations also could damage our businesses or reputation or result in regulatory intervention, which could have a material adverse effect on our results of operations and financial condition. Further, we routinely transmit, receive and store personal, confidential and proprietary information by email and other digital means. Although we attempt to protect this personal, confidential and proprietary information, we may be unable to do so in all cases, especially with business partners and other third parties who may not have or use appropriate controls to protect personal, confidential and proprietary information. ~~10K-32~~ While we maintain cyber risk insurance providing first- party and third- party coverages, that insurance may not cover all costs associated with the consequences of an enterprise failure, cyberattack, or breach of systems. A material cyber security breach could have a material adverse effect on our results of operations and financial condition. **10K- 32** Third- party providers may perform poorly, breach their obligations to us or expose us to enhanced risks. Certain of our business functions are performed by third- party providers, and these providers may not perform as expected or may fail to adhere to the obligations owed to us. For example, certain of our business units rely on relationships with a number of third- party administrators under contracts pursuant to which these third- party administrators manage and pay claims on our behalf and advise us with respect to case reserves. In these relationships, we rely on controls incorporated in the provisions of the administration agreement, as well as on the administrator's internal controls, to manage the claims process within our prescribed parameters. In addition, certain of our business units use managing general agents, general agents and other producers to write and administer business on our behalf within prescribed underwriting authorities. Although we monitor these administrators, agents, producers and other service providers on an ongoing basis, our monitoring efforts may not be adequate, or our service providers could exceed their authorities or otherwise breach obligations owed to us, which could result in operational disruption, reputational damage and regulatory intervention and otherwise have a material adverse effect on our results of operation and financial condition. In addition, we utilize third parties to perform certain technology and business process functions, such as data center hosting, cloud based operating environments, human resources and other outsourced services. ~~If these~~ ~~We have developed and implemented an outsourcing strategy, however, if~~ third- party providers do not perform as expected, we may experience operational difficulties, increased costs and a loss of business, or we may not realize expected productivity improvements or cost efficiencies. Our use of third parties to perform certain technology and business process functions may expose us to risks related to privacy and data security, **including through their use of artificial intelligence without our knowledge or below our standards,** which could result in monetary and reputational damages. **We may be further exposed to risks associated with artificial intelligence and machine learning technology if third- party service providers or any counterparts, where known or unknown to us, use such technology in their business activities.** In addition, our ability to receive services from third- party providers might be impacted by a wide variety of factors, including political and civil instability, supply chain disruptions, volatility or disruptions in the financial markets, wide- spread health issues, unanticipated or additional regulatory requirements or policies. As a result, our ability to conduct our businesses may be adversely affected. Pandemics have had, and could have, material adverse effects on us. ~~The COVID effects of a pandemic, and related governmental responses, may be wide - ranging~~ ~~19 pandemic has had - costly and its variants or future pandemics could have -~~ **disruptive and rapidly changing, resulting in** material adverse effects on our underwriting, investment, Market Ventures and other operations, and on our results of operations and financial condition. ~~The effects of a pandemic, as was the case with COVID and related governmental responses, may be wide - 19 ranging, costly, disruptive and rapidly changing.~~ Factors that give rise, or may give rise, to those effects include, or may include, the following, as well as others that we cannot predict: • Insured or reinsured losses from pandemic- related claims that are different, or more extensive, than we expect; • Government actions or judicial decisions related to insurance or reinsurance coverages or rates, including, for example, requiring retroactive coverage of claims or expanding the scope of coverage; • Disputes, lawsuits and other legal actions challenging the promptness of coverage determinations, or the coverage determinations themselves, under applicable insurance or reinsurance policies, resulting in increased claims, litigation and related expenses; • Disruptions, delays and increased costs and risks related to having limited or no access to our facilities, workplace re- entry, employee safety concerns and reductions or interruptions of critical or essential services; • Continually changing business conditions and compliance obligations; and • Short or long- term impacts on the cost, availability or timeliness of required raw materials, supplies or services provided by third parties, including services provided by state, federal or foreign governments or government agencies. In addition, a pandemic may, as has been the case with COVID- 19, have the effect of triggering or intensifying many of the risks described elsewhere under this Item 1A. Risk Factors under Risks Primarily Related to Our Insurance Operations, Risks

Primarily Related to Our Investments and Access to Capital, and Risks Related to All of Our Operations. 10K- 33 **Climate Change** The impacts of climate change, and legal or regulatory measures to address climate change, may adversely affect our results of operations or financial condition. Our businesses, results of operations, and financial condition could be impacted by risks associated with climate change, including: • changes from legislation, regulation and court decisions that: ◦ create economic and regulatory uncertainty, ◦ increase our compliance costs, ◦ impose liability on or increase exposure for our policyholders not contemplated during our underwriting, ◦ change our ability to provide insurance coverage to certain policyholders, or ◦ impose new or additional requirements that increase the costs associated with, or disrupt, sourcing, manufacturing, and distribution of, our products and services, • changes in the frequency, severity, and location of weather- related catastrophes, such as hurricanes, tornados, windstorms, floods, wildfires, and other extreme weather events, which may: ◦ result in insured losses that exceed our expectations or 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, ◦ make it more difficult or expensive for us to obtain reinsurance at desired levels, or ◦ increase physical risks to and impacts on our operations, • changing demand for insurance coverage we provide, such as demand from industries that produce or use carbon- based energy including those transitioning from those energy sources, decreased availability of reinsurance available for coverages we provide for carbon intensive industries, or increased claims and losses related to those industries, and • losses on our invested assets, including from: ◦ changes in supply and demand, ◦ advances in low- carbon technology and renewable energy development, ◦ effects of extreme weather events on the physical and operational exposure of industries and issuers, and ◦ the transition that companies make towards addressing climate risk in their own businesses. ~~Item 3-1C~~ **CYBERSECURITY** ~~LEGAL PROCEEDINGS~~ ~~Thomas Yerasian v. Markel Corporation~~ **Group** is a holding company comprised of a diverse group of companies and investments. Our specialty insurance business, Markel, sits at the core of our company. Markel Group utilizes information technology systems and services, including cybersecurity, provided and / or administered by Markel. Through Markel Group's wholly owned subsidiary, Markel Ventures, Inc. (Markel Ventures), Markel Group owns controlling interests in businesses that operate in a variety of industries. The Markel Ventures businesses are independently managed with respect to their information security and data protection programs. ~~In October 2010~~ order to maintain a strong cybersecurity program, we completed the acquisition of Aspen Holdings controls and technology tools designed to identify, ~~the~~ detect, prevent, respond to, and recover from security threats. Markel undergoes regular security audits including a System and Organization Controls ( ~~Aspen-SOC~~ ) audit for Cybersecurity conducted annually by independent auditors in which cybersecurity threats are identified and assessed. Markel regularly tests aspects of its internal security and conducts security risk interviews and assessments on third parties with whom it does business, depending on the nature of the relationship. Markel has invested in technology that assists its risk management teams in measuring and addressing weaknesses in its third- party and supply chain community. Markel performs continuous monitoring of all its third parties to ensure they are maintaining acceptable levels of security controls and remediating any known weaknesses. 10K- 34 Markel participates in the Financial Services Information Sharing and Analysis Center to share information about the latest cyber threats and preparedness measures. Markel also shares threat intelligence information with other partners. Markel has a cybersecurity incident response plan, as well as a crisis management plan, that cover cyber events, including a process for determining the materiality of cyber events that includes evaluation by a cross functional crisis management group including security, information technology, finance, legal and business and escalation to Markel Group senior management as warranted by the severity of the situation. An internal team engages in tabletop exercises several times each year to enhance preparedness for such situations. Information security and data protection risks are the responsibility of all employees. Markel has a mandatory training program covering a variety of security and data protection disciplines. In addition, all Markel employees are required to acknowledge annually policies on acceptable use of Markel's technology resources and enterprise information security. Contractors are required to provide certain representations and certifications relating to information security. The Markel information security and data protection program is led by a Chief Information Security Officer (CISO) who supervises a team of security and data protection professionals across the globe. Markel's global information security and data protection program leverages the Cybersecurity Framework from the National Institutes of Standards and Technology as well as industry best practices. Markel also is able to map to both ISO (International Organization for Standardization) and BSI (British Standards Institution) among other cybersecurity standards. Markel's CISO has been with Markel 13 years and has 22 years' experience in information technology, with 17 years in information technology security, and is a certified Information Systems Security Professional (CISSP). Each of our Markel Ventures businesses maintains its own, separate IT infrastructure, that often includes third- party providers, to support the needs of its business. ~~As part of the consideration~~ a result, cybersecurity risk for the Markel Ventures businesses is not concentrated in one system or service provider. Further, given the disparate nature of the businesses, systems, and providers, there is no single, uniform approach to managing cybersecurity risk at the Markel Ventures businesses – each is tailored to its unique needs. As is the case with all risks, management for each Markel Ventures business is responsible for evaluating and managing cybersecurity risks for its business. Therefore, each business determines the appropriate IT systems and providers needed to do so. Management for each business shares information on material risks from cybersecurity incidents with Markel Ventures management. Markel Ventures has established processes for the Markel Ventures businesses to share information about how they assess, identify, and manage cybersecurity risk and shares information on material risks from cybersecurity incidents with Markel Group management, as appropriate. Each Markel Ventures business has a board that meets quarterly ~~acquisition, Aspen shareholders received contingent value rights (CVRs). Prior to~~ Material matters regarding cybersecurity risk management and cybersecurity incidents are discussed at the ~~these~~

**meetings** December 31, 2017 CVR maturity date, the CVR holder representative, Thomas Yeransian, disputed our prior estimation of the value of the CVRs. **In addition** On September 15, 2016, Mr. Yeransian filed a suit, Thomas Yeransian v. Markel Corporation (U. S. District Court for the District of Delaware). **S-These discussions include how the business assesses, identifies, and manages key risks, including cybersecurity risks**. District Court Markel Ventures requires real-time reporting of material cybersecurity incidents to understand how the matters are being managed, assess whether public disclosure is required and inform Markel Group senior management of relevant matters. Depending on the cybersecurity incident, third parties may be engaged by the Markel Ventures businesses to assist them in understanding and managing the event. Given the varying size and complexity of the Markel Ventures businesses, a diverse array of individuals assume responsibility for managing cybersecurity risks within the them District of Delaware). **In some instances**, alleging primary responsibility may be with a member of the executive management team. In other instances, primary responsibility may land with information technology professionals. In all instances, however, ultimate responsibility rests with each business' Chief Executive Officer. Markel Group Board Oversight The Markel Group Board of Directors oversees Markel Group's risk management framework on an enterprise-wide basis, which includes cybersecurity risks. **Periodic reports are provided to the Markel Group Board of Directors by members of management which**, among other things, that we seek to systematically identify the principal risks facing our businesses and the manner in which such risks are **addressed** in default under the CVR agreement. **For cybersecurity** The suit seeks: \$ 47.3 million in damages, which represents the unadjusted value of the CVRs; plus interest (\$ 23.6 million through December 31, 2022) and default interest (up to an additional \$ 20.8 million through December 31, 2022, depending on the date any default occurred); and an unspecified amount of punitive damages, costs, and attorneys' fees. At the initial hearing held February 21, 2017, the court stayed the proceedings and ordered the parties to discuss resolving the dispute pursuant to the independent CVR valuation procedure under the CVR agreement. The parties met on April 5, 2017, but were unsuccessful in reaching agreement on a process for resolving the dispute. We subsequently filed a motion to stay the litigation and compel arbitration, and, on July 31, 2017, the court issued an order granting that motion. On November 13, 2018, Mr. Yeransian filed a second suit, Thomas Yeransian v. Markel Corporation (U. S. District Court for the District of Delaware), which also alleges that the Company is in default under the CVR agreement. The second suit seeks the same monetary damages and relief as the original suit. We filed a motion to stay this **includes** suit until the arbitration for the original suit has concluded and the CVR holders have received the final amount due under the CVR Agreement. The court granted that motion on August 6, 2019. On June 5, 2020, Yeransian filed a **review** third suit, Thomas Yeransian v. Markel Corporation (U. S. District Court for the District of Delaware). Similar to the first **cybersecurity program** and second suits, the third suit alleges that the Company is **its governance** in default under the CVR agreement and, **active** in addition, has interfered with the arbitration for the CVR valuation. The third suit seeks the same monetary damages and **planned initiatives** relief as the original suit and the second suit, as well as **protection and prevention matters, detection and response measures, and** other -- **the** declaratory and non-monetary judgments and orders. We filed a motion to stay this suit, which the court granted on March 16, 2021. Under the arbitration terms of the CVR Agreement, independent experts were appointed to determine the final value of the CVRs. On September 20, 2021, the experts delivered their report indicating a final CVR valuation of \$ 22.4 million, excluding interest. We had previously paid \$ 8.0 million to the CVR holders, representing 90% of the undisputed value of the CVRs, plus interest of \$ 1.9 million. On September 20, 2021, we paid \$ 20.1 million, which represents \$ 14.1 million for the unpaid portion of the final CVR amount (excluding fees payable to a third party), plus \$ 6.0 million in additional interest. The stay has been lifted on each pending suit, and the three suits have been consolidated. We have asked the court to dismiss, or grant us summary judgment on, all counts. We believe Mr. Yeransian's suits to be without merit. We further believe that **threat landscape** any material loss resulting from the suits to be remote. 10K- 34 Information About Our Executive Officers Thomas S. Gayner Chief Executive Officer since January 2023. Co-Chief Executive Officer from January 2016 to December 2022. President and Chief Investment Officer from May 2010 to December 2015. Chief Investment Officer from January 2001 to December 2015. Director from 1998 to 2004. Director since August 2016. Age 61. Michael R. Heaton Executive Vice President since May 2022. President, Markel Ventures from January 2016 to May 2022. President and Chief Operating Officer, Markel Ventures, Inc., a subsidiary, from May 2020 to May 2022; President and Chief Operating Officer, Markel Ventures, Inc., from January 2016 to May 2020. Chief Operating Officer, Markel Ventures, Inc., from September 2013 to December 2015. Age 46. Andrew G. Crowley President, Markel Ventures since May 2022. President, Markel Ventures, Inc., a subsidiary, since May 2022. Executive Vice President, Markel Ventures, Inc., from May 2020 to May 2022. Managing Director, Markel Ventures, Inc., from January 2017 to May 2020. Age 40. Jeremy A. Noble President, Insurance since January 2023. Senior Vice President and Chief Financial Officer from September 2018 to December 2022. Senior Vice President, Finance from June 2018 to September 2018. Finance Director, Markel International from July 2015 to June 2018. Managing Director, Internal Audit from September 2011 to July 2015. Age 47. Brian J. Costanzo Senior Vice President, Finance, Chief Accounting Officer and Controller since October 2022. Principal financial officer since January 2023. Chief Accounting Officer and Controller from June 2021 to October 2022. Controller from December 2019 to June 2021. Segment Controller - U. S. Insurance from March 2014 to December 2019. Age 44. Richard R. Grinnan Senior Vice President, Chief Legal Officer and Secretary since February 2020. General Counsel and Secretary from June 2014 to February 2020. Assistant General Counsel from August 2012 to June 2014. Age 54. 10K- 35 **Cybersecurity Risks No previous cybersecurity incident has had** PART II Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, **or is reasonably likely to have, a material adverse effect** RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES Performance Graph The following graph compares the cumulative total return (based on **Markel Group** share price) on our common stock with the cumulative total return of companies included in the Standard & Poor's (S & P) 500 Index and the Dow Jones U. S. Property & Casualty Insurance Companies Index. We are a diverse financial holding company serving a variety of

niche markets, **its** and we believe there are few companies with a mix of business **strategy, results of** operations comparable to ours. Our principal business markets and underwrites specialty insurance products, and therefore, we have used the Dow Jones U. S. Property & Casualty Insurance Companies Index as our **or** peer group. However, we also own controlling interests in a diverse portfolio of businesses that operate in a variety of industries outside the specialty insurance marketplace. This information is not necessarily indicative of future results. Years Ended December 31, 2017 (1) 2018 2019 2020 2021 2022 Market Corporation \$ 100 \$ 91 \$ 100 \$ 91 \$ 108 \$ 116 S & P 500 100 96 126 149 192 157 Dow Jones U. S. Property & Casualty Insurance 100 96 123 126 154 178 (1) \$ 100 invested on December 31, 2017 in our common stock or the listed index. Includes reinvestment of dividends. Common Stock and Dividend Information Our common stock trades on the New York Stock Exchange under the symbol MKL. The number of shareholders of record as of February 1, 2023 was approximately 270. The total number of shareholders, including those holding shares in street name or in brokerage accounts, is estimated to be in excess of 210,000. Our current strategy is to retain earnings and, consequently, we have not paid and do not expect to pay a cash dividend on our common stock. 10K-36 Common Share Repurchases The following table summarizes our common share repurchases for the quarter ended December 31, 2022. Issuer Purchases of Equity Securities (a) (b) (c) (d) Total Number of Shares Purchased Average Price Paid per Share Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in thousands)

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in thousands)
October 1, 2022 through October 31, 2022	226,454	\$ 1,153.94	26,454	\$ 555,120
November 1, 2022 through November 30, 2022	19,230	\$ 1,249.81	19,230	\$ 531,086
December 1, 2022 through December 31, 2022	14,894	\$ 1,298.94	14,894	\$ 511,740
<b>Total</b>	<b>60,578</b>	<b>\$ 1,220.02</b>	<b>60,578</b>	<b>\$ 511,740</b>

(1) The Board of Directors approved the repurchase of up to \$ 750 million of our common shares pursuant to a share repurchase program publicly announced in February 2022. Under our share repurchase program, we may repurchase outstanding common shares of our stock from time to time in privately negotiated or open market transactions, including under plans complying with Rule 10b5-1 and Rule 10b-18 under the Securities Exchange Act of 1934. The share repurchase program has no expiration date but may be terminated by the Board at any time. Securities Authorized for Issuance Under Equity Compensation Plans See Part III for information on securities authorized for issuance under our equity compensation plans. Available Information This document represents Markel Corporation's Annual Report on Form 10-K, which is filed with the U. S. Securities and Exchange Commission. We make available free of charge on or through our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the U. S. Securities and Exchange Commission. Our website address is www.markel.com. Transfer Agent American Stock Transfer & Trust Co., LLC, Operations Center, 6201 15th Avenue, Brooklyn, NY 11219 (800) 937-5449 help @ astfinancial.com Annual Shareholders Meeting Shareholders, employees and friends of Markel are invited to attend our annual shareholders meeting on May 17, 2023 at the University of Richmond Robins Center at 2:00 p.m. (Eastern Time). More information on the agenda and registration is available at www.markelshareholdersmeeting.com. 10K-37 Item 7. MANAGEMENT'S DISCUSSION & ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS The following discussion and analysis includes discussion of changes in our results of operations and financial condition. **For risks** from 2021 to 2022 and should be read in conjunction with the consolidated financial statements and related **to cybersecurity threats** notes included under Item 8. **see** Item 1 Business, Item 1A Risk Factors and "Safe Harbor and Cautionary Statement" under Item 7. The accompanying consolidated financial statements and related notes have been prepared in accordance with United States (U. S.) generally accepted accounting principles (GAAP) and include the accounts of Markel Corporation and its consolidated subsidiaries, as well as any variable interest entities that meet the requirements for consolidation (the Company). A discussion of changes in our results of operations and financial condition from 2020 to 2021 may be found in Part II Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations in our 2021 Annual Report on Form 10-K, which was filed with the U. S. Securities and Exchange Commission on February 18, 2022. Item 7 is divided into the following sections: • Results of Operations • Liquidity and Capital Resources • Critical Accounting Estimates • Safe Harbor and Cautionary Statement For a discussion of our significant accounting policies, as well as recently issued accounting pronouncements that we have not yet adopted and their expected effects on our consolidated financial position, results of operations and cash flows, see note 1 of the notes to consolidated financial statements included under Item 8. The following table presents the components of operating revenues. Years Ended December 31, (dollars in thousands) 2022 2021 Insurance segment \$ 6,528,263 \$ 5,465,284 Reinsurance segment 1,063,347 1,042,048 Insurance-linked securities, program services and other insurance 493,746 342,142 Insurance operations 8,085,356 6,849,474 Net investment income 445,846 367,406 Net investment gains (losses) (1,595,733) 1,978,534 Other (17,661) 7,184 Investing segment (1,167,548) 2,353,124 Markel Ventures segment 4,757,527 3,643,827 Total operating revenues \$ 11,675,335 \$ 12,846,425 10K-38 The following table presents the components of comprehensive income (loss) to shareholders. Years Ended December 31, (dollars in thousands) 2022 2021 Insurance segment profit \$ 549,871 \$ 696,413 Reinsurance segment profit (loss) 83,859 (55,129) Insurance-linked securities, program services and other insurance 295,329 79,512 Amortization of intangible assets (1) (99,735) (102,971) Impairment of goodwill (2) (80,000) — Insurance operations 749,324 617,825 Investing segment profit (loss) (1,167,548) 2,353,124 Markel Ventures segment profit (3) 325,238 272,552 Interest expense (196,062) (183,579) Net foreign exchange gains 140,209 72,271 Income tax (expense) benefit 47,636 (684,458) Net income attributable to noncontrolling interests (112,920) (22,732) Net income (loss) to shareholders (214,123) 2,425,003 Preferred stock dividends (36,000) (36,000) Net income (loss) to common shareholders (250,123) 2,389,003 Other comprehensive loss to shareholders (1,094,694) (346,759) Comprehensive income (loss) to shareholders \$ (1,308,817) \$ 2,078,244 (1) Amortization of intangible assets includes all amortization attributable to our insurance operations. Amortization of intangible assets attributable to our underwriting segments was \$ 38.5 million and \$ 41.2 million for the years ended December 31, 2022 and 2021, respectively; however, we do not allocate amortization of intangible assets between the Insurance and Reinsurance segments. Amortization of intangible assets attributable to our

insurance-linked securities, program services and other insurance operations was \$ 61.2 million and \$ 61.8 million for the years ended December 31, 2022 and 2021, respectively. (2) Impairment of goodwill for the year ended December 31, 2022 was attributable to our Nephila ILS operations. (3) Segment profit for the Market Ventures segment includes amortization of intangible assets attributable to Market Ventures. Our 2022 results were significantly impacted by decreases in the fair value of our investment portfolio. Net investment losses on our equity portfolio reflect the impact of volatility and overall decline in the public equity markets. The decreases in the fair value of our fixed maturity portfolio were primarily due to increases in interest rates in 2022. Volatility in the public equity and bond markets reflects the impact of economic uncertainty and broader market conditions, which are impacting all three of our operating engines, including high levels of inflation, rising interest rates and global supply chain disruptions. The change in comprehensive income (loss) to shareholders in 2022 compared to 2021 was primarily due to pre-tax net investment losses of \$ 1.6 billion in 2022, compared to pre-tax net investment gains of \$ 2.0 billion in 2021, as well as pre-tax net unrealized losses on our fixed maturity securities of \$ 1.5 billion in 2022 compared to \$ 504.1 million in 2021. The components of net income (loss) to shareholders and comprehensive income (loss) to shareholders are discussed in further detail under "Insurance Results," "Investing Results," "Market Ventures Results," "Interest Expense, Net Foreign Exchange Gains and Income Taxes" and "Comprehensive Income (Loss) to Shareholders and Book Value per Common Share."

10K-39 Our Insurance engine includes our underwriting, insurance-linked securities (ILS), program services and other fronting operations. We have a suite of capabilities through which we can access capital to support our customers' risks, which includes our own capital through our underwriting operations and third-party capital through our ILS and program services operations. Our underwriting operations, which are primarily comprised of our Insurance and Reinsurance segments, produce revenues primarily by underwriting insurance contracts and earning premiums in the specialty insurance market. Our insurance-linked securities and program services operations produce revenues primarily through fees earned for investment management services and fronting services, respectively. Our insurance operations also include the underwriting results of run-off lines of business that were discontinued prior to, or in conjunction with, insurance acquisitions, and the results of our run-off life and annuity reinsurance business. The following table presents the components of our Insurance engine gross premium volume and operating revenues. Years Ended December 31, (dollars in thousands) 2022 2021 % Change

	2022	2021	% Change
Gross premium volume:			
Underwriting	\$ 9,847,538	\$ 8,485,929	16 %
Program services and other fronting	(1) 3,354,144	2,952,753	14 %
Insurance operations	\$ 13,201,682	\$ 11,438,682	15 %
Operating revenues:			
Insurance segment	\$ 6,528,263	\$ 5,465,284	19 %
Reinsurance segment	1,063,347	1,042,048	2 %
Insurance-linked securities, program services and other insurance	493,746	342,142	44 %
Insurance operations	\$ 8,085,356	\$ 6,849,474	18 %

(1) Substantially all gross premiums from our program services business and other fronting arrangements were ceded to third parties for the years ended December 31, 2022 and 2021.

Underwriting Results Underwriting profits are a key component of our strategy to build shareholder value. We believe that the ability to achieve consistent underwriting profits demonstrates knowledge and expertise, commitment to superior customer service and the ability to manage insurance risk. The property and casualty insurance industry defines underwriting profit or loss as earned premiums net of losses and loss adjustment expenses and underwriting, acquisition and insurance expenses. We use underwriting profit or loss and the combined ratio as a basis for evaluating our underwriting performance. The U.S. GAAP combined ratio is a measure of underwriting performance and represents the relationship of incurred losses, loss adjustment expenses and underwriting, acquisition and insurance expenses to earned premiums. The combined ratio is the sum of the loss ratio and the expense ratio. The loss ratio represents the relationship of incurred losses and loss adjustment expenses to earned premiums. The expense ratio represents the relationship of underwriting, acquisition and insurance expenses to earned premiums. A combined ratio less than 100% indicates an underwriting profit, while a combined ratio greater than 100% reflects an underwriting loss. In addition to the U.S. GAAP combined ratio, loss ratio and expense ratio, we also evaluate our underwriting performance using measures that exclude the impacts of certain items on these ratios. We believe these adjusted measures, which are non-GAAP measures, provide financial statement users with a better understanding of the significant factors that comprise our underwriting results and how management evaluates underwriting performance. When analyzing our combined ratio, we exclude current accident year losses and loss adjustment expenses attributed to natural catastrophes. We also exclude losses and loss adjustment expenses attributed to certain significant, infrequent loss events, for example, the COVID-19 pandemic and the military conflict between Russia and Ukraine that began following Russia's invasion of Ukraine in February 2022. Due to the unique characteristics of a catastrophe loss and other significant, infrequent events, there is inherent variability as to the timing or loss amount, which cannot be predicted in advance. We believe measures that exclude the effects of catastrophe events, COVID-19 and the Russia-Ukraine conflict are meaningful to understand the underlying trends and variability in our underwriting results that may be obscured by these items.

10K-40 When analyzing our loss ratio, we evaluate losses and loss adjustment expenses attributable to the current accident year separate from losses and loss adjustment expenses attributable to prior accident years. Prior accident year reserve development, which can either be favorable or unfavorable, represents changes in our estimates of losses and loss adjustment expenses related to loss events that occurred in prior years. We believe a discussion of current accident year loss ratios, which exclude prior accident year reserve development, is helpful since it provides more insight into estimates of current underwriting performance and excludes changes in estimates related to prior year loss reserves. We also analyze our current accident year loss ratio excluding losses and loss adjustment expenses attributable to catastrophes and, in 2022, the Russia-Ukraine conflict. The current accident year loss ratio excluding the impact of catastrophes and other significant, infrequent loss events is also commonly referred to as an attritional loss ratio within the property and casualty insurance industry. The following table presents summary data for our consolidated underwriting operations, which are comprised predominantly of our Insurance and Reinsurance segments. Our consolidated underwriting results also include results from discontinued lines of business and the retained portion of our program services operations. Years Ended December 31, (dollars in thousands) 2022 2021 % Change

	2022	2021	% Change
Gross premium volume	\$ 9,843,555	\$ 8,480,494	16 %
Net written premiums	\$ 8,203,390	\$ 7,119,731	15 %
Earned premiums	\$ 7,587,792	\$ 6,503,029	17 %
Underwriting profit			

\$ 626, 620 \$ 628, 085 — % Underwriting Ratios (1) Point Change Loss ratio Current accident year loss ratio 60. 8 % 62. 4 % (1. 6) Prior accident years loss ratio (2. 2) % (7. 4) % 5. 2 Loss ratio 58. 6 % 55. 1 % 3. 5 Expense ratio 33. 2 % 35. 3 % (2. 1) Combined ratio 91. 7 % 90. 3 % 1. 4 Current accident year loss ratio catastrophe impact (2) 0. 6 % 3. 0 % (2. 4) Current accident year loss ratio Russia-Ukraine conflict impact (2) 0. 5 % — % 0. 5 Prior accident years loss ratio COVID-19 impact (2) (0. 1) % 0. 2 % (0. 3) Current accident year loss ratio, excluding catastrophes and Russia-Ukraine conflict 59. 7 % 59. 4 % 0. 3 Combined ratio, excluding current year catastrophes, Russia-Ukraine conflict and COVID-19 90. 7 % 87. 1 % 3. 6 (1) Amounts may not reconcile due to rounding. (2) The point impact of catastrophes, the Russia-Ukraine conflict and COVID-19 is calculated as the associated net losses and loss adjustment expenses divided by total earned premiums. Premiums The increase in gross premium volume in our underwriting operations in 2022 was driven by growth within our Insurance segment across all product lines. Net retention of gross premium volume for our underwriting operations was 83 % in 2022 compared to 84 % in 2021. The decrease in net retention in 2022 was driven by lower retention within our Insurance segment, partially offset by higher retention within our Reinsurance segment. Within our underwriting operations, we purchase reinsurance and retrocessional reinsurance to manage our net retention on individual risks and overall exposure to losses and to enable us to write policies with sufficient limits to meet policyholder needs. The increase in earned premiums in our underwriting operations in 2022 was primarily attributable to higher gross premium volume. 10K- 41 Since 2018, we have seen rate strengthening across most product lines following the continued high level of natural catastrophes and significant losses attributed to the COVID-19 pandemic, as well as general market conditions. However, we began to see rate increases moderate on many of our product lines in 2022. In some product lines, such as directors and officers, we even began to see single digit rate decreases in the latter part of 2022. The overall strengthening of rates in recent years has been most prominent within our professional liability and general liability product lines, reflecting the impacts of both economic and social inflation on loss costs. Recent increases in economic and social inflation have created more uncertainty around the ultimate losses that will be incurred to settle claims on these longer-tail product lines. These factors, as well as the impacts of the low interest rate environment on interest income in recent years, have contributed to the strong rate environment. The primary exception to the favorable rate environment is workers' compensation, where we continue to see low single digit rate decreases given generally favorable loss experience in recent years. When we believe the prevailing market price will not support our underwriting profit targets, the business is not written. As a result of our underwriting discipline, gross premium volume may vary when we alter our product offerings to maintain or improve underwriting profitability. Combined Ratio In 2022, underwriting results included \$ 46. 2 million and \$ 35. 7 million of net losses and loss adjustment expenses attributed to Hurricane Ian and the Russia-Ukraine conflict, respectively. The net losses and loss adjustment expenses from Hurricane Ian and the Russia-Ukraine conflict were net of ceded losses of \$ 115. 3 million and \$ 44. 3 million, respectively. In 2021, underwriting results included \$ 195. 0 million of net losses and loss adjustment expenses attributed to Winter Storm Uri, the floods in Europe and Hurricane Ida (2021 Catastrophes), as well as \$ 15. 7 million of net losses and loss adjustment expenses resulting from an increase in our net estimate of ultimate losses and loss adjustment expenses attributed to COVID-19. The net losses and loss adjustment expenses from the 2021 Catastrophes were net of ceded losses of \$ 221. 7 million. Excluding these losses from the respective periods, the increase in our consolidated combined ratio in 2022 compared to 2021 was driven by the impact of less favorable development on prior accident years loss reserves within our Insurance segment in 2022 compared to 2021, partially offset by a lower expense ratio within our Insurance segment. Russia-Ukraine Conflict Our results reflect underwriting losses from the military conflict between Russia and Ukraine that began following Russia's invasion of Ukraine in February 2022. The ongoing conflict has also contributed to certain aspects of the current economic conditions impacting all of our operations. For further discussion regarding the Russia-Ukraine conflict and risks related to our businesses, see the risk factor titled "Our businesses, results of operations and financial condition could be adversely affected by the ongoing conflict between Russia and Ukraine and related disruptions in the global economy" under Item 1A Risk Factors. Our losses and loss adjustment expenses from the Russia-Ukraine conflict are primarily attributed to business written within our international insurance and reinsurance operations and are primarily associated with war and terrorism coverages within our marine and energy product lines, as well as our trade credit and surety product lines. We purchase significant excess of loss reinsurance on the impacted product lines to reduce our net exposures, resulting in significant ceded losses. See note 11 of the notes to consolidated financial statements included under Item 8 for further details on our estimate of ultimate gross and net losses and loss adjustment expenses attributed to the Russia-Ukraine conflict. COVID-19 Pandemic Our losses from the COVID-19 pandemic were primarily attributed to business written within our international insurance operations and were primarily associated with coverages for event cancellation and business interruption losses on policies where no specific pandemic exclusion existed. Our estimates of ultimate gross and net losses and loss adjustment expenses attributed to COVID-19 are based on reported claims and still include assumptions about coverage, liability and ceded reinsurance contract attachment, which, in some cases, remain subject to judicial review, and represent our best estimate as of December 31, 2022 based upon information **Information** currently available. We continue to closely monitor reported claims, claim settlements, ceded reinsurance contract settlements and judicial decisions and may adjust our estimates as new information becomes available. 10K- 42 Insurance Segment Years Ended December 31, (dollars in thousands) 2022 2021 % Change Gross premium volume \$ 8, 606, 700 \$ 7, 239, 676 19 % Net written premiums \$ 7, 040, 176 \$ 5, 998, 890 17 % Earned premiums \$ 6, 528, 263 \$ 5, 465, 284 19 % Underwriting profit \$ 549, 871 \$ 696, 413 (21) % Underwriting Ratios (1) Point Change Loss ratio Current accident year loss ratio 60. 3 % 60. 6 % (0. 3) Prior accident years loss ratio (2. 2) % (9. 3) % 7. 1 Loss ratio 58. 1 % 51. 3 % 6. 8 Expense ratio 33. 5 % 35. 9 % (2. 4) Combined ratio 91. 6 % 87. 3 % 4. 3 Current accident year loss ratio catastrophe impact (2) 0. 7 % 1. 7 % (1. 0) Current accident year loss ratio Russia-Ukraine conflict impact (2) 0. 4 % — % 0. 4 Prior accident years loss ratio COVID-19 impact (2) 0. 0 % (0. 1) % 0. 1 Current accident year loss ratio, excluding catastrophes and Russia-Ukraine conflict 59. 2 % 58. 9 % 0. 3 Combined ratio, excluding current year catastrophes, Russia-Ukraine conflict and COVID-19 90. 6 % 85. 6 % 5. 0 The increase in gross premium volume in our Insurance segment in 2022

was driven by new business volume, strong policy retention levels, more favorable rates and expanded product offerings, resulting in growth across all of our product lines, most notably in our general liability and professional liability product lines. Net retention of gross premium volume was 82 % in 2022 compared to 83 % in 2021. The decrease in net retention for the year ended December 31, 2022 was primarily due to higher cession rates on our professional liability and personal lines product lines in 2022 compared to 2021, partially offset by the impact of higher retention rates on new programs business. The increase in earned premiums in 2022 was primarily due to higher gross premium volume. The Insurance segment's current accident year losses and loss adjustment expenses in 2022 included \$ 46. 2 million and \$ 23. 0 million of net losses and loss adjustment expenses attributed to Hurricane Ian and the Russia-Ukraine conflict, respectively. Current accident year losses in 2021 included \$ 94. 7 million of net losses and loss adjustment expenses attributed to the 2021 Catastrophes. Excluding these losses from the respective periods, the current accident year loss ratio in 2022 was consistent with 2021. Despite achieving higher premium rates on our professional liability and general liability product lines, we generally kept our estimates of ultimate loss ratios on these product lines for the 2022 accident year consistent with the 2021 accident year due to the unfavorable claims trend within these product lines on prior accident years during 2022 arising from current and anticipated levels of economic and social inflation. 10K-43 The Insurance segment's 2022 combined ratio included \$ 142. 9 million of favorable development on prior accident years loss reserves compared to \$ 506. 3 million in 2021. The decrease in favorable development was primarily due to adverse development on our professional liability and general liability product lines in 2022 compared to favorable development in 2021. Adverse development on our professional liability and general liability product lines in 2022 was primarily attributable to unfavorable claim settlements and increased claim frequency and severity on a number of products, including directors and officers, errors and omissions and employment practices liability within professional liability and contractors and excess and umbrella within general liability. Development on prior years loss reserves within our professional liability and general liability product lines in 2022 was impacted by broader market conditions, including the effects of economic and social inflation. These factors have created more uncertainty around the ultimate losses that will be incurred to settle claims on these longer-tail product lines, and as a result, we are approaching reductions to prior year loss reserves on more recent accident years cautiously. Consistent with our reserving philosophy, we are responding quickly to increase loss reserves following any indication of increased claims frequency or severity in excess of our previous expectations, whereas in instances where claims trends are more favorable than we previously anticipated, we are often waiting to reduce loss reserves and will evaluate our experience over additional periods of time. In 2022, favorable development was most significant on our workers' compensation, programs, property and credit and surety product lines. In 2021, favorable development was most significant on our general liability, property, workers' compensation, professional liability and marine and energy product lines. See note 11 of the notes to consolidated financial statements included under Item 8 for more information on the Insurance segment's prior year loss reserve development. The decrease in the Insurance segment's expense ratio in 2022 was primarily due to the favorable impact of higher earned premiums in 2022 while maintaining consistent levels of general expenses with 2021, as we continue to focus on scaling our insurance operations. Reinsurance Segment Years Ended December 31, (dollars in thousands) 2022/2021 % Change

2022	2021	% Change
Gross premium volume	\$ 1, 229, 851	\$ 1, 246, 143 (1) %
Net written premiums	\$ 1, 167, 312	\$ 1, 126, 167 4 %
Earned premiums	\$ 1, 063, 347	\$ 1, 042, 048 2 %
Underwriting profit (loss)	\$ 83, 859	\$ (55, 238) NM (1)
Underwriting Ratios (2) Point Change	Loss ratio	Current accident year loss ratio 63. 6 % 72. 0 % (8. 4)
Prior accident years loss ratio (2. 4) % 1. 9 % (4. 3)	Loss ratio	61. 2 % 73. 9 % (12. 7)
Expense ratio	30. 9 % 31. 4 % (0. 5)	
Combined ratio	92. 1 % 105. 3 % (13. 2)	
Current accident year loss ratio catastrophe impact (3) (4)	— % 9. 6 % (9. 6)	
Current accident year loss ratio Russia-Ukraine impact (3)	1. 2 % — % 1. 2	
Prior accident years loss ratio COVID-19 impact (3) (0. 3) % 2. 1 % (2. 4)	Current accident year loss ratio, excluding catastrophes and Russia-Ukraine conflict 62. 4 % 62. 3 % 0. 1	
Combined ratio, excluding current year catastrophes, Russia-Ukraine conflict and COVID-19	93. 6 % (2. 4) (1) NM	

Ratio is not meaningful (2) Amounts may not reconcile due to rounding. (3) The point impact of catastrophes, the Russia-Ukraine conflict and COVID-19 is calculated as the associated net losses and loss adjustment expenses divided by total earned premiums. (4) The point impact of catastrophes does not include the favorable impact of assumed reinstatement premiums associated with the 2021 Catastrophes of \$ 21. 7 million for the year ended December 31, 2021. Reinstatement premiums were not significant for the year ended December 31, 2022. 10K-44 The modest decrease in gross premium volume in our Reinsurance segment in 2022 was primarily attributable to non-renewals within our property product lines and the non-renewal of a large treaty within our workers' compensation product line, largely offset by the impact of new business, primarily within our general liability and professional liability product lines, and more favorable premium adjustments within our credit and surety product lines. We discontinued writing property retrocessional reinsurance in 2022 and property reinsurance in 2021, which resulted in a \$ 123. 3 million reduction in gross premium volume in 2022 compared to 2021. Significant variability in gross premium volume can be expected in our Reinsurance segment due to individually significant contracts and multi-year contracts. Net retention of gross premium volume was 95 % in 2022 compared to 90 % in 2021. The increase in net retention was driven by changes in mix of business. We have experienced growth in highly retained product lines during the year, while the non-renewed property business had a lower retention rate than the rest of the segment. The increase in earned premiums in 2022 was primarily attributable to growth in gross premium volume within our professional liability and general liability product lines in recent periods, partially offset by the impact of lower gross premiums within our property product lines. The Reinsurance segment's current accident year losses and loss adjustment expenses in 2022 included \$ 12. 7 million of net losses and loss adjustment expenses attributed to the Russia-Ukraine conflict. Current accident year losses in 2021 included \$ 100. 3 million of net losses and loss adjustment expenses attributed to the 2021 Catastrophes. Excluding these losses from the respective periods, the current accident year loss ratio in 2022 was consistent with 2021. The benefit of higher premium rates on our general liability and professional liability product lines and more favorable premium adjustments in 2022 compared to 2021 was offset by the unfavorable impact of changes in the mix of business within the segment and the benefit in 2021 of \$ 21. 7 million of favorable assumed reinstatement

premiums on catastrophes. The change in mix of business had an unfavorable impact as the non-renewed property business had a lower attritional loss ratio than the rest of the segment. The Reinsurance segment's 2022 combined ratio included \$ 26.1 million of favorable development on prior accident years loss reserves, which was primarily attributable to favorable development within our property product lines related to natural catastrophes and our credit and surety product lines. Favorable development on prior years loss reserves in 2022 was partially offset by additional exposures recognized on prior accident years related to net favorable premium adjustments on our general liability, credit and surety and professional liability product lines. In 2021, the combined ratio included \$ 19.9 million of adverse development on prior accident years loss reserves, which was primarily attributable to net adverse development on natural catastrophes and COVID-19 within our property product lines, as well as additional exposures recognized on prior accident years related to net favorable premium adjustments on our professional liability product lines. See note 11 of the notes to consolidated financial statements included under Item 8 for more information on the Reinsurance segment's prior year loss reserve development.

**10K-45 Insurance-linked Securities, Program Services and Other Insurance** The following table presents the components of operating revenues and operating expenses attributable to our insurance-linked securities, program services and other insurance operations, including our run-off block of life and annuity reinsurance contracts, none of which are included in a reportable segment. Underwriting results attributable to these operations include results from discontinued lines of business, which are reported separate from our Insurance and Reinsurance segments, and the retained portion of our program services operations. Investment income earned on the investments that support life and annuity policy benefit reserves are included in our Investing segment. Years Ended December 31, 2022/2021 (dollars in thousands)

	Operating revenues	Operating expenses	Net Operating revenues	Operating expenses	Net Services and other:
Insurance-linked securities	\$ 109,020	\$ 125,316	\$ (16,296)	\$ 202,019	\$ 186,510
Insurance-linked securities-disposition gains	225,828	225,828			
Program services and other fronting	149,993	27,613	122,380	125,716	20,105
Life and annuity	1,040	10,723	(9,683)	1,515	16,667
Markel CATCo buy-out	101,904	(101,904)			
Markel CATCo Re	(89,862)	89,862			
Other	11,683	19,431	(7,748)	17,195	30,534
Underwriting	(3,818)	3,292	(7,110)	(4,303)	8,787
Amortization of intangible assets	61,202	(61,202)		61,789	(61,789)
Impairment of goodwill	80,000	(80,000)			
	\$ 493,746	\$ 339,619	\$ 154,127	\$ 342,142	\$ 324,419

The decrease in operating revenues and operating expenses in our Nephila insurance-linked securities operations in 2022 was primarily due to the disposition of our Velocity and Volante managing general agent operations during the year. Operating losses in 2022 were driven by costs incurred by Volante in connection with its launch of a Lloyd's of London syndicate prior to disposition. Since our acquisition of Nephila in 2018, we experienced significant growth in the Velocity and Volante managing general agent operations. In 2022, we realized the significant value created since 2018 through the sale of Velocity and Volante. We sold the majority of our controlling interest in Velocity in February 2022 for total cash consideration of \$ 181.3 million, which resulted in a gain of \$ 107.3 million. Velocity provides risk origination services for our Nephila fund management operations, as well as for third parties, and was a source of growth within our ILS operations since we acquired Nephila in 2018. We continue to have a minority interest in Velocity after the sale, and Velocity will continue to be a source for risk origination for our Nephila fund management operations. We sold our controlling interest in Volante in October 2022 for total cash consideration of \$ 181.9 million of which \$ 155.6 million was cash. This transaction resulted in a gain of \$ 118.5 million. Volante, which has also been a source of growth within our ILS operations, underwrites and administers specialty insurance and reinsurance policies and provides delegated underwriting services to third-party providers of insurance capital. Following the sales of our Velocity and Volante managing general agent operations, our Nephila ILS operations are solely comprised of our fund management operations. Since acquiring Nephila in 2018, investment performance in the broader ILS market has been adversely impacted by consecutive years of elevated catastrophe losses, most recently with Hurricane Ian in 2022. These events, as well as recent volatility in the capital markets, have impacted investor decisions around allocation of capital to ILS, which in turn has impacted our capital raises and redemptions within the funds we manage. Additionally, increases in the cost of capital during 2022 further impacted the estimated fair value of our fund management operations, and ultimately resulted in an \$ 80.0 million partial impairment of goodwill in 2022. Nephila's net assets under management were \$ 7.2 billion as of December 31, 2022. See "Critical Accounting Estimates - Goodwill and Intangible Assets" for further discussion of goodwill impairment at our Nephila ILS operations.

**10K-46 Program Services and Other Fronting** The increase in operating revenues in our program services and other fronting operations in 2022 was primarily due to higher gross earned premium, on which our fees are based, in 2022 compared to 2021, driven by the expansion of existing programs and growth from new programs, as well as the growth of our other fronting arrangements. Gross written premiums in our program services operations were \$ 2.8 billion and \$ 2.7 billion for the years ended December 31, 2022 and 2021, respectively. Gross written premiums from our other fronting operations, which consist of business written by our underwriting platform on behalf of our ILS operations, were \$ 553.9 million and \$ 223.5 million for the years ended December 31, 2022 and 2021, respectively.

**Markel CATCo Buy-Out** In March 2022, we completed a buy-out transaction with Markel CATCo Re Ltd. (Markel CATCo Re) and Markel CATCo Reinsurance Fund Ltd. (the Markel CATCo Funds) that provided for an accelerated return of all remaining capital to investors in the Markel CATCo Funds and resulted in the consolidation of Markel CATCo Re upon completion of the transaction. In order to complete the transaction, we made \$ 101.9 million in payments, net of insurance proceeds, to or for the benefit of investors that were recognized as an expense during the first quarter of 2022. In 2022, results attributable to Markel CATCo Re were primarily related to favorable loss reserve development on the run-off of the reinsurance contracts, all of which were attributable to noncontrolling interest holders in Markel CATCo Re. See note 17 of the notes to consolidated financial statements for further details regarding our Markel CATCo operations and the consolidation of Markel CATCo Re and note 21 for further details about the buy-out transaction. Our business strategy recognizes the importance of both consistent underwriting and operating profits and superior investment returns to build shareholder value. We rely on sound underwriting practices to produce



investable funds. We measure our investment performance by analyzing net investment income earned on our investment portfolio, as well as through net investment gains, which includes unrealized gains on our equity portfolio, and the change in net unrealized gains on available-for-sale investments. Our performance measures also include investment yield and taxable equivalent total investment return. Other income or losses within our investing operations primarily relate to equity method investments in our investing segment, which are managed separately from the rest of our investment portfolio. Based on the potential for volatility in the financial markets, we believe investment performance is best analyzed over several years. The following table summarizes our consolidated investment performance, which consists predominantly of the results of our investing segment. Years Ended December 31, (dollars in thousands) 2022 2021 2020 2019 2018

	2022	2021	2020	2019	2018
Net investment income	\$ 446,755	\$ 367,417	\$ 375,826	\$ 442,182	\$ 435,258
Net investment gains (losses)	\$ (1,595,733)	\$ 1,978,534	\$ 617,979	\$ 1,601,722	\$ (437,596)
Change in net unrealized gains (losses) on available-for-sale investments	(1)	\$ (1,407,316)	\$ (450,096)	\$ 442,089	\$ 381,890
Other	\$ (17,661)	\$ 7,184	\$ (3,996)	\$ 9,706	\$ (1,043)
Investment Ratios					
Investment yield (2)	2.2%	2.0%	2.4%	2.9%	2.8%
Taxable equivalent total investment return (9.5)	8.8%	9.4%	14.6%	(1.0)%	(1.0)%

The change in net unrealized gains (losses) on available-for-sale investments included a benefit related to an adjustment to decrease our life and annuity benefit reserves of \$ 56.6 million and \$ 63.0 million for the years ended December 31, 2022 and 2021, respectively, and a loss related to an adjustment to increase our life and annuity benefit reserves of \$ 68.2 million and \$ 51.4 million for the years ended December 31, 2020 and 2019, respectively. There was no adjustment to our life and annuity benefit reserves for the year ended December 31, 2018. See note 13 of the notes to consolidated financial statements included under Item 8 for details on our life and annuity benefit reserve adjustments. (2) Investment yield reflects net investment income as a percentage of monthly average invested assets at amortized cost. The increase in net investment income in 2022 was primarily attributable to higher interest income on short-term investments and cash equivalents due to higher short-term interest rates in 2022 compared to 2021. Additionally, interest income on our fixed maturity securities increased in 2022, primarily attributable to higher average holdings of fixed maturity securities, 10K-47 partially offset by a lower yield during 2022 compared to 2021. See note 4 (d) of the notes to consolidated financial statements included under Item 8 for further details regarding the components of net investment income. Net investment losses in 2022 were primarily attributable to decreases in the fair value of our equity portfolio driven by unfavorable market value movements in 2022. Net investment gains in 2021 were primarily attributable to increases in the fair value of our equity portfolio driven by favorable market value movements in 2021. See note 4 (e) of the notes to consolidated financial statements included under Item 8 for further details on the components of net investment gains (losses). The change in net unrealized gains (losses) on available-for-sale investments in 2022 and 2021 was attributable to decreases in the fair value of our fixed maturity investment portfolio as a result of increases in interest rates during 2022 and 2021. Taxable equivalent total investment return is a non-GAAP financial measure. Taxable equivalent total investment return includes items that impact net income, such as coupon interest on fixed maturity securities, changes in fair value of equity securities, dividends on equity securities and realized investment gains or losses on available-for-sale securities, as well as changes in unrealized gains or losses on available-for-sale securities, which do not impact net income. Certain items that are included in net investment income have been excluded from the calculation of taxable equivalent total investment return, such as amortization and accretion of premiums and discounts on our fixed maturity portfolio, to provide a comparable basis for measuring our investment return against industry investment returns. The calculation of taxable equivalent total investment return also includes the current tax benefit associated with income on certain investments that is either taxed at a lower rate than the statutory income tax rate or is not fully included in U. S. taxable income. We believe the taxable equivalent total investment return is a better reflection of the economics of our decision to invest in certain asset classes. We focus on our long-term investment return, understanding that the level of investment gains or losses may vary from one period to the next. We believe our investment performance is best analyzed using taxable equivalent total investment return over several years. The following table presents taxable equivalent total investment return before and after the effects of foreign currency movements:

	Five-Year Annual Return	Ten-Year Annual Return	Twenty-Year Annual Return	Years Ended December 31,	
	2022	2021	2020	2019	2018
Equities	(16.0)%	29.6%	15.2%	30.0%	(3.5)%
Fixed maturity securities, cash and short-term investments (1)	(5.8)%	(0.7)%	5.7%	6.5%	1.3%
Total portfolio, before foreign currency effect (9.2)	9.0%	8.6%	14.4%	(0.7)%	4.1%
Total portfolio (9.5)	8.8%	9.4%	14.6%	(1.0)%	4.1%

(1) Includes cash and cash equivalents and restricted cash and cash equivalents. The following table reconciles investment yield to taxable equivalent total investment return. Years Ended December 31,

	2022	2021	2020	2019	2018
Investment yield (1)	2.2%	2.0%	2.4%	2.9%	2.8%
Adjustment of investment yield from amortized cost to fair value (0.5)	(0.6)%	(0.5)%	(0.7)%	(0.6)%	0.4%
Net amortization of net premium on fixed maturity securities	0.4%	0.4%	0.4%	0.4%	0.4%
Net investment gains (losses) and change in net unrealized investment gains on available-for-sale securities (12.5)	5.9%	5.8%	10.3%	(3.8)%	8.8%
Taxable equivalent effect for interest and dividends (2)	0.1%	0.1%	0.1%	0.2%	0.1%
Other (3)	0.8%	1.0%	1.2%	1.5%	0.1%
Taxable equivalent total investment return (9.5)	8.8%	9.4%	14.6%	(1.0)%	(1.0)%

(1) Investment yield reflects net investment income as a percentage of monthly average invested assets at amortized cost. (2) Adjustment to tax-exempt interest and dividend income to reflect a taxable equivalent basis. (3) Adjustment to reflect the impact of time-weighting the inputs to the calculation of taxable equivalent total investment return. 10K-48 Our Market Ventures segment includes a diverse portfolio of businesses from different industries that offer various types of products and services to businesses and consumers, predominantly in the United States. We measure Market Ventures' results by its operating income and net income, as well as earnings before interest, income taxes, depreciation and amortization (EBITDA). We consolidate the results of our Market Ventures subsidiaries on a one-month lag, with the exception of significant transactions or events that occur during the intervening period. In December 2021, we acquired a controlling interest in Metromont LLC (Metromont), a precast concrete manufacturer and concrete building solutions provider for commercial projects. In August 2021, we acquired a controlling interest in Buckner Heavy Lift Cranes (Buckner), a provider of crane rental

services for large commercial contractors. See note 3 of the notes to consolidated financial statements included under Item 8 for additional details related to these acquisitions. The following table summarizes the operating revenues, operating income, EBITDA and net income to shareholders from our Market Ventures segment. Years ended December 31, (dollars in thousands)

	2022	2021	% Change
Operating revenues	\$ 4,757,527	\$ 3,643,827	31%
Operating income	\$ 325,238	\$ 272,552	19%
EBITDA	\$ 506,336	\$ 402,700	26%
Net income to shareholders	\$ 192,601	\$ 174,407	10%

The increase in operating revenues in 2022 was driven by the contribution from Metromont, which was acquired in December 2021, as well as an increased contribution from Buckner, which was acquired in August 2021. The combined contribution to the increase in operating revenues in 2022 attributable to these acquisitions was \$ 604.6 million. Additionally, operating revenues in 2022 increased as a result of the impact of increased demand and higher prices at many of our other businesses, most notably at our construction services businesses. The benefit of increases in operating revenues to operating income, EBITDA and net income to shareholders in 2022 was reduced by increased costs of materials and labor across many of our businesses, which reflected the impact of broader economic conditions on our operations during the year. The higher cost of materials was due in part to a shortage in the availability of certain products, the higher cost of shipping and a prolonged period of elevated inflation. We attempted to mitigate the impact of these cost increases through a variety of actions, such as increasing the prices of our products and services, pre-purchasing materials, locking in prices in advance or utilizing alternative sources of materials. Our businesses have had varying levels of success with these efforts, and we have seen conditions stabilize to varying degrees at many of our businesses. However, high labor costs continue to impact our businesses and there can be a time lag before the impacts of changes are reflected in our margins. The increases in operating income, EBITDA and net income to shareholders in 2022 were primarily due to the impact of higher revenues and improved operating results at our construction services businesses, transportation-related businesses and consulting services businesses, as well as the contribution of Metromont. These increases were partially offset by the impact of lower operating margins at one of our consumer and building products businesses in 2022 compared to 2021. Market Ventures EBITDA is a non-GAAP financial measure. We use Market Ventures EBITDA as an operating performance measure in conjunction with U. S. GAAP measures, including operating income and net income to shareholders, to monitor and evaluate the performance of our Market Ventures segment. Because EBITDA excludes interest, income taxes, depreciation and amortization, it provides an indicator of economic performance that is useful to both management and investors in evaluating our Market Ventures businesses as it is not affected by levels of debt, interest rates, effective tax rates or levels of depreciation or amortization resulting from purchase accounting.

10K-49 The following table reconciles Market Ventures operating income to Market Ventures EBITDA. Years ended December 31, (dollars in thousands)

	2022	2021
Market Ventures operating income	\$ 325,238	\$ 272,552
Depreciation expense	102,055	72,580
Amortization of intangible assets	79,043	57,568
Market Ventures EBITDA	\$ 506,336	\$ 402,700

The following tables present condensed financial information reflecting the financial position, results of operations and cash flows of Market Ventures, Inc., and also summarizing the amounts recognized in the consolidated financial statements included under Item 8 for the Market Ventures segment, unless otherwise noted. CONDENSED BALANCE SHEETS December 31, (dollars in thousands)

	2022	2021
ASSETS		
Cash and cash equivalents	\$ 315,452	\$ 321,473
Receivables	636,161	501,349
Goodwill	11,153	909,119
Intangible assets	796,297	766,179
Other assets: Inventory	639,562	529,250
Property, plant and equipment, net	1,028,156	948,971
Right-of-use lease assets	409,014	393,551
Other	337,126	300,916
Total other assets	2,413,858	2,172,688
Total Assets	\$ 5,315,677	\$ 4,958,279
LIABILITIES AND EQUITY		
Debt (1)	1,222,152	1,140,559
Other liabilities: Accounts payable and accrued liabilities	\$ 355,037	\$ 320,375
Lease liabilities	421,089	445,683
Other	625,215	544,718
Total other liabilities	1,401,341	1,310,776
Total Liabilities	2,623,493	2,451,335
Redeemable noncontrolling interests	523,154	461,378
Shareholders' equity (2)	2,172,935	2,050,675
Noncontrolling interests (3,905)	(5,109)	(20,607)
Total Equity	2,169,030	2,045,566
Total Liabilities and Equity	\$ 5,315,677	\$ 4,958,279

(1) Debt as of December 31, 2022 and 2021 included \$ 808.1 million and \$ 853.0 million, respectively, of debt due to other subsidiaries of Market Corporation, which was eliminated in consolidation. (2) Shareholders' equity as of December 31, 2022 and 2021 included \$ 1.4 billion of common stock, which represents Market Corporation's investment in Market Ventures, Inc. and which was eliminated in consolidation. 10K-50

CONDENSED STATEMENTS OF INCOME Years ended December 31, (dollars in thousands)

	2022	2021
OPERATING REVENUES		
Products revenues	\$ 2,427,096	\$ 1,712,120
Services and other revenues	2,329,522	1,931,696
Net investment income	909	11
Total Operating Revenues	4,757,527	3,643,827
OPERATING EXPENSES		
Products expenses	2,241,736	1,544,506
Services and other expenses	2,111,510	1,769,201
Amortization of intangible assets	79,043	57,568
Total Operating Expenses	4,432,289	3,371,275
Operating Income	325,238	272,552
Net foreign exchange gains	3,140	1,119
Interest expense (1)	(46,780)	(35,031)
Income Before Income Taxes	281,598	238,640
Income tax expense (61,588)	(43,626)	(22,010)
Net Income	220,010	195,014
Net income attributable to noncontrolling interests (27,409)	(20,607)	(20,607)
Net Income to Shareholders	\$ 192,601	\$ 174,407

(1) Interest expense for the years ended December 31, 2022 and 2021 included intercompany interest expense of \$ 27.4 million and \$ 25.8 million, respectively, which was eliminated in consolidation. CONDENSED STATEMENTS OF CASH FLOWS Years ended December 31, (dollars in thousands)

	2022	2021
Cash, cash equivalents, restricted cash and restricted cash equivalents, beginning of year	\$ 321,473	\$ 363,532
Net cash provided by operating activities	260,286	187,180
Net cash used by investing activities (302,770)	(585,971)	(37,897)
Net cash provided by financing activities (1)	237,897	356,562
Effect of foreign currency rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents (1,434)	(170)	(170)
Decrease in cash, cash equivalents, restricted cash and restricted cash equivalents (6,021)	(42,059)	(42,059)
Cash, cash equivalents, restricted cash and restricted cash equivalents, end of year	\$ 315,452	\$ 321,473

(1) Net cash provided by financing activities for the year ended December 31, 2021 included a capital contribution from our holding company, Market Corporation, of \$ 250.0 million, which was eliminated in consolidation. There were no capital contributions from our holding company for the year ended December 31, 2022. (2) Net cash provided by financing activities for the year ended December 31, 2022 included net repayments of intercompany debt of \$ 44.9 million, which were eliminated in consolidation. Net cash provided by financing activities for the

year ended December 31, 2021 included net additions to intercompany debt of \$ 120.0 million, which were eliminated in consolidation. Interest expense was \$ 196.1 million in 2022 compared to \$ 183.6 million in 2021. The increase in interest expense in 2022 was primarily attributable to higher Market Ventures interest expense and the issuance of our 3.45 % unsecured senior notes issued in May 2021, partially offset by the impact of the retirement of our 4.90 % unsecured senior notes in July 2022. See note 14 of the notes to consolidated financial statements included under Item 8 for further details regarding the retirement of our senior long-term debt.

10K-51 Net foreign exchange gains included in net income (loss) were \$ 140.2 million in 2022 compared to \$ 72.3 million in 2021. Net foreign exchange gains are primarily due to the remeasurement of our foreign currency denominated insurance reserves to the U. S. Dollar. The U. S. Dollar strengthened against the Euro and British Pound, the predominant foreign currencies within our insurance operations, during 2022 and 2021, particularly in the second and third quarters of 2022. Pre-tax net foreign exchange losses attributed to changes in exchange rates on available-for-sale securities supporting our insurance reserves, which are included in the changes in net unrealized gains (losses) on available-for-sale investments in other comprehensive loss, were \$ 79.5 million in 2022 compared to \$ 78.0 million in 2021. The effective tax rate was 32 % in 2022 compared to 22 % in 2021. The effective tax rate for 2022 differs from the effective tax rate for 2021, and the statutory rate of 21 %, due to the impact of various immaterial items resulting in a net tax benefit that was magnified due to the small pre-tax loss in 2022. See note 15 of the notes to consolidated financial statements included under Item 8 for further discussion of our income taxes. In August 2022, the U. S. enacted the Inflation Reduction Act of 2022 (the Act). The Act implements a 15 % corporate minimum tax based on adjusted financial statement income and a 1 % excise tax on stock repurchases effective January 1, 2023. We do not expect these tax law changes to have a material impact on our results of operations, financial condition or cash flows, however, we will continue to evaluate the impact of the Act as additional guidance is issued by the U. S. Treasury. The following table summarizes the components of comprehensive income (loss) to shareholders.

Years Ended December 31, (dollars in thousands)	2022	2021
Net income (loss) to shareholders	\$ (214, 123)	\$ 2, 425, 003
Other comprehensive loss: Change in net unrealized gains (losses) on available-for-sale investments, net of taxes	(1, 110, 148)	(354, 938)
Other, net of taxes	15, 471	8, 177
Other comprehensive (income) loss attributable to noncontrolling interest	(17) 2	Other comprehensive loss to shareholders (1, 094, 694)
Comprehensive income (loss) to shareholders	\$ (1, 308, 817)	\$ 2, 078, 244

Book value per common share decreased 10 % from \$ 1,036.20 at December 31, 2021 to \$ 929.27 as of December 31, 2022, primarily due to other comprehensive loss to shareholders in 2022. We seek to maintain prudent levels of liquidity and financial leverage for the protection of our policyholders, creditors and shareholders. Our consolidated debt to capital ratio was 24 % at December 31, 2022 and 23 % at December 31, 2021. The increase reflects a decrease in shareholders' equity, primarily attributable to a decline in the fair value of our investment portfolio, driven by unfavorable movements in the public equity markets and increases in interest rates in 2022.

**Holding Company** Our holding company had \$ 3.7 billion and \$ 5.3 billion of investments, cash and cash equivalents and restricted cash and cash equivalents (invested assets) at December 31, 2022 and December 31, 2021, respectively. The decrease in holding company invested assets was primarily due to capital contributions made to our insurance subsidiaries and a decline in the fair value of the holding company investment portfolio, as well as the \$ 350.0 million repayment of our 4.90 % unsecured senior notes due July 1, 2022. See note 23 of the notes to consolidated financial statements included under Item 8 for condensed financial information for our holding company.

10K-52 Within our insurance subsidiaries, we seek to maintain capital that significantly exceeds required capital levels, as prescribed by applicable regulators. A portion of the capital held by many of our insurance subsidiaries includes a portfolio of equity securities, and the unfavorable movements in the public equity markets in 2022 had a significant impact on their investment portfolio valuations, and in turn, the capital within these entities. In order to maintain our target levels of excess capital within the impacted insurance subsidiaries, our holding company made capital contributions totaling \$ 973.5 million in 2022. There were no capital contributions from our holding company to our insurance subsidiaries in 2021. We also received dividends totaling \$ 130.0 million from certain of our insurance subsidiaries in 2022 compared to \$ 1.0 billion in 2021. The following table presents the composition of our holding company's invested assets.

	December 31, 2022	2021
Fixed maturity securities	4 %	4 %
Equity securities	40 %	53 %
Short-term investments, cash and cash equivalents and restricted cash and cash equivalents	56 %	43 %
Total	100 %	100 %

After satisfying our interest and principal obligations on our senior long-term debt and notes payable to subsidiaries, as well as any other holding company obligations, excess liquidity at Market Corporation is available to, among other things, allocate capital to our existing businesses, complete acquisitions, build our portfolio of equity securities or repurchase shares of our common stock. In February 2022, our Board of Directors approved a new share repurchase program that provides for the repurchase of up to \$ 750 million of common stock. As of December 31, 2022, \$ 511.7 million remained available for repurchases under the program. This share repurchase program has no expiration date but may be terminated by the Board of Directors at any time. We may from time to time seek to prepay, retire or repurchase our outstanding senior notes or preferred shares, through open market purchases, privately negotiated transactions or otherwise. Those prepayments, retirements or repurchases, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. The holding company relies on dividends from its subsidiaries to meet debt service obligations and pay dividends on our preferred stock. Under the insurance laws of the various states in which our domestic insurance subsidiaries are incorporated, an insurer is restricted in the amount of dividends it may pay without prior approval of regulatory authorities. There are also regulatory restrictions on the amount of dividends that certain of our foreign subsidiaries may pay based on applicable laws in their respective jurisdictions. At December 31, 2022, our domestic insurance subsidiaries and Market Bermuda Limited could pay ordinary dividends of \$ 1.1 billion during the following twelve months under these laws. We maintain a corporate revolving credit facility, which provides up to \$ 300 million of capacity for future acquisitions, investments and stock repurchases and for other working capital and general corporate purposes. At our discretion, up to \$ 200 million of the total capacity may be used for letters of credit. We may increase the capacity of the facility by up to \$ 200 million subject to obtaining commitments for the increase and certain other terms and conditions. This facility expires in April 2024. As of December 31, 2022 and 2021, there

were no borrowings outstanding under this revolving credit facility. We were in compliance with all covenants contained in our corporate revolving credit facility at December 31, 2022. To the extent that we are not in compliance with our covenants, access to the revolving credit facility could be restricted. While we believe this to be unlikely, the inability to access the revolving credit facility could adversely affect our liquidity. See note 14 of the notes to consolidated financial statements included under Item 8 for further discussion of our revolving credit facility.

10K-53 We have access to various capital sources, including dividends from certain of our subsidiaries, holding company invested assets, undrawn capacity under our revolving credit facility and access to the debt and equity capital markets. We believe we have adequate liquidity to meet our capital and operating needs, including that which may be required to support the operating needs of our subsidiaries. However, the availability of these sources of capital and the availability and terms of future financings will depend on a variety of factors. See the "Access to Capital" risk factors under Item 1A Risk Factors for more discussion regarding our access to capital sources.

Cash Flows and Invested Assets Net cash provided by operating activities was \$ 2.7 billion in 2022 compared to \$ 2.3 billion in 2021. The increase in net cash flows from operating activities for the year ended December 31, 2022 was primarily due to higher net premiums within our Insurance segment, partially offset by \$ 101.9 million of payments made in connection with the Markel CATCo buy-out transaction. Net cash used by investing activities was \$ 1.7 billion in 2022 compared to \$ 2.9 billion in 2021. In 2022, net cash used by investing activities included net purchases of fixed maturity securities, short-term investments and equity securities of \$ 959.7 million, \$ 846.0 million and \$ 201.0 million, respectively. Net cash used by investing activities was net of \$ 630.0 million of net cash and restricted cash acquired as part of our consolidation of Markel CATCo Re, of which \$ 169.4 million was subsequently distributed to Markel CATCo investors for shares that were redeemed in conjunction with the buy-out transaction. In 2021, net cash used by investing activities included net purchases of fixed maturity and equity securities of \$ 2.5 billion and \$ 54.9 million, respectively, and net sales of short-term investments of \$ 229.0 million. Net cash used by investing activities in 2021 also included \$ 510.9 million of net cash used for the acquisitions of Buckner and Metromont. In 2022, as interest rates began to rise, we increased our allocation of cash to short-term investments and fixed maturity securities to support our growing underwriting business. Additionally, we increased our purchases of equity securities in 2022 to take advantage of favorable prices following declines in the public equity markets during the year. Cash flow from investing activities is affected by various factors such as anticipated payment of claims, financing activity, acquisition opportunities and individual buy and sell decisions made in the normal course of our investment portfolio management. Invested assets were \$ 27.4 billion at December 31, 2022 compared to \$ 28.3 billion at December 31, 2021, reflecting a decrease of 3% in 2022. The decline in the fair value of our investment portfolio, driven by unfavorable movements in the public equity markets and increases in interest rates in 2022, was partially offset by cash provided by operating activities. These factors were also the primary drivers of the change in the composition of our investment portfolio. The following table presents the composition of our invested assets.

December 31, 2022	2021	Fixed maturity securities	Equity securities	Short-term investments, cash and cash equivalents and restricted cash and cash equivalents	Total
43%	44%	28%	32%	29%	24%
100%	100%	100%	100%	100%	100%

Net cash used by financing activities was \$ 595.3 million in 2022, which included \$ 350.0 million to retire our 4.90% unsecured senior notes due July 1, 2022. Financing activities in 2022 also reflected borrowings and repayments at certain our Markel Ventures businesses, primarily on revolving lines of credit. Net cash provided by financing activities was \$ 369.8 million in 2021, which included net proceeds of \$ 591.4 million from our May 2021 senior notes offering. Cash of \$ 290.8 million and \$ 206.5 million was used to repurchase shares of our common stock during 2022 and 2021, respectively.

10K-54 Cash Obligations As of December 31, 2022, our primary cash obligations were unpaid losses and loss adjustment expenses, senior long-term debt and other debt and related interest payments, life and annuity benefits and lease liabilities. These cash obligations, as presented in the following table, represent our estimate of total future cash payments and may differ from the corresponding liabilities on our consolidated balance sheet due to present value discounts and other adjustments required for presentation in accordance with U. S. GAAP. The following table summarizes our estimated contractual cash obligations at December 31, 2022 and the estimated amount expected to be paid in 2023. (dollars in thousands)

Total cash obligations as of December 31, 2022	Cash obligations due in less than 1 year
Unpaid losses and loss adjustment expenses (1)	\$ 21,053,737
Senior long-term debt and other debt (2)	\$ 4,148,007
Interest payments on senior long-term debt and other debt (3)	\$ 3,414,263
Life and annuity benefits (4)	\$ 974,212
Lease liabilities (5)	\$ 661,112
	\$ 100,887

(1) The actual cash payments for settled claims will vary, possibly significantly, from these estimates. As of December 31, 2022, the average duration of our reserves for unpaid losses and loss adjustment expenses was 3.8 years. See note 11 of the notes to consolidated financial statements included under Item 8 for further details on our loss reserve estimates. (2) See note 14 of the notes to consolidated financial statements included under Item 8 for further details on the scheduled maturity of principal payments on our senior long-term debt and other debt. (3) Interest expense is accrued in the period incurred and therefore, only a portion of the future interest payments presented in this table represents a liability on our consolidated balance sheet as of December 31, 2022. (4) There is inherent uncertainty in the process of estimating the timing of payments for life and annuity benefits and actual cash payments for settled contracts could vary significantly from these estimates. We expect \$ 704.1 million of our cash obligation for life and annuity benefits to be paid beyond five years. See note 13 of the notes to consolidated financial statements included under Item 8 for further details on our estimates for life and annuity benefit reserves. (5) See note 9 of the notes to consolidated financial statements included under Item 8 for further details on our lease obligations and the expected timing of future payments. Various of our Markel Ventures subsidiaries maintain revolving credit facilities or lines of credit, which provide up to \$ 620 million of aggregate capacity for working capital and other general operational purposes. A portion of the capacity on certain of these credit facilities may be used as security for letters of credit and other obligations. At December 31, 2022 and 2021, \$ 238.1 million and \$ 94.3 million, respectively, of borrowings were outstanding under these credit facilities. As of December 31, 2022, one of our Markel Ventures subsidiaries was not in compliance with certain financial covenants of its revolving credit facility, which had an outstanding balance of \$ 97.9 million as of December 31, 2022. The

subsidiary is working with its lenders and anticipates amending the facility. This event is not expected to have a material effect on our consolidated financial condition or results of operations. At December 31, 2022, all of our other subsidiaries were in compliance with all covenants contained in their respective credit facilities. To the extent our subsidiaries are not in compliance with their respective covenants, access to their credit facilities could be restricted, which could adversely affect their operations. See note 14 of the notes to consolidated financial statements included under Item 8 for further discussion of our credit facilities.

**Restricted Assets and Capital** At December 31, 2022, we had \$ 4. 8 billion of invested assets held in trust or on deposit for the benefit of policyholders or ceding companies or to support underwriting activities. Additionally, we have pledged investments and cash and cash equivalents totaling \$ 437. 8 million at December 31, 2022 as security for letters of credit that have been issued by various banks on our behalf. These invested assets and the related liabilities are included in our consolidated balance sheet. See note 4 (f) of the notes to consolidated financial statements included under Item 8 for further discussion of restrictions over our invested assets. Our insurance operations require capital to support premium writings, and we remain committed to maintaining adequate capital and surplus at each of our insurance subsidiaries. The National Association of Insurance Commissioners (NAIC) developed a model law and risk-based capital formula designed to help regulators identify domestic property and casualty insurers that may be inadequately capitalized. Under the NAIC's requirements, a domestic insurer must maintain total capital and surplus above a calculated threshold or face varying levels of regulatory action. Capital adequacy of our foreign insurance 10K- 55 subsidiaries is regulated by applicable laws of the United Kingdom, Bermuda and Germany. At December 31, 2022, the capital and surplus of each of our insurance subsidiaries significantly exceeded the amount of statutory capital and surplus necessary to satisfy regulatory requirements. Critical accounting estimates are those estimates that both are important to the portrayal of our financial condition and results of operations and require us to exercise significant judgment. The preparation of financial statements in accordance with U. S. GAAP requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of material contingent assets and liabilities. These estimates, by necessity, are based on assumptions about numerous factors. Actual results may differ materially from the estimates and assumptions used in preparing the consolidated financial statements. Our accounts with accounting policies that involve critical accounting estimates are unpaid losses and loss adjustment expenses and goodwill and intangible assets.

**Unpaid Losses and Loss Adjustment Expenses** Our consolidated balance sheets included estimated unpaid losses and loss adjustment expenses of \$ 20. 9 billion and reinsurance recoverables on unpaid losses of \$ 8. 0 billion at December 31, 2022 compared to \$ 18. 2 billion and \$ 6. 9 billion, respectively, at December 31, 2021. Included in these balances were unpaid losses and loss adjustment expenses and reinsurance recoverables on unpaid losses attributable to our program services business and other fronting arrangements totaling \$ 5. 2 billion for the year ended December 31, 2022 and \$ 4. 2 billion for the year ended December 31, 2021. Additionally, consolidated unpaid losses and loss adjustment expenses as of December 31, 2022 included \$ 347. 9 million of fully collateralized reserves attributable to Markel CATCo Re, which we consolidate following the Markel CATCo buy-out. See note 17 of the notes to consolidated financial statements for further details regarding the consolidation of Markel CATCo Re. Our consolidated balance sheets do not include reserves for losses and loss adjustment expenses attributed to unconsolidated subsidiaries or affiliates that we manage through our Nephila insurance-linked securities operations. We accrue liabilities for unpaid losses and loss adjustment expenses based upon estimates of the ultimate amounts payable. We maintain reserves for specific claims incurred and reported (case reserves) and reserves for claims incurred but not reported (IBNR reserves). Reported claims are in various stages of the settlement process, and the corresponding reserves for reported claims are based upon all information available to us. Case reserves consider our estimate of the ultimate cost to settle the claims, including investigation and defense of lawsuits resulting from the claims, and may be subject to adjustment for differences between costs originally estimated and costs subsequently re-estimated or incurred. Claims are settled based upon their merits, and some claims may take years to settle, especially if legal action is involved. As of any balance sheet date, all claims have not yet been reported, and some claims may not be reported for many years. As a result, the liability for unpaid losses and loss adjustment expenses includes significant estimates for incurred but not reported claims. There is normally a time lag between when a loss event occurs and when it is reported to us. The actuarial methods that we use to estimate losses have been designed to address the lag in loss reporting as well as the delay in obtaining information that would allow us to more accurately estimate future payments. There is also often a time lag between cedents establishing case reserves or re-estimating their reserves and notifying us of those new or revised case reserves. As a result, the reporting lag is more pronounced in our reinsurance contracts than in our insurance contracts. On reinsurance transactions, the reporting lag will generally be 60 to 90 days after the end of a reporting period but can be longer in some cases. There may also be a more pronounced reporting lag, as well as reliance on third-party claims handling practices and reserve estimates, on insurance contracts for which we are not the primary insurer and participate only in excess layers of loss. Based on the experience of our actuaries and management, we select loss development factors and trending techniques to mitigate the difficulties caused by reporting lags. At least annually, we evaluate our loss development factors and trending assumptions using our own loss data, as well as cedent-specific and industry data, and update them as needed. U. S. GAAP requires that IBNR reserves be based on the estimated ultimate cost of settling claims, including the effects of inflation and other social and economic factors, using past experience adjusted for current trends and any other factors that would modify past experience. IBNR reserves are calculated by subtracting paid losses and loss adjustment expenses and case reserves from estimated ultimate losses and loss adjustment expenses. IBNR reserves were 70 % of total unpaid losses and loss adjustment expenses at December 31, 2022 compared to 67 % at December 31, 2021.

10K- 56 The following table summarizes case reserves and IBNR reserves for our underwriting, program services and other fronting operations, which excludes \$ 347. 9 million of fully collateralized reserves attributable to Markel CATCo Re as of December 31, 2022. The amounts in the following table exclude the unamortized portion of any fair value adjustments for unpaid losses and loss adjustment expenses assumed in conjunction with an acquisition and any adjustments to discount reserves. (dollars in thousands)

	Insurance	Reinsurance	Other underwriting	Program services and other fronting	Total
December 31,					

2022 Case reserves \$ 3,361,400 \$ 1,234,852 \$ 70,072 \$ 1,617,473 \$ 6,283,797 IBNR reserves 8,238,051 2,406,235 127,531 3,586,817 14,358,634 Total \$ 11,599,451 \$ 3,641,087 \$ 197,603 \$ 5,204,290 (1) \$ 20,642,431 December 31, 2021 Case reserves \$ 3,093,576 \$ 1,334,444 \$ 53,317 \$ 1,485,857 \$ 5,967,194 IBNR reserves 6,951,347 2,369,313 218,039 2,730,477 12,269,176 Total \$ 10,044,923 \$ 3,703,757 \$ 271,356 \$ 4,216,334 (1) \$ 18,236,370 (1) Substantially all of the premium written in our program services and other fronting business is ceded, resulting in reinsurance recoverables on unpaid losses of \$ 5.2 billion and \$ 4.2 billion as of December 31, 2022 and 2021, respectively. Each quarter, our actuaries prepare estimates of the ultimate liability for unpaid losses and loss adjustment expenses based on established actuarial methods. Management reviews these estimates, supplements the actuarial analyses with information provided by claims, underwriting and other operational personnel and determines its best estimate of loss reserves, which is recorded in our consolidated financial statements. Our procedures for determining the adequacy of loss reserves at the end of the year are substantially similar to the procedures applied at the end of each interim period. Any adjustments to reserves resulting from our interim or year-end reviews, including changes in estimates, are recorded as a component of losses and loss adjustment expenses in the period of the change. Reserve changes that increase previous estimates of ultimate claims cost are referred to as unfavorable or adverse development, or reserve strengthening. Reserve changes that decrease previous estimates of ultimate claims cost are referred to as favorable development. For our program services business and other fronting arrangements, case reserves are generally established based on reports received from the general agents or reinsurers with whom we do business. Our actuaries review the case loss reserve data received for sufficiency, consistency with historical data and for consistency with other programs we write that have similar characteristics. Ultimate losses and loss adjustment expenses are calculated using either our program experience or, where the program data is not credible, industry experience for similar products or lines of business. Substantially all of the premium written in our program services business and other fronting arrangements is ceded, and net reserves for unpaid losses and loss adjustment expenses as of December 31, 2022 and December 31, 2021 were \$ 10.0 million and \$ 11.6 million, respectively. For our insurance operations, we are generally notified of insured losses by our insureds, their brokers or the primary insurer in instances in which we participate in excess layers of insured losses on a contract. Based on this information, we establish case reserves by estimating the expected ultimate losses from the claim (including any administrative or legal costs associated with settling the claim). Our claims personnel use their knowledge of the policy provisions and details specific to the claim, along with information provided by internal and external experts, including underwriters, actuaries and legal counsel, to estimate the expected ultimate losses. For our reinsurance operations, case reserves are generally established 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 record a case reserve for the estimated expected ultimate losses from the claim. For quota share contracts, we typically receive aggregated claims information and record a case reserve based on that information. As with insurance business, we evaluate this information and estimate the expected ultimate losses. Our liabilities for unpaid losses and loss adjustment expenses can generally be categorized into two distinct groups, short-tail business and long-tail business. Short-tail business refers to lines of business, such as property, accident and health, 10K-57 automobile, watercraft and marine hull exposures, for which losses are usually known and paid shortly after the loss actually occurs. Long-tail business describes lines of business for which specific losses take much longer to emerge and may not be known and reported for some time. Given the time frame over which long-tail exposures are ultimately settled, there is greater uncertainty and volatility in these lines than in short-tail lines of business. Our long-tail coverages consist of most casualty lines, including professional liability, products liability, general and excess liability and excess and umbrella exposures, as well as workers' compensation insurance, which have been a significant source of growth in premium volume in recent years. Some factors that contribute to the uncertainty and volatility of long-tail business, and thus require a significant degree of judgment in the reserving process, include the effects of unanticipated levels of economic inflation, the impact of social inflation, the inherent uncertainty as to the length of reporting and payment development patterns, the possibility of judicial interpretations or legislative changes, including changes in workers' compensation benefit laws, that might impact future loss experience relative to prior loss experience and the potential lack of comparability of the underlying data used in performing loss reserve analyses. Our ultimate liability may be greater or less than current reserves. Changes in our estimated ultimate liability for loss reserves generally occur as a result of the emergence of unanticipated loss activity, the completion of specific actuarial or claims studies or changes in internal or external factors. We closely monitor new information on reported claims and use statistical analyses prepared by our actuaries to evaluate the adequacy of our recorded reserves. We are required to exercise considerable judgment when assessing the relative credibility of loss development trends. Our philosophy is to establish loss reserves that are more likely redundant than deficient. This means that we seek to establish loss reserves that will ultimately prove to be adequate. As a result, if new information or trends indicate an increase in frequency or severity of claims in excess of what we initially anticipated, we generally respond quickly and increase loss reserves. If, however, frequency or severity trends are more favorable than initially anticipated, we often wait to reduce our loss reserves until we can evaluate experience in additional periods to confirm the credibility of the trend. In addition, for long-tail lines of business, trends develop over longer periods of time, and as a result, we give credibility to these trends more slowly than for short-tail or less-volatile lines of business. In establishing our liabilities for unpaid losses and loss adjustment expenses, our actuaries estimate an ultimate loss ratio, by accident year or underwriting year, for each of our product lines with input from our underwriting and claims personnel. For product lines in which loss reserves are established on an underwriting year basis, we have developed a methodology to convert from underwriting year to accident year for financial reporting purposes. In estimating an ultimate loss ratio for a particular line of business, our actuaries may use one or more actuarial reserving methods and select from these a single point estimate. To varying degrees, these methods include detailed statistical analysis of past claim reporting, settlement activity, claim frequency and severity, policyholder loss experience, industry loss experience and changes in market and economic conditions, policy forms and exposures. The actuarial methods we use include: Initial Expected Loss Ratio Method—This method multiplies

earned premiums by an expected loss ratio. The expected loss ratio is selected utilizing industry data, our historical data, frequency-severity and rate level forecasts and professional judgment. Paid Loss Development—This method uses historical loss payment patterns to estimate future loss payment patterns. Our actuaries use the historical loss patterns to develop factors that are applied to current paid loss amounts to calculate expected ultimate losses. Incurred Loss Development—This method uses historical loss reporting patterns to estimate future loss reporting patterns. Our actuaries use the historical loss patterns to develop factors that are applied to current reported losses to calculate expected ultimate losses. Bornhuetter-Ferguson Paid Loss Development—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 three amounts: the premium earned for the exposure period, the expected loss ratio and the estimated percentage of ultimate losses that are still unpaid. The expected loss ratio is selected by considering historical loss ratios, adjusted for any known changes in pricing, loss trends, adequacy of case reserves, changes in administrative practices and other relevant factors. Bornhuetter-Ferguson Incurred Loss Development—This method is identical to the Bornhuetter-Ferguson paid loss development method, except that it uses the estimated percentage of ultimate losses that are still unreported, instead of the estimated percentage of ultimate losses that are still unpaid.

10K-58 Frequency/Severity—Under this method, expected ultimate losses are equal to the product of the expected ultimate number of claims and the expected ultimate average cost per claim. Our actuaries use historical reporting patterns and severity patterns to develop factors that are applied to the current reported amounts to calculate expected ultimate losses. Other Methods—There are certain instances when traditional actuarial methods may not be appropriate for estimating unpaid losses and loss adjustment expenses. In these instances, we may employ other actuarial methods. Each actuarial method has its own set of assumptions and its own strengths and limitations, with no one method being better than the others in all situations. Our actuaries select the reserving methods that they believe will produce the most reliable estimates for the class of business being evaluated. Greater judgment may be required when we introduce new product lines or when there have been changes in claims handling practices, as the statistical data available may be insufficient. In these instances, we may rely upon assumptions applied to similar lines of business, rely more heavily on industry experience, take into account changes in underwriting guidelines and risk selection or review the impact of changes in claims reserving practices with claims personnel. Greater judgment also may be required for product lines that experience a low frequency of high severity claims, particularly when we are reliant on third party case reserve estimates and claims handling practices. In these instances, we may perform detailed claims reviews, analyzing the characteristics of each individual claim, with input from both actuarial and claims personnel to assess the adequacy of the case and IBNR reserves on the underlying product line. Our claims personnel use their knowledge of the specific claims along with internal and external experts, to estimate the expected ultimate losses. While we use our best judgment in establishing our estimate for loss reserves, applying different assumptions and variables could lead to significantly different loss reserve estimates. A key assumption in most actuarial analyses is that past development patterns will repeat themselves in the future, absent a significant change in internal or external factors that influence the ultimate cost of our unpaid losses and loss adjustment expenses. Our estimates reflect implicit and explicit assumptions regarding the potential effects of external factors, including economic and social inflation, judicial decisions, changes in law, general economic conditions and recent trends in these factors. Our actuarial analyses are based on statistical analysis but also consist of reviewing internal factors that are difficult to analyze statistically, including changes in underwriting and claims handling practices, as well as rate changes. In the London market, and where we act as a reinsurer or participate only in excess layers of insured losses, the timing and amount of information reported about underlying claims are in the control of third parties. This can also affect estimates and require re-estimation as new information becomes available. We cannot estimate losses from widespread catastrophic events, such as hurricanes and earthquakes, as well as pandemics and wars, using the traditional actuarial methods previously described. In the initial months after a catastrophic event occurs, our actuaries estimate losses and loss adjustment expenses based on claims received to date, industry loss estimates and output from industry, broker and proprietary models, as well as analysis of our ceded reinsurance contracts. We may also perform detailed policy and reinsurance contract level reviews. The availability of data from these procedures varies depending on the timing of the event relative to the point at which we develop our estimate. We also consider loss experience on historical events that may have similar characteristics to the underlying event and current market conditions, including the level of economic inflation. Due to the inherent uncertainty in estimating such losses, these estimates are subject to variability, which increases with the severity and complexity of the underlying event. As additional claims are reported and paid, and industry loss estimates are revised, we incorporate this new information into our analysis and adjust our estimate of ultimate losses and loss adjustment expenses as appropriate. Loss reserves are established at management's best estimate, which is developed using the actuarially calculated point estimate as the starting point. The actuarial point estimate represents our actuaries' estimate of the most likely amount that will ultimately be paid to settle the losses that have occurred at a particular point in time; however, there is inherent uncertainty in the point estimate as it is the expected value in a range of possible reserve estimates. In some cases, actuarial analyses, which are generally based on statistical analysis, cannot fully incorporate all of the subjective factors that affect development of losses. In other cases, management's perspective of these more subjective factors may differ from the actuarial perspective. Subjective factors influencing the development of management's best estimate include: the credibility and timeliness of claims and loss information received from cedents and other third parties, economic and social inflation, judicial decisions, changes in law, changes in underwriting or claims handling practices, general economic conditions, the risk of moral hazard and other current and developing trends within the insurance and reinsurance markets, including the effects of competition. For example, our loss experience in recent years has reflected higher than anticipated levels of economic inflation, as well as the impacts of social inflation. In developing its best estimate of loss reserves, management's philosophy is to establish loss reserves that are more likely to be redundant rather than deficient, and therefore, will ultimately prove to be adequate. Management's approach to establishing 10K-59 loss reserves typically results in loss reserves that exceed the calculated actuarial point estimate. Management also considers the range, or variability,

of reasonably possible loss outcomes determined by our actuaries when establishing its best estimate for loss reserves. The actuarial ranges represent our actuaries' estimate of a likely lowest amount and likely highest amount that could ultimately be paid to settle the losses that have occurred at a particular point in time. The range determinations are based on estimates and actuarial judgments and are intended to encompass reasonably likely changes in one or more of the factors that were used to determine the point estimates. Using statistical models, our actuaries establish a range of reasonable reserve estimates for each of our underwriting segments. Additionally, following an acquisition of insurance operations, acquired reserves initially are recorded at fair value, and therefore our recorded loss reserves may be closer to the actuarial point estimate until we build total loss reserves that are consistent with our historic level of confidence. Management's best estimate of net reserves for unpaid losses and loss adjustment expenses exceeded the actuarially calculated point estimate by \$ 688. 4 million, or 5. 8 %, at December 31, 2022, compared to \$ 638. 3 million, or 6. 0 %, at December 31, 2021. The difference between management's best estimate and the actuarially calculated point estimate in both 2022 and 2021 is primarily associated with our long-tail business due to the subjective factors previously described that affect the development of losses. Certain subjective factors, particularly the credibility and timeliness of claims information, are more pronounced within our reinsurance operations, as previously discussed, and therefore, the percentage difference between management's best estimate and the actuarially calculated point estimate is more significant in our Reinsurance segment than our Insurance segment. Loss frequency and loss severity are two key measures of loss activity that often result in adjustments to actuarial assumptions relative to ultimate loss reserve estimates. Loss frequency measures the number of claims per unit of insured exposure. When the number of newly reported claims is higher than anticipated, generally speaking, loss reserves are increased. Conversely, loss reserves are generally decreased when fewer claims are reported than expected. Loss severity measures the average size of a claim. When the average severity of reported claims is higher than originally estimated, loss reserves are typically increased. When the average claim size is lower than anticipated, loss reserves are typically decreased. Our underwriting results in 2022 included \$ 167. 4 million of favorable development on prior years loss reserves compared to \$ 479. 8 million in 2021. In connection with our quarterly reviews of loss reserves in 2021, the actuarial methods we used exhibited a favorable trend on prior accident years. This trend was observed using statistical analysis of actual loss experience for prior years, particularly with regard to most of our long-tail books of business within the Insurance segment, including our general liability and professional liability product lines. Additionally, as loss reserves are recorded at management's best estimate, which is generally higher than the corresponding actuarially calculated point estimate, the initial reserves established by management are more likely to be redundant than deficient. As actual losses continued to be lower than anticipated in 2021, it became more likely that the underwriting results would prove to be better than originally estimated. Additionally, as most actuarial methods rely upon historical reporting patterns, the favorable trends experienced on earlier accident years resulted in a re-estimation of our ultimate incurred losses on more recent accident years. When we experience loss frequency or loss severity trends that are more favorable than we initially anticipated, we often evaluate the loss experience over a period of several years in order to assess the relative credibility of loss development trends. In 2021, based upon our evaluations of claims development patterns in our long-tail, and often volatile, lines of business, our actuaries reduced their estimates of ultimate losses. Management also gave greater credibility to the favorable trends experienced on earlier accident years, and upon incorporating these favorable trends into its best estimate, we reduced prior years loss reserves on more recent accident years accordingly. Favorable development in 2022 was net of \$ 70. 9 million of adverse development on our professional liability and general liability product lines within our Insurance segment, where the favorable claims and loss trends observed in 2021, and other recent years, were disrupted. Adverse development on these product lines was primarily attributable to unfavorable claim settlements and increased claim frequency and severity on the 2018 and 2019 accident years within our professional liability product lines and the 2016 to 2019 accident years within our general liability product lines. The adverse development on these accident years was across a number of products, including directors and officers, errors and omissions and employment practices liability within professional liability and contractors and excess and umbrella within general liability. Development on prior years loss reserves within our professional liability and general liability product lines in 2022 for these accident years was impacted by broader market conditions, including the effects of economic and social inflation. The impacts of social inflation were most significant on our large, risk-managed excess professional liability accounts, corresponding with a notable rise in the number of class action lawsuits on these years and the recent unfavorable legal environment. The development of this claims trend was influenced by state and federal court closures following the onset of the COVID-19 pandemic in 2020, which has delayed court proceedings for claims on the impacted product lines. 10K-60 These factors have created more uncertainty around the ultimate losses that will be incurred to settle claims on these longer-tail product lines. On our professional liability product lines, loss development reflected more favorable experience than originally anticipated on the 2020 and 2021 accident years in 2022, however, we are approaching reductions to prior year loss reserves on more recent accident years cautiously. Consistent with our reserving philosophy, we are responding quickly to increase loss reserves following any indication of increased claims frequency or severity in excess of our previous expectations, whereas in instances where claims trends are more favorable than we previously anticipated, we are often waiting to reduce loss reserves and will evaluate our experience over additional periods of time. Additionally, the actuarial methods we used indicated a continued favorable trend in loss frequency and severity on the 2015 and prior accident years for both our professional liability and general liability product lines. Management gave greater credibility to the favorable trend and reduced prior years loss reserves on these earlier accident years accordingly. Favorable development on prior years loss reserves in 2022 also reflected favorable loss experience across several other product lines, most notably our property and workers' compensation lines of business. This included favorable development on our reserves for natural catastrophes that occurred in prior years, based on additional claims reporting and settlement activity in 2022. On our workers' compensation product line, the actuarial methods we used indicated a continued decline in the loss severity trend on prior accident years in 2022, consistent with our experience in recent years. As actual losses continued to be lower than anticipated in 2022, it became more likely that the underwriting results



would prove to be better than originally estimated. Management gave greater credibility to the favorable trend experienced on earlier accident years and upon incorporating these favorable trends into its best estimate, reduced prior years loss reserves on more recent accident years accordingly. While we believe it is likely that there will be additional favorable development on prior years loss reserves in 2023, we caution readers not to place undue reliance on this favorable trend. Changes in prior years loss reserves, including the trends and factors that impacted loss reserve development in 2022 and 2021, as well as further details regarding the historical development of reserves for losses and loss adjustment expenses and changes in methodologies and assumptions used to calculate reserves for unpaid losses and loss adjustment expenses are discussed in further detail in note 11 of the notes to consolidated financial statements included under Item 8. The following table summarizes our reserves for net unpaid losses and loss adjustment expenses and the actuarially established high and low ends of a range of reasonable reserve estimates at December 31, 2022. This table excludes the fully collateralized reserves attributable to Markel CATCo Re. As described in note 11 of the notes to consolidated financial statements included under Item 8, unpaid losses and loss adjustment expenses attributable to acquisitions are recorded at fair value as of the acquisition date, which generally consists of the present value of the expected net loss and loss adjustment expense payments plus a risk premium. The net loss reserves presented in this table represent our estimated future payments for losses and loss adjustment expenses, whereas the reserves for unpaid losses and loss adjustment expenses included on the consolidated balance sheet include the unamortized portion of fair value adjustments recorded in conjunction with an acquisition. (dollars in millions)

Net Loss Reserves Held	Low End of Actuarial Range (1)	High End of Actuarial Range (1)
Insurance	\$ 9, 183. 7	\$ 7, 910. 8
Reinsurance	\$ 3, 303. 4	\$ 2, 642. 1
Other underwriting	\$ 114. 7	\$ 90. 7
Due to the actuarial methods used to determine the separate ranges for each component of our business, it is not appropriate to aggregate the high or low ends of the separate ranges to determine the high and low ends of the actuarial range on a consolidated basis. Undue reliance should not be placed on these ranges of estimates as they are only one of many points of reference used by management to determine its best estimate of ultimate losses. Further, actuarial ranges may not be a true reflection of the potential variability between loss reserves estimated at the balance sheet date and the ultimate cost of settling claims. Similar to the development of our estimate of ultimate losses, actuarial ranges are developed based on known events as of the valuation date, while ultimate paid losses are subject to events and circumstances that are unknown as of the valuation date.		

10K- 61 During the years ended December 31, 2022 and 2021, we experienced favorable development on prior years loss reserves of 1 % and 5 %, respectively, of beginning of year net loss reserves. The magnitude of our historical trend of favorable loss reserve development was disrupted in 2022 as a result of the emergence of multiple factors that impacted the claims and loss trends on certain of our professional liability and general liability product lines, which resulted in net adverse loss development on the 2016 to 2019 accident years. On other accident years within these long-tail product lines, claims trends in 2022 were more favorable than we previously anticipated. Additionally, some of the loss development factors observed in 2022 that disrupted our historical favorable trend, including the rise in class action lawsuits and delays in the court systems, are not expected to have as significant of an impact on more recent accident years on the affected product lines. Since 2019, we've experienced meaningful rate increases, tightened our terms and conditions, optimized our portfolio through underwriting action and risk selection, adjusted attachment points, managed limits and diversified our portfolios. However, the impacts of economic and social inflation, among other factors previously discussed, have also created more uncertainty around the ultimate losses that will be incurred to settle claims on our longer-tail product lines. As a result, we are approaching reductions to prior year loss reserves on more recent accident years cautiously. It is difficult for management to predict the duration and magnitude of a trend and, on a relative basis, it is even more difficult to predict the emergence of factors or trends that are unknown today but may have a material impact on loss reserve development. In assessing the likelihood of whether the trends previously discussed will continue and whether other trends may develop, we believe that a reasonably likely movement in prior years loss reserves during 2023 would range from adverse development of 2 %, or \$ 200 million, to favorable development of 6 %, or \$ 800 million, of December 31, 2022 net loss reserves. Our consolidated balance sheet as of December 31, 2022 included goodwill and intangible assets of \$ 4. 4 billion as follows:

December 31, 2022 (dollars in millions)	Underwriting	Markel Ventures	Other (1)	Total
Goodwill	\$ 894. 4	\$ 1, 153. 9	\$ 590. 5	\$ 2, 638. 8
Intangible assets	362. 3	796. 3	588. 9	1, 747. 5
Total	\$ 1, 256. 7	\$ 1, 950. 2	\$ 1, 179. 4	\$ 4, 386. 3

(1) Amounts included in Other reflect our operations that are not included in a reportable segment, including our insurance-linked securities operations and our program services operations. Goodwill and intangible assets are recorded as a result of business acquisitions. Goodwill represents the excess of the amount paid to acquire a business over the net fair value of assets acquired and liabilities assumed at the date of acquisition. Indefinite-lived and other intangible assets are recorded at fair value as of the acquisition date. The determination of the fair value of certain assets acquired, including goodwill and intangible assets, and liabilities assumed involves significant judgment and the use of valuation models and other estimates, which require assumptions that are inherently subjective. During the year ended December 31, 2021, we recorded \$ 497. 7 million of goodwill and intangible assets in connection with acquisitions. We did not make any significant acquisitions during the year ended December 31, 2022. See note 3 of the notes to consolidated financial statements included under Item 8 for further details about recent acquisitions. Intangible assets with definite lives are reviewed for impairment when events or circumstances indicate that their carrying value may not be recoverable. Goodwill and indefinite-lived intangible assets are tested for impairment annually, or when events or circumstances indicate that their carrying value may not be recoverable. A significant amount of judgment is required in performing impairment tests, including the optional assessment of qualitative factors for the annual impairment test, which is used to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. This assessment serves as a basis for determining whether it is necessary to perform a quantitative impairment test. We completed our annual tests for impairment as of October 1, 2022 based upon results of operations through September 30, 2022. We elected to perform a qualitative assessment for all of our reporting units, with the exception of our Nephila reporting unit, for which we performed a quantitative assessment. 10K- 62 When performing our qualitative assessments, we considered macroeconomic

factors such as industry conditions and market conditions. We also considered reporting unit-specific events, actual financial performance versus expectations and management's future business expectations, as well as the amount by which the fair value of the reporting unit exceeded its carrying value at the date of the last quantitative assessment. As part of our qualitative assessment of recently acquired reporting units with material goodwill, we considered the fact that the businesses had been acquired in orderly transactions between market participants, and our purchase price represented fair value at acquisition. For recent acquisitions for which we elected to perform a qualitative assessment, there were no events since acquisition that had a significant adverse impact on the fair value of these reporting units through the assessment date. Based on the results of our qualitative assessments, we believe it is more likely than not that the fair value of each of the assessed reporting units exceeded its respective carrying amount as of the assessment date and December 31, 2022 and none of the assessed reporting units are at risk of a material impairment of goodwill. We considered similar factors to determine if there were any indicators requiring an assessment of the recoverability of our definite-lived intangible assets and concluded there were not. However, deterioration of market conditions related to the general economy or the specific industries in which we operate, a sustained trend of weaker than anticipated financial performance within a reporting unit beyond that which we considered or included in our assessments, or further increases in the market-based weighted average cost of capital, among other factors, could impact the impairment analysis and may result in future goodwill or intangible asset impairment charges. See the risk factor titled "Impairment in the value of our goodwill or other intangible assets could have a material adverse effect on our operating results and financial condition" within Item 1A Risk Factors for further discussion of risks associated with our goodwill and intangible assets. We performed a quantitative impairment assessment for our Nephila reporting unit, which resulted in an \$ 80.0 million impairment of goodwill. We acquired our Nephila operations in 2018 at which time they were recorded at fair value. The Nephila reporting unit serves as an insurance and investment fund manager that offers a broad range of investment products, including insurance-linked securities, catastrophe bonds, insurance swaps and weather derivatives. Nephila receives management fees for these services primarily based on the net asset value of the accounts managed and, for certain funds, incentive fees based on their annual performance. Prior to its sale in February 2022, this reporting unit also included our Velocity managing general agent operations. We estimated the fair value of our Nephila reporting unit primarily using an income approach based on a discounted cash flow model. The cash flow projections used in the discounted cash flow model included management's best estimate of future growth and margins. The discount rates used to determine the fair value estimates were developed based on a capital asset pricing model using market-based inputs as well as an assessment of the inherent risk in projected future cash flows. Our fair value estimate was negatively impacted by an increase in our discount rate assumption in 2022, reflecting the increased cost of capital due to rising interest rates throughout 2022. Since acquiring Nephila, investment performance in the broader ILS market has been adversely impacted by consecutive years of elevated catastrophe losses, most recently with Hurricane Ian in 2022. These events, as well as recent volatility in the capital markets, have impacted investor decisions around allocation of capital to ILS, which in turn has impacted our capital raises and redemptions within the funds we manage. Following Hurricane Ian, we have seen more favorable rates on the reinsurance contracts to which the Nephila Reinsurers subscribe, which is reflective of the current property catastrophe market and had a positive impact on Nephila's growth and performance projections. However, the impact of this favorable trend was more than offset by the impact of further declines in investor capital within the funds we manage. Our cash flow assumptions reflect management's best estimate of the reporting unit's future cash flows, based on information currently available, however, these assumptions are inherently uncertain, require a high degree of estimation and judgment and are subject to change depending on the outcome of future events. Based on the result of our quantitative assessment, the carrying value of our Nephila reporting unit exceeded the estimated fair value of the reporting unit by \$ 80.0 million resulting in a corresponding impairment of goodwill. This reduced the goodwill of the Nephila reporting unit to \$ 221.8 million. We also evaluated our intangible assets within the Nephila reporting unit for impairment and determined they were not impaired. This report contains statements concerning or incorporating our expectations, assumptions, plans, objectives, future financial or operating performance and other statements that are not historical facts. These statements are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements may use words such as "anticipate," "believe," "estimate," "expect," "intend," "predict," "project" and similar expressions as they relate to us or our management. 10K-63 There are risks and uncertainties that may cause actual results to differ materially from predicted results in forward-looking statements. Factors that may cause actual results to differ are often presented with the forward-looking statements themselves. Additional factors that could cause actual results to differ from those predicted are set forth under Item 1 Business, Item 1A Risk Factors, Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 7A Quantitative and Qualitative Disclosures About Market Risk in this report or are included in the items listed below: • our expectations about future results of our underwriting, investing, Market Ventures and other operations are based on current knowledge and assume no significant man-made or natural catastrophes, no significant changes in products or personnel and no adverse changes in market conditions; • the effect of cyclical trends on our underwriting, investing, Market Ventures and other operations, including demand and pricing in the insurance, reinsurance and other markets in which we operate; • actions by competitors, including the use of technology and innovation to simplify the customer experience, increase efficiencies, redesign products, alter models and effect other potentially disruptive changes in the insurance industry, and the effect of competition on market trends and pricing; • our efforts to develop new products, expand in targeted markets or improve business processes and workflows may not be successful and may increase or create new risks (e. g., insufficient demand, change to risk exposures, distribution channel conflicts, execution risk, increased expenditures); • the frequency and severity of man-made and natural catastrophes (including earthquakes, wildfires and weather-related catastrophes) may exceed expectations, are unpredictable and, in the case of wildfires and weather-related catastrophes, may be exacerbated if, as many forecast, changing conditions in the climate, oceans and atmosphere result in increased hurricane, flood, drought or other adverse weather-related activity; • we offer insurance and reinsurance coverage against terrorist acts in connection with some of

our programs, and in other instances we are legally required to offer terrorism insurance; in both circumstances, we actively manage our exposure, but if there is a covered terrorist attack, we could sustain material losses; • emerging claim and coverage issues, changing industry practices and evolving legal, judicial, social and other environmental trends or conditions, can increase the scope of coverage, the frequency and severity of claims and the period over which claims may be reported; these factors, as well as uncertainties in the loss estimation process, can adversely impact the adequacy of our loss reserves and our allowance for reinsurance recoverables; • reinsurance reserves are subject to greater uncertainty than insurance reserves, primarily because of reliance upon the original underwriting decisions made by ceding companies and the longer lapse of time from the occurrence of loss events to their reporting to the reinsurer for ultimate resolution; • inaccuracies (whether due to data error, human error or otherwise) in the various modeling techniques and data analytics (e.g., scenarios, predictive and stochastic modeling, and forecasting) we use to analyze and estimate exposures, loss trends and other risks associated with our insurance and insurance-linked securities businesses could cause us to misprice our products or fail to appropriately estimate the risks to which we are exposed; • changes in the assumptions and estimates used in establishing reserves for our life and annuity reinsurance book (which is in runoff), for example, changes in assumptions and estimates of mortality, longevity, morbidity and interest rates, could result in material changes in our estimated loss reserves for such business; • adverse developments in insurance coverage litigation or other legal or administrative proceedings could result in material increases in our estimates of loss reserves; • initial estimates for catastrophe losses and other significant, infrequent events (such as the COVID-19 pandemic and the Russia-Ukraine conflict), are often based on limited information, are dependent on broad assumptions about the nature and extent of losses, coverage, liability and reinsurance, and those losses may ultimately differ materially from our expectations; • changes in the availability, costs, quality and providers of reinsurance coverage, which may impact our ability to write or continue to write certain lines of business or to mitigate the volatility of losses on our results of operations and financial condition; • the ability or willingness of reinsurers to pay balances due may be adversely affected by industry and economic conditions, deterioration in reinsurer credit quality and coverage disputes, and collateral we hold, if any, may not be sufficient to cover a reinsurer's obligation to us; • after the commutation of ceded reinsurance contracts, any subsequent adverse development in the re-assumed loss reserves will result in a charge to earnings; 10K-64 • regulatory actions can impede our ability to charge adequate rates and efficiently allocate capital; • general economic and market conditions and industry specific conditions, including extended economic recessions or expansions; prolonged periods of slow economic growth; inflation or deflation; fluctuations in foreign currency exchange rates, commodity and energy prices and interest rates; volatility in the credit and capital markets; and other factors; • economic conditions, actual or potential defaults in corporate bonds, municipal bonds, mortgage-backed securities or sovereign debt obligations, volatility in interest and foreign currency exchange rates and changes in market value of concentrated investments can have a significant impact on the fair value of our fixed maturity securities and equity securities, as well as the carrying value of our other assets and liabilities, and this impact may be heightened by market volatility and our ability to mitigate our sensitivity to these changing conditions; • economic conditions may adversely affect our access to capital and credit markets; • the effects of government intervention, including material changes in the monetary policies of central banks, to address financial downturns (such as in response to the COVID-19 pandemic), inflation and other economic and currency concerns; • the impacts that political and civil unrest and regional conflicts, such as the conflict between Russia and Ukraine, may have on our businesses and the markets they serve or that any disruptions in regional or worldwide economic conditions generally arising from these situations may have on our businesses, industries or investments; • the significant volatility, uncertainty and disruption caused by health epidemics and pandemics, including the COVID-19 pandemic and its variants, as well as governmental, legislative, judicial or regulatory actions or developments in response thereto; • changes in U. S. tax laws, regulations or interpretations, or in the tax laws, regulations or interpretations of other jurisdictions in which we operate, and adjustments we may make in our operations or tax strategies in response to those changes; • a failure or security breach of, or cyberattack on, enterprise information technology systems that we use **could fail or suffer a security** failure to comply with data protection or privacy regulations; • third-party providers may perform poorly, breach their obligations to us or expose us to enhanced risks; • our **or cyberattack** acquisitions may increase our operational and internal control risks for a period of time; • we may not realize the contemplated benefits, **which** including cost savings and synergies, of our acquisitions; • any determination requiring the write-off of a significant portion of our goodwill and intangible assets; • the failure or inadequacy of any methods we employ to manage our loss exposures; • the loss of services of any senior executive or other key personnel of our businesses **could have** adversely impact one or more of our operations; • the manner in which we manage our global operations through a **material** network of business entities could result in inconsistent management, governance and oversight practices and make it difficult for us to implement strategic decisions and coordinate procedures; • our substantial international operations and investments expose us to increased political, civil, operational and economic risks, including foreign currency exchange rate and credit risk; • our ability to obtain additional capital for our operations on terms favorable to us; • our compliance, or failure to comply, with covenants and other requirements under our credit facilities, senior debt and other indebtedness and our preferred shares; • our ability to maintain or raise third-party capital for existing or new investment vehicles and risks related to our management of third-party capital; • the effectiveness of our procedures for compliance with existing and future guidelines, policies and legal and regulatory standards, rules, laws and regulations; • the impact of economic and trade sanctions and embargo programs on our businesses, including instances in which the requirements and limitations applicable to the global operations of U. S. companies and their affiliates are more restrictive than, or conflict with, those applicable to non-U. S. companies and their affiliates; • regulatory changes, or challenges by regulators, regarding the use of certain issuing carrier or fronting arrangements; 10K-65 • our dependence on a limited number of brokers for a large portion of our revenues and third-party capital; • adverse changes in our assigned financial strength, debt or preferred share ratings or outlook could adversely impact us, including our ability to attract and retain business, the amount of capital our insurance subsidiaries must hold and the availability and cost of capital; • changes in the amount of statutory capital our

insurance subsidiaries are required to hold, which can vary significantly and is based on many factors, some of which are outside our control; • losses from litigation and regulatory investigations and actions; • investor litigation or disputes, as well as regulatory inquiries, investigations or proceedings related to our Market CATCo operations; delays or disruptions in the run-off of those operations; or the failure to realize the benefits of the transaction that permitted the accelerated return of capital to our Market CATCo investors; and • a number of additional factors may adversely affect our Market Ventures operations, and the markets they serve, and negatively impact their revenues and profitability, including, among others: adverse weather conditions, plant disease and other contaminants; changes in government support for education, healthcare and infrastructure projects; changes in capital spending levels; changes in the housing, commercial and industrial construction markets; liability for environmental matters; supply chain and shipping issues, including increases in freight costs; volatility in the market prices for their products; and volatility in commodity, wholesale and raw materials prices and interest and foreign currency exchange rates. Results from our underwriting, investing, Market Ventures and other operations have been and will continue to be potentially materially affected by these factors. By making forward-looking statements, we do not intend to become obligated to publicly update or revise any such statements whether as a result of new information, future events or other changes. Readers are cautioned not to place undue reliance on any forward-looking statements, which speak only as at their dates. 10K-66 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 are equity price risk associated with investments in equity securities, interest rate risk associated with investments in fixed maturity securities and foreign currency exchange rate risk associated with our international operations. Our fixed maturity securities and equity securities are recorded at fair value, which is measured based upon quoted prices in active markets, if available. We determine fair value for these investments after considering various sources of information, including information provided by a third-party pricing service. The pricing service provides prices for substantially all of our fixed maturity securities and equity securities. In determining fair value, we generally do not adjust the prices obtained from the pricing service. We obtain an understanding of the pricing service's valuation methodologies and related inputs, which include, but are not limited to, reported trades, benchmark yields, issuer spreads, bids, offers, duration, credit ratings, estimated cash flows and prepayment speeds. We validate prices provided by the pricing service by reviewing prices from other pricing sources and analyzing pricing data in certain instances.

**Equity Price Risk** We invest a portion of shareholder funds in equity securities, which have historically produced higher long-term returns relative to fixed maturity securities. We seek to invest in profitable companies, with honest and talented management, that exhibit reinvestment opportunities and capital discipline, at reasonable prices. We intend to hold these investments over the long term and focus on long-term total investment return, understanding that gains or losses on investments may fluctuate from one period to the next. Changes in the fair value of equity securities are recognized in net income. At December 31, 2022, our equity portfolio was concentrated in terms of the number of issuers and industries. Such concentrations can lead to higher levels of volatility. At December 31, 2022, our ten largest equity holdings represented \$ 3.2 billion, or 42 %, of the equity portfolio. Investments in the property and casualty insurance industry represented \$ 1.5 billion, or 19 %, of our equity portfolio at December 31, 2022 and included a \$ 997.7 million investment in the common stock of Berkshire Hathaway Inc., a company whose subsidiaries engage in a number of diverse business activities in addition to insurance. We have investment guidelines that set limits on the equity holdings of our insurance subsidiaries. The following table summarizes our equity price risk and shows the effect of a hypothetical 35 % increase or decrease in market prices as of December 31, 2022 and 2021. The selected hypothetical changes do not indicate what could be the potential best or worst case scenarios. (dollars in millions)

Estimated Fair Value	Hypothetical Price Change	Estimated Fair Value after Hypothetical Change	Percentage Change
\$ 7,672	35 % increase	\$ 10,357	16.2 %
\$ 4,987	35 % decrease	\$ 3,187	(16.2) %
\$ 9,024	35 % increase	\$ 12,182	17.0 %
\$ 5,866	35 % decrease	\$ 3,866	(17.0) %

**Interest Rate Risk** Our fixed maturity 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. Our fixed maturity investments are recorded at estimated fair value in our financial statements, and therefore, changes in interest rates impact our financial position and results of operations. Our borrowings are recorded at amortized cost in our financial statements, and therefore, changes in fair value do not impact our financial position or results of operations. 10K-67

The majority of our investable assets come from premiums paid by policyholders. These funds are invested predominantly in high-quality government and municipal bonds and mortgage-backed securities that generally match the duration and currency of our loss reserves. As of December 31, 2022, our fixed maturity portfolio had an average duration of 3.9 years and an average rating of "AAA." See note 4 (e) of the notes to consolidated financial statements included under Item 8 for details regarding contractual maturity dates of our fixed maturity portfolio. The changes in the estimated fair value of the fixed maturity portfolio are presented as a component of shareholders' equity in accumulated other comprehensive income, net of taxes. We typically hold these fixed maturity investments until maturity, and as a result, unrealized holding gains and losses on these securities are generally expected to reverse as the securities mature. We work to manage the impact of interest rate fluctuations on our fixed maturity portfolio. The effective duration of the fixed maturity portfolio is managed with consideration given to the estimated duration of our liabilities. We have investment guidelines that limit the maximum duration and maturity of the fixed maturity portfolio. We use a commercially available model to estimate the effect of interest rate risk on the fair values of our fixed maturity portfolio and borrowings. The model estimates the impact of interest rate changes on a wide range of factors including duration, prepayment, put options and call options. Fair values are estimated based on the 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, 2022 and 2021. The selected hypothetical changes do not indicate what could be the potential best or worst case scenarios. (dollars in millions) Estimated Fair Value Hypothetical Change in Interest Rates (bp = basis points) Estimated Fair Value after Hypothetical Change in Interest Rates Hypothetical Percentage Increase (Decrease) in Fair Value of Fixed Maturity Securities

As of	Total fixed maturity securities	200 bp decrease	100 bp decrease	100 bp increase	200 bp increase
December 31, 2022	\$ 11,857	8.3 %	6.0 %	2.9 %	(2.7) %
December 31, 2021	\$ 12,587	10.0 %	6.7 %	10.0 %	(5.9) %

Shareholders' Equity Fixed Maturity Securities As of December 31, 2022 Total fixed maturity securities \$ 11,857 200 bp decrease \$ 12,843 8.3 % 6.0 % 100 bp decrease 12,334 4.0 2.9 100 bp increase 11,406 (3.8) (2.7) 200 bp increase 10,972 (7.5) (5.3) As of December 31, 2021 Total fixed maturity securities \$ 12,587 200 bp decrease \$ 13,841 10.0 % 6.7 % 100 bp decrease 13,189 4.8 3.2 100 bp increase 12,022 (4.5) (3.0) 200 bp increase 11,490 (8.7) (5.9)

Liabilities (1) As of December 31, 2022 Borrowings \$ 3,541 200 bp decrease \$ 4,384 100 bp decrease 3,922 100 bp increase 3,225 200 bp increase 2,962 As of December 31, 2021 Borrowings \$ 5,017 200 bp decrease \$ 6,500 100 bp decrease 5,678 100 bp increase 4,478 200 bp increase 4,036 (1)

Changes in estimated fair value have no impact on shareholders' equity. 10K-68 Foreign Currency Exchange Rate Risk We have foreign currency exchange rate risk associated with certain of our international operations' assets and liabilities. We manage this risk primarily by matching assets and liabilities that are subject to foreign exchange rate risk as closely as possible. To assist with this matching, we periodically purchase foreign currency forward contracts and purchase or sell foreign currencies in the open market. Realized and unrealized gains and losses on our forward contracts are recorded in earnings. Our forward contracts generally have maturities of three months. At both December 31, 2022 and 2021, 90 % of our invested assets were denominated in United States (U. S.) Dollars. At December 31, 2022 and 2021, 89 % and 86 %, respectively, of our reserves for unpaid losses and loss adjustment expenses and life and annuity benefits were denominated in U. S. Dollars. At those dates, the largest foreign currency denominated balances within both our invested assets and reserves for unpaid losses and loss adjustment expenses and life and annuity benefits were the Euro and British Pound Sterling. At December 31, 2022 and 2021, our foreign currency denominated assets and liabilities that are subject to foreign currency exchange rate risk were substantially matched or hedged.

Credit Risk Credit risk, which is not considered a market risk, is the risk that an entity becomes unable or unwilling to fulfill their obligation to us. Our primary credit risks are the credit risk within our fixed maturity portfolio and the credit risk related to our reinsurance recoverables within our underwriting, program services and other fronting operations. Fixed Maturity Investments Credit risk exists within our fixed maturity portfolio from the potential for loss resulting from adverse changes in an issuer's ability to repay its debt obligations. We monitor our investment portfolio to ensure that credit risk does not exceed prudent levels. We have consistently invested in high credit quality, investment grade securities. As of December 31, 2022, our fixed maturity portfolio had an average rating of "AAA," with 99 % rated "A" or better by at least one nationally recognized rating organization. Our policy is to invest in investment grade securities and to minimize investments in fixed maturity securities that are unrated or rated below investment grade. Our fixed maturity portfolio includes securities issued with financial guaranty insurance. We purchase fixed maturity securities based on our assessment of the credit quality of the underlying assets without regard to insurance. Our fixed maturity portfolio includes securities issued by foreign governments and non-sovereign foreign institutions. General concern exists about foreign countries that experience financial difficulties during periods of adverse economic conditions. We monitor developments in foreign countries, currencies and issuers that could pose risks to our fixed maturity portfolio, including ratings downgrades, political and financial changes and the widening of credit spreads. Our fixed maturity portfolio is highly diversified and comprised of high quality securities. We obtain information from news services, data providers, rating agencies and various financial market participants to assess potential negative impacts on a country or company's financial risk profile. We analyze concentrations within our fixed maturity portfolio by country, currency and issuer, which allows us to assess our level of diversification with respect to these exposures, reduce troubled exposures should they occur and mitigate any future financial distress that these exposures could cause. Our fixed maturity portfolio also includes securities issued by municipalities. General concern exists about municipalities that experience financial difficulties during periods of adverse economic conditions. We manage the exposure to credit risk in our municipal bond portfolio by investing in high quality securities and by diversifying our holdings, which are typically either general obligation or revenue bonds related to essential products and services. 10K-69 Reinsurance Recoverables We have credit risk to the extent any of our reinsurers are unwilling or unable to meet their obligations under our ceded reinsurance agreements. We monitor changes in the financial condition of each of our reinsurers, and we assess our concentration of credit risk on a regular basis. While we believe our net reinsurance recoverable balances are collectible, deterioration in reinsurers' ability to pay, or collection disputes, could adversely affect our operating cash flows, financial position and results of operations. See note 12 of the notes to consolidated financial statements included under Item 8 for additional details about our reinsurance recoverables and exposures. Within our underwriting operations, our reinsurance recoverables balance for the ten largest reinsurers was \$ 2.0 billion at December 31, 2022, representing 62 % of the \$ 3.1 billion total reinsurance recoverables, before considering allowances for credit losses. Eight of our ten largest reinsurers within our underwriting operations were rated "A" or better by A. M. Best Company (Best). As of December 31, 2022, for both of the remaining reinsurers, which are related parties, collateral held exceeded the related reinsurance recoverable. We were the beneficiary of letters of credit, trust accounts and funds withheld in the aggregate amount of \$ 930.9 million at December 31, 2022, collateralizing reinsurance recoverable balances due from these ten reinsurers. Within our underwriting operations, we attempt to minimize credit exposure to reinsurers through adherence to internal reinsurance guidelines. To participate in our reinsurance program, prospective companies generally must: (i) maintain a Best or Standard & Poor's rating of "A" (excellent) or better; (ii) maintain minimum capital and surplus of \$ 750 million; and (iii) provide collateral for recoverables in excess of an individually established amount. We also consider qualitative factors when evaluating reinsurers for eligibility to participate in our reinsurance program. In addition, certain foreign reinsurers for our U. S. insurance operations must provide collateral equal to 100 % of recoverables, with the exception of reinsurers who have been granted certified or authorized status by an insurance

company's state of domicile. Our credit exposure to Lloyd's of London syndicates is managed through individual and aggregate exposure thresholds. Within our program services business, our reinsurance recoverables balance for the ten largest reinsurers was \$ 3. 3 billion at December 31, 2022, representing 67 % of the \$ 4. 9 billion total reinsurance recoverables, before considering allowances for credit losses. We were the beneficiary of letters of credit, trust accounts and funds withheld in the aggregate amount of \$ 2. 3 billion at December 31, 2022, collateralizing reinsurance recoverable balances due from these ten reinsurers, and \$ 3. 3 billion for our total reinsurance recoverables balance. Five of our ten largest reinsurers were rated "A" or better by Best. For each of the remaining five reinsurers, as of December 31, 2022, collateral held exceeded the related reinsurance recoverable. Within our program services business, we mitigate credit risk by either selecting well capitalized, highly rated authorized reinsurers or requiring that the reinsurer post substantial collateral to secure the reinsured risks, which, in some instances, exceeds the related reinsurance recoverable. For reinsurers with a credit rating of lower than "A" we employ a stringent collateral monitoring program, under which the majority of the reinsurance recoverable balances is fully collateralized. These collateral requirements are regularly monitored by a credit committee within our program services operations. For our other fronting arrangements, which are written on behalf of our ILS operations, our total reinsurance recoverables balance was \$ 479. 7 million at December 31, 2022. As of December 31, 2022, our ILS operations held investor collateral in excess of the related reinsurance recoverables. For this business, we require collateral up to a specified level of annual aggregate agreement year losses, which is held in a trust for which we are the beneficiary. The required collateral is monitored regularly against the annual aggregate agreement year losses to ensure adequacy of the reinsurance recoverable in the event of a loss.

10K- 70 Item 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM To the Shareholders and Board of Directors Market Corporation: Opinion on the Consolidated Financial Statements We have audited the accompanying consolidated balance sheets of Market Corporation and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of income (loss) and comprehensive income (loss), changes in equity, and cash flows for each of the years in the three - year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three - year period ended December 31, 2022, 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, 2022, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 17, 2023 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates. Estimation of the liability for unpaid losses and loss adjustment expenses for the Company's underwriting As described in Note 11, the Company has recorded a liability for unpaid losses and loss adjustment expenses (loss reserves) of \$ 20. 9 billion as of December 31, 2022. Of this amount, \$ 15. 4 billion represents loss reserves for the Company's underwriting operations. The Company's actuaries use established actuarial methods and past development patterns to estimate ultimate losses to be paid. For its underwriting operations, loss reserves are established at the Company's best estimates, which incorporate the actuarial point estimates and are adjusted for certain subjective factors.

10K- 71 We identified the assessment of loss reserve estimation for the Company's underwriting operations as a critical audit matter because it involved significant measurement uncertainty. The assessment of actuarial methods and key assumptions used to estimate ultimate losses required specialized actuarial skills and subjective auditor judgment. Key assumptions included weighting of actuarial methods, expected loss ratios, and patterns and variability of loss development. The following are the primary procedures we performed to address this critical audit matter. With the assistance of actuarial professionals, as appropriate, we evaluated the design and tested the operating effectiveness of internal controls over the Company's loss reserving process for its underwriting operations. This included controls over key assumptions and the determination of loss reserves. Additionally, we also involved actuarial professionals with specialized skills and knowledge, who assisted in: • assessing the Company's actuarial methodologies by comparing to generally accepted actuarial methodologies and evaluating the weighting of the methods based on common industry practice • developing independent actuarial estimates for certain product lines using the Company's underlying historical claims and policy data, as

well as industry loss reporting and payment data for certain lines • for certain product lines, assessing the Company's assumptions about future claims reporting and payments for consistency with historical loss development and payment patterns • developing an independent range of consolidated loss reserves based on actuarial methods and assumptions, comparing those results to the Company's recorded reserves and evaluating the movement of the Company's recorded reserve within our range/ s/ KPMG LLP We have served as the Company's auditor since 1980. Richmond, Virginia February 17, 2023 10K- 72 MARKET CORPORATION AND SUBSIDIARIES CONSOLIDATED BALANCE SHEETS December 31, 2022 2021 (dollars in thousands) ASSETS Investments, at estimated fair value: Fixed maturity securities, available for sale (amortized cost of \$ 12, 805, 887 in 2022 and \$ 12, 061, 467 in 2021) \$ 11, 856, 835 \$ 12, 587, 305 Equity securities (cost of \$ 3, 100, 040 in 2022 and \$ 2, 867, 899 in 2021) 7, 671, 912 9, 023, 927 Short-term investments, available for sale (estimated fair value approximates cost) 2, 669, 262 1, 799, 988 Total Investments 22, 198, 009 23, 411, 220 Cash and cash equivalents 4, 137, 432 3, 978, 490 Restricted cash and cash equivalents 1, 084, 081 902, 457 Receivables 2, 961, 056 2, 413, 938 Reinsurance recoverables 8, 446, 745 7, 293, 555 Deferred policy acquisition costs 925, 483 794, 145 Prepaid reinsurance premiums 2, 066, 114 1, 798, 571 Goodwill 2, 638, 838 2, 899, 140 Intangible assets 1, 747, 464 1, 822, 486 Other assets 3, 586, 037 3, 163, 094 Total Assets \$ 49, 791, 259 \$ 48, 477, 096 LIABILITIES AND EQUITY Unpaid losses and loss adjustment expenses \$ 20, 947, 898 \$ 18, 178, 894 Life and annuity benefits 759, 025 902, 980 Unearned premiums 6, 220, 748 5, 383, 619 Payables to insurance and reinsurance companies 669, 742 616, 665 Senior long-term debt and other debt (estimated fair value of \$ 3, 541, 000 in 2022 and \$ 5, 017, 000 in 2021) 4, 103, 629 4, 361, 266 Other liabilities 3, 438, 738 3, 832, 084 Total Liabilities 36, 139, 780 33, 275, 508 Redeemable noncontrolling interests 523, 154 461, 378 Commitments and contingencies Shareholders' equity: Preferred stock 591, 891 591, 891 Common stock 3, 493, 893 3, 441, 079 Retained earnings 9, 836, 827 10, 446, 763 Accumulated other comprehensive income (loss) (857, 077) 237, 617 Total Shareholders' Equity 13, 065, 534 14, 717, 350 Noncontrolling interests 62, 791 22, 860 Total Equity 13, 128, 325 14, 740, 210 Total Liabilities and Equity \$ 49, 791, 259 \$ 48, 477, 096 See accompanying notes to consolidated financial statements. 10K- 73 CONSOLIDATED STATEMENTS OF INCOME (LOSS) AND COMPREHENSIVE INCOME (LOSS) Years Ended December 31, 2022 2021 2020 (dollars in thousands, except per share data) OPERATING REVENUES Earned premiums \$ 7, 587, 792 \$ 6, 503, 029 \$ 5, 612, 205 Net investment income 446, 755 367, 417 375, 826 Net investment gains (losses) (1, 595, 733) 1, 978, 534 617, 979 Products revenues 2, 427, 096 1, 712, 120 1, 439, 515 Services and other revenues 2, 809, 425 2, 285, 325 1, 689, 541 Total Operating Revenues 11, 675, 335 12, 846, 425 9, 735, 066 OPERATING EXPENSES Losses and loss adjustment expenses 4, 445, 589 3, 581, 205 3, 466, 961 Underwriting, acquisition and insurance expenses 2, 515, 583 2, 293, 739 2, 017, 627 Products expenses 2, 241, 736 1, 544, 506 1, 256, 159 Services and other expenses 2, 306, 635 2, 022, 935 1, 561, 120 Amortization of intangible assets 178, 778 160, 539 159, 315 Impairment of goodwill 80, 000 — Total Operating Expenses 11, 768, 321 9, 602, 924 8, 461, 182 Operating Income (Loss) (92, 986) 3, 243, 501 1, 273, 884 Interest expense (196, 062) (183, 579) (177, 582) Net foreign exchange gains (losses) 140, 209 72, 271 (95, 853) Income (Loss) Before Income Taxes (148, 839) 3, 132, 193 1, 000, 449 Income tax (expense) benefit 47, 636 (684, 458) (168, 682) Net Income (Loss) (101, 203) 2, 447, 735 831, 767 Net income attributable to noncontrolling interests (112, 920) (22, 732) (15, 737) Net Income (Loss) to Shareholders (214, 123) 2, 425, 003 816, 030 Preferred stock dividends (36, 000) (36, 000) (18, 400) Net Income (Loss) to Common Shareholders \$ (250, 123) \$ 2, 389, 003 \$ 797, 630 OTHER COMPREHENSIVE INCOME (LOSS) Change in net unrealized gains (losses) on available for sale investments, net of taxes: Net holding gains (losses) arising during the period \$ (1, 155, 054) \$ (348, 315) \$ 356, 159 Reclassification adjustments for net gains (losses) included in net income (loss) 44, 906 (6, 623) (3, 386) Change in net unrealized gains (losses) on available for sale investments, net of taxes (1, 110, 148) (354, 938) 352, 773 Change in foreign currency translation adjustments, net of taxes (9, 259) (213) 29, 847 Change in net actuarial pension loss, net of taxes 24, 730 8, 390 (6, 998) Total Other Comprehensive Income (Loss) (1, 094, 677) (346, 761) 375, 622 Comprehensive Income (Loss) (1, 195, 880) 2, 100, 974 1, 207, 389 Comprehensive income attributable to noncontrolling interests (112, 937) (22, 730) (15, 755) Comprehensive Income (Loss) to Shareholders \$ (1, 308, 817) \$ 2, 078, 244 \$ 1, 191, 634 NET INCOME (LOSS) PER COMMON SHARE Basic \$ (23. 57) \$ 176. 92 \$ 55. 67 Diluted \$ (23. 57) \$ 176. 51 \$ 55. 63 10K- 74 CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY (dollars in thousands) Preferred Stock Common Stock Retained Earnings Accumulated Other Comprehensive Income (Loss) Total Shareholders' Equity Noncontrolling Interests Total Equity Redeemable Nonecontrolling Interests December 31, 2019 \$ — \$ 3, 404, 919 \$ 7, 457, 176 \$ 208, 772 \$ 11, 070, 867 \$ 7, 549 \$ 11, 078, 416 \$ 177, 562 Cumulative effect of adoption of ASC 326, Financial Instruments — Credit Losses (3, 827) — (3, 827) — (3, 827) — Cumulative effect of change in accounting policy 22, 302 — 22, 302 — 22, 302 — January 1, 2020 — 3, 404, 919 7, 475, 651 208, 772 11, 089, 342 7, 549 11, 096, 891 177, 562 Net income 816, 030 — 816, 030 3, 226 819, 256 12, 511 Other comprehensive income — 375, 604 375, 604 — 375, 604 18 Comprehensive Income 1, 191, 634 3, 226 1, 194, 860 12, 529 Issuance of preferred stock 591, 891 — 591, 891 — 591, 891 891 Repurchase of common stock — (26, 832) — (26, 832) — (26, 832) Preferred stock dividends — (18, 400) — (18, 400) — (18, 400) — (18, 400) Restricted stock awards expensed 29, 779 — 29, 779 — 29, 779 Acquisition of Lansing — 43, 566 Adjustment of redeemable noncontrolling interests — (28, 705) — (28, 705) — (28, 705) 28, 705 Purchase of noncontrolling interest — (6, 131) — (6, 131) — (6, 131) (7, 029) Other — (227) (260) — (487) 4, 117 3, 630 (9, 691) December 31, 2020 591, 891 3, 428, 340 8, 217, 484 584, 376 12, 822, 091 14, 892 12, 836, 983 245, 642 Net income 2, 425, 003 — 2, 425, 003 7, 257 2, 432, 260 15, 475 Other comprehensive loss — (346, 759) (346, 759) — (346, 759) (2) Comprehensive Income 2, 078, 244 7, 257 2, 085, 501 15, 473 Repurchase of common stock — (206, 518) — (206, 518) — (206, 518) Preferred stock dividends — (36, 000) — (36, 000) — (36, 000) Restricted stock awards expensed — 30, 916 — 30, 916 — 30, 916 Acquisition of Buckner — 26, 438 Acquisition of Metromont — 269, 908 Adjustment of redeemable noncontrolling interests — 46, 874 — 46, 874 — 46, 874 (46, 874) Purchase of noncontrolling interest — (18, 779) — (18, 779) — (18, 779) (38, 214) Other — 602 (80) — 522 711 1, 233 (870, 995) December 31, 2021 591, 891 3, 441, 079 10, 446, 763 237, 617 14, 717, 350 22, 860 14, 740, 210 461, 378 Net income (loss)

(214, 123) — (214, 123) 86, 739 (127, 384) 26, 181 Other comprehensive income (loss) — (1, 094, 694) (1, 094, 694) — (1, 094, 694) 17 Comprehensive Income (Loss) (1, 308, 817) 86, 739 (1, 222, 078) 26, 198 Repurchase of common stock — (290, 796) — (290, 796) — (290, 796) Preferred stock dividends — (36, 000) — (36, 000) — (36, 000) Restricted stock awards expensed — 41, 684 — 41, 684 — 41, 684 — Adjustment of redeemable noncontrolling interests — (69, 896) — (69, 896) — (69, 896) 69, 896 Adjustment to Metromont purchase price allocation — (22, 485) — (22, 485) — (22, 485) Disposition of Velocity — (22, 059) (22, 059) — Disposition of Volante — (3, 490) (3, 490) — Redemption of Markel CATCo Re noncontrolling interests — (22, 261) (22, 261) — Other — 11, 130 879 — 12, 009 1, 002 13, 011 (11, 833) December 31, 2022 \$ 591, 891 \$ 3, 493, 893 \$ 9, 836, 827 \$ (857, 077) \$ 13, 065, 534 \$ 62, 791 \$ 13, 128, 325 \$ 523, 154 10K-75 CONSOLIDATED STATEMENTS OF CASH FLOWS Years Ended December 31, 2022 2021 2020 (dollars in thousands) OPERATING ACTIVITIES Net income (loss) \$ (101, 203) \$ 2, 447, 735 \$ 831, 767 Adjustments to reconcile net income (loss) to net cash provided by operating activities: Deferred income tax expense (benefit) (281, 752) 453 (2, 733) Depreciation and amortization 366, 954 336, 393 307, 069 Net investment losses (gains) 1, 595, 733 (1, 978, 534) (617, 979) Net foreign exchange losses (gains) (140, 209) (72, 271) 95, 853 Gain on sale of businesses, net (225, 832) (22, 085) — Impairment of goodwill 80, 000 — Increase in receivables (653, 261) (372, 491) (28, 174) Increase in reinsurance recoverables (1, 168, 483) (1, 312, 258) (549, 654) Increase in deferred policy acquisition costs (140, 630) (139, 609) (61, 569) Increase in prepaid reinsurance premiums (271, 292) (347, 982) (34, 480) Increase in unpaid losses and loss adjustment expenses 2, 383, 268 2, 042, 486 1, 383, 430 Decrease in life and annuity benefits (47, 419) (54, 591) (44, 651) Increase in unearned premiums 886, 393 970, 246 354, 679 Increase in payables to insurance and reinsurance companies 210, 810 131, 559 76, 586 Other 216, 365 191, 564 27, 443 Net Cash Provided By Operating Activities 2, 709, 442 2, 274, 067 1, 737, 587 INVESTING ACTIVITIES Proceeds from sales, maturities, calls and prepayments of fixed maturity securities 1, 152, 335 708, 111 862, 333 Cost of fixed maturity securities purchased (2, 112, 066) (3, 165, 323) (1, 129, 781) Proceeds from sales of equity securities 242, 010 200, 570 1, 360, 090 Cost of equity securities purchased (442, 991) (255, 436) (192, 437) Net change in short-term investments (846, 019) 228, 955 (829, 457) Additions to property and equipment (254, 712) (145, 249) (101, 301) Acquisitions, net of cash acquired (79, 000) (517, 439) (554, 127) Consolidation of Markel CATCo Re, net 629, 955 — Distributions to Markel CATCo Re noncontrolling interests for buy-out transaction (169, 380) — Proceeds from sale of businesses, net 201, 370 40, 720 — Other 8, 294 (32, 711) 72, 932 Net Cash Used By Investing Activities (1, 670, 204) (2, 937, 802) (511, 748) FINANCING ACTIVITIES Additions to senior long-term debt and other debt 1, 034, 052 1, 198, 505 223, 183 Repayment of senior long-term debt and other debt (1, 255, 005) (486, 730) (275, 996) Repurchases of common stock (290, 796) (206, 518) (26, 832) Issuance of preferred stock, net — 591, 891 Dividends paid on preferred stock (36, 000) (36, 000) (18, 400) Other (47, 562) (99, 490) (59, 290) Net Cash Provided (Used) By Financing Activities (595, 311) 369, 767 434, 556 Effect of foreign currency rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents (103, 361) (41, 734) 55, 901 Increase (decrease) in cash, cash equivalents, restricted cash and restricted cash equivalents 340, 566 (335, 702) 1, 716, 296 Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year 4, 880, 947 5, 216, 649 3, 500, 353 CASH, CASH EQUIVALENTS, RESTRICTED CASH AND RESTRICTED CASH EQUIVALENTS AT END OF YEAR \$ 5, 221, 513 \$ 4, 880, 947 \$ 5, 216, 649 10K-76 NOTES TO CONSOLIDATED FINANCIAL STATEMENTS 1. Summary of Significant Accounting Policies Markel Corporation is a diverse financial holding company serving a variety of niche markets. Markel Corporation's principal business markets and underwrites specialty insurance products. Through its wholly owned subsidiary, Markel Ventures, Inc. (Markel Ventures), Markel Corporation also owns controlling interests in various businesses that operate outside of the specialty insurance marketplace. See note 2 for details regarding reportable segments. a) Basis of Presentation. The accompanying consolidated financial statements have been prepared in accordance with United States (U. S.) generally accepted accounting principles (GAAP) and include the accounts of Markel Corporation and its consolidated subsidiaries, as well as any variable interest entities (VIEs) that meet the requirements for consolidation (the Company). All significant intercompany balances and transactions have been eliminated in consolidation. The Company consolidates the results of its Markel Ventures subsidiaries on a one-month lag, with the exception of significant transactions or events that occur during the intervening period. Certain prior period amounts have been reclassified to conform to the current period presentation. b) Use of Estimates. The preparation of financial statements in accordance with U. S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities. Management periodically reviews its estimates and assumptions. Quarterly reviews include evaluating the adequacy of reserves for unpaid losses and loss adjustment expenses and contingencies. Estimates and assumptions for goodwill and intangible assets are reviewed in conjunction with an acquisition, and goodwill and indefinite-lived intangible assets are reassessed at least annually for impairment. Actual results may differ materially from the estimates and assumptions used in preparing the consolidated financial statements. c) Investments. Available-for-sale investments and equity securities are recorded at estimated fair value. Available-for-sale investments include fixed maturity securities and short-term investments. Fixed maturity securities include government and municipal bonds and mortgage-backed securities with original maturities of more than one year. Short-term investments include certificates of deposit, commercial paper, discount notes and treasury bills with original maturities of one year or less. Unrealized gains and losses on available-for-sale investments, net of income taxes, are included in other comprehensive income. Unrealized gains and losses on equity securities, net of income taxes, are included in net income as net investment gains or losses. The Company completes a detailed analysis each quarter to assess declines in the fair value of its available-for-sale investments. Any impairment losses on the Company's available-for-sale investments are recorded as an allowance, subject to reversal. Premiums and discounts are amortized or accreted over the lives of the related fixed maturity securities as an adjustment to the yield using the effective interest method. Dividend and interest income are recognized when earned. Accrued interest receivable is excluded from both the estimated fair value and the amortized cost basis of available-for-sale securities and included within other assets on the



Company's consolidated balance sheets. Any uncollectible accrued interest receivable is written off in the period it is deemed uncollectible. Realized investment gains or losses on available-for-sale investments are included in net income. Realized gains or losses from sales of available-for-sale investments are derived using the first-in, first-out method on the trade date. See note 4 and note 5 for further details regarding the Company's investment portfolio. d) Cash and Cash Equivalents. The Company considers all investments with original maturities of 90 days or less to be cash equivalents. The carrying value of the Company's cash and cash equivalents approximates fair value. e) Restricted Cash and Cash Equivalents. Cash and cash equivalents that are restricted as to withdrawal or use are recorded as restricted cash and cash equivalents. The carrying value of the Company's restricted cash and cash equivalents approximates fair value. f) Receivables. Receivables include amounts receivable from agents, brokers and insureds, which represent premiums that are both currently due and amounts not yet due on insurance and reinsurance policies. Premiums for insurance policies are generally due at inception. Premiums for reinsurance policies generally become due over the period of coverage based on the policy terms. Changes in the estimate of reinsurance premiums written will result in an adjustment to premiums receivable in 10K-77 the period they are determined. Receivables also include amounts receivable from contracts with customers, which represent the Company's unconditional right to consideration for satisfying the performance obligations outlined in the contract. The Company monitors credit risk associated with receivables, taking into consideration the fact that in certain instances in the Company's insurance operations credit risk may be reduced by the Company's right to offset loss obligations or unearned premiums against premiums receivable. An allowance is established for credit losses expected to be incurred over the life of the receivable, which is recorded net of this allowance. The allowance is charged to net income in the period the receivable is recorded and revised in subsequent periods to reflect changes in the Company's estimate of expected credit losses. See note 7 for further details regarding receivables. g) Reinsurance Recoverables. Amounts recoverable from reinsurers are estimated in a manner consistent with the claim liability associated with the reinsured business. The Company evaluates the financial condition of its reinsurers and monitors concentration of credit risk to minimize its exposure to significant losses from individual reinsurers. To further reduce credit exposure on reinsurance recoverables, the Company has received collateral, including letters of credit and trust accounts, from certain reinsurers. Cash collateral related to these reinsurance agreements is available, without restriction, when the Company pays losses covered by the reinsurance agreements. An allowance is established for credit losses expected to be incurred over the life of the reinsurance recoverable, which is recorded net of this allowance. The allowance is charged to net income in the period the recoverable is recorded and revised in subsequent periods to reflect changes in the Company's estimate of expected credit losses. As of December 31, 2022 and 2021, the allowance for credit losses associated with the Company's reinsurance recoverables was not material to the consolidated financial statements. h) Deferred Policy Acquisition Costs. Costs directly related to the acquisition of insurance premiums are deferred and amortized over the related policy period, generally one year. The Company only defers acquisition costs incurred that are related directly to the successful acquisition of new or renewal insurance contracts, including commissions to agents and brokers, salaries and benefits and premium taxes. Commissions received related to reinsurance premiums ceded are netted against broker commissions in determining acquisition costs eligible for deferral. To the extent that future policy revenues on existing policies are not adequate to cover related costs and expenses, deferred policy acquisition costs are charged to earnings. The Company does not consider anticipated investment income in determining whether a premium deficiency exists. See note 2 (a) and (f) for further details regarding policy acquisition costs, as well as note 24 for details regarding a change to the Company's policy for accounting for deferred policy acquisition costs. i) Goodwill and Intangible Assets. Goodwill and intangible assets are recorded as a result of business acquisitions. Goodwill represents the excess of the amount paid to acquire a business over the net fair value of assets acquired and liabilities assumed at the date of acquisition. Indefinite-lived and other intangible assets are recorded at fair value as of the acquisition date. The determination of the fair value of certain assets acquired and liabilities assumed involves significant judgment and the use of valuation models and other estimates, which require assumptions that are inherently subjective. Goodwill and indefinite-lived intangible assets are tested for impairment at least annually. The Company completes an annual test during the fourth quarter of each year based upon the results of operations through September 30. Intangible assets with definite lives are amortized using the straight-line method over their estimated useful lives, generally five to 20 years, and are reviewed for impairment when events or circumstances indicate that their carrying value may not be recoverable. See note 8 for further details regarding goodwill and intangible assets. j) Equity Method Investments. The Company holds certain investments that are required to be accounted for under the equity method, whereby they initially are recorded at cost within other assets on the consolidated balance sheets and subsequently increased or decreased by the Company's proportionate share of the net income or loss of the investee and other transactions impacting the investee's equity. The Company records its proportionate share of net income or loss of the investee in services and other revenues. The Company records its proportionate share of other comprehensive income or loss of the investee as a component of other comprehensive income. Dividends or other equity distributions in excess of the Company's cumulative equity in earnings of the investee are recorded as a reduction of the investment. The Company reviews equity method investments for impairment when events or circumstances indicate that a decline in the fair value of the investment below its carrying value is other than temporary. See note 6 for further details regarding the Company's equity method investments. k) Property and Equipment. Property and equipment is maintained primarily by certain of the Company's Market Ventures businesses and is stated at cost less accumulated depreciation. Depreciation of property and equipment is calculated using the straight-line method over the estimated useful lives of the respective assets. Property and equipment, net of accumulated depreciation, was \$ 1.2 billion and \$ 1.1 billion as of December 31, 2022 and 2021, respectively, and is included in other assets on the Company's consolidated balance sheets. 10K-78 l) Leases. The present value of future lease payments for the Company's leases with terms greater than 12 months is included on the consolidated balance sheets as lease liabilities and right-of-use lease assets. The Company's lease portfolio primarily consists of operating leases for real estate. Total expected lease payments are based on the lease payments specified in the contract and the stated term, including any options to extend or

terminate that the Company is reasonably certain to exercise. The Company accounts for lease components and any associated non-lease components within a contract as a single lease component, and therefore allocates all of the expected lease payments to the lease component. The lease liability, which represents the Company's contractual obligation to make lease payments, is calculated based on the present value of expected lease payments over the remaining lease term, discounted using the Company's collateralized incremental borrowing rate at the lease commencement date. The lease liability is then adjusted for any prepaid rent, lease incentives received or capitalized initial direct costs to determine the lease asset, which represents the Company's right to use the underlying asset for the lease term. Lease liabilities and lease assets are included in other liabilities and other assets, respectively, on the Company's consolidated balance sheets. Total lease costs are primarily comprised of rental expense for operating leases, which is recognized on a straight line basis over the lease term. Rental expense attributable to the Company's underwriting operations is included in underwriting, acquisition and insurance expenses and rental expense attributable to the Company's other operations is included in products expenses and services and other expenses in the consolidated statements of income and comprehensive income. See note 9 for further details regarding leases. m) Inventories. Inventories are maintained at certain of the Company's Market Ventures businesses and consist primarily of raw materials, work-in-process and finished goods. Inventories are generally valued using the first-in-first-out method and stated at the lower of cost or net realizable value. Inventories were \$ 639. 6 million and \$ 529. 3 million as of December 31, 2022 and 2021, respectively, and are included in other assets on the Company's consolidated balance sheets. n) Redeemable Noncontrolling Interests. The Company owns controlling interests in various companies through its Market Ventures operations. In some cases, the Company has the option to acquire the remaining equity interests, and the remaining equity interests have the option to sell their interests to the Company, in the future. The redemption value of the remaining equity interests is generally based on the respective company's earnings in specified periods preceding the redemption date. The redeemable noncontrolling interests are currently redeemable or become redeemable between 2023 and 2032. The Company recognizes changes in the redemption value that exceed the carrying value of redeemable noncontrolling interests to retained earnings as if the balance sheet date was also the redemption date. Changes in the redemption value also result in an adjustment to net income to common shareholders in the calculation of basic and diluted net income per common share. See note 19 for further details regarding the calculation of basic and diluted net income per common share. o) Income Taxes. The Company records deferred income taxes to reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and their tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in years in which those temporary differences are expected to be recovered or settled. Deferred tax assets are reduced by a valuation allowance when management believes it is more likely than not that some, or all, of the deferred tax assets will not be realized. The Company recognizes the tax benefit from an uncertain tax position taken or expected to be taken in income tax returns only if it is more likely than not that the tax position will be sustained upon examination by tax authorities, based on the technical merits of the position. Tax positions that meet the more likely than not threshold are then measured using a probability weighted approach, whereby the largest amount of tax benefit that is greater than 50 % likely of being realized upon ultimate settlement is recognized. The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. See note 15 for further details regarding income taxes. p) Unpaid Losses and Loss Adjustment Expenses. Unpaid losses and loss adjustment expenses on the Company's property and casualty insurance business are based on evaluations of reported claims and estimates for losses and loss adjustment expenses incurred but not reported. Estimates for losses and loss adjustment expenses incurred but not reported are based on reserve development studies, among other things. Recorded reserves are estimates, and the ultimate liability may be greater or less than the estimates. See note 11 for further details regarding unpaid losses and loss adjustment expenses. q) Life and Annuity Benefits. The Company has a run-off block of life and annuity reinsurance contracts that subject the Company to mortality, longevity and morbidity risks. The assumptions used to determine policy benefit reserves are generally 10K-79 locked-in for the life of the contract unless an unlocking event occurs. To the extent existing policy reserves, together with the present value of future gross premiums and expected investment income earned thereon, are not adequate to cover the present value of future benefits, settlement and maintenance costs, the locked-in assumptions are revised to current best estimate assumptions and a charge to earnings for life and annuity benefits is recognized at that time. Because of the assumptions and estimates used in establishing reserves for life and annuity benefit obligations and the long-term nature of these reinsurance contracts, the ultimate liability may be greater or less than the estimates. Results attributable to the run-off of life and annuity reinsurance contracts are included in services and other revenues and services and other expenses in the Company's consolidated statements of income and comprehensive income. Investment income earned on the investments that support the policy benefit reserves are included in net investment income. See note 13 for further details regarding life and annuity benefits and note 1 (x) for information on changes to the accounting for life and annuity benefits beginning in 2023. r) Revenue Recognition. Property and Casualty Premiums Insurance premiums written are generally recorded at the inception of a policy and earned on a pro rata basis over the policy period, typically one year. The cost of reinsurance ceded is initially recorded as prepaid reinsurance premiums and is amortized over the reinsurance contract period in proportion to the amount of insurance protection provided. Premiums ceded are netted against premiums written. For multi-year contracts where insurance premiums are payable in annual installments, written premiums are recorded at the inception of the contract based on management's best estimate of total premiums to be received. For contracts where the cedent has the ability to unilaterally commute or cancel coverage within the term of the policy, premiums are generally recorded on an annual basis or up to the contract cancellation point. The remaining premiums are estimated and included as written at each successive anniversary date within the multi-year term. Assumed reinsurance premiums are recorded at the inception of each contract based upon contract terms and information received from cedents and brokers and are earned on a pro rata basis over the coverage period, or for multi-year contracts, in proportion with the underlying risk exposure to the extent there is variability in the exposure through the coverage period. Changes in reinsurance premium estimates are expected and may result in significant adjustments in any period. These estimates

change over time as additional information regarding changes in underlying exposures is obtained. Any subsequent differences arising on such estimates are recorded as premiums written in the period they are determined and are earned on a pro rata basis over the coverage period, or immediately if the coverage period has ended. The Company uses the periodic method to account for assumed reinsurance from foreign reinsurers as a result of the sufficiency of the information provided by the reinsurer, which is consistent with its accounting for assumed reinsurance from U. S. reinsurers. Certain contracts that the Company writes provide for reinstatement of coverage. Reinstatement premiums are the premiums for the restoration of the insurance or reinsurance limit of a contract to its full amount after a loss occurrence by the insured or reinsured. The Company accrues for reinstatement premiums resulting from losses recorded. Such accruals are based upon contractual terms and management judgment is involved with respect to the amount of losses recorded. Changes in estimates of losses recorded on contracts with reinstatement premium features will result in changes in reinstatement premiums based on contractual terms. Reinstatement premiums are recognized at the time losses are recorded and are generally earned on a pro rata basis over the remaining coverage period. Other Revenues Other revenues primarily relate to the Company's Markel Ventures, insurance-linked securities (ILS) and program services operations and consist of revenues from the sale of products and services. Revenues are recognized when, or as, control of the promised goods or services is transferred to the Company's customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. Contracts with customers generally have an original term of one year or less. For contracts with customers that have an original term greater than one year, the Company recognizes revenue at the amount for which it has a right to invoice for the products delivered or services performed. Certain customers may receive volume rebates or credits for products and services, which are accounted for as variable consideration. The Company estimates these amounts based on the expected amount to be provided to the customer and reduces revenues recognized by a corresponding amount. The Company does not expect significant changes to its estimates of variable consideration over the term of the contracts. Payment terms for products and services vary by the type of product or service offered and the location of the customer, and payment is typically received at or shortly after the point of sale. For certain products, the Company requires partial payment 10K- 80 in the form of a deposit before the products are delivered to the customer, which is included in other liabilities on the Company's consolidated balance sheets. Through its Markel Ventures operations, the Company has several different businesses that manufacture or produce a variety of products, including ornamental plants, precast concrete, equipment used in baking systems, over-the-road transportation equipment, portable dredges, residential homes and flooring for the trucking industry. Most of the Company's product revenues are recognized when the products are shipped to the customer or the products arrive at the agreed-upon destination with the end customer. Some of the Company's contracts include multiple performance obligations. For such arrangements, revenues are allocated to each performance obligation based on the relative standalone selling price, which is derived from amounts stated in the contract. Through its Markel Ventures operations, the Company also has several different businesses that provide various types of services, including distribution of exterior building products, fire protection and life safety services and consulting services. Service revenues are generally recognized over the term of the contracts based on hours incurred or as services are provided. The Company's other revenues also include investment management fee income and through 2022, managing general agent (MGA) commissions for services provided through the Company's ILS operations. Investment management fee income is recognized over the period in which investment management services are provided and is calculated and recognized monthly, typically based on the net asset value of the accounts managed. For certain accounts, the Company is also entitled to participate, on a fixed percentage basis, in any net income generated in excess of an agreed-upon threshold as established by the underlying investment management agreements. In general, net income is calculated at the end of each calendar year and incentive fees are payable annually. Incentive fee income is recognized at the conclusion of the contractual performance period, when the uncertainty related to performance has been resolved. MGA commissions are based on the direct written premiums of the insurance contracts placed. Commissions received for these services are generally recognized when the related policy is written. Program services fees, or ceding fees, received in exchange for providing access to the U. S. property and casualty insurance market are based on the gross premiums written on behalf of general agent and capacity provider clients. Ceding fees are earned in a manner consistent with the recognition of the gross premiums earned on the underlying insurance policies, generally on a pro rata basis over the terms of the underlying policies reinsured. See note 10 for further details regarding products, services and other revenues. s) Program Services. In connection with its program services business, the Company enters into contractual agreements with both producing general agents and reinsurers, whereby the general agents and reinsurers are typically obligated to each other for payment of insurance amounts, including premiums, commissions and losses. To the extent these funds are not the obligation of the Company and are settled directly between the general agent and the reinsurer, no receivables or payables are recorded for these amounts. All obligations of the Company's insurance subsidiaries owed to or on behalf of their policyholders are recorded by the Company and, to the extent appropriate, offsetting reinsurance recoverables are recorded. t) Foreign Currency Transactions. The U. S. Dollar is the Company's reporting currency and the primary functional currency of its foreign underwriting operations. The functional currencies of the Company's other foreign operations are the currencies of the primary economic environments in which the majority of their business is transacted. Foreign currency transaction gains and losses are the result of exchange rate changes on transactions denominated in currencies other than the functional currency at each foreign entity. Monetary assets and liabilities are remeasured to the functional currency at current exchange rates, with resulting gains and losses included in net foreign exchange gains within net income. Non-monetary assets and liabilities are remeasured to the functional currency at historic exchange rates. Available-for-sale securities are recorded at fair value with resulting gains and losses, including the portion attributable to movements in exchange rates, included in the change in net unrealized gains on available-for-sale investments, net of taxes within other comprehensive income. While the Company attempts to naturally hedge its exposure to foreign currency fluctuations by matching assets and liabilities in the same currencies, there is a financial statement mismatch between the gains or losses recorded in net income related to insurance

reserves denominated in non-functional currencies and the gains or losses recorded in other comprehensive income related to the available-for-sale securities held in non-functional currencies supporting the reserves. Assets and liabilities of foreign operations denominated in a functional currency other than the U. S. Dollar are translated into the U. S. Dollar at current exchange rates, with resulting gains or losses included, net of taxes, in the change in foreign 10K-81 currency translation adjustments within other comprehensive income. See note 20 for further details regarding the components of other comprehensive income.

u) Comprehensive Income. Comprehensive income represents all changes in equity that result from recognized transactions and other economic events during the period. Other comprehensive income refers to revenues, expenses, gains and losses that under U. S. GAAP are included in comprehensive income but excluded from net income, such as unrealized gains or losses on available-for-sale investments, foreign currency translation adjustments and changes in net actuarial pension loss. See note 20 for further details regarding other comprehensive income.

v) Net Income Per Common Share. Basic net income per common share is computed by dividing adjusted net income to shareholders by the weighted average number of common shares outstanding during the year. Diluted net income per common share is computed by dividing adjusted net income to shareholders by the weighted average number of common shares and dilutive potential common shares outstanding during the year. See note 19 for further details regarding the calculation of basic and diluted net income per common share.

w) Variable Interest Entities. The Company determines whether it has relationships with entities defined as VIEs in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 810, Consolidation. Under this guidance, a VIE is consolidated by the variable interest holder that is determined to be the primary beneficiary. An entity in which the Company holds a variable interest is a VIE if any of the following conditions exist: (a) the total equity investment at risk is not sufficient to permit the entity to finance its activities without additional subordinated financial support, (b) as a group, the holders of equity investment at risk lack either the direct or indirect ability through voting rights or similar rights to make decisions about an entity's activities that most significantly impact the entity's economic performance or the obligation to absorb the expected losses or right to receive the expected residual returns, or (c) the voting rights of some investors are disproportionate to their obligation to absorb the expected losses of the entity, their rights to receive the expected residual returns of the entity, or both and substantially all of the entity's activities either involve or are conducted on behalf of an investor with disproportionately few voting rights. The primary beneficiary is defined as the variable interest holder that is determined to have the controlling financial interest as a result of having both (a) the power to direct the activities of a VIE that most significantly impact the economic performance of the VIE and (b) 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 an entity is a VIE at the inception of its variable interest in the entity and upon the occurrence of certain reconsideration events. The Company continually reassesses whether it is the primary beneficiary of VIEs in which it holds a variable interest. See note 17 for further details regarding the Company's involvement with VIEs.

x) Recent Accounting Pronouncements. Accounting Standards Not Yet Adopted In August 2018, the FASB issued Accounting Standards Update (ASU) No. 2018-12, Financial Services — Insurance (Topic 944): Targeted Improvements to the Accounting for Long-Duration Contracts. The FASB subsequently issued several ASUs as amendments to ASU No. 2018-12. The standard requires insurance companies with long duration contracts to: (1) review and, if there is a change, update the assumptions used to measure expected cash flows at least annually; (2) update the discount rate assumption at each reporting date; and (3) enhance certain qualitative and quantitative disclosures. ASU No. 2018-12 becomes effective for the Company during the first quarter of 2023 and will be applied using a modified retrospective approach that requires restatement of prior periods presented, including a cumulative adjustment to accumulated other comprehensive income as of January 1, 2021 (the transition date). The standard will, among other things, impact the discount rate used in estimating reserves for the Company's life and annuity reinsurance portfolio, which is in runoff. Currently, the discount rate assumption is locked-in for the life of the contracts, unless there is a loss recognition event. The adoption of ASU 2018-12 will result in a decrease to accumulated other comprehensive income of \$ 15.3 million, net of taxes, as a result of changing the discount rate assumption as of January 1, 2021. However, the cumulative impact of changes in the discount rate assumption through the January 1, 2023 adoption date is based on the discount rate assumption determined as of the adoption date. Based on increases in interest rates between the transition date and the adoption date, the cumulative increase to accumulated other comprehensive income as of January 1, 2023 will be \$ 89.6 million, net of taxes.

10K-82 In October 2021, the FASB issued ASU No. 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers, which becomes effective for the Company during the first quarter of 2023. ASU No. 2021-08 requires contract assets and liabilities accounted for under FASB ASC 606, Revenue from Contracts with Customers, to be recorded at the acquisition date as if the acquirer entered into those contracts itself on the contract inception dates, rather than at fair value. At adoption, ASU No. 2021-08 will not impact the Company's financial position, results of operations or cash flows, but prospectively, this ASU will impact amounts recorded by the Company for assets acquired and liabilities assumed in conjunction with certain acquisitions.

2. Segment Reporting Disclosures The chief operating decision maker reviews the Company's ongoing underwriting operations on a global basis in the following two segments: Insurance and Reinsurance. In determining how to allocate resources and assess the performance of the Company's underwriting results, management considers many factors, including the nature of the insurance product sold, the type of account written and the type of customer served. The Insurance segment includes all direct business and facultative placements written on a risk-bearing basis within the Company's underwriting operations. The Reinsurance segment includes all treaty reinsurance written on a risk-bearing basis within the Company's underwriting operations. All investing activities related to the Company's insurance operations are included in the Investing segment. The chief operating decision maker reviews and assesses Market Ventures' performance in the aggregate, as a single operating segment. The Market Ventures segment primarily consists of controlling interests in a diverse portfolio of businesses that operate in various industries. The Company's other operations primarily consist of the results of the Company's insurance-linked securities operations and program services business. Other operations also include

results for lines of business discontinued prior to, or in conjunction with, acquisitions, including development on asbestos and environmental loss reserves and results attributable to the run-off of life and annuity reinsurance business, which are monitored separately from the Company's ongoing underwriting operations. For purposes of segment reporting, none of these other operations are considered to be reportable segments. Segment profit for each of the Company's underwriting segments is measured by underwriting profit. The property and casualty insurance industry commonly defines underwriting profit as earned premiums net of losses and loss adjustment expenses and underwriting, acquisition and insurance expenses. Underwriting profit does not replace operating income or net income computed in accordance with U. S. GAAP as a measure of profitability. Underwriting profit or loss provides a basis for management to evaluate the Company's underwriting performance. Segment profit for the Company's underwriting segments may also include other revenues and expenses that are attributable to the Company's underwriting operations that are not captured in underwriting profit. Segment profit for the Investing segment is measured by income from the Company's investment portfolio, which is comprised of net investment income and net investment gains. Segment profit for the Investing segment also includes income from equity method investments, which is included within services and other revenues. Segment profit for the Market Ventures segment is measured by operating income. For management reporting purposes, the Company allocates assets to its underwriting operations and to its Investing and Market Ventures segments and certain of its other operations, including its insurance-linked securities and program services operations. Underwriting assets include assets attributed to the Company's Insurance and Reinsurance segments, discontinued underwriting lines of business, as well as assets that are not specifically allocated to the Company's other operations. Generally, the Company manages its underwriting assets in the aggregate and therefore does not allocate assets to individual underwriting segments.

10K- 83 a) The following tables summarize the Company's segment disclosures. Year Ended December 31, 2022 (dollars in thousands)

	Insurance	Reinsurance	Investing	Market Ventures	Other (1)	Consolidated
Gross premium volume	\$ 8,606,700	\$ 1,229,851	\$ 3,365,131	\$ 13,201,682	\$ 7,040,176	\$ 26,981,676
Net written premiums	\$ 6,528,263	\$ 1,063,347	\$ 13,201,682	\$ 3,818,758	\$ 7,792,266	\$ 23,134,767
Losses and loss adjustment expenses: Current accident year	(3,936,425)	(676,610)	(4,613,035)	(142,924)	(26,052)	(9,128,046)
Losses and loss adjustment expenses: Prior accident years	(1,375,539)	(279,567)	(1,655,106)	(860,477)	(809,352)	(5,079,033)
Underwriting profit (loss)	\$ 549,871	\$ 83,859	\$ (1,167,548)	\$ 325,238	\$ 115,594	\$ (293,086)
Net investment income	445,846	909	446,755	(1,595,733)	(1,595,733)	220,127
Net investment losses	(1,595,733)	(1,595,733)	(1,595,733)	(1,595,733)	(1,595,733)	(6,181,668)
Services and other revenues	2,427,096	2,427,096	2,427,096	(17,661)	2,329,522	10,647,850
Services and other expenses	(2,241,736)	(2,241,736)	(2,241,736)	(2,111,510)	(195,125)	(9,272,842)
Amortization of intangible assets	(2)	(79,043)	(99,735)	(178,778)	(80,000)	(359,558)
Impairment of goodwill	(80,000)	(80,000)	(80,000)	(80,000)	(80,000)	(400,000)
Segment profit (loss)	\$ 549,871	\$ 83,859	\$ (1,167,548)	\$ 325,238	\$ 115,594	\$ (293,086)

Interest expense (196,062) Net foreign exchange gains 140,209 Loss before income taxes \$ (148,839) (1) Other represents the total profit (loss) attributable to the Company's operations that are not included in a reportable segment, as well as amortization of intangible assets attributable to the underwriting segments, which is not allocated between the Insurance and Reinsurance segments. (2) Segment profit for the Market Ventures segment includes amortization of intangible assets attributable to Market Ventures. Amortization of intangible assets attributable to the Company's underwriting segments, included in Other, was \$ 38.5 million for the year ended December 31, 2022.

10K- 84 Year Ended December 31, 2021 (dollars in thousands)

	Insurance	Reinsurance	Investing	Market Ventures	Other (1)	Consolidated
Gross premium volume	\$ 7,239,676	\$ 1,246,143	\$ 11,438,682	\$ 5,998,890	\$ 1,126,167	\$ 26,051,538
Net written premiums	\$ 5,465,284	\$ 1,042,048	\$ 11,438,682	\$ 6,503,029	\$ 1,126,167	\$ 25,585,210
Losses and loss adjustment expenses: Current accident year	(3,311,185)	(749,815)	(4,061,000)	(506,292)	(19,928)	(8,648,220)
Losses and loss adjustment expenses: Prior accident years	(1,153,049)	(266,217)	(1,419,266)	(874,473)	(696,413)	(5,218,458)
Underwriting profit (loss)	\$ 696,413	\$ (55,238)	\$ (13,090)	\$ 628,085	\$ 628,085	\$ 2,424,350
Net investment income	367,406	11	367,417	1,978,534	1,978,534	4,732,902
Net investment gains	1,712,120	1,712,120	1,712,120	7,184,193	1,696,346	12,617,689
Net investment losses	(1,544,506)	(1,544,506)	(1,544,506)	(109)	(1,769,201)	(6,408,728)
Services and other revenues	109	(1,769,201)	(253,843)	(2,022,935)	(57,568)	(4,513,752)
Services and other expenses	(57,568)	(102,971)	(160,539)	(160,539)	(183,579)	(665,196)
Segment profit (loss)	\$ 696,413	\$ (55,238)	\$ (13,090)	\$ 628,085	\$ 628,085	\$ 2,424,350

Interest expense (183,579) Net foreign exchange gains 72,271 Income before income taxes \$ 3,132,193 (2) Segment profit for the Market Ventures segment includes amortization of intangible assets attributable to Market Ventures. Amortization of intangible assets attributable to the Company's underwriting segments, included in Other, was \$ 41.2 million for the year ended December 31, 2021.

10K- 85 Year Ended December 31, 2020 (dollars in thousands)

	Insurance	Reinsurance	Investing	Market Ventures	Other (1)	Consolidated
Gross premium volume	\$ 6,029,024	\$ 1,130,923	\$ 2,106,718	\$ 9,266,665	\$ 4,977,662	\$ 23,507,032
Net written premiums	\$ 4,688,448	\$ 929,348	\$ 2,106,718	\$ 9,266,665	\$ 5,591,612	\$ 21,682,797
Losses and loss adjustment expenses: Current accident year	(3,373,085)	(700,240)	(4,073,325)	(554,586)	(51,755)	(8,753,091)
Losses and loss adjustment expenses: Prior accident years	(988,668)	(240,493)	(1,229,161)	(788,466)	(169,001)	(3,416,393)
Underwriting profit (loss)	\$ 169,001	\$ (34,009)	\$ (7,375)	\$ 127,617	\$ 127,617	\$ 422,851
Net investment income	375,581	245	375,826	617,979	617,979	2,007,610
Net investment gains	1,439,515	1,439,515	1,439,515	3,996	1,355,199	6,314,150
Net investment losses	(1,256,159)	(1,256,159)	(1,256,159)	(41,461)	(1,232,150)	(5,041,084)
Services and other revenues	(41,461)	(1,232,150)	(287,509)	(1,561,120)	(52,572)	(3,374,812)
Services and other expenses	(41,461)	(1,232,150)	(287,509)	(1,561,120)	(52,572)	(3,374,812)
Segment profit (loss)	\$ 169,001	\$ (34,009)	\$ (7,375)	\$ 127,617	\$ 127,617	\$ 422,851

Interest expense (177,582) Net foreign exchange losses (95,853) Income before income taxes \$ 1,000,449 (2) Segment profit for the Market Ventures segment includes amortization of intangible assets attributable to Market Ventures. Amortization of intangible assets attributable to the Company's underwriting segments,

included in Other, was \$ 41.9 million for the year ended December 31, 2020. b) The following amounts attributable to the Market Ventures segment are also reviewed, or included in measures reviewed, by the Company's chief operating decision maker. Years Ended December 31, (dollars in thousands) 2022 2021 2020 Depreciation expense \$ 102,055 \$ 72,580 \$ 60,284 Interest expense (1) \$ 46,780 \$ 35,031 \$ 46,664 Income tax expense \$ 61,588 \$ 43,626 \$ 45,815 Capital expenditures \$ 225,230 \$ 124,451 \$ 75,404 (1) Interest expense for the years ended December 31, 2022, 2021 and 2020 included intercompany interest expense of \$ 27.4 million, \$ 25.8 million and \$ 32.0 million, respectively, which was eliminated in consolidation. 10K-86 e) The following table summarizes earned premiums by major product grouping within each underwriting segment. Years Ended December 31, (dollars in thousands) 2022 2021 2020 Insurance segment: General liability \$ 1,927,721 \$ 1,564,221 \$ 1,261,411 Professional liability 1,739,983 1,523,536 1,141,034 Property 428,563 362,637 356,934 Marine and energy 585,885 495,897 458,050 Personal lines 489,648 451,095 405,210 Programs 384,952 222,410 238,909 Workers' compensation 385,054 354,337 338,186 Credit and surety 193,701 161,155 151,397 Other products 392,756 329,996 337,317 Total Insurance 6,528,263 5,465,284 4,688,448 Reinsurance segment: Professional liability 398,839 320,646 243,645 General liability 382,482 314,699 195,468 Specialty 275,033 276,943 298,267 Property 6,993 129,760 191,968 Total Reinsurance 1,063,347 1,042,048 929,348 Other (3,818) (4,303) (5,591) Total earned premiums \$ 7,587,792 \$ 6,503,029 \$ 5,612,205 The Company does not manage products at this level of aggregation as it offers a diverse portfolio of products and manages these products in logical groupings within each underwriting segment. During the years ended December 31, 2022, 2021 and 2020, 80%, 80% and 79%, respectively, of gross premiums written in the Company's underwriting segments were attributed to risks or cedents located in the United States. Substantially all of the gross premiums written in the Company's program services and other fronting businesses during 2022, 2021 and 2020 were attributed to risks located in the United States. Most of the Company's gross written premiums are placed through insurance and reinsurance brokers. During the years ended December 31, 2022, 2021 and 2020, the Company's top three independent brokers accounted for 28%, 28% and 31% of gross premiums written in the Company's underwriting segments. During the years ended December 31, 2022, 2021 and 2020, the top three independent brokers accounted for 19%, 19% and 20%, respectively, of gross premiums written in the Insurance segment and 88%, 84% and 84%, respectively, of gross premiums written in the Reinsurance segment. 10K-87 d) The following table summarizes total products revenues and services and other revenues by major product and service grouping within the Company's Market Ventures segment. Years Ended December 31, (dollars in thousands) 2022 2021 2020 Products: Consumer and building \$ 1,510,130 \$ 911,422 \$ 814,697 Transportation-related 612,467 474,839 351,559 Equipment manufacturing 304,499 325,859 273,259 Total products revenues 2,427,096 1,712,120 1,439,515 Services and other: Construction 1,910,403 1,554,592 915,696 Consulting 326,549 277,902 283,386 Other 92,570 99,202 156,117 Total services and other revenues 2,329,522 1,931,696 1,355,199 Total products revenues and services and other revenues \$ 4,756,618 \$ 3,643,816 \$ 2,794,714 The Company does not manage the Market Ventures portfolio of businesses at this level of aggregation due to the distinct characteristics of each business and the autonomy with which each business operates. Management reviews and assesses the performance of the Market Ventures businesses in the aggregate at the Market Ventures segment level, while individual management teams are responsible for developing strategic initiatives, managing day-to-day operations and making investment and capital allocation decisions for their respective companies. During the years ended December 31, 2022, 2021 and 2020, the portion of Market Ventures segment revenues attributable to U. S. operations was 96%, 95%, and 95%, respectively. e) The following table reconciles segment assets to the Company's consolidated balance sheets. December 31, (dollars in thousands) 2022 2021 Segment assets: Investing \$ 26,982,280 \$ 28,277,801 Underwriting 8,853,559 8,111,316 Market Ventures 5,315,677 4,958,279 Total segment assets 41,151,516 41,347,396 Other operations 8,639,743 7,129,700 Total assets \$ 49,791,259 \$ 48,477,096 10K-88 f) The following table summarizes deferred policy acquisition costs, unearned premiums and unpaid losses and loss adjustment expenses. (dollars in thousands) Deferred Policy Acquisition Costs Unearned Premiums Unpaid Losses and Loss Adjustment Expenses December 31, 2022 Insurance segment \$ 677,921 \$ 4,015,252 \$ 11,616,386 Reinsurance segment 247,562 921,541 3,581,699 Other underwriting 9,473 197,602 Total underwriting 925,483 4,946,266 15,395,687 Program services and other fronting 1,274,482 5,204,290 Market CATCo Re (see note 17) 347,921 Total \$ 925,483 \$ 6,220,748 \$ 20,947,898 December 31, 2021 Insurance segment \$ 574,181 \$ 3,350,054 \$ 10,051,994 Reinsurance segment 219,964 802,824 3,639,210 Other underwriting 271,356 Total underwriting 794,145 4,152,878 13,962,560 Program services and other fronting 1,230,741 4,216,334 Total \$ 794,145 \$ 5,383,619 \$ 18,178,894 3. Acquisitions and Dispositions In October 2022, the Company sold its controlling interest in its Volante managing general agent companies (Volante) for total consideration of \$ 181.9 million, of which \$ 155.6 million was cash. This transaction resulted in a gain of \$ 118.5 million that was included in services and other revenue. Volante underwrites and administers specialty insurance and reinsurance policies and provides delegated underwriting services to third-party providers of insurance capital. In February 2022, the Company sold the majority of its controlling interest in its Velocity managing general agent companies (Velocity) for total cash consideration of \$ 181.3 million, of which \$ 165.6 million was received in 2022. This transaction resulted in a gain of \$ 107.3 million that was included in services and other revenues. Velocity provides risk origination services for the Company's Nephila insurance-linked securities fund management operations, as well as for third parties. The Company retained a minority interest in Velocity that was recorded at fair value as of the transaction date (\$ 47.4 million) and is accounted for under the equity method. In December 2021, the Company acquired 51% of Metromont LLC (Metromont), a precast concrete manufacturer and concrete building solutions provider for commercial projects. Under the terms of the acquisition agreement, the Company has the option to acquire the remaining equity interests and the remaining equity holders have the option to sell their interests to the Company in the future. The redemption value of the remaining equity interests is generally based on Metromont's earnings in specified periods preceding the redemption date. Total consideration for the transaction was \$ 274.5 million, all of which was cash. 10K-89 As of December 31, 2021, the purchase price was preliminarily allocated to the acquired assets and liabilities of Metromont based on estimated fair value at the

acquisition date. During 2022, the Company completed the process of determining the fair value of the assets acquired and liabilities assumed with Metromont and recognized goodwill of \$ 101.6 million, intangible assets of \$ 230.0 million and redeemable noncontrolling interests of \$ 247.4 million. The final purchase price allocation reflected differences from the preliminary purchase price allocation, including an \$ 86.1 million increase in the amount recognized for intangible assets upon completion of a third-party valuation and a \$ 22.5 million decrease in the allocation to redeemable noncontrolling interests, all of which resulted in a \$ 117.7 million decrease to goodwill from the preliminary amount recognized. Goodwill is primarily attributable to expected future earnings and cash flow potential of Metromont, of which the Company's share is deductible for income tax purposes. Intangible assets include \$ 175.0 million of customer relationships and \$ 55.0 million of trade names, which are being amortized over 17 years and 15 years, respectively. Results attributable to Metromont are included in the Company's Market Ventures segment. In August 2021, the Company acquired 90% of the holding company for the Buckner HeavyLift Cranes companies (Buckner), a provider of crane rental services for large commercial contractors. Under the terms of the acquisition agreement, the Company has the option to acquire the remaining equity interests and the remaining equity holders have the option to sell their interests to the Company in the future. The redemption value of the remaining equity interests is generally based on Buckner's earnings in specified periods preceding the redemption dates. Total consideration for the transaction was \$ 237.9 million, all of which was cash. As of December 31, 2021, the purchase price was preliminarily allocated to the acquired assets and liabilities of Buckner based on estimated fair value at the acquisition date. During 2022, the Company completed the process of determining the fair value of the assets acquired and liabilities assumed with Buckner and recognized goodwill of \$ 109.9 million, intangible assets of \$ 60.0 million and fixed assets of \$ 290.4 million, primarily related to cranes. The final purchase price allocation reflected differences from the preliminary purchase price allocation, including a \$ 42.2 million decrease in the amount recognized for the cranes upon completion of a third-party valuation, which resulted in a \$ 35.3 million net increase to goodwill from the preliminary amount recognized. Goodwill is primarily attributable to expected future earnings and cash flow potential of Buckner, and it is not deductible for income tax purposes. Intangible assets include \$ 50.0 million of customer relationships and \$ 10.0 million of trade names, which are being amortized over 7 years and 15 years, respectively. Additionally, the Company assumed long-term debt of \$ 165.1 million and recognized redeemable noncontrolling interests of \$ 26.4 million. Results attributable to Buckner are included in the Company's Market Ventures segment. Lansing Building Products, LLC In April 2020, the Company acquired a controlling interest in Lansing Building Products, LLC, a supplier of exterior building products and materials to professional contractors throughout the U. S., which simultaneously acquired the distribution business of Harvey Building Products to enhance geographic reach and scale (together, Lansing), bringing the Company's ownership in Lansing to 91%. Under the terms of the acquisition agreement, the Company has the option to acquire the remaining equity interests and the remaining equity holders have the option to sell their interests to the Company in the future. The redemption value of the remaining equity interests is generally based on Lansing's earnings in specified periods preceding the redemption dates. Total consideration for both transactions was \$ 559.2 million, all of which was cash. The purchase price was allocated to the acquired assets and liabilities of Lansing based on estimated fair value at the acquisition date. The Company recognized goodwill of \$ 287.1 million, which is primarily attributable to expected future earnings and cash flow potential of Lansing. The majority of the goodwill recognized is not deductible for income tax purposes. The Company also recognized other intangible assets of \$ 210.0 million, which included \$ 188.0 million of customer relationships and \$ 22.0 million of trade names, which are being amortized over a weighted average period of 16 years and 14 years, respectively. The Company also recognized redeemable noncontrolling interests of \$ 43.6 million. Results attributable to Lansing are included in the Company's Market Ventures segment. 10K- 90 4. Investments a) The following tables summarize the Company's available-for-sale investments. Commercial and residential mortgage-backed securities include securities issued by U. S. government-sponsored enterprises and U. S. government agencies. The net unrealized holding gains (losses) in the tables below are presented before taxes and any reserve deficiency adjustments for life and annuity benefit reserves. See note 13. December 31, 2022 (dollars in thousands)

Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Fixed maturity securities:
U. S. Treasury securities	\$ 3,050,089	\$ 2,363	\$(138,493)	\$ 2,913,959
U. S. government-sponsored enterprises	871,463	154	\$(106,079)	765,538
Obligations of states, municipalities and political subdivisions	3,973,911	6,503	\$(247,231)	3,733,183
Foreign governments	1,473,658	2,843	\$(169,723)	1,306,778
Commercial mortgage-backed securities	2,109,721	395	\$(169,668)	1,940,448
Residential mortgage-backed securities	553,591	6	\$(26,804)	526,793
Asset-backed securities	1,693	—	\$(53)	1,640
Corporate bonds	771,761	836	\$(104,101)	668,496
Total fixed maturity securities	12,805,887	13,100	\$(962,152)	11,856,835
Short-term investments	2,663,560	5,760	\$(58)	2,669,262
Investments, available-for-sale	\$ 15,469,447	\$ 18,860	\$(962,210)	\$ 14,526,097

Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Fixed maturity securities:
U. S. Treasury securities	\$ 2,489,032	\$ 2,633	\$(21,471)	\$ 2,470,194
U. S. government-sponsored enterprises	753,029	28	\$(97)	753,029
Obligations of states, municipalities and political subdivisions	4,007,211	266	\$(7,862)	4,265,924
Foreign governments	1,394,771	134	\$(9,488)	1,519,354
Commercial mortgage-backed securities	1,928,775	69	\$(8,152)	1,990,433
Residential mortgage-backed securities	699,136	27	\$(170)	726,050
Asset-backed securities	3,035	46	—	3,081
Corporate bonds	786,478	54	\$(4,271)	836,682
Total fixed maturity securities	12,061,467	583	\$(57,853)	12,587,305
Short-term investments	1,805,300	28	\$(5,340)	1,799,988
Investments, available-for-sale	\$ 13,866,767	\$ 583	\$(719)	\$ 13,867,631

10K- 91 b) The following tables summarize gross unrealized investment losses on available-for-sale investments by the length of time that securities have continuously been in an unrealized loss position. December 31, 2022 Less than 12 months 12 months or longer Total (dollars in thousands) Estimated Fair Value Gross Unrealized Holding Losses Estimated Fair Value Gross Unrealized Holding Losses Estimated Fair Value Gross Unrealized Holding Losses Fixed maturity securities: U. S. Treasury securities \$ 735,605 \$(30,583) \$ 1,907,922 \$(107,910) \$

2, 643, 527 \$ (138, 493) U. S. government-sponsored enterprises 413, 495 (40, 488) 331, 391 (65, 591) 744, 886 (106, 079) Obligations of states, municipalities and political subdivisions 2, 474, 289 (164, 537) 348, 943 (82, 694) 2, 823, 232 (247, 231) Foreign governments 900, 322 (115, 324) 300, 423 (54, 399) 1, 200, 745 (169, 723) Commercial mortgage-backed securities 1, 611, 603 (117, 482) 305, 217 (52, 186) 1, 916, 820 (169, 668) Residential mortgage-backed securities 516, 423 (25, 232) 9, 342 (1, 572) 525, 765 (26, 804) Asset-backed securities 1, 640 (53) — 1, 640 (53) Corporate bonds 496, 766 (74, 542) 153, 035 (29, 559) 649, 801 (104, 101) Total fixed maturity securities 7, 150, 143 (568, 241) 3, 356, 273 (393, 911) 10, 506, 416 (962, 152) Short-term investments 774, 480 (58) — 774, 480 (58) Total \$ 7, 924, 623 \$ (568, 299) \$ 3, 356, 273 \$ (393, 911) \$ 11, 280, 896 \$ (962, 210) At December 31, 2022, the Company held 1, 400 available-for-sale securities in an unrealized loss position with a total estimated fair value of \$ 11.3 billion and gross unrealized losses of \$ 962.2 million. Of these 1, 400 securities, 246 securities had been in a continuous unrealized loss position for one year or longer and had a total estimated fair value of \$ 3.4 billion and gross unrealized losses of \$ 393.9 million. December 31, 2021 Less than 12 months 12 months or longer Total (dollars in thousands) Estimated Fair Value Gross Unrealized Holding Losses Estimated Fair Value Gross Unrealized Holding Losses Estimated Fair Value Gross Unrealized Holding Losses Estimated Fair Value Gross Unrealized Holding Losses Fixed maturity securities: U. S. Treasury securities \$ 2, 236, 637 \$ (18, 433) \$ 97, 173 \$ (3, 038) \$ 2, 333, 810 \$ (21, 471) U. S. government-sponsored enterprises 381, 495 (5, 640) 14, 010 (799) 395, 505 (6, 439) Obligations of states, municipalities and political subdivisions 393, 249 (6, 941) 23, 589 (921) 416, 838 (7, 862) Foreign governments 322, 813 (8, 596) 25, 564 (892) 348, 377 (9, 488) Commercial mortgage-backed securities 345, 616 (7, 765) 9, 189 (387) 354, 805 (8, 152) Residential mortgage-backed securities 12, 828 (159) 269 (11) 13, 097 (170) Corporate bonds 193, 786 (4, 271) — 193, 786 (4, 271) Total fixed maturity securities 3, 886, 424 (51, 805) 169, 794 (6, 048) 4, 056, 218 (57, 853) Short-term investments 228, 870 (5, 340) — 228, 870 (5, 340) Total \$ 4, 115, 294 \$ (57, 145) \$ 169, 794 \$ (6, 048) \$ 4, 285, 088 \$ (63, 193) At December 31, 2021, the Company held 277 available-for-sale securities in an unrealized loss position with a total estimated fair value of \$ 4.3 billion and gross unrealized losses of \$ 63.2 million. Of these 277 securities, 13 securities had been in a continuous unrealized loss position for one year or longer and had a total estimated fair value of \$ 169.8 million and gross unrealized losses of \$ 6.0 million. 10K-92 The Company completes a detailed analysis each quarter to assess whether the decline in the fair value of any investment below its cost basis is the result of a credit loss. All available-for-sale securities with unrealized losses are reviewed. The Company considers many factors in completing its quarterly review of securities with unrealized losses for credit-related impairment to determine whether a credit loss exists, including the extent to which fair value is below cost, the implied yield to maturity, rating downgrades of the security and whether or not the issuer has failed to make scheduled principal or interest payments. The Company also takes into consideration information about the financial condition of the issuer and industry factors that could negatively impact the capital markets. If the decline in fair value of an available-for-sale security below its amortized cost is considered to be the result of a credit loss, the Company compares the estimated present value of the cash flows expected to be collected to the amortized cost of the security. The extent to which the estimated present value of the cash flows expected to be collected is less than the amortized cost of the security represents the credit loss, which is recorded as an allowance and recognized in net income. The allowance is limited to the difference between the fair value and the amortized cost of the security. Any remaining decline in fair value represents the non-credit portion of the impairment, which is recognized in other comprehensive income. The Company did not have an allowance for credit losses as of December 31, 2022 or 2021. Quarterly, the Company also considers whether it intends to sell an available-for-sale security or if it is more likely than not that it will be required to sell a security before recovery of its amortized cost. In these instances, a decline in fair value is recognized in net income based on the fair value of the security at the time of assessment, resulting in a new cost basis for the security. As of December 31, 2022, the Company did not intend to sell or believe it would be required to sell any available-for-sale securities in an unrealized loss position before recovery of their amortized cost. e) The amortized cost and estimated fair value of fixed maturity securities at December 31, 2022 are shown below by contractual maturity. (dollars in thousands) Amortized Cost Estimated Fair Value Due in one year or less \$ 1, 363, 418 \$ 1, 337, 550 Due after one year through five years 3, 926, 756 3, 708, 752 Due after five years through ten years 3, 115, 913 2, 787, 686 Due after ten years 1, 734, 795 1, 553, 966 10, 140, 882 9, 387, 954 Commercial mortgage-backed securities 2, 109, 721 1, 940, 448 Residential mortgage-backed securities 553, 591 526, 793 Asset-backed securities 1, 693 1, 640 Total fixed maturity securities \$ 12, 805, 887 \$ 11, 856, 835 Expected maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without penalties, and the holders may have the right to put the securities back to the issuer. Based on expected maturities, the estimated average duration of fixed maturity securities at December 31, 2022 was 3.9 years. d) The following table presents the components of net investment income. Years Ended December 31, (dollars in thousands) 2022 2021 2020 Interest: Fixed maturity securities \$ 294, 417 \$ 283, 366 \$ 288, 421 Short-term investments 33, 493 2, 475 6, 400 Cash and cash equivalents 28, 890 479 7, 921 Dividends on equity securities 107, 213 98, 099 89, 303 464, 013 384, 419 392, 045 Investment expenses (17, 258) (17, 002) (16, 219) Net investment income \$ 446, 755 \$ 367, 417 \$ 375, 826 10K-93 e) The following table presents the components of net investment gains (losses) included in net income (loss) and the change in net unrealized gains (losses) included in other comprehensive income (loss). Gross realized investment gains and losses on fixed maturity securities, short-term investments and other investments were not material to the consolidated financial statements and are presented on a net basis in the following table. Years Ended December 31, (dollars in thousands) 2022 2021 2020 Fixed maturity securities, short-term investments and other investments: Net realized investment gains (losses) \$ (40, 983) \$ 37, 908 \$ 14, 780 Equity securities: Change in fair value of securities sold during the period (14, 884) 25, 902 (470, 008) Change in fair value of securities held at the end of the period (1, 539, 866) 1, 914, 724 1, 073, 207 Total change in fair value (1, 554, 750) 1, 940, 626 603, 199 Net investment gains (losses) \$ (1, 595, 733) \$ 1, 978, 534 \$ 617, 979 Change in net unrealized gains (losses) on available-for-sale investments included in other comprehensive income (loss): Fixed maturity securities \$ (1, 474, 890) \$ (504, 133) \$ 507, 903 Short-term investments 11, 014 (8, 951) 2, 344 Reserve deficiency adjustment for life and annuity benefit reserves (see note 13) 56, 560 62, 988 (68, 158)



Net increase (decrease) \$ (1, 407, 316) \$ (450, 096) \$ 442, 089 f) Total restricted assets are included on the Company's consolidated balance sheets as follows. December 31, (dollars in thousands) 2022 2021 Investments \$ 4, 160, 842 \$ 4, 403, 414 Restricted cash and cash equivalents 1, 084, 081 902, 457 Total \$ 5, 244, 923 \$ 5, 305, 871 The following table presents the components of restricted assets. December 31, (dollars in thousands) 2022 2021 Assets held in trust or on deposit to support underwriting activities \$ 4, 807, 135 \$ 4, 895, 627 Assets pledged as security for letters of credit 437, 788 410, 244 Total \$ 5, 244, 923 \$ 5, 305, 871 g) At December 31, 2022 and 2021, investments in securities issued by the U. S. Treasury, U. S. government agencies and U. S. government-sponsored enterprises were the only investments in any one issuer that exceeded 10% of shareholders' equity. 10K-94-5. Fair Value Measurements FASB ASC 820, Fair Value Measurements and Disclosures, establishes a three-level hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). If the inputs used to measure the assets or liabilities fall within different levels of the hierarchy, the classification is based on the lowest level input that is significant to the fair value measurement of the asset or liability. Classification of assets and liabilities within the hierarchy considers the markets in which the assets and liabilities are traded and the reliability and transparency of the assumptions used to determine fair value. The hierarchy requires the use of observable market data when available. The levels of the hierarchy are defined as follows: • Level 1—Inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities traded in active markets. • Level 2—Inputs to the valuation methodology include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability and market-corroborated inputs. • Level 3—Inputs to the valuation methodology are unobservable for the asset or liability and are significant to the fair value measurement. In accordance with ASC 820, the Company determines fair value based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining fair value, the Company uses various methods, including the market, income and cost approaches. The Company uses valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. The following section describes the valuation methodologies used by the Company to measure assets and liabilities at fair value, including an indication of the level within the fair value hierarchy in which each asset or liability is generally classified. Available-for-sale investments and equity securities. Available-for-sale investments and equity securities are recorded at fair value on a recurring basis. Available-for-sale investments include fixed maturity securities and short-term investments. Fair value is determined by the Company after considering various sources of information, including information provided by a third-party pricing service. The pricing service provides prices for substantially all of the Company's fixed maturity securities and equity securities. In determining fair value, the Company generally does not adjust the prices obtained from the pricing service. The Company obtains an understanding of the pricing service's valuation methodologies and related inputs, which include, but are not limited to, reported trades, benchmark yields, issuer spreads, bids, offers, duration, credit ratings, estimated cash flows and prepayment speeds. The Company validates prices provided by the pricing service by reviewing prices from other pricing sources and analyzing pricing data in certain instances. The Company has evaluated the various types of securities in its investment portfolio to determine an appropriate fair value hierarchy level based upon trading activity and the observability of market inputs. Level 1 investments include those traded on an active exchange, such as the New York Stock Exchange. Level 2 investments include U. S. Treasury securities, U. S. government-sponsored enterprises, municipal bonds, foreign government bonds, commercial mortgage-backed securities, residential mortgage-backed securities, asset-backed securities and corporate debt securities. Level 3 investments include the Company's investments in insurance-linked securities funds that are not traded on an active exchange and are valued using unobservable inputs. Fair value for available-for-sale investments and equity securities is measured based upon quoted prices in active markets, if available. Due to variations in trading volumes and the lack of quoted market prices, fixed maturity securities are classified as Level 2 investments. The fair value of fixed maturity securities is normally derived through recent reported trades for identical or similar securities, making adjustments through the reporting date based upon available market observable data previously described. If there are no recent reported trades, the fair value of fixed maturity securities may be derived through the use of matrix pricing or model processes, where future cash flow expectations are developed based upon collateral performance and discounted at an estimated market rate. Significant inputs used to determine the fair value of obligations of states, municipalities and political subdivisions, corporate bonds and obligations of foreign governments include reported trades, benchmark yields, issuer spreads, bids, offers, credit information and estimated cash flows. Significant inputs used to determine the fair value of commercial mortgage-backed securities, residential mortgage-backed securities and asset-backed securities include the type of underlying assets, benchmark yields, prepayment speeds, collateral information, tranche type and volatility, estimated cash flows, credit information, default rates, recovery rates, issuer spreads and the year of issue. 10K-95 Due to the significance of unobservable inputs required in measuring the fair value of the Company's investments in certain insurance-linked securities funds, these investments are classified as Level 3 within the fair value hierarchy. The fair value of the securities is derived using their reported net asset value (NAV) as the primary input, as well as other observable and unobservable inputs as deemed necessary by management. Management has obtained an understanding of the inputs, assumptions, process and controls used to determine NAV, which is calculated by an independent third party. Unobservable inputs to the NAV calculations include assumptions around premium earnings patterns and loss reserve estimates for the underlying securitized reinsurance contracts. The Company's valuation policies and procedures for Level 3 investments are determined by management. Fair value measurements are analyzed quarterly to ensure the change in fair value from prior periods is reasonable relative to management's understanding of the underlying investments, recent market trends and external market data. Senior long-term debt and other debt. Senior long-term debt and other debt is carried at amortized cost with the estimated fair value disclosed on the consolidated balance sheets. Senior long-term debt and other debt is classified as Level 2 within the fair value hierarchy due to variations in trading volumes

and the lack of quoted market prices. Fair value is generally derived through recent reported trades, making adjustments through the reporting date, if necessary, based upon available market observable data including U. S. Treasury securities and implied credit spreads. Significant inputs used to determine the fair value of senior long-term debt and other debt include reported trades, benchmark yields, issuer spreads, bids and offers. The following tables present the balances of assets measured at fair value on a recurring basis by level within the fair value hierarchy. December 31, 2022 (dollars in thousands)

Level 1	Level 2	Level 3	Total
Assets:			
Investments:			
Fixed maturity securities, available for sale:			
U. S. Treasury securities	\$ 2,913,959	\$ —	\$ 2,913,959
U. S. government sponsored enterprises	765,538	—	765,538
Obligations of states, municipalities and political subdivisions	3,733,183	—	3,733,183
Foreign governments	1,306,778	—	1,306,778
Commercial mortgage-backed securities	1,940,448	—	1,940,448
Residential mortgage-backed securities	526,793	—	526,793
Asset-backed securities	1,640	—	1,640
Corporate bonds	668,496	—	668,496
Total fixed maturity securities, available for sale	11,856,835	—	11,856,835
Equity securities:			
Insurance, banks and other financial institutions	2,952,689	—	2,952,689
Industrial, consumer and all other	4,718,324	—	4,718,324
Total equity securities	7,671,013	—	7,671,013
Short-term investments, available for sale	2,510,164	159,098	2,669,262
Total investments	\$ 10,181,177	\$ 12,015,933	\$ 22,198,009

10K-96 December 31, 2021 (dollars in thousands)

Level 1	Level 2	Level 3	Total
Assets:			
Investments:			
Fixed maturity securities, available for sale:			
U. S. Treasury securities	\$ 2,470,194	\$ —	\$ 2,470,194
U. S. government sponsored enterprises	775,587	—	775,587
Obligations of states, municipalities and political subdivisions	4,265,924	—	4,265,924
Foreign governments	1,519,354	—	1,519,354
Commercial mortgage-backed securities	1,990,433	—	1,990,433
Residential mortgage-backed securities	726,050	—	726,050
Asset-backed securities	3,081	—	3,081
Corporate bonds	836,682	—	836,682
Total fixed maturity securities, available for sale	12,587,305	—	12,587,305
Equity securities:			
Insurance, banks and other financial institutions	3,307,755	—	3,307,755
Industrial, consumer and all other	5,659,700	—	5,659,700
Total equity securities	8,967,455	—	8,967,455
Short-term investments, available for sale	1,619,496	180,492	1,799,988
Total investments	\$ 10,586,951	\$ 12,767,797	\$ 23,411,220

The following table summarizes changes in Level 3 investments measured at fair value on a recurring basis. (dollars in thousands)

2022	2021
Equity securities, beginning of period	\$ 56,472
Purchases	\$ 58,493
Sales	(56,335)
Net investment gains (losses)	(5,906)
Equity securities, end of period	\$ 899
Level 3 investments previously included the Company's investment in an insurance-linked securities fund managed by Markel CATCo Investment Management Ltd. (MCIM). In 2022, the Company's remaining investment was redeemed (\$ 41.3 million) in conjunction with a buy-out transaction that provided for an accelerated return of all remaining capital to investors. See note 17 for further details about the Company's Markel CATCo operations and the buy-out transaction. Except as disclosed in note 3 and note 8, the Company did not have any assets or liabilities measured at fair value on a non-recurring basis during the years ended December 31, 2022 and 2021.	

6. Equity Method Investments The Company holds certain investments that are accounted for under the equity method of accounting. The Company's equity method investments, which are included in other assets on the consolidated balance sheets, totaled \$ 494.0 million and \$ 459.7 million as of December 31, 2022 and 2021, respectively. The Company's proportionate share of earnings in its equity method investments was a loss of \$ 22.9 million for the year ended December 31, 2022, income of \$ 15.0 million for the year ended December 31, 2021 and a loss of \$ 3.4 million for the year ended December 31, 2020. The Company's most significant equity method investment is an investment in Hagerty, Inc. (Hagerty), which is accounted for on a quarter-lag. Hagerty is an automotive enthusiast brand offering integrated membership products and programs as well as a specialty insurance provider focused on the global automobile enthusiast market. The Company's ownership interest in Hagerty was 23% as of December 31, 2022 and 2021. The Company's investment is comprised of Class A common shares, which are listed for trading on the New York Stock Exchange, as well as Class V common shares, associated with the 10K-97 Company's original investment, that have special voting rights and can be converted on a one-for-one basis into Class A common shares. The Company accounts for its investment under the equity method as it is deemed to have the ability to exercise significant influence over Hagerty's operating and financial policies through a combination of its voting interest, its right to designate a board member and business it conducts with Hagerty. As of December 31, 2022 and 2021, the carrying value of the Company's investment in Hagerty was \$ 245.1 million and \$ 256.6 million, respectively. As of December 31, 2022 and 2021, the estimated value of the Company's investment, based on the closing stock price of Hagerty's Class A common shares, was \$ 656.0 million and \$ 1.1 billion, respectively. See note 18 for further details regarding related party transactions with Hagerty.

7. Receivables The following table presents the components of receivables. December 31, (dollars in thousands)

2022	2021
Insurance	Amounts receivable from agents, brokers and insureds \$ 2,176,295
Other insurance	\$ 1,740,864
Markel Ventures	83,728
Other	133,350
Total	645,189
2021	510,382
Other	77,961
50	379
2,983,173	2,434,975
Allowance for credit losses	(22,117)
(21,037)	
Receivables	\$ 2,961,056
\$ 2,413,938	

8. Goodwill and Intangible Assets The following table presents a rollforward of the components of goodwill by reportable segment. (dollars in thousands)

Insurance	Reinsurance	Markel Ventures	Other (1)	Total
January 1, 2021	\$ 772,700	\$ 122,745	\$ 901,045	\$ 808,134
Acquisitions	293,838	—	—	293,838
Foreign currency movements and other adjustments	2,012	1,707	(3,041)	678
December 31, 2021 (2)	\$ 774,712	\$ 122,745	\$ 1,196,590	\$ 805,093
Acquisitions	41,905	—	—	41,905
Dispositions	—	—	(132,455)	(132,455)
Impairment of goodwill	—	—	—	(80,000)
Adjustments to preliminary purchase price allocation	(83,358)	—	—	(83,358)
Foreign currency movements and other adjustments	(3,084)	(1,228)	(2,082)	(6,394)
December 31, 2022 (2)	\$ 771,628	\$ 122,745	\$ 1,153,909	\$ 590,556

(1) Amounts included in Other reflect the Company's operations that are not included in a reportable segment and are primarily related to the Company's program services and insurance-linked securities operations. (2) As of December 31, 2022, goodwill was net of accumulated impairment losses of \$ 190.6 million, of which \$ 171.9 million was in Other and \$ 18.7 million was in Markel Ventures. As of December 31, 2021, goodwill was net of accumulated impairment losses of \$ 110.6 million, of which \$ 91.9 million was in Other and \$ 18.7 million was in Markel Ventures. The Company completed its annual tests for goodwill and indefinite-lived intangible asset impairment as of October 1, 2022 based upon results of operations

through September 30, 2022. See note 1 for further details regarding impairment testing. Impairment of goodwill was \$ 80.0 million for the year ended December 31, 2022. There was no impairment of goodwill during 2021 or 2020 and no impairment of indefinite-lived intangible assets during 2022, 2021 or 2020.

10K-98 The Company performed a quantitative impairment assessment for the Nephila reporting unit, which resulted in an \$ 80.0 million impairment of goodwill, reducing the goodwill of the Nephila reporting unit to \$ 221.8 million. The Company also evaluated the intangible assets within the Nephila reporting unit for impairment and determined they were not impaired. The Company estimated the fair value of the Nephila reporting unit primarily using an income approach based on a discounted cash flow model. The cash flow projections used in the discounted cash flow model included the Company's best estimate of future growth and margins. The discount rates used to determine the fair value estimates were developed based on a capital asset pricing model using market-based inputs as well as an assessment of the inherent risk in projected future cash flows. The Company's fair value estimate was negatively impacted by an increase in the discount rate assumption in 2022, reflecting the increased cost of capital due to rising interest rates throughout 2022. Since acquiring Nephila in 2018, investment performance in the broader ILS market has been adversely impacted by consecutive years of elevated catastrophe losses, most recently with Hurricane Ian in 2022. These events, as well as recent volatility in the capital markets, have impacted investor decisions around allocation of capital to ILS, which in turn has impacted capital raises and redemptions within the funds Nephila manages. Following Hurricane Ian, Nephila has seen more favorable rates on the reinsurance contracts to which the Nephila Reinsurers subscribe, which is reflective of the current property catastrophe market and had a positive impact on Nephila's growth and performance projections. However, the impact of this favorable trend was more than offset by the impact of further declines in investor capital within the funds Nephila manages. Cash flow assumptions reflect the Company's best estimate of the reporting unit's future cash flows, based on information currently available, however, these assumptions are inherently uncertain, require a high degree of estimation and judgment and are subject to change depending on the outcome of future events. The following table presents a rollforward of net intangible assets by reportable segment. (dollars in thousands)

Underwriting	(1) Markel Ventures	Other	(2) Total
January 1, 2021	\$ 442,639	\$ 623,120	\$ 716,959
Acquisitions	203,879	203,879	Amortization of intangible assets (41,182)
(57,568)	(61,789)	(160,539)	Foreign currency movements and other adjustments (202)
(3,252)	(118)	(3,572)	December 31, 2021
\$ 401,255	\$ 766,179	\$ 655,052	\$ 1,822,486
Acquisitions	21,614	21,614	Dispositions
(2,716)	(2,716)	Amortization of intangible assets (38,533)	
(79,043)	(61,202)	(178,778)	Adjustments to preliminary purchase price allocation
86,773	86,773	Foreign currency movements and other adjustments (400)	
774	(2,289)	(1,915)	December 31, 2022
\$ 362,322	\$ 796,297	\$ 588,845	\$ 1,747,464

(1) Amounts included in Underwriting reflect the intangible assets associated with the Company's underwriting segments, which are not allocated between the Insurance and Reinsurance segments. (2) Amounts included in Other reflect the Company's operations that are not included in a reportable segment and are primarily related to the Company's program services and insurance-linked securities operations. Amortization of intangible assets is estimated to be \$ 174.0 million for 2023, \$ 172.1 million for 2024, \$ 165.6 million for 2025, \$ 157.5 million for 2026 and \$ 149.9 million for 2027. Indefinite-lived intangible assets were \$ 92.4 million at both December 31, 2022 and 2021.

10K-99 The following table presents the components of intangible assets. December 31, 2022/2021 (dollars in thousands)

Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Customer relationships	\$ 1,425,330	\$ (498,987)	\$ 1,379,739
Investment management agreements	464,000	(120,394)	468,000
Broker relationships	204,972	(117,386)	206,855
Trade names	293,194	(118,976)	238,331
Technology	113,170	(92,646)	113,200
Agent relationships	92,000	(34,756)	92,000
Insurance licenses	74,333	(74,333)	Renewal rights
21,449	(21,449)	(21,449)	Other
148,326	(84,716)	145,695	(77,432)
Total	\$ 2,836,774	\$ (1,089,310)	\$ 2,739,602

9. Leases The Company's leases primarily consist of operating leases for real estate and have remaining terms of up to 20 years. Total lease costs for operating leases were \$ 126.3 million, \$ 115.4 million and \$ 94.4 million for the years ended December 31, 2022, 2021 and 2020, respectively. The following table summarizes details for the Company's operating leases recorded on the consolidated balance sheets. December 31, (dollars in thousands)

2022	2021	Right-of-use lease assets	Lease liabilities	Weighted average remaining lease term	Weighted average discount rate
\$ 526,704	\$ 533,702	\$ 554,394	\$ 571,337	11.7 years	10.8 years
				3.1%	3.0%

The following table summarizes maturities of the Company's operating lease liabilities as of December 31, 2022, which reconciles to total operating lease liabilities included in other liabilities on the Company's consolidated balance sheet. Years Ending December 31, (dollars in thousands)

2023	2024	2025	2026	2027	2028	and thereafter	Total
\$ 100,887	\$ 202,485	\$ 202,571	\$ 202,660	\$ 202,751	\$ 202,751	\$ 291,290	\$ 1,405,395
							Less imputed interest (106,718)
							Total operating lease liabilities \$ 554,394

10. Products, Services and Other Revenues The amount of revenues from contracts with customers for the years ended December 31, 2022, 2021 and 2020 was \$ 4.8 billion, \$ 3.8 billion and \$ 2.9 billion, respectively.

10K-100 The following table presents revenues from contracts with customers by segment and type, all of which are included in products revenues and services and other revenues in the consolidated statements of income (loss) and comprehensive income (loss), along with a reconciliation to total products revenues and services and other revenues. Years Ended December 31, 2022/2021/2020 (dollars in thousands)

Markel Ventures	Other	Total	Markel Ventures	Other	Total
Products	\$ 2,379,399	\$ 2,379,399	\$ 1,668,448	\$ 1,668,448	\$ 1,396,706
Services	2,265,413	43,875	2,309,288	1,863,706	134,850
Investment management	79,209	79,209	86,257	86,257	117,193
Total revenues from contracts with customers	4,644,812	123,084	4,767,896	3,532,154	221,107
Disposition gains	225,828	225,828	Other	111,806	(16,621)
95,185	111,662	8,699	120,361	102,274	(2,316)
99,958	Total	\$ 4,756,618	\$ 479,903	\$ 5,236,521	\$ 3,643,816
\$ 353,629	\$ 3,997,445	\$ 2,794,714	\$ 334,342	\$ 3,129,056	Receivables from contracts with customers were \$ 624.1 million and \$ 626.1 million as of December 31, 2022 and 2021, respectively.

11. Unpaid Losses and Loss Adjustment Expenses a) The following table presents a reconciliation of consolidated beginning and ending reserves for losses and loss

adjustment expenses. Years Ended December 31, (dollars in thousands) 2022 2021 2020

	2022	2021	2020
Gross reserves for losses and loss adjustment expenses, beginning of year	\$ 18,178,894	\$ 16,222,376	\$ 14,728,676
Reinsurance recoverables on unpaid losses, beginning of year	6,876,317	5,736,659	5,253,415
Net reserves for losses and loss adjustment expenses, beginning of year	11,302,577	10,485,717	9,475,261
Effect of foreign currency rate changes on beginning of year balance	(160,622)	(54,736)	68,368
Effect of adoption of ASC 326, Financial Instruments — Credit Losses	3,849		
Adjusted net reserves for losses and loss adjustment expenses, beginning of year	11,141,955	10,430,981	9,547,478
Inurred losses and loss adjustment expenses: Current accident year	4,613,035	4,061,000	4,073,325
Prior accident years	(167,446)	(478,930)	(606,414)
Total incurred losses and loss adjustment expenses	4,445,589	3,582,070	3,466,911
Payments: Current accident year	580,537	637,169	749,887
Prior accident years	2,396,446	2,066,290	1,779,980
Total payments	2,976,983	2,703,459	2,529,867
Effect of foreign currency rate changes on current year activity	(5,468)	(4,253)	1,195
Net reserves for losses and loss adjustment expenses of Market CAT Co Re (see note 17)	347,921		
Net reserves for losses and loss adjustment expenses of insurance companies sold	(2,762)		
Net reserves for losses and loss adjustment expenses, end of year	12,953,014	11,302,577	10,485,717
Reinsurance recoverables on unpaid losses, end of year	7,994,884	6,876,317	5,736,659
Gross reserves for losses and loss adjustment expenses, end of year	\$ 20,947,898	\$ 18,178,894	\$ 16,222,376

10K-101 Catastrophe Losses In 2022, current accident year losses and loss adjustment expenses included \$ 46.2 million of net losses and loss adjustment expenses attributed to Hurricane Ian, all of which were within the Company's Insurance segment. These losses and loss adjustment expenses were net of ceded losses of \$ 115.3 million. The Company also had gross losses and loss adjustment expenses of \$ 850.0 million within its program services and other fronting operations attributed to Hurricane Ian, all of which were ceded to third-party reinsurers managed through the Company's insurance-linked securities operations, which hold sufficient investor collateral to support the Company's related reinsurance recoverables. See note 18 for further details regarding related party transactions with third parties managed through the Company's insurance-linked securities operations. In 2021, current accident year losses and loss adjustment expenses included \$ 195.0 million of net losses and loss adjustment expenses from Winter Storm Uri, European Floods and Hurricane Ida (2021 Catastrophes). The net losses and loss adjustment expenses on the 2021 Catastrophes for the year ended December 31, 2021 were net of ceded losses of \$ 221.7 million. In 2020, current accident year losses and loss adjustment expenses included \$ 172.2 million of net losses and loss adjustment expenses from Hurricanes Isaias, Laura, Sally, Delta and Zeta, as well as wildfires in the western U. S. and the derecho in Iowa (2020 Catastrophes). The net losses and loss adjustment expenses on the 2020 Catastrophes for the year ended December 31, 2020 were net of ceded losses of \$ 125.7 million. In 2022, current accident year losses and loss adjustment expenses also included \$ 35.7 million of net losses and loss adjustment expenses attributed to the Russia-Ukraine conflict. These losses and loss adjustment expenses were net of ceded losses of \$ 44.3 million. The gross and net losses and loss adjustment expenses attributed to the Russia-Ukraine conflict represent the Company's best estimates as of December 31, 2022 based upon information currently available. The Company's estimates for these losses are based on reported claims, detailed underwriting, actuarial and claims reviews of policies and in-force assumed reinsurance contracts for potential exposures, as well as analysis of ceded reinsurance contracts and analysis provided by the Company's brokers and claims counsel. These estimates include various assumptions about what areas within the affected regions have incurred losses, the nature and extent of such losses, which remain difficult to verify, as well as assumptions about coverage, liability and reinsurance. Given the significant levels of ceded reinsurance on certain of the impacted policies, a significant portion of any additional incurred losses may be ceded. While the Company believes the gross and net reserves for losses and loss adjustment expenses for the Russia-Ukraine conflict as of December 31, 2022 are adequate based on information currently available, the Company continues to closely monitor reported claims, ceded reinsurance contract attachment, government actions and areas impacted by the conflict and may adjust its estimates as new information becomes available. COVID-19 Losses In 2020, current accident year losses and loss adjustment expenses included \$ 358.3 million of net losses and loss adjustment expenses attributed to the COVID-19 pandemic. These losses and loss adjustment expenses were net of ceded losses of \$ 106.2 million. In 2021, the Company increased its estimate of net losses and loss adjustments expenses by \$ 15.7 million. In 2022, the Company decreased its estimate of net losses and loss adjustment expenses by \$ 5.4 million. The gross and net losses and loss adjustment expenses attributed to COVID-19 represent the Company's best estimates as of December 31, 2022 based upon information currently available. The Company's estimates are based on reported claims and still include assumptions about coverage, liability and ceded reinsurance contract attachment, which, in some cases, remain subject to judicial review. While the Company believes the gross and net reserves for losses and loss adjustment expenses for COVID-19 as of December 31, 2022 are adequate based on information available at this time, the Company continues to closely monitor reported claims, claim settlements, ceded reinsurance contract settlements and judicial decisions and may adjust its estimates as new information becomes available. 10K-102 b) Reserving Methodology The Company uses a variety of techniques to establish the liabilities for unpaid losses and loss adjustment expenses based upon estimates of the ultimate amounts payable. The Company maintains reserves for specific claims incurred and reported (case reserves) and reserves for claims incurred but not reported (IBNR reserves), which include expected development on reported claims. The Company does not discount its reserves for losses and loss adjustment expenses to reflect estimated present value, except for reserves held for a run-off book of United Kingdom (U. K.) motor business. Additionally, reserves assumed in connection with an acquisition are recorded at fair value at the acquisition date. The fair value adjustment includes an adjustment to reflect the acquired reserves for losses and loss adjustment expenses at present value plus a risk premium, the net of which is amortized to losses and loss adjustment expenses within the consolidated statements of income. There is normally a time lag between when a loss event occurs and when it is reported to the Company. The actuarial methods that the Company uses to estimate losses have been designed to address the lag in loss reporting as well as the delay in obtaining information that would allow the Company to more accurately estimate future payments. There is also often a time lag between cedents establishing case reserves or re-estimating their reserves and notifying the Company of those new or revised case reserves. As a result, the reporting lag is more pronounced in reinsurance contracts

than in the insurance contracts. On reinsurance transactions, the reporting lag will generally be 60 to 90 days after the end of a reporting period, but can be longer in some cases. There may also be a more pronounced reporting lag, as well as reliance on third-party claims handling practices and reserve estimates, on insurance contracts for which the Company is not the primary insurer and participates only in excess layers of loss. Based on the experience of the Company's actuaries and management, the Company selects loss development factors and trending techniques to mitigate the difficulties caused by reporting lags. At least annually, the Company evaluates its loss development factors and trending assumptions using its own loss data, as well as cedent-specific and industry data, and updates them as needed. IBNR reserves are based on the estimated ultimate cost of settling claims, including the effects of inflation and other social and economic factors, using past experience adjusted for current trends and any other factors that would modify past experience. IBNR reserves are calculated by subtracting paid losses and loss adjustment expenses and case reserves from estimated ultimate losses and loss adjustment expenses. IBNR reserves were 70% of total unpaid losses and loss adjustment expenses at December 31, 2022 compared to 67% at December 31, 2021. In establishing liabilities for unpaid losses and loss adjustment expenses, the Company's actuaries estimate an ultimate loss ratio, by accident year or underwriting year, for each product line with input from underwriting and claims personnel. For product lines in which loss reserves are established on an underwriting year basis, the Company has developed a methodology to convert from underwriting year to accident year for financial reporting purposes. In estimating an ultimate loss ratio for a particular line of business, the actuaries may use one or more actuarial reserving methods and select from these a single point estimate. To varying degrees, these methods include detailed statistical analysis of past claim reporting, settlement activity, claim frequency and severity, policyholder loss experience, industry loss experience and changes in market and economic conditions, policy forms and exposures. Greater judgment may be required when new product lines are introduced or when there have been changes in claims handling practices, as the statistical data available may be insufficient. Greater judgment also may be required for product lines that experience a low frequency of high-severity claims, particularly when the Company is reliant on third-party case reserve estimates and claims handling practices. These estimates also reflect implicit and explicit assumptions regarding the potential effects of external factors, including economic and social inflation, judicial decisions, changes in law, general economic conditions and recent trends in these factors. Management believes the process of evaluating past experience, adjusted for the effects of current developments and anticipated trends, is an appropriate basis for predicting future events. 10K-103 Estimates for losses from widespread catastrophic events, such as hurricanes and earthquakes, as well as pandemics and wars, are based on claims received to date, industry loss estimates and output from both industry, broker and proprietary models, as well as analysis of the Company's ceded reinsurance contracts. The Company may also perform detailed policy and reinsurance contract level reviews. The availability of data from these procedures varies depending on the timing of the event relative to the point at which the Company develops its estimates. The Company also considers loss experience on historical events that may have similar characteristics to the underlying event and current market conditions, including the level of economic inflation. Due to the inherent uncertainty in estimating such losses, these estimates are subject to variability, which increases with the severity and complexity of the underlying event. As additional claims are reported and paid, and industry loss estimates are revised, the Company incorporates this new information into its analysis and adjusts its estimate of ultimate losses and loss adjustment expenses as appropriate. For example, both the gross and net losses on Hurricane Ian and the 2021 and 2020 Catastrophes, as of December 31, 2022 represent the Company's best estimates based upon information currently available. For Hurricane Ian, these estimates are still dependent on assumptions about coverage, liability and reinsurance. While the Company believes the gross and net reserves for these events as of December 31, 2022 are adequate, it continues to closely monitor reported claims and may adjust its estimates as new information becomes available. Loss reserves are established at management's best estimate, which is developed using the actuarially calculated point estimate as the starting point. The actuarial point estimate represents the actuaries' estimate of the most likely amount that will ultimately be paid to settle the losses that have occurred at a particular point in time; however, there is inherent uncertainty in the point estimate as it is the expected value in a range of possible reserve estimates. In some cases, actuarial analyses, which are generally based on statistical analysis, cannot fully incorporate all of the subjective factors that affect development of losses. In other cases, management's perspective of these more subjective factors may differ from the actuarial perspective. Subjective factors influencing the development of management's best estimate include: the credibility and timeliness of claims and loss information received from cedents and other third parties, economic and social inflation, judicial decisions, changes in law, changes in underwriting or claims handling practices, general economic conditions, the risk of moral hazard and other current and developing trends within the insurance and reinsurance markets, including the effects of competition. For example, the Company's loss experience in recent years has reflected higher than anticipated levels of economic inflation, as well as the impacts of social inflation. Inherent in the Company's reserving practices is the desire to establish loss reserves that are more likely redundant than deficient, and therefore, will ultimately prove to be adequate. This approach to establishing loss reserves typically results in loss reserves that exceed the calculated actuarial point estimate. However, following an acquisition of insurance operations, acquired reserves initially are recorded at fair value, and therefore the acquired loss reserves may be closer to the actuarial point estimate until the Company builds total loss reserves that are consistent with the Company's historic level of confidence. Management continually attempts to improve its loss estimation process by refining its ability to analyze loss development patterns, claim payments and other information, but uncertainty remains regarding the potential for adverse development of estimated ultimate liabilities. The Company's ultimate liability may be greater or less than current reserves. Changes in the Company's estimated ultimate liability for loss reserves generally occur as a result of the emergence of unanticipated loss activity, the completion of specific actuarial or claims studies or changes in internal or external factors that impact the assumptions used to derive the Company's estimates. The Company closely monitors new information on reported claims and uses statistical analyses prepared by its actuaries to evaluate the adequacy of recorded reserves. Management exercises judgment when assessing the relative credibility of loss development trends. Management currently believes the

Company's gross and net reserves are adequate. However, there is no precise method for evaluating the impact of any significant factor on the adequacy of reserves, and actual results will differ from original estimates. 10K-104 e) Prior Accident Year Loss Development The following tables summarize, by segment, the product lines with the most significant changes in prior accident years loss reserves for the years ended December 31, 2022, 2021 and 2020, along with the corresponding accident years and the trends and factors that impacted management's best estimate of ultimate losses and loss adjustment expenses on underlying products in each of these product lines. The Company does not estimate losses at this level of aggregation as it offers a diverse portfolio of products and manages these products in logical groupings within each underwriting segment. As a result of the trends and factors described in the following tables, the Company's actuaries adjusted their estimates of the ultimate liability for unpaid losses and loss adjustment expenses. Additionally, for those product lines with favorable development on prior accident years loss reserves, management has now given more credibility to the favorable trends observed by the Company's actuaries and after also incorporating these favorable trends into its best estimate, reduced prior years loss reserves accordingly. The unfavorable claims and loss trends experienced on certain accident years within the Company's professional liability and general liability product lines in 2022 reflected broader market conditions, including the effects of economic and social inflation, as well as delays in court proceedings that began in 2020 and disrupted the development of the claims trend. These trends were most impactful on the 2018 and 2019 accident years for the professional liability product lines and the 2016 to 2019 accident years for the general liability product lines. Consistent with the Company's reserving philosophy, management is responding quickly to increase loss reserves following any indication of increased claims frequency or severity in excess of previous expectations. Year Ended December 31, 2022 (dollars in millions) Loss Development Accident Years with Most Significant Development Trends and Factors Impacting Loss Estimates Insurance segment: Professional liability 2018 and 2019 accident years \$ 121.0 2018 and 2019 Unfavorable claims settlements and increased claim frequency and severity, primarily on directors and officers, errors and omissions and employment practices liability lines All other accident years (91.1) Several More favorable loss experience and lower loss severity than previously anticipated General liability 2016 to 2019 accident years 61.6 2016 to 2019 Unfavorable claims settlements and increased claim frequency and severity, primarily on contractors and excess and umbrella lines All other accident years (20.5) Several Lower loss frequency and severity than previously anticipated Workers' compensation (62.1) 2016 to 2021 Lower loss severity than previously anticipated Programs (48.3) 2020 and 2021 Lower than expected frequency of claims Property (48.1) 2020 and 2021 Lower loss severity than originally anticipated as well as favorable development on COVID-19 Credit and surety (31.7) 2019 to 2021 Lower than expected frequency of claims Other products (23.7) Total Insurance (142.9) Reinsurance segment: Property (29.2) 2017 to 2019 Favorable development on catastrophe events Credit and surety (22.9) Several Favorable commutations on mortgage insurance contracts Premium adjustments 53.1 2020 and 2021 Recognition of additional exposures on prior accident years related to net favorable premium adjustments primarily on general liability, credit and surety and professional liability Other products (27.1) Total Reinsurance (26.1) Other underwriting 1.6 Total decrease \$ (167.4) 10K-105 Year Ended December 31, 2021 (dollars in millions) Loss Development Accident Years with Most Significant Development Trends and Factors Impacting Loss Estimates Insurance segment: General liability \$ (139.7) Several Lower than expected frequency of claims and more favorable experience than originally anticipated across several sub-product lines Property (96.5) 2018 to 2020 Lower than expected frequency of large claims as well as favorable development on COVID-19 and catastrophe events Workers' compensation (79.0) Several Lower loss severity than originally anticipated Marine and energy (60.0) 2018 to 2020 Lower loss frequency and severity than originally anticipated Professional liability (54.7) Several Lower loss frequency and severity than originally anticipated Other products (76.4) Total Insurance (506.3) Reinsurance segment: Property 35.0 2020 Adverse development on COVID-19 and catastrophe events Professional liability 29.2 Several Recognition of additional exposures on prior accident years related to net favorable premium adjustments General liability (19.2) 2011, 2012, 2017 and 2020 Favorable development on COVID-19 and catastrophe events as well as lower than expected paid losses on reported claims Credit and surety (16.6) 2020 Favorable commutations on mortgage insurance contracts Other products (8.5) Total Reinsurance 19.9 Other underwriting 6.6 Total decrease \$ (479.8) Year Ended December 31, 2020 (dollars in millions) Loss Development Accident Years with Most Significant Development Trends and Factors Impacting Loss Estimates Insurance segment: General liability \$ (131.8) Several More favorable claims experience than originally anticipated across several sub-product lines Professional liability (128.9) Several More favorable claims experience than originally anticipated across several sub-product lines Workers' compensation (92.3) 2017 to 2019 Lower loss severity than originally anticipated Marine and energy (46.0) 2016 to 2019 Lower than expected frequency of claims Other products (155.6) Total Insurance (554.6) Reinsurance segment: Property (68.4) 2017 to 2019 Lower than expected severity of claims Public entity 34.4 2016 to 2019 Higher than expected frequency and severity of claims Professional liability 21.0 2016 to 2019 Recognition of additional exposures on prior accident years related to net favorable premium adjustments and higher than expected loss severity and claims frequency Other products (38.8) Total Reinsurance (51.8) Total decrease \$ (606.4) 10K-106 d) Historic Loss Development The following tables present undiscounted loss development information, by accident year, for the Company's Insurance and Reinsurance segments, including cumulative incurred and paid losses and allocated loss adjustment expenses, net of reinsurance, as well as the corresponding amount of IBNR reserves as of December 31, 2022. This level of disaggregation is consistent with how the Company analyzes loss reserves for both internal and external reporting purposes. The loss development information for the years ended December 31, 2013 through 2021 is presented as supplementary information. All amounts included in the following tables related to transactions denominated in a foreign currency have been translated into U. S. Dollars using the exchange rates in effect at December 31, 2022. The difference between the segment loss development implied by the tables for the year ended December 31, 2022 and actual losses and loss adjustment expenses recognized on prior accident years for the Insurance and Reinsurance segments for the year ended December 31, 2022 is primarily attributed to the fact that amounts presented in these tables exclude amounts attributed to the 2012 and prior accident years. Favorable development on 2012 and prior accident years

for the year ended December 31, 2022 totaled \$ 50. 8 million and \$ 36. 9 million for the Insurance and Reinsurance segments and reflects modest favorable development across many of the Company's product lines on accident years prior to 2013. The remaining difference between the segment loss development implied by the tables for the year ended December 31, 2022 and actual losses and loss adjustment expenses on prior accident years is attributed to the fact that amounts presented in these tables exclude unallocated loss adjustment expenses and exclude amounts attributable to reserve discounting and fair value adjustments recorded in conjunction with acquisitions, as well as differences in the presentation of foreign currency movements, as previously described, none of which are material to the Insurance or Reinsurance segments. The Insurance segment table that follows also includes claim frequency information, by accident year. The Company defines a claim as a single claim incident, per policy, which may include multiple claimants and multiple coverages on a single policy. Claim counts include claims closed without a payment as well as claims where the Company is monitoring to determine if an exposure exists, even if a reserve has not been established. All of the business contained within the Company's Reinsurance segment represents treaty business that is assumed from other insurance or reinsurance companies, for which the Company does not have access to the underlying claim counts. Further, this business includes both quota share and excess of loss treaty reinsurance, through which only a portion of each reported claim results in losses to the Company. As such, the Company has excluded claim count information from the Reinsurance segment disclosures.

10K-107 (dollars in millions) Ultimate Incurred Losses and Allocated Loss Adjustment Expenses, Net of Reinsurance

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	December 31, 2022																								
Total of Incurred but Not Reported Liabilities, Net of Reinsurance	\$ 1,724.9	\$ 1,683.4	\$ 1,514.7	\$ 1,452.6	\$ 1,406.2	\$ 1,360.8	\$ 1,315.6	\$ 1,296.6	\$ 1,292.8	\$ 1,283.7	\$ 43.3																								
Unaudited As of December 31, Accident	91,000	20141,850	81,680	71,613	01,556	81,508	61,487	41,455	21,457	71,438	252,886																								
Cumulative Number of Reported Claims	151,769	11,695	01,571	91,517	81,487	21,455	21,451	21,442	265,989	00020161,858	01,854																								
Unaudited As of December 31, Accident	21,703	31,703	91,677	11,669	81,682	386,910	00020172,312	12,179	62,061	02,018	22,004																								
Total of Incurred but Not Reported Liabilities, Net of Reinsurance	\$ 270.2	\$ 568.9	\$ 774.9	\$ 943.8	\$ 1,031.6	\$ 1,092.9	\$ 1,116.4	\$ 1,150.2	\$ 1,163.9	\$ 1,178.2	\$ 1,143.2																								
Unaudited As of December 31, Accident	4329,665	29,686	61,052	91,157	31,240	41,288	81,308	81,339	92015321	0660,787	91,034																								
Cumulative Paid Losses and Allocated Loss Adjustment Expenses, Net of Reinsurance	01,142	11,230	91,260	61,293	02016370	3747,497	41,160	01,288	31,351	91,427	52017436																								
Unaudited As of December 31, Accident	0983,91	275,61	511,11	620,11	741,02018492	21,019	31,346	91,498	31,674	82019523	91,082																								
Total of Incurred but Not Reported Liabilities, Net of Reinsurance	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3	\$ 8,908.3																								
Unaudited As of December 31, Accident	237,4	237,4	237,4	237,4	237,4	237,4	237,4	237,4	237,4	237,4	237,4																								
Total of Incurred but Not Reported Liabilities, Net of Reinsurance	\$ 579.4	\$ 571.8	\$ 538.3	\$ 525.4	\$ 533.2	\$ 496.1	\$ 478.2	\$ 480.0	\$ 475.3	\$ 476.9	\$ 32.7																								
Unaudited As of December 31, Accident	2014569	2552,1524	4563,1542	2519,3503	8505,3501	260,32015523	1508,8523	7515,0503	9498,6486	3486,684	42016509																								
Cumulative Paid Losses and Allocated Loss Adjustment Expenses, Net of Reinsurance	1518,5519	0516,9526	8550,9554	369,82017895	7928,7934	7936,0908	2920,4105	62018749	5775,3767	9772,1767	8150,72019662																								
Unaudited As of December 31, Accident	0675,6689	2702,7223	42020680	2732,7742	4344,02021735	5736,7446	92022662	6614,1Total \$ 6,551	6Cumulative Paid Losses and Allocated Loss Adjustment Expenses, Net of Reinsurance	Unaudited As of December 31, Accident	Year20132014201520162017201820192020202120222013																								
Total of Incurred but Not Reported Liabilities, Net of Reinsurance	\$ 70.6	\$ 153.4	\$ 205.5	\$ 263.2	\$ 295.6	\$ 324.9	\$ 343.3	\$ 358.1	\$ 369.5	\$ 383.4	\$ 201497.4																								
Unaudited As of December 31, Accident	155,6220	5267,0302	9335,7352	9369,3379	4201563	6131,2202	0252,7299	6324,1343	7360,3201679	0167,9237	9294,3346																								
Cumulative Paid Losses and Allocated Loss Adjustment Expenses, Net of Reinsurance	0379,4419	52017157	4358,1479	2560,9624	5693,5201887	0243,7344	7414,4484	5201953	5173,6268	4359,6202093	5203,7309																								
Unaudited As of December 31, Accident	8202179	5187,8202224	2Total \$ 3,602	0All outstanding liabilities for unpaid losses and loss adjustment expenses before 2013, net of reinsurance	388,0Total liabilities for unpaid losses and loss adjustment expenses, net of reinsurance	\$ 3,337	6The following table presents supplementary information about average historical claims duration as of December 31, 2022 based on the cumulative incurred and paid losses and allocated loss adjustment expenses presented above. Average Annual Percentage Payout of Incurred Losses by Age (in Years), Net of Reinsurance	Unaudited	12345678910Insurance	22,0%	21,9%	13,8%	11,3%	7,1%	5,3%	2,9%	2,1%	1,6%	1,1%	Reinsurance	12,5%	16,4%	13,1%	10,4%	8,2%	6,3%	4,6%	3,3%	2,2%	2,9%					
Unaudited As of December 31, Accident	10K-109	The following table reconciles the net incurred and paid loss development tables to the liability for losses and loss adjustment expenses on the consolidated balance sheet. (dollars in thousands)	December 31, 2022	Net outstanding liabilities	Insurance segment	\$ 8,908,308	Reinsurance segment	3,337,587	Other underwriting	89,563	Program services and other fronting	9,982	Markel CATCo Re (see note 17)	347,921	Liabilities for unpaid losses and loss adjustment expenses, net of reinsurance	12,693,361	Reinsurance recoverable on unpaid losses	Insurance segment	2,425,560	Reinsurance segment	277,854	Other underwriting	56,968	Program services and other fronting	5,234,502	Total reinsurance recoverable on unpaid losses	7,994,884	Unallocated loss adjustment expenses	326,275	Unamortized discount, net of acquisition fair value adjustments, included in unpaid losses and loss adjustment expenses	(66,622)	259,653	Total gross liability for unpaid losses and loss adjustment expenses	\$ 20,947,898	e) The Company has exposure to asbestos and environmental (A & E) claims primarily resulting from policies written by acquired insurance operations before their acquisition by the Company. The Company's exposure to A & E claims originated from umbrella, excess and commercial general liability insurance policies and assumed reinsurance contracts

that were written on an occurrence basis from the 1970s to mid-1980s. Exposure also originated from claims-made policies that were designed to cover environmental risks provided that all other terms and conditions of the policy were met. A & E claims include property damage and clean-up costs related to pollution, as well as personal injury allegedly arising from exposure to hazardous materials. Development on A & E loss reserves is monitored separately from the Company's ongoing underwriting operations and is not included in a reportable segment. At December 31, 2022, A & E reserves were \$ 153.2 million and \$ 54.5 million on a gross and net basis, respectively. At December 31, 2021, A & E reserves were \$ 218.6 million and \$ 66.2 million on a gross and net basis, respectively. The Company's reserves for losses and loss adjustment expenses related to A & E exposures represent management's best estimate of ultimate settlement values based on statistical analysis of these reserves by the Company's actuaries. A & E exposures are subject to significant uncertainty due to potential loss severity and frequency resulting from the uncertain and unfavorable legal climate. A & E reserves could be subject to increases in the future, however, management believes the Company's gross and net A & E reserves at December 31, 2022 are adequate.

12. Reinsurance In reinsurance and retrocession transactions, an insurance or reinsurance company transfers, or cedes, all or part of its exposure in return for a premium. The ceding of insurance does not legally discharge the Company from its primary liability for the full amount of the policies, and the Company will be required to pay the loss and bear collection risk if the reinsurer fails to meet its obligations under the reinsurance or retrocessional agreement. A credit risk exists with ceded reinsurance to the extent that any reinsurer is unable to meet the obligations assumed under the reinsurance or retrocessional contracts. Allowances are established for credit losses expected to be recognized over the life of the reinsurance recoverables.

10K-110 Within its underwriting operations, the Company uses reinsurance and retrocessional reinsurance to manage its net retention on individual risks and overall exposure to losses while providing it with the ability to offer policies with sufficient limits to meet policyholder needs. Within the Company's underwriting operations, at December 31, 2022 and 2021, balances recoverable from the ten largest reinsurers, by group, represented 62% and 63%, respectively, of reinsurance recoverables before considering reinsurance allowances and collateral. At December 31, 2022, the largest reinsurance balance was due from RenaissanceRe and represented 11% of reinsurance recoverables before considering reinsurance allowances and collateral. Within its program services and other fronting businesses, the Company generally enters into quota share reinsurance agreements whereby the Company cedes to the capacity providers (reinsurers) substantially all of its gross liability under all policies issued by and on behalf of the Company by a general agent. However, there are certain programs that contain limits on the reinsurers' obligations to the Company that expose the Company to underwriting risk, including loss ratio caps, exclusions of the credit risk of producers and aggregate reinsurance limits that the Company believes are unlikely to be exceeded. The Company also remains exposed to the credit risk of the reinsurer, or the risk that one of its reinsurers becomes insolvent or otherwise unable or unwilling to pay policyholder claims. This credit risk is generally mitigated by either selecting well-capitalized, highly rated authorized capacity providers or requiring that the capacity provider post substantial collateral to secure the reinsured risks, which, in some instances, exceeds the related reinsurance recoverable. Within the Company's program services business, at December 31, 2022 and 2021, balances recoverable from the ten largest reinsurers, by group, represented 67% and 68%, respectively, of reinsurance recoverables before considering reinsurance allowances and collateral. At December 31, 2022, the largest reinsurance balance was due from Lloyd's of London (Lloyd's) and represented 13% of reinsurance recoverables before considering reinsurance allowances and collateral. All of the Company's other fronting business is conducted on behalf of its Nephila ILS operations; therefore, all of the reinsurance recoverables within these operations are attributable to entities it manages. See note 18.

The following tables summarize the effect of reinsurance and retrocessional reinsurance on premiums written and earned. Year Ended December 31, 2022 (dollars in thousands)

	Direct	Assumed	Ceded	Net
Premiums Underwriting:				
Written	\$ 8,085,812	\$ 1,761,726	\$ (1,640,165)	\$ 8,207,373
Earned	\$ 7,379,766	\$ 1,589,920	\$ (1,378,191)	\$ 7,591,495
Program services and other fronting:				
Written	2,644,138	710,006	(3,358,127)	(3,983)
Earned	2,688,804	656,885	(3,349,392)	(3,703)
Consolidated:	Written \$ 10,729,950	\$ 2,471,732	\$ (4,998,292)	\$ 8,203,390
Earned	\$ 8,068,570	\$ 2,246,805	\$ (4,727,583)	\$ 7,587,792

Year Ended December 31, 2021 (dollars in thousands)

	Direct	Assumed	Ceded	Net
Premiums Underwriting:				
Written	\$ 6,863,229	\$ 1,622,700	\$ (1,360,763)	\$ 7,125,166
Earned	\$ 6,275,078	\$ 1,482,755	\$ (1,250,392)	\$ 6,507,441
Program services and other fronting:				
Written	2,644,955	307,798	(2,958,188)	(5,435)
Earned	2,453,990	261,591	(2,719,993)	(4,412)
Consolidated:	Written \$ 9,508,184	\$ 1,930,498	\$ (4,318,951)	\$ 7,119,731
Earned	\$ 8,729,068	\$ 1,744,346	\$ (3,970,385)	\$ 6,503,029

10K-111 Year Ended December 31, 2020 (dollars in thousands)

	Direct	Assumed	Ceded	Net
Premiums Underwriting:				
Written	\$ 5,715,038	\$ 1,444,967	\$ (1,222,390)	\$ 5,937,615
Earned	\$ 5,357,888	\$ 1,394,239	\$ (1,134,501)	\$ 5,617,626
Program services and other fronting:				
Written	2,038,743	67,917	(2,112,037)	(5,377)
Earned	2,084,888	74,847	(2,165,156)	(5,421)
Consolidated:	Written \$ 7,753,781	\$ 1,512,884	\$ (3,334,427)	\$ 5,932,238
Earned	\$ 7,442,776	\$ 1,469,086	\$ (3,299,657)	\$ 5,612,205

Substantially all of the premiums written and earned in the Company's program services and other fronting operations for the years ended December 31, 2022, 2021 and 2020 were ceded. The percentage of consolidated ceded earned premiums to gross earned premiums was 38%, 38% and 37% for the years ended December 31, 2022, 2021 and 2020, respectively. The percentage of consolidated assumed earned premiums to net earned premiums was 30%, 27% and 26% for the years ended December 31, 2022, 2021 and 2020, respectively. Substantially all of the incurred losses and loss adjustment expenses in the Company's program services and other fronting operations were ceded. These losses totaled \$ 3.0 billion and \$ 2.5 billion for the years ended December 31, 2022 and 2021, respectively. The following table summarizes the effect of reinsurance and retrocessional reinsurance on losses and loss adjustment expenses in the Company's underwriting operations. Years ended December 31, (dollars in thousands)

	2022	2021	2020
Gross losses and loss adjustment expenses	\$ 5,281,424	\$ 4,477,752	\$ 4,189,948
Ceded losses and loss adjustment expenses	(834,648)	(893,230)	(722,619)
Net losses and loss adjustment expenses	\$ 4,446,776	\$ 3,584,522	\$ 3,467,329

13. Life and Annuity Benefits The following table presents reserves for life and annuity benefits. December 31, (dollars in thousands)

	2022	2021	Life	Annuities	Accident and health
Reserves	\$ 102,321	\$ 113,797	628,441	753,971	28,263



Total \$ 759, 025 \$ 902, 980 Life and annuity benefit reserves are compiled on a reinsurance contract-by-contract basis and are discounted using standard actuarial techniques and cash flow models. Since the development of the life and annuity reinsurance reserves is based upon cash flow projection models, the Company must make estimates and assumptions based on cedent experience, industry mortality tables, and expense and investment experience, including a provision for adverse deviation. The assumptions used to determine policy benefit reserves are generally locked-in for the life of the contract unless an unlocking event occurs. Loss recognition testing is performed to determine if existing policy benefit reserves, together with the present value of future gross premiums and expected investment income earned thereon, are adequate to cover the present value of future benefits, settlement and maintenance costs. If the existing policy benefit reserves are not sufficient, the locked-in assumptions are revised to current best estimate assumptions and a charge to earnings for life and annuity benefits is recognized at that time. See note 1 (x) for information on changes to the accounting for life and annuity benefits beginning in 2023.

10K-112 Life and annuity benefit reserves are also adjusted to the extent unrealized gains on the investments supporting the policy benefit reserves would result in a reserve deficiency if those gains were realized. As of December 31, 2021, the cumulative increase to life and annuity benefits attributable to unrealized gains on the underlying investment portfolio totaled \$ 56. 6 million, all of which reversed in 2022 as a result of an increase in the market yield on the investment securities supporting the policy benefit reserves. During 2021, the Company decreased life and annuity benefits by \$ 63. 0 million, reflecting an increase in the market yield on the investment securities supporting the policy benefit reserves, and increased the change in net unrealized holding gains included in other comprehensive loss by a corresponding amount. During 2020, the Company increased life and annuity benefits by \$ 68. 2 million, as a result of a decrease in the market yield on the investment securities supporting the policy benefit reserves, and decreased the change in net unrealized holding gains included in other comprehensive income by a corresponding amount. Because of the assumptions and estimates used in establishing the Company's reserves for life and annuity benefit obligations and the long-term nature of these reinsurance contracts, the ultimate liability may be greater or less than the estimates. The average discount rate for the life and annuity benefit reserves was 2. 3 % as of December 31, 2022. As of December 31, 2022, the largest life and annuity benefits reserve for a single contract was 33. 7 % of the total. None of the annuities included in life and annuity benefits on the consolidated balance sheets are subject to discretionary withdrawal.

14. Senior Long-Term Debt and Other Debt The following table summarizes the Company's senior long-term debt and other debt. December 31, (dollars in thousands)

2022	2021
90 % unsecured senior notes, due July 1, 2022, interest payable semi-annually, net of unamortized discount of \$ 159 in 2021	\$ 349, 815
3. 625 % unsecured senior notes, due March 30, 2023, interest payable semi-annually, net of unamortized discount of \$ 50 in 2022 and \$ 251 in 2021	249, 940
2. 49 % unsecured senior notes, due November 1, 2027, interest payable semi-annually, net of unamortized discount of \$ 1, 161 in 2022 and \$ 1, 445 in 2021	298, 502
3. 136 % unsecured senior notes, due September 17, 2029, interest payable semi-annually, net of unamortized discount of \$ 1, 668 in 2022 and \$ 1, 916 in 2021	297, 997
7. 35 % unsecured senior notes, due August 15, 2034, interest payable semi-annually, net of unamortized discount of \$ 800 in 2022 and \$ 868 in 2021	129, 004
5. 0 % unsecured senior notes, due March 30, 2043, interest payable semi-annually, net of unamortized discount of \$ 4, 535 in 2022 and \$ 4, 759 in 2021	245, 214
5. 0 % unsecured senior notes, due April 5, 2046, interest payable semi-annually, net of unamortized discount of \$ 5, 689 in 2022 and \$ 5, 933 in 2021	493, 585
4. 310 % unsecured senior notes, due November 1, 2047, interest payable semi-annually, net of unamortized discount of \$ 3, 669 in 2022 and \$ 3, 821 in 2021	295, 691
5. 0 % unsecured senior notes, due May 20, 2049, interest payable semi-annually, net of unamortized discount of \$ 6, 900 in 2022 and \$ 7, 161 in 2021	591, 927
4. 15 % unsecured senior notes, due September 17, 2050, interest payable semi-annually, net of unamortized discount of \$ 4, 917 in 2022 and \$ 5, 095 in 2021	494, 342
3. 45 % unsecured senior notes, due May 7, 2052, interest payable semi-annually, net of unamortized discount of \$ 8, 182 in 2022 and \$ 8, 461 in 2021	590, 689
5. 378 % Other debt, at various interest rates ranging from 2. 1 % to 9. 9 %	416, 738

In May 2021, the Company issued \$ 600 million of 3. 45 % unsecured senior notes due May 2052. Net proceeds to the Company were \$ 591. 4 million, before expenses. The Company used a portion of these proceeds to retire its 4. 90 % unsecured senior notes due July 1, 2022 (\$ 350. 0 million aggregate principal outstanding at December 31, 2021). The Company's 7. 35 % unsecured senior notes due August 15, 2034 are not redeemable. The Company's other unsecured senior notes are redeemable by the Company at any time, subject to payment of a make-whole premium to the noteholders. None of the Company's senior long-term debt is subject to any sinking fund requirements.

10K-113 The Company's other debt includes \$ 414. 1 million and \$ 287. 6 million associated with its Market Ventures subsidiaries as of December 31, 2022 and 2021, respectively, which includes amounts outstanding on their respective credit facilities. The Market Ventures debt is non-recourse to the holding company and generally is secured by the assets of those subsidiaries. Various of the Company's Market Ventures subsidiaries maintain revolving credit facilities or lines of credit, which provide up to \$ 620 million of aggregate capacity for working capital and other general operational purposes. A portion of the capacity on certain of these credit facilities may be used as security for letters of credit and other obligations. At December 31, 2022 and 2021, \$ 238. 1 million and \$ 94. 3 million, respectively, of borrowings were outstanding under these credit facilities. As of December 31, 2022, one of the Company's Market Ventures subsidiaries was not in compliance with certain financial covenants of its revolving credit facility, which had an outstanding balance of \$ 97. 9 million as of December 31, 2022. The subsidiary is working with its lenders and anticipates amending the facility. This event is not expected to have a material effect on us the Company's consolidated financial condition or results result in of operations. At December 31, 2022, all of the Company's other the loss subsidiaries were in compliance with all covenants contained in their respective credit facilities. The estimated fair value of regulated the Company's senior long-term debt and other debt was \$ 3. 5 billion and \$ 5. 0 billion at December 31, 2022 and 2021, respectively. The following table summarizes the future principal payments due at maturity on senior long-term debt and other debt as of December 31, 2022.

Years Ending December 31, (dollars in thousands)	2023	2024	2025	2026	2027	2028	and thereafter	Total	
Principal payments	\$ 399, 604	202, 427	180, 202	524, 934	202, 625	637, 202	744, 335	2028 and thereafter	3, 226, 317

Total principal payments \$

4, 148, 007 Net unamortized discount (37, 572) Net unamortized debt issuance costs (6, 806) Senior long-term debt and other debt \$ 4, 103, 629 The Company maintains a corporate revolving credit facility which provides up to \$ 300 million of capacity for **or sensitive information** future acquisitions, investments and stock repurchases, and for other working capital and general corporate purposes. **Item** At the Company's discretion, up to \$ 200 million of the total capacity may be used for letters of credit. The Company may increase the capacity of the facility by up to \$ 200 million subject to obtaining commitments for the increase and certain other terms and conditions. The Company pays interest on balances outstanding under the facility and a utilization fee for letters of credit issued under the facility. The Company also pays a commitment fee (0. 20 % at December 31, 2022) on the unused portion of the facility based on the Company's leverage ratio as calculated under the credit agreement. The credit agreement includes financial covenants that require that the Company not exceed a maximum leverage ratio and maintain a minimum amount of consolidated net worth, as well as other customary covenants and events of default. At December 31, 2022 and 2021, the Company had no borrowings outstanding under this revolving credit facility. This facility expires in April 2024. As of December 31, 2022, the Company was in compliance with all covenants contained in its corporate revolving credit facility. To the extent that the Company or any of its subsidiaries are not in compliance with the covenants under their respective credit facilities, access to such credit facilities could be restricted. The Company paid \$ 197. 3 million, \$ 178. 6 million and \$ 178. 2 million in interest on its senior long-term debt and other debt during the years ended December 31, 2022, 2021 and 2020, respectively. **PROPERTIES** 10K-114 15. Income Taxes Income (loss) before income taxes includes the following components, based on country of domicile. Years Ended December 31, (dollars in thousands) 2022 2021 2020 U. S. operations \$ (109, 311) \$ 2, 263, 748 \$ 1, 003, 714 Foreign operations (39, 528) 868, 445 (3, 265) Income (loss) before income taxes \$ (148, 839) \$ 3, 132, 193 \$ 1, 000, 449 Income tax expense (benefit) includes the following components, based on the taxing authority to which taxes are paid. The Company's most significant U. K. and Bermuda subsidiaries have elected to be taxed as domestic corporations for U. S. tax purposes. U. S. income tax also includes state income tax expense, which is not material to the consolidated financial statements. Years Ended December 31, (dollars in thousands) 2022 2021 2020 Current: U. S. income tax \$ 222, 074 \$ 200, 742 \$ 182, 046 Foreign income tax 12, 042 29, 811 (10, 631) Total current tax expense 234, 116 230, 553 171, 415 Deferred: U. S. income tax (300, 850) 438, 240 (557) Foreign income tax 19, 098 15, 665 (2, 176) Total deferred tax expense (benefit) (281, 752) 453, 905 (2, 733) Income tax expense (benefit) \$ (47, 636) \$ 684, 458 \$ 168, 682 For foreign subsidiaries that the Company has not elected to treat as domestic corporations for U. S. tax purposes, the Company is subject to the U. S. Global Intangible Low Taxes Income (GILTI) tax. The Company recognizes the impact of the GILTI tax as incurred, and for the years ended December 31, 2022, 2021 and 2020, GILTI tax was not material to the consolidated financial statements. Additionally, U. S. income taxes have not been recognized on any undistributed earnings of the Company's foreign subsidiaries that are considered indefinitely reinvested, the amount of which is not material to the consolidated financial statements. The Company made net income tax payments of \$ 251. 5 million, \$ 204. 9 million and \$ 241. 7 million in 2022, 2021 and 2020, respectively. Income taxes payable were \$ 2. 2 million and \$ 31. 3 million at December 31, 2022 and 2021, respectively, and were included in other liabilities on the consolidated balance sheets. Income taxes receivable were \$ 9. 9 million and \$ 18. 9 million at December 31, 2022 and 2021, respectively, and were included in other assets on the consolidated balance sheets. The following table presents a reconciliation of the Company's income taxes using the U. S. corporate income tax rate to the Company's income tax expense (benefit). Years Ended December 31, (dollars in thousands) 2022 2021 2020 U. S. corporate tax rate \$ (31, 256) 21. 0 % \$ 657, 760 21. 0 % \$ 210, 093 21. 0 % Increase (decrease) resulting from: Tax-exempt investment income (16, 063) 10. 8 (16, 109) (0. 5) (16, 415) (1. 6) Foreign operations 5, 335 (3. 6) 14, 443 0. 56, 500 0. 6 Impairment of goodwill 16, 800 (11. 3) — 0. 0 — 0. 0 Market CATCo Re income not subject to tax (18, 871) 12. 7 — 0. 0 — 0. 0 Non deductible (deductible) losses on certain foreign investments (160) 0. 11, 240 0. 0 (38, 666) (3. 9) Other (3, 421) 2. 327, 124 0. 97, 170 0. 7 Income tax expense (benefit) \$ (47, 636) 32. 0 % \$ 684, 458 21. 9 % \$ 168, 682 16. 8 % 10K-115 The following table presents the components of domestic and foreign deferred tax assets and liabilities. December 31, (dollars in thousands) 2022 2021 Assets: Unpaid losses and loss adjustment expenses \$ 170, 518 \$ 186, 759 Unearned premiums 161, 243 139, 350 Lease liabilities 132, 735 135, 795 Life and annuity benefits 54, 893 78, 777 Accrued incentive compensation 39, 469 50, 806 Net operating loss carryforwards 25, 305 47, 510 Tax credit carryforwards 18, 264 21, 734 Other differences between financial reporting and tax bases 65, 250 66, 951 Total gross deferred tax assets 667, 677 727, 682 Less valuation allowance (16, 943) (23, 352) Total gross deferred tax assets, net of allowance 650, 734 704, 330 Liabilities: Investments 761, 421 1, 401, 871 Goodwill and other intangible assets 180, 186 185, 195 Deferred policy acquisition costs 161, 220 146, 601 Property, plant and equipment 144, 259 126, 846 Right-of-use lease assets 127, 398 127, 313 Other differences between financial reporting and tax bases 113, 065 129, 866 Total gross deferred tax liabilities 1, 487, 549 2, 117, 692 Net deferred tax liability \$ 836, 815 \$ 1, 413, 362 Deferred tax assets and liabilities are recorded on the consolidated balance sheets on a net basis by taxing jurisdiction. As of December 31, 2022 and 2021, the Company's consolidated balance sheets included net deferred tax liabilities of \$ 874. 0 million and \$ 1. 4 billion, respectively, in other liabilities and net deferred tax assets of \$ 37. 2 million and \$ 18. 4 million, respectively, in other assets. At December 31, 2022, the Company had tax credit carryforwards of \$ 18. 3 million, substantially all of which related to foreign tax credits to be used against U. S. income tax. The Company expects to utilize all tax credit carryforwards before expiration. The earliest any of these credits will expire is 2031. At December 31, 2022, the Company also had net operating losses of \$ 82. 0 million that can be used to offset future taxable income, most of which is attributable to losses of certain branch operations in Europe incurred in their local jurisdictions. The Company's ability to use the majority of these losses is not subject to expiration. As described below, the deferred tax assets related to losses at certain of the Company's subsidiaries and branches are offset by valuation allowances. At December 31, 2022, the Company had total gross deferred tax assets of \$ 667. 7 million. The Company has a valuation allowance of \$ 16. 9 million to offset gross deferred tax assets primarily attributable to cumulative net operating losses at certain of the Company's subsidiaries and branches. The Company believes that it is more likely than not that it will realize the remaining \$ 650. 7 million of gross deferred tax assets through generating

taxable income or the reversal of existing temporary differences attributable to the gross deferred tax liabilities. Additionally, the Company's net deferred tax liability for investments includes deferred tax assets attributed to its unrealized losses on fixed maturity securities. The Company has the ability and intent to execute a tax planning strategy such that it is more likely than not that all of these deferred tax assets will be realized. At December 31, 2022, the Company did not have any material unrecognized tax benefits. The Company does not anticipate any changes in unrecognized tax benefits during 2023 that would have a material impact on the Company's income tax provision.

10K-116 The Company is subject to income tax in the U. S. and in foreign jurisdictions. The Internal Revenue Service is currently examining the Company's 2017 U. S. federal income tax return. The Company believes its income tax liabilities are adequate as of December 31, 2022, however, these liabilities could be adjusted as a result of this examination. With few exceptions, the Company is no longer subject to income tax examination by tax authorities for years ended before January 1, 2017.

16. Employee Benefit Plans a) The Company maintains defined contribution plans for employees of its U. S. insurance operations in accordance with Section 401 (k) of the U. S. Internal Revenue Code of 1986. Employees of the Company's Markel Ventures subsidiaries are provided post-retirement benefits under separate defined contribution plans. The Company also provides various defined contribution plans for employees of its international insurance operations, which are in line with local market terms and conditions of employment. Expenses relating to the Company's defined contribution plans were \$ 57. 9 million, \$ 52. 7 million and \$ 48. 6 million in 2022, 2021 and 2020, respectively. b) The Terra Nova Pension Plan is a defined benefit plan that covers certain employees in the Company's international insurance operations who meet the eligibility conditions set out in the plan. The plan has been closed to new participants since 2001, and employees have not accrued benefits for future service in the plan since April 2012. The projected benefit obligations of the Terra Nova Pension Plan as of December 31, 2022 and 2021 were \$ 108. 5 million and \$ 210. 2 million, respectively, and the related fair value of plan assets was \$ 171. 7 million and \$ 243. 6 million, respectively. The corresponding net asset for pension benefits, also referred to as the funded status of the plan, at December 31, 2022 and 2021 was included in other assets on the Company's consolidated balance sheets.

17. Variable Interest Entities MCIM, a wholly-owned consolidated subsidiary of the Company, is an insurance-linked securities investment fund manager and reinsurance manager headquartered in Bermuda. Results attributable to MCIM are not included in a reportable segment. MCIM serves as the insurance manager for Markel CATCo Re Ltd. (Markel CATCo Re), a Bermuda Class 3 reinsurance company, and as the investment manager for Markel CATCo Reinsurance Fund Ltd., a Bermuda exempted mutual fund company comprised of multiple segregated accounts (Markel CATCo Funds). Voting shares in Markel CATCo Reinsurance Fund Ltd. and Markel CATCo Re are held by MCIM, which has the power to direct the activities that most significantly impact the economic performance of these entities. The Markel CATCo Funds issued multiple classes of nonvoting, redeemable preference shares to investors, and the Markel CATCo Funds are primarily invested in nonvoting preference shares of Markel CATCo Re. The underwriting results of Markel CATCo Re are attributed to investors through its nonvoting preference shares. Both Markel CATCo Re and the Markel CATCo Funds were placed into run-off in July 2019. In March 2022, the Company completed a buy-out transaction with Markel CATCo Re and the Markel CATCo Funds that provided for an accelerated return of all remaining capital to investors in the Markel CATCo Funds. Under the terms of the transaction, the Company provided cash funding of \$ 45. 1 million to purchase substantially all of the Markel CATCo Funds' interests in Markel CATCo Re. See note 21 for further details regarding the terms of the buy-out transaction. As part of the transaction, substantially all of the preference shares held by investors in the Markel CATCo Funds were redeemed, including preference shares previously held by the Company. See note 5 for details regarding the Company's investment in the Markel CATCo Funds. During June 2022, the Company received a return of \$ 24. 9 million of the capital it provided in March 2022 and the related preference shares were redeemed. As of December 31, 2022, the Company's investment in the remaining preference shares of Markel CATCo Re totaled \$ 20. 1 million, which comprised 23 % of the equity of Markel CATCo Re. Through that investment, the Company has exposure to adverse loss development on reinsurance contracts previously written by Markel CATCo Re for loss events that occurred from 2014 to 2020. If loss reserves held by Markel CATCo Re are sufficient to settle claims on the remaining open contracts, the Company will receive a full return of the remaining \$ 20. 1 million in capital. Favorable development on loss reserves held by Markel CATCo Re, less operating expenses, will be distributed to the Markel CATCo Funds, and ultimately to investors in the Markel CATCo Funds. Markel CATCo Re is considered a VIE, as the equity at risk does not have the right to receive residual returns that exceed the capital provided by the Company in the buy-out transaction. As a result of the preference shares acquired by the Company in the buy-out transaction, and the voting shares held by its consolidated subsidiary, MCIM, the Company consolidates Markel CATCo Re as its primary beneficiary. Results attributed to the run-off of Markel CATCo Re are reported with the Company's other ILS operations, within services and other revenues and expenses, and are not included in a reportable segment. For the 10K-117 year ended December 31, 2022, there was \$ 89. 9 million of favorable loss reserve development on the run-off of reinsurance contracts written by Markel CATCo Re, all of which was included in services and other expenses and attributable to noncontrolling interests. The Company's consolidated balance sheet includes the following amounts attributable to Markel CATCo Re. (dollars in thousands) December 31, 2022

Assets	Cash and cash equivalents	Restricted cash and cash equivalents	Other assets and receivables due from cedents	Total Assets
\$ 104, 443	317, 577	41, 357	347, 921	\$ 463, 377
Liabilities and Equity	Unpaid losses and loss adjustment expenses	Other liabilities	Total Liabilities and Equity	
\$ 347, 921	26, 717	374, 638	\$ 463, 377	

In connection with the buy-out transaction, the Company also entered into a tail risk cover with Markel CATCo Re. Through this contract, the Company has \$ 142. 7 million of uncollateralized exposure to adverse development on loss reserves held by Markel CATCo Re for loss exposures in excess of limits that the Company believes are unlikely to be exceeded.

18. Related Party Transactions The Company engages in certain related party transactions in the normal course of business at arm's length. Within the Company's insurance-linked securities operations, the Company provides investment and insurance management services through Nephila Holdings Ltd. (together with its subsidiaries, Nephila). Nephila serves as the

investment manager to several Bermuda-based private funds (the Nephila Funds). To provide access for the Nephila Funds to a variety of insurance-linked securities in the property catastrophe, climate and specialty markets, Nephila also acts as an insurance manager to certain Bermuda Class 3 and 3A reinsurance companies, Lloyd's Syndicate 2357 and Lloyd's Syndicate 2358 (collectively, the Nephila Reinsurers). Nephila receives management fees for investment and insurance management services provided through its insurance-linked securities operations primarily based on the net asset value of the accounts managed, and, for certain funds, incentive fees based on their annual performance. Prior to the disposition of Velocity in February 2022, Nephila also provided managing general agent services to the Nephila Reinsurers in exchange for commissions. For the years ended December 31, 2022, 2021 and 2020, total revenues attributed to unconsolidated entities managed by Nephila were \$ 79.5 million, \$ 141.9 million and \$ 152.0 million, respectively. Through the Company's program services and other fronting operations, as well as its underwriting operations, the Company has programs with Nephila through which the Company writes insurance policies that are either partially or fully ceded to Nephila Reinsurers. Through the Company's program services and other fronting platforms, Nephila utilizes certain of the Company's licensed insurance companies to write U. S. catastrophe exposed property risk that is then ceded to Nephila Reinsurers. For the years ended December 31, 2022, 2021 and 2020, gross premiums written through the Company's program services and other fronting platforms on behalf of Nephila were \$ 1.0 billion, \$ 689.2 million and \$ 412.4 million, respectively, all of which were ceded to Nephila Reinsurers. Through the Company's insurance underwriting operations, the Company has a quota share agreement with Nephila through which it cedes a portion of its property business to Nephila Reinsurers. For the years ended December 31, 2022, 2021 and 2020, the Company's underwriting operations ceded premiums of \$ 65.6 million, \$ 55.0 million and \$ 47.6 million, respectively, to Nephila Reinsurers as part of its quota share agreement. 10K-118 As of December 31, 2022 and 2021, reinsurance recoverables on the consolidated balance sheets included \$ 1.4 billion and \$ 807.0 million, respectively, due from Nephila Reinsurers. Under its programs with Nephila Reinsurers, the Company bears underwriting risk for annual aggregate agreement year losses in excess of a limit the Company believes is unlikely to be exceeded. To the extent losses under these programs exceed the prescribed limits, the Company is obligated to pay such losses to the cedents without recourse to the Nephila Reinsurers. While the Company believes losses under these programs are unlikely, those losses, if incurred, could be material to the Company's consolidated results of operations and financial condition. The Company has also entered into other assumed and ceded reinsurance transactions with the Nephila Reinsurers in the normal course of business, which are not material to the Company's consolidated financial statements. The Company holds a minority ownership interest in Hagerty, which operates primarily as a managing general agent and also includes Hagerty Reinsurance Limited (Hagerty Re), a Bermuda Class 3 reinsurance company. Through the Company's underwriting operations, the Company underwrites insurance for Hagerty, and a portion of this insurance is ceded to Hagerty Re. For the years ended December 31, 2022, 2021 and 2020, the Company's gross written premiums attributable to Hagerty were \$ 689.7 million, \$ 596.9 million and \$ 506.7 million, respectively, of which \$ 456.6 million, \$ 338.9 million and \$ 239.3 million, respectively, were ceded to Hagerty Re. As of December 31, 2022 and 2021, reinsurance recoverables on the consolidated balance sheets included \$ 159.7 million and \$ 95.6 million, respectively, due from Hagerty Re.

19. Shareholders' Equity a) The Company has 50,000,000 shares of no par value common stock authorized. The following table presents a rollforward of changes in common shares issued and outstanding. Years Ended December 31, (in thousands)

2022	2021
Issued and outstanding common shares, beginning of year	13,632
Issuance of common shares	24,783
Repurchase of common shares	(233)
Issued and outstanding common shares, end of year	13,423
2021	13,632

b) The Company also has 10,000,000 shares of no par value preferred stock authorized, of which 600,000 shares were issued and outstanding at December 31, 2022 and 2021. The Company has the option to redeem the preferred shares: • in whole but not in part, at any time, within 90 days after the occurrence of a "rating agency event," at \$ 1,020 per preferred share, plus accrued and unpaid dividends, • in whole but not in part, at any time, within 90 days after the occurrence of a "regulatory capital event" at \$ 1,000 per preferred share, plus accrued and unpaid dividends, or • in whole or in part, on June 1, 2025, or every fifth anniversary of that date, at \$ 1,000 per preferred share, plus accrued and unpaid dividends. A "rating agency event" means that any nationally recognized statistical rating organization that publishes a rating for the Company amends, clarifies or changes the criteria it uses to assign equity credit to securities like the preferred shares, which results in shortening the length of time that the preferred shares are assigned a particular level of equity credit or in the lowering of the equity credit assigned to the preferred shares. A "regulatory capital event" means that the Company becomes subject to capital adequacy supervision by a capital regulator and determines that, under such capital adequacy guidelines, the liquidation preference amount of the preferred shares would not qualify as capital. The preferred shares rank senior to the Company's common stock with respect to the payment of dividends and liquidation rights. Holders of the preferred shares are entitled to receive non-cumulative cash dividends, when, and if declared by the Board of Directors, from the original issue date, semi-annually in arrears on the first day of June and December of each year. The Company accrues dividends when they are declared by the Board of Directors. To the extent declared, these dividends will accrue, on the liquidation preference of \$ 1,000 per share, at a fixed annual rate of 6.00% from the original issue date to 10K-119 June 1, 2025. After June 1, 2025, the dividend rate will reset every five years and accrue at an annual rate equal to the five-year U. S. Treasury Rate as of two business days prior to the reset date, plus 5.662%. Dividends will not be cumulative and will not be mandatory. Accordingly, if dividends are not declared for any dividend period, then dividends for that dividend period will not accrue and will not be payable. For both years ended December 31, 2022 and 2021, the Company declared and paid dividends on preferred shares of \$ 36.0 million, or \$ 60.00 per share. c) The following table presents net income (loss) per common share and diluted net income (loss) per common share. Years Ended December 31, (in thousands, except per share amounts)

2022	2021	2020
Net income (loss) to common shareholders	\$ (250,123)	\$ 2,389,003
Adjustment of redeemable noncontrolling interests	(69,896)	46,874
Adjusted net income (loss) to common shareholders	\$ (320,019)	\$ 2,435,877
Basic common shares outstanding	13,580	13,768
Dilutive potential common shares from restricted stock units and restricted stock	(1)	(2)
Diluted common shares outstanding	13,580	13,766

800-13, 823 Basic net income (loss) per common share \$ (23.57) \$ 176.92 \$ 55.67 Diluted net income (loss) per common share (1) (2) \$ (23.57) \$ 176.51 \$ 55.63 (1) The Company has issued grants and awards of restricted stock units to employees as performance, retention or hiring incentives, as well as awards of restricted stock to non-employee directors, under its equity incentive compensation plan. At December 31, 2022, there were 116,431 shares available for future awards under the Company's equity incentive compensation plan. (2) The impact of 33 thousand shares from restricted stock units and restricted stock was excluded from the computation of diluted net loss per common share for the year ended December 31, 2022 because the effect would have been anti-dilutive. 20. Other Comprehensive Income Other comprehensive income includes changes in net unrealized gains (losses) on available-for-sale investments, which is comprised of net holding gains (losses) arising during the period, changes in unrealized other-than-temporary impairment losses, if any, and reclassification adjustments for net realized gains included in net income. Other comprehensive income also includes changes in foreign currency translation adjustments and changes in net actuarial pension loss. The following table presents the change in accumulated other comprehensive income (loss) by component, net of noncontrolling interests. (dollars in thousands) Unrealized Gains (Losses) on Available-for-Sale Investments Foreign Currency Net Actuarial Pension Loss Accumulated other comprehensive income (loss)

	December 31, 2019	\$ 346,037	\$(86,249)	\$(51,016)	\$ 208,772
Total other comprehensive income (loss) before income taxes	442,089	29,829	(8,849)	463,069	Income tax (expense) benefit (89,316)
Total other comprehensive income (loss)	352,773	29,829	(6,998)	375,604	December 31, 2020
Total other comprehensive income (loss) before income taxes	(450,096)	(2,091)	10,663	(441,524)	Income tax (expense) benefit 95,158
Total other comprehensive income (loss)	(354,938)	(211)	8,390	(346,759)	December 31, 2021
Total other comprehensive income (loss) before income taxes	(1,407,316)	(9,677)	31,222	(1,385,771)	Income tax (expense) benefit 297,168
Total other comprehensive income (loss)	(1,110,148)	(9,276)	24,730	(1,094,694)	December 31, 2022

21. Commitments and Contingencies a) In March 2022, the Company completed a buy-out transaction with Markel CATCo Re and the Markel CATCo Funds, which are currently in run-off, that provided for an accelerated return of all remaining capital to investors in the Markel CATCo Funds. Under the terms of the transaction, the Company provided cash funding of \$ 45.1 million to purchase substantially all of the Markel CATCo Funds' investments in Markel CATCo Re and also provided tail risk cover of \$ 142.7 million to Markel CATCo Re to allow for the release of collateral to investors. In order to complete the transaction, the Company also made \$ 101.9 million in additional payments, net of insurance proceeds, to or for the benefit of investors, which were recognized as an expense to the Company and included in services and other expenses for the year ended December 31, 2022. In conjunction with the buy-out transaction, all investors holding securities in the Markel CATCo Funds, the Markel CATCo Group Companies (MCIM, the Markel CATCo Funds and Markel CATCo Re), Markel Corporation and each of their related parties, among others, granted mutual releases of all claims related to the transaction, the Markel CATCo Group Companies' businesses and the investors' investments in the Funds, including any pending litigation. See note 17 for further details about the Company's Markel CATCo operations and the buy-out transaction. b) Contingencies arise in the normal course of the Company's operations and are not expected to have a material impact on the Company's financial condition or results of operations. 22. Statutory Financial Information a) The following table summarizes statutory capital and surplus for the Company's insurance subsidiaries. December 31, (dollars in thousands) 2022 2021 United States \$ 5,236,793 \$ 4,493,310 United Kingdom \$ 749,495 \$ 736,575 Bermuda \$ 1,895,132 \$ 2,106,606 Germany \$ 125,194 \$ 95,693 As of December 31, 2022, the Company's actual statutory capital and surplus significantly exceeded the regulatory requirements. As a result, the amount of statutory capital and surplus necessary to satisfy regulatory requirements is not significant in relation to actual statutory capital and surplus. The following table summarizes statutory net income (loss) for the Company's insurance subsidiaries. Years Ended December 31, (dollars in thousands) 2022 2021 2020 United States \$ 689,341 \$ 705,908 \$ 616,135 United Kingdom \$ 35,719 \$ 56,546 \$ (25,776) Bermuda \$ (144,239) \$ 556,275 \$ 228,740 Germany \$ (2,471) \$ 1,780 \$ (4,628) Amounts presented for the Company's U. S. insurance subsidiaries have been calculated in accordance with prescribed statutory accounting rules. For the Company's international insurance subsidiaries, the regulations that govern the calculation of statutory capital and surplus do not provide requirements for the calculation of net income. Rather, such amounts are reported in accordance with a basis of accounting permitted by their respective regulator. Amounts presented for the Company's U. K., Bermuda and German insurance subsidiaries have been calculated in accordance with U. K. GAAP, U. S. GAAP and German GAAP, respectively. The laws of the domicile states of the Company's U. S. insurance subsidiaries govern the amount of dividends that may be paid to the Company. Generally, statutes in the domicile states of the Company's U. S. insurance subsidiaries require prior approval for payment of extraordinary, as opposed to ordinary, dividends. As of December 31, 2022, the Company's U. S. insurance 10K-121 subsidiaries could pay up to \$ 655.6 million to the holding company during the following 12 months under the ordinary dividend regulations. In converting from U. S. statutory accounting principles to U. S. GAAP, typical adjustments include deferral of policy acquisition costs, differences in the calculation of deferred income taxes and the inclusion of net unrealized gains or losses relating to fixed maturity securities in shareholders' equity. The Company does not use any permitted statutory accounting practices that are different from prescribed statutory accounting practices which impact statutory capital and surplus. The Company's U. K. insurance subsidiary, Markel International Insurance Company Limited (MIICL), and its Lloyd's managing agent, Markel Syndicate Management Limited (MSM), are authorized by the Prudential Regulation Authority (PRA) and regulated by both the PRA and the Financial Conduct Authority (FCA). The PRA oversees compliance with established periodic auditing and reporting requirements, minimum solvency margins and individual capital assessment requirements under the Solvency II Directive (Solvency II) and imposes dividend restrictions, while both the PRA and the FCA oversee compliance with risk assessment reviews and various other requirements. MIICL is required to give advance notice to the PRA for any transaction or proposed transaction with a connected or related person. MSM is required to satisfy the solvency requirements of Lloyd's. In addition, the Company's U. K. subsidiaries must comply with the United

Kingdom Companies Act of 2006, which provides that dividends may only be paid out of profits available for that purpose. Earnings of the Company's U. K. insurance subsidiaries are available for distribution to the holding company to the extent not otherwise restricted. The Company's Bermuda insurance subsidiary, Markel Bermuda Limited (MBL), is subject to enhanced capital requirements in addition to minimum solvency and liquidity requirements. The enhanced capital requirement is determined by reference to a risk-based capital model that determines a control threshold for statutory capital and surplus by taking into account the risk characteristics of different aspects of the insurer's business. At December 31, 2022, MBL satisfied both the enhanced capital requirements and the minimum solvency and liquidity requirements. Under the Bermuda Insurance Act, MBL is prohibited from paying or declaring dividends during a fiscal year if it is in breach of its enhanced capital requirement, solvency margin or minimum liquidity ratio or if the declaration or payment of the dividend would cause a breach of those requirements. If an insurer fails to meet its 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 Bermuda Monetary Authority (BMA). Further, MBL is prohibited from declaring or paying, in any financial year, dividends of more than 25 % of its total statutory capital and surplus as set forth in its previous year's statutory balance sheet unless at least seven days before payment of those dividends it files with the BMA an affidavit stating that it will continue to meet its solvency margin and minimum liquidity ratio. MBL must obtain the BMA's prior approval for a reduction by 15 % or more of the total statutory capital as set forth in its previous year's financial statements. In addition, as a long-term insurer, MBL may not declare or pay a dividend to any person other than a policyholder unless the value of the assets in its long-term business fund, as certified by MBL's approved actuary, exceeds the liabilities of its long-term business. The amount of the dividend cannot exceed the aggregate of that excess and any other funds legally available for the payment of the dividend. As of December 31, 2022, MBL could pay up to \$ 473.8 million to the holding company during the following 12 months without making any additional filings with the BMA. The Company's German insurance subsidiary, Markel Insurance SE, is regulated by the Federal Financial Conduct Authority in Germany and is also subject to capital and solvency requirements under Solvency II. b) Lloyd's sets the corporate members' required capital annually based on each syndicates' business plans, rating environment, reserving environment and input arising from Lloyd's discussions with, among others, regulatory and rating agencies. Such required capital is referred to as Funds at Lloyd's (FAL) and comprises cash and investments. The amount of cash and investments held as FAL as of December 31, 2022 was \$ 873.0 million. Of this amount, \$ 335.4 million was provided by the holding company and is not available for general use by the Company. The remaining amount, provided by the Company's insurance subsidiaries, is not available for distribution to the holding company. The Company's corporate member may also be required to maintain funds under the control of Lloyd's in excess of its capital requirements and such funds also may not be available for distribution to the holding company. 10K-122-23. Markel Corporation (Parent Company Only) Financial Information The following parent company only condensed financial information reflects the financial position, results of operations and cash flows of Markel Corporation. December 31, 2022 2021 (dollars in thousands) ASSETS Investments, at estimated fair value: Fixed maturity securities, available-for-sale (amortized cost of \$ 164,100 in 2022 and \$ 210,111 in 2021) \$ 154,039 \$ 228,705 Equity securities (cost of \$ 1,107,796 in 2022 and \$ 1,771,597 in 2021) 1,473,116 2,784,189 Short-term investments, available-for-sale (estimated fair value approximates cost) 1,436,387 1,474,997 Total Investments 3,063,542 4,487,891 Cash and cash equivalents 594,101 763,985 Restricted cash and cash equivalents 21,146 15,485 Receivables 13,070 18,770 Investments in consolidated subsidiaries 12,905 353 13,298,971 Notes receivable from subsidiaries 60,111 135,756 Income taxes receivable 48,344 Other assets 445,875 408,161 Total Assets \$ 17,103,198 \$ 19,177,363 LIABILITIES AND SHAREHOLDERS' EQUITY Senior long-term debt \$ 3,686,892 \$ 4,034,223 Notes payable to subsidiaries 32,753 Income taxes payable 120,616 Net deferred tax liability 148,365 295,289 Other liabilities 81,791 97,748 Total Liabilities 4,037,664 4,460,013 Shareholders' equity: Preferred stock 591,891 591,891 Common stock 3,493,893 3,441,079 Retained earnings 9,836,827 10,446,763 Accumulated other comprehensive income (loss) (857,077) 237,617 Total Shareholders' Equity 13,065,534 14,717,350 Total Liabilities and Shareholders' Equity \$ 17,103,198 \$ 19,177,363 10K-123 CONDENSED STATEMENTS OF INCOME (LOSS) AND COMPREHENSIVE INCOME (LOSS) Years Ended December 31, 2022 2021 2020 (dollars in thousands) REVENUES Net investment income \$ 34,781 \$ 9,099 \$ 22,037 Dividends on common stock of consolidated subsidiaries 278,557 1,081,988 466,244 Net investment gains (losses): Net realized investment gains 7,620 23,652 27,774 Change in fair value of equity securities (397,906) 514,727 82,389 Net investment gains (losses) (390,286) 538,379 110,163 Gain on sale of subsidiary 107,293 Other revenues (losses) (29,487) 11,078 (4,011) Total Revenues 858,164 0,544 594,433 EXPENSES Services and other expenses 111,848 22,379 1,025 Interest expense 172,125 185,568 187,562 Net foreign exchange losses (gains) (13,143) (6,236) 6,823 Total Expenses 270,830 201,711 195,410 Income (Loss) Before Equity in Undistributed Earnings (Losses) of Consolidated Subsidiaries and Income Taxes (269,972) 1,438,833 399,023 Equity in undistributed earnings (losses) of consolidated subsidiaries (69,971) 1,081,976 400,289 Income tax (expense) benefit 125,820 (95,806) 16,718 Net Income (Loss) to Shareholders (214,123) 2,425,003 816,030 Preferred stock dividends (36,000) (36,000) (18,400) Net Income (Loss) to Common Shareholders \$ (250,123) \$ 2,389,003 \$ 797,630 OTHER COMPREHENSIVE INCOME (LOSS) TO SHAREHOLDERS Change in net unrealized gains (losses) on available-for-sale investments, net of taxes: Net holding gains (losses) arising during the period \$ (24,465) \$ (5,885) \$ 21,482 Consolidated subsidiaries' net holding gains (losses) arising during the period (1,130,589) (342,430) 334,677 Reclassification adjustments for net gains (losses) included in net income (loss) to shareholders 1,965 (34) (14,937) Consolidated subsidiaries' reclassification adjustments for net gains (losses) included in net income (loss) to shareholders 42,941 (6,589) 11,551 Change in net unrealized gains (losses) on available-for-sale investments, net of taxes (1,110,148) (354,938) 352,773 Consolidated subsidiaries' change in foreign currency translation adjustments, net of taxes (9,276) (211) 29,829 Consolidated subsidiaries' change in net actuarial pension loss, net of taxes 24,730 8,390 (6,998) Total Other Comprehensive Income (Loss) to Shareholders (1,094,694) (346,759) 375,604 Comprehensive Income (Loss) to Shareholders \$ (1,308,817) \$ 2,078,244 \$ 1,

191, 634 10K-124 Years Ended December 31, 2022 2021 2020 (dollars in thousands) OPERATING ACTIVITIES Net income (loss) to shareholders \$ (214, 123) \$ 2, 425, 003 \$ 816, 030 Adjustments to reconcile net income (loss) to net cash provided by operating activities 487, 259 (2, 213, 261) (708, 162) Net Cash Provided By Operating Activities 273, 136 211, 742 107, 868 INVESTING ACTIVITIES Proceeds from sales, maturities, calls and prepayments of fixed maturity securities 13, 047 37, 607 319, 502 Proceeds from sales of equity securities 65, 379 105, 700 276, 637 Cost of equity securities purchased (16, 660) (73, 644) (90, 459) Net change in short-term investments 58, 970 (224, 646) (522, 666) Return of capital from subsidiaries — 17, 193 15, 164 Decrease (increase) in notes receivable due from subsidiaries 75, 645 (50, 000) (25, 000) Capital contributions to subsidiaries (1) (94, 585) (271, 729) (605, 426) Proceeds from sale of subsidiary 165, 615 — — Cost of equity method investments — (38, 550) (4, 917) Other 4, 779 (5, 368) 17, 984 Net Cash Provided (Used) By Investing Activities 272, 190 (503, 437) (619, 181) FINANCING ACTIVITIES Repayment of senior long-term debt (350, 000) — — Additions to senior long-term debt — 591, 354 — Decrease in notes payable to subsidiaries (32, 753) — (50, 000) Repurchases of common stock (290, 796) (206, 518) (26, 832) Issuance of preferred stock, net — 591, 891 Dividends paid on preferred stock (36, 000) (36, 000) (18, 400) Other — (1, 181) 15 Net Cash Provided (Used) By Financing Activities (709, 549) 347, 655 496, 674 Increase (decrease) in cash, cash equivalents, restricted cash and restricted cash equivalents (164, 223) 55, 960 (14, 639) Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year 779, 470 723, 510 738, 149 CASH, CASH EQUIVALENTS, RESTRICTED CASH AND RESTRICTED CASH EQUIVALENTS AT END OF YEAR \$ 615, 247 \$ 779, 470 \$ 723, 510 (1) The holding company made non-cash capital contributions in the form of investments to its subsidiaries totaling \$ 924. 0 million and \$ 49. 5 million for the years ended December 31, 2022 and 2020, respectively. There were no non-cash capital contributions made to subsidiaries for the year ended December 31, 2021. 10K-125 24. Immaterial Correction to Prior Period Financial Statements for Accounting Policy Change The Company defers and amortizes costs directly related to the successful acquisition of new or renewal insurance contracts over the related policy period, generally one year. Previously, the Company did not defer salaries and benefits associated with the successful acquisition of insurance contracts, as such amounts were quantified and assessed each period and were deemed not to be material to the consolidated financial statements. Effective January 1, 2022, the Company changed its accounting policy to defer salaries and benefits associated with the successful acquisition of insurance contracts in accordance with the requirements of FASB ASC 944, Financial Services—Insurance. To reflect the change in accounting policy, the Company made a cumulative adjustment to increase deferred policy acquisition costs by \$ 28. 2 million, increase deferred tax liabilities by \$ 5. 9 million and increase retained earnings by \$ 22. 3 million as of January 1, 2020, which is the beginning of the earliest year presented in the consolidated financial statements included herein. These increases in deferred policy acquisition costs, deferred tax liabilities and retained earnings are reflected as increases to the previously reported amounts in the Company's consolidated balance sheet as of December 31, 2021 and as an adjustment to retained earnings as of January 1, 2020 in the accompanying consolidated statement of changes in equity for the year ended December 31, 2020. The Company considered both the quantitative and qualitative factors within the provisions of U. S. Securities and Exchange Commission Staff Accounting Bulletin (SAB) No. 99, Materiality, and SAB No. 108, Considering the Effect of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements and determined that the impact of the change in accounting policy was not material to the Company's previously issued consolidated financial statements. The Company did not adjust the amounts previously presented in the consolidated statements of income and comprehensive income for the years ended December 31, 2020 and 2021 for the change in accounting policy as the effects were not material. The cumulative income statement effect for those periods was included in the consolidated statement of loss and comprehensive loss for the year ended December 31, 2022. 10K-126 Item 9A. CONTROLS AND PROCEDURES Evaluation of Disclosure Controls and Procedures As of December 31, 2022, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures (Disclosure Controls), as defined under Rules 13a-15 (e) and 15d-15 (e) of the Securities Exchange Act of 1934 (Exchange Act). This evaluation was conducted under the supervision and with the participation of our management, including the Principal Executive Officer (PEO) and the Principal Financial Officer (PFO). Based upon this evaluation, the PEO and PFO concluded that effective Disclosure Controls were in place to ensure that the information required to be disclosed in reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. Management's Report On Internal Control Over Financial Reporting Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15 (f) and 15d-15 (f) of 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. Management does not expect that its internal control over financial reporting will prevent all error and all 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 are met. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. The design of any system of internal control over financial reporting also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Under the supervision and with the participation of management, including the PEO and the PFO, we evaluated the effectiveness of our internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation, we have concluded that we maintained effective internal control over financial reporting as of December 31, 2022. KPMG LLP, our independent registered public accounting firm, has issued an attestation report on the effectiveness of our internal control over financial reporting as of December 31, 2022, which is included

herein. Changes in Internal Control Over Financial Reporting There were no changes in our internal control over financial reporting during the fourth quarter of 2022 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. 10K-127 Opinion on Internal Control Over Financial Reporting We have audited Market Corporation and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. 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, 2022 and 2021, the related consolidated statements of income (loss) and comprehensive income (loss), changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements), and our report dated February 17, 2023 expressed an unqualified opinion on those consolidated financial statements. 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 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 of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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 / KPMG LLP Richmond, Virginia February 17, 2023 10K-128 PART III Except for the information set forth under "Information About Our Executive Officers" in Part I, the information required by Part III (Items 10, 11 (excluding information required pursuant to Item 402 (v) of Regulation S-K), 12, 13 and 14) will be incorporated by reference from the Company's Proxy Statement for its 2023 Annual Meeting of Shareholders pursuant to instructions G (1) and G (3) of the General Instructions to Form 10-K. Our independent registered public accounting firm is KPMG LLP, Richmond, VA, Auditor Firm ID: 185. PART IV Item 15. EXHIBIT AND FINANCIAL STATEMENT SCHEDULES (a) 1. Financial Statements The following consolidated financial statements, as well as the Report of Independent Registered Public Accounting Firm, are included in Item 8. Page Number Report of Independent Registered Public Accounting Firm 10K-71 Consolidated Balance Sheets—December 31, 2022 and 2021 10K-73 Consolidated Statements of Income (Loss) and Comprehensive Income (Loss)—Years Ended December 31, 2022, 2021 and 2020 10K-74 Consolidated Statements of Changes in Equity—Years Ended December 31, 2022, 2021 and 2020 10K-75 Consolidated Statements of Cash Flows—Years Ended December 31, 2022, 2021 and 2020 10K-76 Notes to Consolidated Financial Statements 10K-77 Other schedules are omitted because they are not required, information therein is not applicable, or is reflected in the consolidated financial statements or notes to consolidated financial statements. (b) Exhibits See Exhibit Index. 10K-129 EXHIBIT INDEX Exhibit No. Document Description 3. 1 (a) Amended and Restated Articles of Incorporation (incorporated by reference from Exhibit 3. 1 in the Registrant's report on Form 8-K filed with the Commission May 13, 2011) 3. 1 (b) Articles of Amendment to the Amended and Restated Articles of Incorporation (incorporated by reference from Exhibit 3. 1 in the Registrant's report on Form 8-K filed with the Commission May 27, 2020) 3. 2 Bylaws, as amended and restated January 1, 2023 \* \* 4. 1 Description of Registrant's Securities \* \* 4. 2 (a) Indenture dated as of June 5, 2001 between Market Corporation and The Chase Manhattan Bank, as Trustee (incorporated by reference from Exhibit 4. 1 in the Registrant's report on Form 8-K filed with the Commission June 5, 2001) 4. 2 (b) Form of Third Supplemental Indenture dated as of August 13, 2004 between Market Corporation and JPMorgan Chase Bank (formerly known as The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4. 2 in the Registrant's report on Form 8-K filed with the Commission August 11, 2004) 4. 2 (c) Form of Eighth Supplemental Indenture dated as of March 8, 2013 between Market Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4. 2 in the Registrant's report on Form 8-K filed with the Commission March 7, 2013) 4. 2 (d) Form of Ninth Supplemental Indenture dated as of March 8, 2013 between Market Corporation and The Bank of New York Mellon (as



successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.3 in the Registrant's report on Form 8-K filed with the Commission March 7, 2013) 4.2 (e) Form of Tenth Supplemental Indenture dated as of April 5, 2016 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission March 31, 2016) 4.2 (f) Eleventh Supplemental Indenture dated as of November 2, 2017 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission November 2, 2017) 4.2 (g) Twelfth Supplemental Indenture dated as of November 2, 2017 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.3 in the Registrant's report on Form 8-K filed with the Commission November 2, 2017) 4.2 (h) Thirteenth Supplemental Indenture, dated as of May 20, 2019, between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission May 20, 2019) 4.2 (i) Fourteenth Supplemental Indenture, dated as of September 17, 2019, between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission September 17, 2019) 4.2 (j) Fifteenth Supplemental Indenture, dated as of September 17, 2019, between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.3 in the Registrant's report on Form 8-K filed with the Commission September 17, 2019) 4.2 (k) Sixteenth Supplemental Indenture, dated as of May 7, 2021, between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission May 7, 2021) 10K-130 The registrant hereby agrees to furnish to the Securities and Exchange Commission, upon request, a copy of all other instruments defining the rights of holders of long-term debt of the registrant and its subsidiaries. Exhibit No. Document Description 10.1 (a) Credit Agreement, dated as of April 10, 2019, among Markel Corporation, Markel Bermuda Limited, Markel Global Reinsurance Company, Alterra Finance LLC, the lenders party from time to time thereto, and Wells Fargo Bank, National Association, as administrative agent (incorporated by reference from Exhibit 10.1 in the Registrant's report on Form 8-K filed with the Commission April 12, 2019) 10.1 (b) First Amendment to Credit Agreement, dated as of December 13, 2019, among Markel Corporation, Markel Bermuda Limited, Markel Global Reinsurance Company, Alterra Finance LLC and Wells Fargo National Association (incorporated by reference from Exhibit 10.1 (b) in the Registrant's Report on Form 10-K filed with the Commission for the year ended December 31, 2019) 10.2 Form of Amended and Restated Employment Agreement with Anthony F. Markel (incorporated by reference from Exhibit 10.4 in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2008) \* 10.3 (a) Amended and Restated Employment Agreement with Steven A. Markel (incorporated by reference from Exhibit 10.1 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended September 30, 2015) \* 10.3 (b) Amendment dated as of December 31, 2017 to Amended and Restated Employment Agreement with Steven A. Markel (incorporated by reference from Exhibit 10.6 in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2017) \* 10.4 (a) Form of Amended and Restated Executive Employment Agreement with Thomas S. Gayner and Richard R. Whitt, III (incorporated by reference from Exhibit 10.4 in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2021) \* 10.4 (b) Amendment to Executive Employment Agreement with Richard R. Whitt, III (incorporated by reference from Exhibit 10.1 in the Registrant's report on 10-Q filed with the Commission for the quarter ended September 30, 2022) \* 10.5 Form of Amended and Restated Executive Employment Agreement with Andrew G. Crowley, Robert C. Cox, Michael R. Heaton, Jeremy A. Noble and Richard R. Grinnan (incorporated by reference from Exhibit 10.5 in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2021) \* 10.6 (a) Markel Corporation Voluntary Deferral Plan (incorporated by reference from Exhibit 10.14 in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2015) \* 10.6 (b) Amendment to Markel Corporation Voluntary Deferral Plan (incorporated by reference from Exhibit 10.20 in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2018) \* 10.6 (c) Amendment to Markel Corporation Voluntary Deferral Plan (incorporated by reference from Exhibit 10.1 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended September 30, 2019) \* 10.7 (a) Markel Corporation Omnibus Incentive Plan (incorporated by reference from Appendix B in the Registrant's Proxy Statement and Definitive 14A filed with the Commission April 2, 2003) \* 10.7 (b) May 2010 Restricted Stock Units Deferral Election Form (incorporated by reference from Exhibit 10.2 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2010) \* 10.8 (a) Markel Corporation 2012 Equity Incentive Compensation Plan (incorporated by reference from Appendix A in the Registrant's Proxy Statement and Definitive 14A filed with the Commission March 16, 2012) \* 10.8 (b) Restricted Stock Units Deferral Election Form for the 2012 Equity Incentive Compensation Plan (incorporated by reference from Exhibit 10.24 in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2012) \* 10.9 Markel Corporation Executive Bonus Plan, as amended and restated May 14, 2018 (incorporated by reference from Exhibit 10.1 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2018) \* 10.10 (a) 2016 Equity Incentive Compensation Plan (incorporated by reference from Exhibit 10.1 in the Registrant's report on Form 8-K filed with the Commission May 19, 2016) \* 10.10 (b) Form of Performance-Based Restricted Stock Unit Award Agreement (adopted 2019) for Executive Officers for the 2016 Equity Incentive Compensation Plan (incorporated by reference from Exhibit 10.15 (i) in the Registrant's report on Form 10-K filed with the Commission for the year ended December 31, 2019) \* 10K-131 10.10 (c) Form of Restricted Stock Award

Agreement for Outside Directors for the 2016 Equity Incentive Compensation Plan (incorporated by reference from Exhibit 10.2 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2020) \* 10.10(d) Form of Performance-Based Restricted Stock Unit Award Agreement (adopted 2021) for Executive Officers for the 2016 Equity Incentive Compensation Plan (incorporated by reference from Exhibit 10.1(a) in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended March 31, 2021) \* 10.10(e) Form of Time-Based Restricted Stock Unit Award Agreement (adopted 2021) for Executive Officers for the 2016 Equity Incentive Compensation Plan (incorporated by reference from Exhibit 10.1(b) in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended March 31, 2021) \* 10.10(f) Form of Performance-Based Restricted Unit Award Agreement (adopted 2022) for Executive Officers for the 2016 Equity Incentive Compensation Plan \* \* \* 10.10(g) Form of Time-Based Restricted Stock Unit Award Agreement (adopted 2022) for Executive Officers for the 2016 Equity Incentive Compensation Plan \* \* \* 10.10(h) Restricted Stock Units Deferral Election Form \* \* \* 10.11 Markel Corporation 2020 Employee Stock Purchase Plan (incorporated by reference from Exhibit 10.1 in the Registrant's report on Form 8-K filed with the Commission May 15, 2020) \* 21 Certain Subsidiaries of Markel Corporation \* \* 23 Consent of KPMG LLP \* \* 31.1 Certification of Principal Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a) \* \* 31.2 Certification of Principal Financial Officer Pursuant to Rule 13a-14(a)/15d-14(a) \* \* 32.1 Certification furnished Pursuant to 18 U. S. C. Section 1350 \* \* 101 The following consolidated financial statements from Markel Corporation's Annual Report on Form 10-K for the year ended December 31, 2022, filed on February 17, 2023, formatted in Inline XBRL: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Income (Loss) and Comprehensive Income (Loss), (iii) Consolidated Statements of Changes in Equity, (iv) Consolidated Statements of Cash Flows and (v) Notes to Consolidated Financial Statements. \* \* 104 Cover Page Interactive Data File (embedded within the Inline XBRL document) \* Indicates management contract or compensatory plan or arrangement \* \* Filed with this report 10K-132 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. MARKEL CORPORATION /s/ Thomas S. Gayner /s/ Brian J. Costanzo Thomas S. Gayner Brian J. Costanzo Chief Executive Officer Senior Vice President, Finance, Chief Accounting Officer and Controller (Principal Executive Officer) (Principal Financial Officer) February 17, 2023 February 17, 2023 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. Signatures Title Date /s/ Steven A. Markel Chairman of the Board February 17, 2023 Steven A. Markel /s/ Thomas S. Gayner Director, Chief Executive Officer February 17, 2023 Thomas S. Gayner (Principal Executive Officer) /s/ Brian J. Costanzo Senior Vice President, Finance, Chief Accounting Officer and Controller February 17, 2023 Brian J. Costanzo (Principal Financial Officer) (Principal Accounting Officer) /s/ Mark M. Besca Director February 17, 2023 Mark M. Besca /s/ K. Bruce Connell Director February 17, 2023 K. Bruce Connell /s/ Greta J. Harris Director February 17, 2023 Greta J. Harris /s/ Morgan E. Housel Director February 17, 2023 Morgan E. Housel /s/ Diane Leopold Director February 17, 2023 Diane Leopold /s/ Anthony F. Markel Director February 17, 2023 Anthony F. Markel /s/ Harold L. Morrison, Jr. Director February 17, 2023 Harold L. Morrison, Jr. /s/ Michael O' Reilly Director February 17, 2023 Michael O' Reilly /s/ A. Lynne Puckett Director February 17, 2023 A. Lynne Puckett 10K-133 EXHIBIT 3. 2 BYLAWS (as amended and restated January 1, 2023) ARTICLE I MEETINGS OF SHAREHOLDERS Section 1. Place and Time of Meetings. Meetings of shareholders shall be held at such place, either within or without the Commonwealth of Virginia, or by means of remote communication, in each case as the Board of Directors may in its discretion determine, and at such time as may be provided in the notice of the meeting and approved by the Chair of the Board, the Chief Executive Officer or the Board of Directors. Section 2. Annual Meeting. The annual meeting of shareholders shall be held on the date designated by the Board of Directors and specified in the notice of the meeting. Section 3. Special Meetings. Special meetings of the shareholders may be called by the Chair of the Board, the Chief Executive Officer or the Board of Directors. Only business within the purpose or purposes described in the notice for a special meeting of shareholders may be conducted at the meeting. Section 4. Fixing Record Date. The Board of Directors may fix in advance a record date to make a determination of shareholders entitled to notice or to vote at any meeting of shareholders, to receive any dividend, or for any other purpose, such date to be not more than 70 days before the meeting or action requiring a determination of shareholders. If no such date is set with respect to any meeting of shareholders, the day before the effective date of the notice of the meeting shall be the record date for such determination of shareholders. When a determination of shareholders entitled to notice of or to vote at any meeting of shareholders (regardless of who may have called the meeting) has been made, such determination shall be effective for any adjournment of the meeting unless the Board of Directors fixes a new record date, which it shall do if the meeting is adjourned to a date more than 120 days after the date fixed for the original meeting. Section 5. Notice of Meetings. Written notice stating the place (or means of remote communication, if authorized by the Board of Directors), day and hour of the meeting and, in case of a special meeting, the purpose or purposes for which the meeting is called, shall be given by the Corporation not less than ten nor more than 60 days before the date of the meeting (except as a different time is specified by law) to each shareholder of record entitled to vote at such meeting. Notice may be given in any manner permitted by applicable law, including by electronic transmission. If mailed, such notice shall be deemed to be given when deposited in the United States mail with postage thereon prepaid, addressed to the shareholder at such shareholder's address as it appears on the share transfer books of the Corporation. If an annual or special meeting is adjourned to a different date, time or place (or means of remote communication, if authorized by the Board of Directors), notice need not be given if the new date, time or place (or means of remote communication, if authorized by the Board of Directors) is announced at the meeting before adjournment; however, if a new record date for an adjourned meeting is fixed, notice of the adjourned meeting shall be given to persons who are shareholders as of the new record date unless a court provides otherwise. Notwithstanding the foregoing, no notice of a shareholders' meeting need be given to a shareholder if (i) an annual report and proxy statements for two consecutive annual meetings of shareholders or (ii) all, and at least two, checks in payment of dividends or interest on securities during a 12-month period, have been sent by first-class

United States mail, with postage thereon prepaid, addressed to the shareholder at such shareholder's address as it appears on the share transfer books of the Corporation, and returned undeliverable. The obligation of the Corporation to give notice of shareholders' meetings to any such shareholder shall be reinstated once the Corporation has received a new address for such shareholder for entry on its share transfer books.

**Section 6. Waiver of Notice; Attendance at Meeting.** A shareholder may waive any notice required by law, the Articles of Incorporation or these Bylaws before or after the date and time of the meeting that is the subject of such notice. The waiver shall be in writing, be signed by the shareholder entitled to the notice, and be delivered to the Secretary of the Corporation for filing with the minutes or corporate records. A shareholder's attendance at a meeting (i) waives objection to lack of notice or defective notice of the meeting, unless the shareholder at the beginning of the meeting objects to holding the meeting or transacting business at the meeting, and (ii) waives objection to consideration of a particular matter at the meeting that is not within the purpose or purposes described in the meeting notice, unless the shareholder objects to considering the matter when it is presented.

**Section 7. Quorum and Voting Requirements.** Shares entitled to vote as a separate voting group may take action on a matter at a meeting only if a quorum of those shares exists with respect to that matter. Unless otherwise required by law or the Articles of Incorporation, a majority of the votes entitled to be cast on a matter by a voting group constitutes a quorum of that voting group for action on that matter. Once a share is represented for any purpose at a meeting, it is deemed present for quorum purposes for the remainder of the meeting and for any adjournment of that meeting unless a new record date is set for that adjourned meeting. If a quorum exists, action on a matter, other than the election of directors, by a voting group is approved if the votes cast within the voting group favoring the action exceed the votes cast opposing the action, unless a greater number of affirmative votes is required by law, the Articles of Incorporation or the rules or regulations of any stock exchange applicable to the Corporation. An abstention or an election by a shareholder not to vote on the action because of the failure to receive voting instructions from the beneficial owner of the shares shall not be considered a vote cast. A meeting may be adjourned by the chairperson of the meeting or by the shareholders even if there is less than a quorum. Unless required by law or determined by the chairperson of the meeting to be advisable, the vote on any question need not be by ballot. On a vote by ballot, each ballot shall be signed by the shareholder voting or by such shareholder's proxy. If authorized by the Board of Directors, a shareholder may vote by a ballot submitted by electronic transmission by the shareholder or the shareholder's proxy, provided that any such electronic transmission shall either set forth or be submitted with information from which it can be determined that the electronic transmission was authorized by the shareholder or the shareholder's proxy.

**Section 8. Proxies.** A shareholder may vote the shareholder's shares in person or by proxy. A shareholder or the shareholder's agent or attorney-in-fact may appoint a proxy to vote or otherwise act for such shareholder by signing an appointment form or by an electronic transmission meeting the requirements of the Virginia Stock Corporation Act. An appointment of a proxy is effective when received by the inspectors of election or the Secretary or other officer or agent authorized to tabulate votes and is valid for 11 months unless a longer period is expressly provided in the appointment form. An appointment of a proxy is revocable by the shareholder unless the appointment form or the electronic transmission states that it is irrevocable and the appointment is coupled with an interest. The death or incapacity of the shareholder appointing a proxy does not affect the right of the Corporation to accept the proxy's authority unless notice of the death or incapacity is received by the Secretary or other officer or agent authorized to tabulate votes before the proxy exercises the proxy's authority under the appointment. An irrevocable appointment is revoked when the interest with which it is coupled is extinguished. Subject to any legal limitations on the right of the Corporation to accept the vote or other action of a proxy and to any express limitation on the proxy's authority stated in the appointment form or electronic transmission, the Corporation is entitled to accept the proxy's vote or other action as that of the shareholder making the appointment. Any fiduciary who is entitled to vote any shares may vote such shares by proxy.

**Section 9. Participation in Meetings.** To the extent authorized by the Board of Directors, shareholders may participate in meetings by means of remote communication. Subject to the applicable provisions of the Virginia Stock Corporation Act, a shareholder participating in a meeting by means of remote communication, as authorized by the Board of Directors, is deemed to be present in person at the meeting.

**Section 10. Order of Business at Meetings of Shareholders.** (a) **Annual Meetings of Shareholders.** At any annual meeting of shareholders, only such nominations of persons for election to the Board of Directors shall be made, and only such other business shall be conducted or considered, as shall have been properly brought before the meeting. For nominations to be properly made at an annual meeting, and proposals of other business to be properly brought before an annual meeting, nominations and proposals of other business must be (i) specified in the Corporation's notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors, (ii) otherwise properly made at the annual meeting by or at the direction of the Board of Directors or (iii) otherwise properly requested to be brought before the annual meeting by a shareholder of the Corporation in accordance with these Bylaws. For nominations of persons for election to the Board of Directors or proposals of other business to be properly requested by a shareholder to be made at an annual meeting, a shareholder must (x) be a shareholder of record at the time the shareholder gives the notice of such nomination or proposal required by Article I, Section 11, at the time of giving of notice of such annual meeting by or at the direction of the Board of Directors and at the time of the annual meeting, (y) be entitled to vote at such annual meeting and (z) comply with the procedures set forth in these Bylaws as to such business or nomination. The immediately preceding sentence shall be the exclusive means for a shareholder to make nominations or other business proposals (other than (I) matters properly brought under Rule 14a-8 under the Securities Exchange Act of 1934, as amended (the "Exchange Act") and included in the Corporation's notice of meeting and (II) nominations properly brought by an Eligible Shareholder pursuant to Article I, Section 12 and included in the Corporation's proxy statement) before an annual meeting of shareholders. (b) **Special Meetings of Shareholders.** At any special meeting of shareholders, only such business shall be conducted or considered as shall have been properly brought before the meeting pursuant to the Corporation's notice of meeting. To be properly brought before a special meeting, proposals of business must be (i) specified in the Corporation's notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors or (ii) otherwise properly

brought before the special meeting by or at the direction of the Board of Directors. Nominations of persons for election to the Board of Directors may be made at a special meeting of shareholders at which directors are to be elected pursuant to the Corporation's notice of meeting (A) by or at the direction of the Board of Directors or (B) provided that the Board of Directors has determined that directors shall be elected at such meeting, by any shareholder of the Corporation who (x) is a shareholder of record at the time the shareholder gives the notice of such nomination or proposal required by Article I, Section 11, at the time of giving of notice of such special meeting by or at the direction of the Board of Directors and at the time of the special meeting, (y) is entitled to vote at the meeting and (z) complies with the procedures set forth in these Bylaws as to such nomination. The immediately preceding sentence shall be the exclusive means for a shareholder to make nominations before a special meeting of the shareholders. (c) Chairperson of the Meeting. Meetings of the shareholders shall be presided over by the Chair of the Board or, if the Chair of the Board is not present, by a Vice Chair of the Board, if elected, or if the Chair of the Board and any Vice Chair of the Board, if elected, are not present, by the Chief Executive Officer or, if the Chief Executive Officer is not present, by a chairperson designated by the Board of Directors or, if the Board of Directors has not made such a designation, by a chairperson chosen by the shareholders at the meeting. The Secretary shall act as secretary of the meeting but, in the Secretary's absence, the chairperson of the meeting may appoint any person to act as secretary of the meeting. (d) Conduct of Meetings. The Board of Directors may adopt such rules, regulations, and procedures for the conduct of any meeting of shareholders that it deems appropriate. Except to the extent inconsistent with such rules, regulations, and procedures adopted by the Board of Directors, the chairperson of the meeting shall have the right and authority to prescribe such rules, regulations, and procedures and to do all such acts and things as are necessary or desirable for the proper conduct of the meeting, including, without limitation, to adjourn or recess the meeting, dismiss business not properly presented, adopt rules, regulations and procedures to maintain order and safety, impose limitations on the time allotted to questions or comments on the affairs of the Corporation, restrict entry to such meeting after the time prescribed for the commencement thereof and open and close the voting polls. The Board of Directors may postpone or reschedule any meeting of shareholders. Section 11. Advance Notice of Shareholder Business and Nominations. (a) Annual Meetings of Shareholders. Without qualification or limitation, for any nomination or any other business to be properly brought before an annual meeting by a shareholder pursuant to Article I, Section 10 (a), the shareholder must have given timely notice thereof in proper form (including, in the case of a nomination, the completed and signed questionnaire, representation and agreement required by Article I, Section 13) and timely updates and supplements thereof in writing to the Secretary and such other business must otherwise be a proper matter for shareholder action. To be timely, a shareholder's notice shall be delivered to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not earlier than the close of business on the 120th day and not later than the close of business on the 90th day prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, notice by the shareholder must be so delivered not earlier than the close of business on the 120th day prior to the date of such annual meeting and not later than the close of business on the later of the 90th day prior to the date of such annual meeting or, if the first public announcement of the date of such annual meeting is less than 100 days prior to the date of such annual meeting, the 10th day following the day on which public announcement of the date of such meeting is first made by the Corporation. In no event shall any adjournment or postponement of an annual meeting, or the public announcement thereof, commence a new time period for the giving of a shareholder's notice as described above. Notwithstanding anything in the preceding two sentences to the contrary, in the event that the number of directors to be elected to the Board of Directors is increased by the Board of Directors, and there is no public announcement by the Corporation naming all of the nominees for director or specifying the size of the increased Board of Directors at least 100 days prior to the first anniversary of the preceding year's annual meeting, a shareholder's notice required by this Article I, Section 11 (a) shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not later than the close of business on the 10th day following the day on which such public announcement is first made by the Corporation. In addition, to be timely, a shareholder's notice shall further be updated and supplemented, if necessary, so that such notice shall be true and correct as of the record date for the meeting and as of the date that is 10 business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not later than five business days after the record date for the meeting in the case of the update and supplement required to be made as of the record date, and not later than eight business days prior to the date for the meeting or any adjournment or postponement thereof in the case of the update and supplement required to be made as of 10 business days prior to the meeting or any adjournment or postponement thereof. If a shareholder who has given timely notice as required herein to make a nomination or bring other business before any such meeting intends to authorize another person to act for such shareholder as a proxy to present the proposal at such meeting, the shareholder shall give notice of such authorization in writing to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not less than three business days before the date of the meeting, including the name and contact information for such person. (b) Special Meetings of Shareholders. In the event the Corporation calls a special meeting of shareholders for the purpose of electing one or more directors to the Board of Directors, any shareholder entitled to make a nomination pursuant to Article I, Section 10 (b) may nominate a person or persons (as the case may be) for election to such position (s) to be elected as specified in the Corporation's notice calling the meeting, provided that the shareholder gives timely notice thereof in proper form (including the completed and signed questionnaire, representation and agreement required by Article I, Section 13) and timely updates and supplements thereof in writing to the Secretary, by registered or certified United States mail. In order to be timely, a shareholder's notice shall be delivered to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not earlier than the close of business on the 120th day prior to the date of such special meeting and

not later than the close of business on the later of the 90th day prior to the date of such special meeting or, if the first public announcement of the date of such special meeting is less than 100 days prior to the date of such special meeting, the 10th day following the day on which public announcement is first made of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting. In no event shall any adjournment or postponement of a special meeting, or the public announcement thereof, commence a new time period for the giving of a shareholder's notice as described above. In addition, to be timely, a shareholder's notice shall further be updated and supplemented, if necessary, so that such notice shall be true and correct as of the record date for the meeting and as of the date that is 10 business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not later than five business days after the record date for the meeting in the case of the update and supplement required to be made as of the record date, and not later than eight business days prior to the date for the meeting or any adjournment or postponement thereof in the case of the update and supplement required to be made as of 10 business days prior to the meeting or any adjournment or postponement thereof. If a shareholder who has given timely notice as required herein to bring any business before any such meeting intends to authorize another person to act for such shareholder as a proxy to present the proposal at such meeting, the shareholder shall give notice of such authorization in writing to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not less than three business days before the date of the meeting, including the name and contact information for such person. (c) Other Provisions. (1) To be in proper form, a shareholder's notice (whether given pursuant to Article I, Section 11 (a) or (b)) to the Secretary must include the following, as applicable: (i) as to the shareholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made: (A) the name and address of such shareholder, as they appear on the Corporation's books, of such beneficial owner, if any, and of their respective affiliates or associates or others acting in concert therewith, (B) (I) the class or series and number of shares of the Corporation which are, directly or indirectly, owned beneficially and of record by such shareholder, such beneficial owner, if any, and their respective affiliates or associates or others acting in concert therewith, including the name and number of shares of the Corporation held by any broker, bank or other nominee on any such person's or entity's behalf, (II) any option, warrant, convertible security, stock appreciation right, or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class or series of shares of the Corporation or with a value derived in whole or in part from the value of any class or series of shares of the Corporation, or any derivative or synthetic arrangement having the characteristics of a long position in any class or series of shares of the Corporation, or any contract, derivative, swap or other transaction or series of transactions designed to produce economic benefits and risks that correspond substantially to the ownership of any class or series of shares of the Corporation, including due to the fact that the value of such contract, derivative, swap or other transaction or series of transactions is determined by reference to the price, value or volatility of any class or series of shares of the Corporation, whether or not such instrument, contract or right shall be subject to settlement in the underlying class or series of shares of the Corporation, through the delivery of cash or other property, or otherwise, and without regard to whether the shareholder of record, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, may have entered into transactions that hedge or mitigate the economic effect of such instrument, contract or right, or any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of the Corporation (any of the foregoing, a "Derivative Instrument") directly or indirectly owned beneficially by such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, (III) any proxy (other than a revocable proxy given in response to a solicitation made pursuant to, and in accordance with, Section 14 (a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A and which is not also then reportable on Schedule 13D under the Exchange Act), contract, arrangement, or understanding pursuant to which such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, has a right to vote any class or series of shares of the Corporation, (IV) any agreement, arrangement, understanding, or otherwise, including any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of any class or series of the shares of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, with respect to any class or series of the shares of the Corporation, or which provides, directly or indirectly, the opportunity to profit or share in any profit derived from any decrease in the price or value of any class or series of the shares of the Corporation (any of the foregoing, "Short Interests"), (V) any rights to distributions on the shares of the Corporation owned beneficially by such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, that are separated or separable from the underlying shares of the Corporation, (VI) any proportionate interest in shares of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, is a general partner or, directly or indirectly, beneficially owns an interest in a general partner of such general or limited partnership, (VII) any performance-related fees (other than an asset-based fee) to which such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, is entitled based on any increase or decrease in the value of shares of the Corporation or Derivative Instruments, if any, (VIII) any significant equity interests or any Derivative Instruments or Short Interests in any principal competitor of the Corporation or any subsidiary of the Corporation held by such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, (IX) any direct or indirect interest of such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, in any contract with the Corporation

or any subsidiary of the Corporation, and (X) any debt securities or other debt instruments of the Corporation or any of its subsidiaries held by such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, (C) a representation as to whether the shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith intends to solicit proxies in support of, as applicable, (I) such business or (II) director nominees other than the Corporation's nominees in accordance with Rule 14a-19 promulgated under the Exchange Act ("Rule 14a-19"), and (D) any other information relating to such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, that would be required to be disclosed in a proxy statement and form of proxy or other filings required to be made in connection with solicitations of proxies for, as applicable, the proposal and / or for the election of directors in a contested election pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder; (ii) if the notice relates to any business other than a nomination of a director or directors that the shareholder proposes to bring before the meeting, a shareholder's notice must, in addition to the matters set forth in paragraph (i) above, also set forth: (A) a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting and any material interest of such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, in such business, (B) the text of the proposal or business (including the text of any resolutions proposed for consideration), and (C) a description of all agreements, arrangements and understandings between such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, on the one hand, and any other person or persons (including their names), on the other hand, in connection with the proposal of such business by such shareholder; (iii) as to each person, if any, whom the shareholder proposes to nominate for election or reelection to the Board of Directors, a shareholder's notice must, in addition to the matters set forth in paragraph (i) above, also set forth: (A) all information relating to such person that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder (including such person's written consent to being named in a proxy statement as a nominee and to serving as a director if elected) and (B) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among such shareholder, such beneficial owner, if any, or any of their respective affiliates or associates or others acting in concert therewith, on the one hand, and each proposed nominee, such proposed nominee's affiliates and associates or others acting in concert therewith, on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Rule 404 promulgated under Regulation S-K if the shareholder making the nomination and any beneficial owner on whose behalf the nomination is made, if any, or any affiliate or associate thereof or person acting in concert therewith, were the "registrant" for purposes of such rule and the nominee were a director or executive officer of such registrant; and (iv) as to each person, if any, whom the shareholder proposes to nominate for election or reelection to the Board of Directors, a shareholder's notice must, in addition to the matters set forth in paragraphs (i) and (iii) above, also include a completed and signed questionnaire, representation and agreement required by Article I, Section 13. The Corporation may require any proposed nominee to furnish within 15 days of such request such other information as may reasonably be requested by the Corporation to determine the eligibility of such proposed nominee to serve as a director of the Corporation under applicable law, rule or regulation, that may be required to be provided concerning such nominee to any governmental or regulatory authority having authority to regulate or oversee the Corporation, its subsidiaries or their respective businesses, to serve as an independent director of the Corporation or that could be material to a reasonable shareholder's understanding of the independence, or lack thereof, of such nominee. (2) For purposes of these Bylaws, "public announcement" shall mean disclosure in a press release reported by a national news service, including the Dow Jones News Service and the Associated Press, or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15 (d) of the Exchange Act and the rules and regulations promulgated thereunder. (3) In addition to the requirements set forth in these Bylaws, a shareholder and its affiliates and associates shall also comply with all applicable requirements of state and federal law, including the Exchange Act and the rules and regulations thereunder (including Rule 14a-19), with respect to any nomination, proposal or other matters set forth in these Bylaws. Without limiting the generality of the foregoing, unless otherwise required by law, (i) no shareholder, beneficial owner, if any, on whose behalf a nomination is made, or any of their respective affiliates or associates or others acting in concert therewith, shall solicit proxies in support of director nominees other than the Corporation's nominees unless such person has complied with Rule 14a-19 in connection with the solicitation of such proxies, and (ii) if any shareholder, any beneficial owner or any of their respective affiliates or associates or others acting in concert therewith (A) provides notice pursuant to Rule 14a-19 (b) (it being understood that such notice shall be in addition to the notices required by this Article I, Section 11) and (B) subsequently fails to comply with the requirements of Rule 14a-19, or fails to timely provide reasonable evidence sufficient to satisfy the Corporation that such person has met the requirements of Rule 14a-19 (a) in accordance with the following sentence, then the Corporation shall disregard any proxies or votes solicited for the shareholder's or beneficial owner's director nominees. If a shareholder, any beneficial owner or any of their respective affiliates or associates or others acting in concert therewith provides notice pursuant to Rule 14a-19 (b), such person shall deliver to the Corporation, no later than seven (7) business days prior to the applicable meeting, reasonable evidence that it has met the applicable requirements of Rule 14a-19. In no event may any shareholder nominate a greater number of director candidates than are subject to election by the shareholders at the applicable meeting. Any shareholder directly or indirectly soliciting proxies from other shareholders must use a proxy card color other than white, which shall be reserved for the exclusive use by the Board of Directors. (4) For the avoidance of doubt, a shareholder's obligation to update and / or supplement such shareholder's notice under these Bylaws, as set forth in this Article I, Section 11, shall not be deemed to permit such shareholder to cure any defects in any such notice existing as of the time required for the giving of such notice, limit the rights or remedies (including without

limitation under these Bylaws) available to the Corporation relating to any such defect, or extend any applicable deadlines hereunder or otherwise applicable to any nomination or proposal, nor shall a shareholder be permitted to amend, update or submit a new nomination or proposal, including by changing or adding nominees or proposals proposed to be brought before a meeting of the shareholders, after the time first required for the giving of the shareholder's notice under these Bylaws. (5) The chairperson of any annual or special meeting of shareholders shall have the power and authority to determine whether a nomination or other business proposed to be brought before the meeting was made or proposed, as the case may be, in accordance with the Articles of Incorporation and these Bylaws and, if any proposed nomination or other business was not made or proposed, as the case may be, in compliance with the Articles of Incorporation or these Bylaws, may dismiss such proposed nomination or other business and declare that no action shall be taken on such nomination or other business and that such nomination or other business shall be disregarded. (6) Nothing in these Bylaws shall be deemed to affect any rights (i) of shareholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act, (ii) of the holders of any series of preferred stock of the Corporation if and to the extent provided for under law or the Articles of Incorporation or (iii) of shareholders to act by unanimous written consent in accordance with the Articles of Incorporation and applicable law.

**Section 12. Proxy Access for Board of Director Nominations.** (a) The Corporation shall include in its proxy statement for any annual meeting of shareholders the name, together with the Required Information (as defined below), of any person nominated for election to the Board of Directors (a "Shareholder Nominee") identified in a timely notice (the "Notice") that satisfies this Article I, Section 12 delivered to the principal executive offices of the Corporation, addressed to the Secretary, by one or more shareholders who at the time the request is delivered satisfy the ownership and other requirements of this Article I, Section 12 (such shareholder or shareholders, and any director, executive officer or general partner of such shareholder or any such affiliate or associate or person with which such shareholder is acting in concert of such shareholder or shareholders, the "Eligible Shareholder"), and who expressly elects to have its nominee included in the Corporation's proxy materials pursuant to this Article I, Section 12. To be timely for purposes of this Article I, Section 12, the Notice must be received by the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation not later than the close of business on the 120th day nor earlier than the close of business on the 150th day prior to the anniversary date of the immediately preceding mailing date for the notice of annual meeting of shareholders. (b) For purposes of this Article I, Section 12, the "Required Information" that the Corporation will include in its proxy statement is (i) the information concerning the Shareholder Nominee and the Eligible Shareholder that, as determined by the Corporation, is required to be disclosed in a proxy statement filed pursuant to the proxy rules of the SEC, (ii) the Nominee Statement (as defined below) for each Shareholder Nominee to be included in the proxy statement of the Corporation, and (iii) if the Eligible Shareholder so elects, a Shareholder Statement (as defined below). (c) The number of Shareholder Nominees (including any Shareholder Nominee elected to the Board of Directors at either of the two preceding annual meetings of shareholders who is being re-nominated by the Board of Directors to stand for reelection and any Shareholder Nominees submitted by an Eligible Shareholder for inclusion in the Corporation's proxy materials pursuant to this Article I, Section 12 but either are subsequently withdrawn or that the Board of Directors or any committee designated by the Board of Directors decides to nominate for election to the Board of Directors (a "Board Nominee")) appearing in the Corporation's proxy materials with respect to a meeting of shareholders shall not exceed the greater of (i) two and (ii) 20% of the number of directors in office as of the last day on which the Notice may be delivered, or if such amount is not a whole number, the closest whole number below 20%; provided, however, that the number of Shareholder Nominees appearing in the Corporation's proxy materials pursuant to this Article I, Section 12 may be reduced, in the sole discretion of the Board of Directors, by the number of director candidates for which the Secretary of the Corporation receives a notice that a shareholder has nominated a director candidate for election to the Board of Directors pursuant to the requirements of Article I, Section 10 (a) and does not expressly elect at the time of providing the notice to have its nominee included in the Corporation's proxy materials pursuant to this Article I, Section 12. In the event that the number of Shareholder Nominees submitted by Eligible Shareholders pursuant to this Article I, Section 12 exceeds this maximum number, each Eligible Shareholder shall select one Shareholder Nominee for inclusion in the Corporation's proxy materials until the maximum number is reached, going in the order of the amount (largest to smallest) of shares of the Corporation's stock eligible to vote in the election of directors each Eligible Shareholder disclosed as owned in the Notice. If the maximum number is not reached after each Eligible Shareholder has selected one Shareholder Nominee, this selection process shall continue as many times as necessary, following the same order each time, until the maximum number is reached. (d) An Eligible Shareholder must have owned (as defined below) 3% or more of the outstanding shares of the Corporation's stock eligible to vote in the election of directors continuously for at least three years (the "Required Shares") as of both the date the Notice is delivered to the Corporation and the record date for determining shareholders entitled to vote at the annual meeting of shareholders and must continue to own the Required Shares through the annual meeting of shareholders. For purposes of satisfying the foregoing ownership requirement under this Article I, Section 12, (i) the shares of stock of the Corporation owned by one or more shareholders, or by the person or persons who own shares of the Corporation's stock and on whose behalf any shareholder is acting, may be aggregated, provided that the number of shareholders and other persons whose ownership of shares is aggregated for such purpose shall not exceed 20, and further provided that the group of shareholders shall have provided to the Secretary of the Corporation as a part of providing the Notice a written agreement executed by each of its members designating one of the members as the exclusive member to interact with the Corporation for purposes of this Article I, Section 12 on behalf of all members, and (ii) two or more funds that are (A) under common management and investment control, (B) under common management and funded primarily by the same employer, or (C) a "group of investment companies," as such term is defined in Section 12 (d) (1) (G) (ii) of the Investment Company Act of 1940, as amended, shall be treated as one shareholder or beneficial owner. No effect will be given to the Eligible Shareholder's votes with respect to the election of directors if the Eligible Shareholder does not comply with each of the representations in Article I, Section 12 (d) (4). Within the

time period specified for providing the Notice, an Eligible Shareholder must provide the following information in writing to the Secretary of the Corporation (in addition to the information required to be provided by Article I, Section 11): (1) one or more written statements from the record holder of the shares (and from each intermediary through which the shares are or have been held during the requisite three-year holding period) verifying that, as of a date within seven calendar days prior to the date the Notice is delivered to or mailed and received by the Corporation, the Eligible Shareholder owns, and has owned continuously for the preceding three years, the Required Shares, and the Eligible Shareholder's agreement to provide, within five business days after the record date for the annual meeting of shareholders, written statements from the record holder and intermediaries verifying the Eligible Shareholder's continuous ownership of the Required Shares through the record date; (2) the written consent of each Shareholder Nominee to be named in the proxy statement as a nominee and to serve as a director if elected; (3) a copy of the Schedule 14N that has been filed with the SEC as required by Rule 14a-18 under the Exchange Act; (4) a representation that the Eligible Shareholder: (i) acquired the Required Shares in the ordinary course of business and not with the intent to change or influence control of the Corporation, and does not presently have such intent; (ii) has not nominated and will not nominate for election to the Board of Directors at the annual meeting of shareholders any person other than the Shareholder Nominee(s) being nominated pursuant to this Article I, Section 12; (iii) has not engaged and will not engage in, and has not and will not be, a "participant" in another person's "solicitation" within the meaning of Rule 14a-1 (l) under the Exchange Act in support of the election of any individual as a director at the annual meeting of shareholders other than its Shareholder Nominee(s) or a Board Nominee; (iv) will not distribute to any shareholder any form of proxy for the annual meeting of shareholders other than the form distributed by the Corporation; (v) will continue to own the Required Shares through the annual meeting of shareholders; and (vi) will provide facts, statements and other information in all communications with the Corporation and its shareholders that are or will be true and correct in all material respects and do not and will not omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading; (5) an undertaking that the Eligible Shareholder agrees to: (i) assume all liability stemming from any legal or regulatory violation arising out of the Eligible Shareholder's communications with the Corporation's shareholders or out of the information that the Eligible Shareholder provided to the Corporation; (ii) indemnify and hold harmless the Corporation and each of its directors, officers and employees individually against any liability, loss or damages in connection with any threatened or pending action, suit or proceeding, whether legal, administrative or investigative, against the Corporation or any of its directors, officers or employees arising out of any nomination submitted by the Eligible Shareholder pursuant to this Article I, Section 12; (iii) file with the SEC all soliciting and other materials as required under Article I, Section 12 (i); and (iv) comply with all other applicable laws, rules, regulations and listing standards with respect to any solicitation in connection with the annual meeting of shareholders; and (6) written disclosure of any transactions between the Eligible Shareholder and the Shareholder Nominee or the Board Nominee within the preceding five years. (e) For purposes of this Article I, Section 12, an Eligible Shareholder shall be deemed to "own" only those outstanding shares of the Corporation's stock as to which a shareholder who is the Eligible Shareholder or is included in the group that constitutes the Eligible Shareholder possesses both (i) the full voting and investment rights pertaining to the shares and (ii) the full economic interest in (including the opportunity for profit and risk of loss on) such shares; provided that the number of shares calculated in accordance with clauses (i) and (ii) shall not include any shares (A) sold by or on behalf of such shareholder in any transaction that has not been settled or closed, (B) borrowed by or on behalf of such shareholder for any purpose or purchased by such shareholder pursuant to an agreement to resell or (C) subject to any option, warrant, forward contract, swap, contract of sale, other derivative or similar agreement entered into by or on behalf of such shareholder, whether any such instrument or agreement is to be settled with shares or with cash based on the notional amount or value of outstanding shares of the Corporation's stock, in any such case which instrument or agreement has, or is intended to have, the purpose or effect of (x) reducing in any manner, to any extent or at any time in the future, such shareholder's full right to vote or direct the voting of any such shares, and / or (y) hedging, offsetting or altering to any degree gain or loss arising from the full economic ownership of such shares by such shareholder. A shareholder shall "own" shares held in the name of a nominee or other intermediary so long as the shareholder retains the right to instruct how the shares are voted with respect to the election of directors and possesses the full economic interest in the shares. A shareholder's ownership of shares shall be deemed to continue during any period in which the shareholder has delegated any voting power by means of a proxy, power of attorney or other instrument or arrangement that is revocable at any time by the shareholder, provided, that (i) such person revokes such delegation within five business days of being notified that its Shareholder Nominee will be included in the Corporation's proxy statement for the relevant annual meeting of shareholders and (ii) such person holds the revoked shares through the annual meeting of shareholders. Whether outstanding shares of the Corporation's stock are "owned" for these purposes shall be determined by the Board of Directors, which determination shall be conclusive and binding on the Corporation and its shareholders, including the Eligible Shareholder. (f) The Eligible Shareholder may provide to the Secretary of the Corporation, within the time period specified for providing the Notice, a written statement for inclusion in the Corporation's proxy statement for the annual meeting of shareholders, not to exceed 500 words, in support of the Shareholder Nominee's candidacy (the "Shareholder Statement"). Notwithstanding anything to the contrary contained in this Article I, Section 12, the Corporation may omit from its proxy materials any information or statement that it believes would violate any applicable law, rule, regulation or listing standard. (g) The Corporation shall not be required to include, pursuant to this Article I, Section 12, a Shareholder Nominee in its proxy materials: (1) if the Eligible Shareholder who has nominated such Shareholder Nominee has engaged in or is currently engaged in, or has been, or is a "participant" in another person's, "solicitation" within the meaning of Rule 14a-1 (l) under the Exchange Act in support of the election of any individual as a director at the annual meeting of shareholders other than its Shareholder Nominee(s) or a Board Nominee; (2) who is not independent under the listing standards of the principal exchange upon which the Corporation's stock is traded, any applicable rules of the SEC and any publicly disclosed standards used by the Board of Directors in determining and disclosing the independence of the Corporation's directors, as determined by



the Board of Directors; (3) whose election as a member of the Board of Directors would cause the Corporation to be in violation of these Bylaws, the Articles of Incorporation, the listing standards of the principal exchange upon which the Corporation's stock is traded, or any applicable state or federal law, rule or regulation; (4) who is or has been, within the past three years, an officer or director of a competitor, as defined in Section 8 of the Clayton Antitrust Act of 1914; (5) who is a named subject of a pending criminal proceeding (excluding traffic violations and other minor offenses) or has been convicted in such a criminal proceeding within the past 10 years; (6) who is subject to any order of the type specified in Rule 506 (d) of Regulation D promulgated under the Securities Act of 1933, as amended; (7) if such Shareholder Nominee or the applicable Eligible Shareholder shall have provided information to the Corporation in respect of such nomination that was untrue in any material respect or omitted to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading, as determined by the Board of Directors; (8) if the Eligible Shareholder who has nominated such Shareholder Nominee has filed a Schedule 13D with respect to the Corporation within the past year; or (9) if the Eligible Shareholder or applicable Shareholder Nominee otherwise breaches any of its or their obligations, agreements or representations under this Article I, Section 12. (h) Notwithstanding anything to the contrary set forth herein, the chairperson of the annual meeting of shareholders shall declare a nomination by an Eligible Shareholder to be invalid, and such nomination shall be disregarded notwithstanding that proxies in respect of such vote may have been received by the Corporation, if the Shareholder Nominee (s) and / or the applicable Eligible Shareholder shall have breached its or their obligations, agreements or representations under this Article I, Section 12, as determined by the Board of Directors or the chairperson of the annual meeting of shareholders. (i) The Eligible Shareholder shall file with the SEC any solicitation communication with the Corporation's shareholders relating to the annual meeting of shareholders at which the Shareholder Nominee will be nominated, regardless of whether any such filing is required under Regulation 14A of the Exchange Act, or whether any exemption from filing is available for such solicitation communication under Regulation 14A of the Exchange Act. (j) No person may be a member of more than one group of persons constituting an Eligible Shareholder under this Article I, Section 12. (k) Any Shareholder Nominee who is included in the Corporation's proxy materials for a particular annual meeting of shareholders but either (i) withdraws from or becomes ineligible or unavailable for election at the annual meeting of shareholders, or (ii) does not receive at least 20 % of the votes cast in favor of the Shareholder Nominee's election, shall be ineligible to be a Shareholder Nominee pursuant to this Article I, Section 12 for the next two annual meetings of shareholders following the annual meeting of shareholders for which the Shareholder Nominee has been nominated for election. (l) The Shareholder Nominee must provide to the Secretary of the Corporation, within the time period specified for providing the Notice, a written statement for inclusion in the Corporation's proxy statement for the annual meeting of shareholders (the "Nominee Statement"), disclosing whether or not such Shareholder Nominee is or will become a party to any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a Shareholder Nominee or director. Such Nominee Statement must also include a representation that if such Shareholder Nominee is elected as a director of the Corporation, such Shareholder Nominee will not agree or accept any increase in the amount or scope, as applicable, of any such compensation, reimbursement or indemnification and that they would be in compliance with applicable law and the Corporation's corporate governance guidelines and other policies applicable to directors generally. At the request of the Corporation, the Shareholder Nominee must promptly, but in any event within five business days of such request, submit the written questionnaire described in Article I, Section 13. The Corporation may request such additional information (i) as may be reasonably necessary to permit the Board of Directors or any committee thereof to determine if a Shareholder Nominee is independent under the listing standards of the principal exchange upon which the Corporation's stock is traded, any applicable rules of the SEC and any publicly disclosed standards used by the Board of Directors in determining and disclosing the independence of the Corporation's directors and otherwise to determine the eligibility of each Shareholder Nominee to service as a director of the Corporation, or (ii) that could be material to a reasonable shareholder's understanding of the independence, or lack thereof, of each Shareholder Nominee. Notwithstanding anything to the contrary contained in this Article I, Section 12, the Corporation may omit from its proxy materials any information or statement that it believes would violate any applicable law, rule, regulation or listing standard. Section 13. Submission of Questionnaire, Representation and Agreement. To be eligible to be a nominee for election or reelection as a director of the Corporation, a person nominated by a shareholder must deliver (in accordance with the time periods prescribed for delivery of notice under Article I, Section 11 or Section 12, as applicable) to the Secretary, by registered or certified United States mail, at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such person and the background of any other person or entity on whose behalf the nomination is being made (which questionnaire shall be provided by the Secretary upon written request of the shareholder), and a written representation and agreement (in the form provided by the Secretary upon written request of the shareholder) that such person (a) is not and will not become a party to (i) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such person, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (ii) any Voting Commitment that could limit or interfere with such person's ability to comply, if elected as a director of the Corporation, with such person's fiduciary duties under applicable law, (b) is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed therein and (c) in such person's individual capacity and on behalf of any person or entity on whose behalf the nomination is being made, would be in compliance, if elected as a director of the Corporation, and will comply with all applicable corporate governance, conflict of interest, confidentiality and publicly disclosed stock ownership and trading policies and guidelines of the Corporation. ARTICLE II DIRECTORS Section 1. General Powers. The Corporation shall have a Board of Directors. All

corporate powers shall be exercised by or under the authority of, and the business and affairs of the Corporation managed under the direction of, and subject to the oversight of, its Board of Directors, subject to any limitation set forth in the Articles of Incorporation. Section 2. Number. The number of directors of the Corporation shall be not less than three nor more than fifteen; the exact number of directors to be fixed, from time to time, by a resolution of the Board of Directors. Section 3. Election and Term. Directors shall be elected at each annual meeting of shareholders. Despite the expiration of a director's term, such director shall continue to serve until such director's successor is elected and qualifies or until there is a decrease in the number of directors. No individual shall be named or elected as a director without such individual's prior consent. Except with respect to vacancies on the Board of Directors, which shall be filled as provided in Article II, Section 4, each director shall be elected by a majority of votes cast of the voting group or groups entitled to elect such director at any meeting of shareholders for the election of directors at which a quorum is present; provided that, if the number of director nominees exceeds the number of directors to be elected by any voting group as of the 10th day preceding the date on which the Corporation first mails its notice of meeting for such meeting to the shareholders, the director (s) shall be elected by a plurality of the votes of the shares of such voting group represented at the meeting and entitled to vote on the election of directors. If an incumbent director is nominated for election and not reelected, the director shall offer the director's resignation promptly to the Board of Directors. Within 60 days following certification of the shareholder vote, the Nominating/Corporate Governance Committee, or other committee responsible for nominating and governance matters, shall recommend to the Board of Directors the action to be taken with respect to such offer of resignation. Within 90 days following certification of the election results, the Board of Directors shall act on the offered resignation. In determining whether or not to accept the offered resignation, the Board of Directors shall consider any recommendation by the committee, the factors considered by the committee and any additional information and factors that the Board of Directors believes to be relevant. No director who submits a resignation under this Article II, Section 3 shall participate in the deliberations or decisions of the committee or the Board of Directors regarding such director's resignation. If the submitted resignation is not accepted by the Board of Directors, the Board of Directors shall disclose its reasons for not accepting the resignation, and the director shall continue to serve until the next annual meeting of shareholders and until the director's successor is duly elected, or the director's earlier resignation or removal. If a director's resignation is accepted by the Board of Directors, or if a nominee for director is not elected by the shareholders, then the Board of Directors, in its sole discretion, may fill any resulting vacancy in accordance with Article II, Section 4. Section 4. Removal; Vacancies. The shareholders may remove any director with or without cause at a meeting called for that purpose. Removal of a director shall be effective only if approved by a majority of the votes entitled to be cast at an election of directors of the voting group or groups by which such director was elected. A vacancy on the Board of Directors, including a vacancy resulting from the removal of a director, or an increase in the number of directors, may be filled only by (i) the shareholders, (ii) the Board of Directors, or (iii) the majority vote of the remaining directors though less than a quorum of the Board of Directors. In the case of the resignation of a director that will become effective at a specified later date, the vacancy may be filled before it occurs but the new director may not take office until the vacancy occurs. Section 5. Organization. (a) The Board of Directors shall elect one of its members to be the Chair of the Board and may elect one or more of its members to be a Vice Chair of the Board. The Chair of the Board shall preside as chairperson at all meetings of the shareholders and of the Board of Directors and shall perform such duties, and shall have such authority, as may be conferred upon the Chair of the Board by the Board of Directors or these Bylaws. A Vice Chair of the Board, if elected, shall, in the absence of the Chair of the Board, preside as chairperson at all meetings of the shareholders and of the Board of Directors and shall perform such duties, and shall have such authority, as may be conferred upon such Vice Chair of the Board by the Board of Directors or these Bylaws. (b) The independent members of the Board of Directors shall designate a Lead Independent Director, who shall not be an officer of or employed by the Corporation and otherwise shall be independent. The Lead Independent Director shall exercise and perform such powers and duties as may be conferred upon the Lead Independent Director by the Board of Directors or these Bylaws. For purposes of this Article II, Section 5 (b), "independent" shall have the meaning set forth in the rules or regulations of any stock exchange applicable to the Corporation. Section 6. Annual and Regular Meetings. Unless otherwise determined by the Board of Directors, an annual meeting of the Board of Directors shall be held on the same day as the annual meeting of shareholders, for the purpose of electing officers and carrying on such other business as may properly come before such meeting. The Board of Directors may also adopt a schedule of additional meetings which shall be considered regular meetings. Regular meetings shall be held at such times and at such places, within or without the Commonwealth of Virginia, as the Chair of the Board, the Chief Executive Officer or the Board of Directors shall designate from time to time. If no place is designated, regular meetings shall be held at the principal executive offices of the Corporation. Section 7. Special Meetings. Special meetings of the Board of Directors may be called by the Chair of the Board, the Lead Independent Director, the Chief Executive Officer or the Board of Directors, and shall be held at such times and at such places, within or without the Commonwealth of Virginia, as the person or persons calling the meetings shall designate. If no such place is designated in the notice of a meeting, it shall be held at the principal executive offices of the Corporation. Section 8. Notice of Meetings. No notice need be given of regular meetings of the Board of Directors. Notice of special meetings of the Board of Directors shall be given to each director not less than six hours before the meeting by any means permitted under the Virginia Stock Corporation Act, including electronic transmission. Any such notice shall include the date, time and place (or means of remote communication) of the meeting. Section 9. Waiver of Notice. A director may waive any notice required by law, the Articles of Incorporation, or these Bylaws before or after the date and time stated in the notice and such waiver shall be equivalent to the giving of such notice. Except as provided in the next sentence of this Article II, Section 9, the waiver shall be in writing, signed by the director entitled to the notice, and filed with the minutes or corporate records. A director's attendance at or participation in a meeting waives any required notice to the director of the meeting unless the director at the beginning of the meeting or promptly upon the director's arrival objects to holding the meeting or transacting business at the meeting and does not thereafter vote for or assent to action taken at the meeting. Section

10. Quorum; Voting. A majority of the number of directors prescribed in accordance with these Bylaws, or if no number has been prescribed, the number of directors in office immediately before the meeting begins, shall constitute a quorum for the transaction of business at a meeting of the Board of Directors. The act of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors. A director who is present at a meeting of the Board of Directors or a committee of the Board of Directors when corporate action is taken is deemed to have assented to the action taken unless (i) the director objects at the beginning of the meeting, or promptly upon the director's arrival, to holding it or transacting specified business at the meeting, or (ii) the director votes against, or abstains from, the action taken. Section 11. Telephonic Meetings. The Board of Directors may permit any or all directors to participate in a regular or special meeting by, or conduct the meeting through the use of, any means of communication by which all directors participating may simultaneously hear each other during the meeting. A director participating in a meeting by this means is deemed to be present in person at the meeting. Section 12. Action Without Meeting. Action required or permitted to be taken at a Board of Directors' meeting may be taken without a meeting if the action is taken by all members of the Board. The action shall be evidenced by one or more written consents stating the action taken, signed by each director either before or after the action taken, and included in the minutes or filed with the corporate records reflecting the action taken. Action taken under this Article II, Section 12 shall be effective when the last director signs the consent unless the consent specifies a different effective date and states the date of execution by each director, in which event it shall be effective according to the terms of the consent. A written consent and the signing thereof may be accomplished by one or more electronic transmissions. Section 13. Compensation. Unless the Articles of Incorporation provide otherwise, the Board of Directors may fix the compensation of directors for their services as directors and may provide for the payment of all expenses incurred by directors in attending meetings of the Board of Directors. ARTICLE III COMMITTEES OF DIRECTORS Section 1. Committees. The Board of Directors may create one or more committees and appoint members of the Board of Directors to serve on them. Each committee shall have two or more members who serve at the pleasure of the Board of Directors. The creation of a committee and appointment of members to it shall be approved by the number of directors required to take action under Article II, Section 10. Section 2. Authority of Committees. To the extent specified by the Board of Directors, each committee may exercise the authority of the Board of Directors under Article II, Section 1 and applicable law, except that a committee may not (i) approve or recommend to shareholders action that is required by law to be approved by shareholders; (ii) fill vacancies on the Board of Directors or on any of its committees; (iii) amend the Articles of Incorporation; (iv) adopt, amend, or repeal these Bylaws; (v) approve a plan of merger not requiring shareholder approval; (vi) authorize or approve a distribution, except according to a formula or method, or within limits, prescribed by the Board of Directors; or (vii) authorize or approve the issuance or sale or contract for sale of shares, or determine the designation and relative rights, preferences, and limitations of a class or series of shares, except that the Board of Directors may authorize a committee, or a senior executive officer of the Corporation, to do so within limits, if any, prescribed by the Board of Directors. Section 3. Committee Meetings; Miscellaneous. The provisions of Article II relating to meetings, notice and waiver of notice, quorum and voting, and consents shall apply to committees of directors and their members. ARTICLE IV OFFICERS Section 1. Officers. The officers of the Corporation shall be a Chief Executive Officer, a Secretary, a Treasurer and a Controller, and may also include one or more Presidents, one or more Vice Presidents and other officers and assistant officers as may be deemed necessary or advisable to carry on the business of the Corporation. In addition, the Board of Directors shall designate from among the officers of the Corporation a chief financial officer and a chief accounting officer (who may be the same person). Any two or more offices may be held by the same person. Section 2. Election; Term. Officers shall be elected at the annual meeting of the Board of Directors and may be elected at such other time or times as the Board of Directors shall determine. They shall hold office, unless removed, until the next annual meeting of the Board of Directors or until their successors are elected. Any officer may resign at any time upon written notice to the Board of Directors, and such resignation is effective when notice is delivered unless the notice specifies a later effective date. The Chief Executive Officer also shall have the authority to appoint one or more officers and to prescribe the duties of any such officer, in each case as the Chief Executive Officer may deem necessary or advisable to carry on the business of the Corporation. Section 3. Removal of Officers. Any officer or assistant officer may be removed at any time, with or without cause by (i) the Board of Directors or (ii) the Chief Executive Officer. Section 4. Chief Executive Officer. The Chief Executive Officer shall be the chief executive officer of the Corporation and shall have general supervision over, responsibility for, and control of the other officers, agents and employees of the Corporation and shall perform such duties, and shall have such authority, as may be lawfully required of, or conferred upon, the Chief Executive Officer by the Board of Directors. Section 5. President. Each President shall perform such duties, and shall have such authority, as may lawfully be required of, or conferred upon, such President by the Chief Executive Officer or the Board of Directors. Section 6. Vice Presidents. Each Vice President (including any Executive Vice President or Senior Vice President) shall perform such duties, and shall have such authority, as may lawfully be required of, or conferred upon, such Vice President by the Chief Executive Officer or the Board of Directors. Section 7. Secretary. The Secretary shall, as secretary of the meetings, record all proceedings at shareholders' meetings and directors' meetings in a book or books kept for that purpose. In addition, the Secretary shall maintain or cause to be maintained the record of shareholders of the Corporation, giving the names and addresses of all shareholders and the numbers, classes and series of the shares held by each and the share transfer books. Section 8. Treasurer. The Treasurer shall (i) have the custody of all moneys and securities of the Corporation, (ii) deposit the same in the name and to the credit of the Corporation in such depositories as may be designated by, or in accordance with action of, the Board of Directors and (iii) disburse the funds of the Corporation as may be required. Section 9. Controller. The Controller shall cause to be kept full and accurate books and accounts of all assets, liabilities and transactions of the Corporation and prepare, or cause to be prepared, statements of the financial condition of the Corporation and proper profit and loss statements covering the operations of the Corporation and such other and additional financial statements, if any, as required by management of the Corporation or the Board of Directors. Section 10. Delegation of Power. During the absence, disqualification or inability to act

of any of the officers of the Corporation, the Board of Directors or the Chief Executive Officer may delegate the powers of such officer to any other officer or employee of the Corporation. ARTICLE V SHARE CERTIFICATES Section 1. Form. Shares of the Corporation may, but need not, be represented by certificates. The Board of Directors may authorize the issue of some or all of the shares of the Corporation without certificates. Any such authorization will not affect shares already represented by certificates until they are surrendered to the Corporation. The rights and obligations of shareholders shall be identical whether or not their shares are represented by certificates. Subject to the provisions of Article V, Section 2, certificates shall be signed by any two officers of the Corporation, who may be the same individual. Certificates may (but need not) be sealed with the seal of the Corporation or a facsimile thereof. Section 2. Signatures. The signatures of the officers upon a share certificate issued by the Corporation may be facsimiles. If any officer who has signed, or whose facsimile signature has been placed upon a share certificate, shall have ceased to be such officer before such certificate is issued, it may be issued by the Corporation with the same effect as if the signatory were such officer at the date of its issue. Section 3. Transfer. The Board of Directors shall have power and authority to make rules and regulations concerning the issue, registration and transfer of shares of the Corporation. Section 4. Restrictions on Transfer. A restriction on the transfer or registration of shares is valid and enforceable against the holder or a transferee of the holder if the restriction is lawful and its existence is noted conspicuously on the front or back of the certificate representing the shares or in an information statement with respect to the shares. Section 5. Lost or Destroyed Share Certificates. The Corporation may issue a new share certificate in the place of any certificate theretofore issued by it which is alleged to have been lost or destroyed and may require the owner of such certificate, or such owner's legal representative, to give the Corporation a bond, with or without surety, or such other agreement, undertaking or security as the Board of Directors shall determine is appropriate, to indemnify the Corporation against any claim that may be made against it on account of the alleged loss or destruction or the issuance of any such new certificate. ARTICLE VI EXCLUSIVE FORUM Unless the Corporation consents in writing to the selection of an alternative forum (an "Alternative Forum Consent"), the United States District Court for the Eastern District of Virginia, Alexandria Division, or, in the event that court lacks jurisdiction to hear such action, the Circuit Court of the County of Fairfax, Virginia, shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of duty owed by any current or former director, officer, employee, shareholder or agent of the Corporation to the Corporation or the Corporation's shareholders, including a claim alleging the aiding and abetting of such a breach of duty, (iii) any action asserting a claim arising pursuant to any provision of the Virginia Stock Corporation Act, the Articles of Incorporation or these Bylaws (in each case, as may be amended from time to time), (iv) any action or proceeding to interpret, apply, enforce or determine the validity of the Articles of Incorporation or these Bylaws (in each case, as may be amended from time to time), including any right, obligation, or remedy thereunder, (v) any action or proceeding regarding indemnification or advancement or reimbursement of expenses arising out of the Articles of Incorporation, these Bylaws or otherwise, unless the Corporation and the party bringing such action or proceeding have entered into a written agreement providing for any other forum or dispute resolution process, in which case such action or proceeding shall be subject to such written agreement, (vi) any action asserting a claim governed by the internal affairs doctrine or (vii) any action asserting one or more "internal corporate claims," as that term is defined in subsection C of Section 13.1-624 of the Virginia Stock Corporation Act, in all cases to the fullest extent permitted by law and subject to one of the courts having personal jurisdiction over the indispensable parties named as defendants. Any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article VI. If any action the subject matter of which is within the scope of this Article VI is filed in a court other than a court located within the Commonwealth of Virginia (a "Foreign Action") by or in the name of any shareholder (including any beneficial owner), such shareholder shall be deemed to have consented to (i) the personal jurisdiction of the state and federal courts located within the Commonwealth of Virginia in connection with any action brought in any such court to enforce the provisions of this Article VI and (ii) having service of process made upon such shareholder in any such action by service upon such shareholder's counsel in the Foreign Action as agent for such shareholder. Failure to enforce the provisions of this Article VI would cause the Corporation irreparable harm and the Corporation shall be entitled to equitable relief, including injunctive relief and specific performance to enforce the provisions of this Article VI. If any provision of this Article VI shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provision in any other circumstance and of the remaining provisions of Article VI (including, without limitation, each portion of any sentence of this Article VI containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities or circumstances shall not in any way be affected or impaired thereby. The existence of any prior Alternative Forum Consent shall not act as a waiver of the Corporation's ongoing consent right as set forth in this Article VI with respect to any current or future actions or proceedings. To the extent that the United States District Court for the Eastern District of Virginia, Alexandria Division, and the Circuit Court of the County of Fairfax, Virginia, do not have personal jurisdiction over the indispensable parties named as defendants, such parties must be given a reasonable opportunity to consent to such jurisdiction before any action or proceeding may be brought or maintained in any other court. ARTICLE VII SEVERABILITY If any provision of these Bylaws shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provision in any other circumstance and of the remaining provisions of these Bylaws (including, without limitation, each portion of any sentence of these Bylaws containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities or circumstances shall not in any way be affected or impaired thereby. ARTICLE VIII MISCELLANEOUS PROVISIONS Section 1. Corporate Seal. The corporate seal of the Corporation shall be circular and shall have inscribed thereon, within and around the circumference," MARKEL

CORPORATION". In the center shall be the word "SEAL". Section 2. Fiscal Year. The fiscal year of the Corporation shall be determined in the discretion of the Board of Directors, but in the absence of any such determination it shall be the calendar year. Section 3. Amendments. Except as otherwise provided by law, these Bylaws may be amended or repealed, and new Bylaws may be made at any regular or special meeting of the Board of Directors. Bylaws made by the Board of Directors may be repealed or changed and new Bylaws may be made by the shareholders, and the shareholders may prescribe that any Bylaw made by them shall not be altered, amended or repealed by the Board of Directors. \*\*\*\*\*

EXHIBIT 4. 1 DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934 As of February 19, 2021, Markel Corporation (the "Company," "we," "us" or "our") had one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended, our common shares, no par value. DESCRIPTION OF COMMON SHARES The following summary description of securities does not purport to be complete and is qualified in its entirety by reference to our articles of incorporation, our bylaws, and applicable provisions of the Virginia Stock Corporation Act. Authorized Shares Our authorized capital consists of 50,000,000 common shares, no par value, and 10,000,000 preferred shares, no par value. Common Shares Our common shares are listed on the New York Stock Exchange under the symbol "MKL." Each holder of our common shares is entitled to one vote for each share held of record on each matter submitted to a vote of shareholders. Cumulative voting in the election of directors is not permitted. As a result, the holders of more than 50% of the outstanding shares have the power to elect all directors. The quorum required at a shareholders' meeting for consideration of any matter is a majority of the shares entitled to vote on that matter, represented in person or by proxy. If a quorum is present, the affirmative vote of a majority of the shares voting on the matter at the meeting generally is required for shareholder approval. However, approval is required by the affirmative vote of more than two-thirds of all shares entitled to vote, whether or not represented at the meeting, in the case of major corporate actions, such as: • a merger, • a share exchange, • the dissolution of the Company, • an amendment to our articles of incorporation, or • the sale of all or substantially all of our assets. These provisions, together with our ability to issue preferred shares with disproportionately high voting power could be used in, or have the effect of, preventing or deterring a party from gaining control of the Company, whether or not beneficial to public shareholders, and could discourage tactics that involve an actual or threatened change of control of the Company. Subject to the rights of any holders of our preferred shares, the holders of common shares are entitled to receive dividends when, as, and if declared by the board of directors out of funds legally available for that purpose and, in the event of liquidation, dissolution or winding up of the Company, to share ratably in all assets remaining after the payment of liabilities. There are no preemptive or other subscription rights, conversion rights, or redemption or sinking fund provisions with respect to common shares. All common shares outstanding upon the consummation of any offering will be legally issued, fully paid and nonassessable. Our transfer agent and registrar for common shares is American Stock Transfer & Trust Co., LLC. Preferred Shares Our preferred shares are issuable in one or more series from time to time at the direction of the board of directors. The board of directors is authorized, with respect to each series, to fix its: • designation, • relative rights, including voting, dividend, conversion, sinking fund and redemption rights, • preferences, including with respect to dividends and on liquidation, and • limitations. The board of directors, without shareholder approval, can issue preferred shares with voting and conversion rights that could adversely affect the voting power of the holders of common shares. This right of issuance could be used as a method of preventing a party from gaining control of us. All preferred shares outstanding upon the consummation of any offering will be legally issued, fully paid and nonassessable. In May 2020, we issued 600,000 6.00% Fixed-Rate Reset Non-Cumulative Series A preferred shares, with no par value and a liquidation preference of \$1,000 per share. Certain terms of the Series A preferred shares are described below and the full terms of the Series A preferred shares are set forth in Article IV A of our articles of incorporation. The Series A preferred shares are not convertible into, or exchangeable for, our common shares or any other class or series of shares or other securities of the Company. The Series A preferred shares have no stated maturity and are not subject to any sinking fund, retirement fund or purchase fund or other obligation of the Company to redeem, repurchase or retire the Series A preferred shares. We have the option to redeem the Series A preferred shares: (a) in whole but not in part, at any time, within 90 days after the occurrence of a "rating agency event," at \$1,020 per Series A preferred share, plus accrued and unpaid dividends, (b) in whole but not in part, at any time, within 90 days after the occurrence of a "regulatory capital event" at \$1,000 per Series A preferred share, plus accrued and unpaid dividends, or (c) in whole or in part, on June 1, 2025, or every fifth anniversary of that date, at \$1,000 per Series A preferred share, plus accrued and unpaid dividends. A "rating agency event" means that any nationally recognized statistical rating organization that publishes a rating for the Company amends, clarifies or changes the criteria it uses to assign equity credit to securities like the Series A preferred shares, which results in shortening the length of time that the Series A preferred shares are assigned a particular level of equity credit or in the lowering of the equity credit assigned to the preferred shares. A "regulatory capital event" means that the Company becomes subject to capital adequacy supervision by a capital regulator and determines that, under such capital adequacy guidelines, the liquidation preference amount of the Series A preferred shares would not qualify as capital. The Series A preferred shares rank senior to our common shares with respect to the payment of dividends and liquidation rights. Holders of the Series A preferred shares will be entitled to receive non-cumulative cash dividends, when, as and if declared by the board of directors, from the original issue date, semi-annually in arrears on the first day of June and December of each year. The Company accrues dividends when they are declared by the board of directors. To the extent declared, these dividends will accrue, on the liquidation preference of \$1,000 per share, at a fixed annual rate of 6.00% from the original issue date to June 1, 2025. After June 1, 2025, the dividend rate will reset every five years and accrue at an annual rate equal to the five-year U. S. Treasury Rate as of two business days prior to the reset date, plus 5.662%. Dividends will not be cumulative and will not be mandatory. Accordingly, if dividends are not declared for any dividend period, then dividends for that that dividend period will cease to accrue and will not be payable. If any Series A preferred shares remain outstanding for any dividend period, unless the full dividends for the latest completed dividend period on all outstanding Series A preferred shares have been paid, we may not (i)

declare or pay a dividend on our common shares or (ii) purchase, redeem or otherwise acquire for consideration any common shares, subject to certain exceptions. Holders of the Series A preferred shares have no voting rights, except with respect to certain fundamental changes in the terms of the Series A preferred shares, in the case of certain dividend non-payments and as otherwise required by applicable law. If dividends on the Series A preferred shares are not declared and paid for three dividend periods, whether or not for consecutive dividend periods, holders of the outstanding Series A preferred shares will be entitled, subject to certain terms and limitations, to vote for the election of two additional directors. Voting Rights with Respect to Extraordinary Corporate Transactions Under Virginia law, a corporation may sell, lease, exchange or otherwise dispose of all, or substantially all, of its property, other than in the usual and regular course of business, if the proposed transaction is approved by more than two-thirds of all of the votes entitled to be cast on that matter. A merger or share exchange plan must be approved by each voting group entitled to vote separately on the plan by more than two-thirds of all the votes entitled to be cast on the plan by that voting group. The articles of incorporation may provide for a greater or lesser vote, but not less than a majority of all the votes cast on the transaction by each voting group entitled to vote on the transaction. Our articles of incorporation do not provide for a greater or lesser vote. Anti-takeover Statutes Virginia law, except as to companies that elect not to be covered, prohibits certain transactions between a Virginia corporation and any "interested shareholder," including: • mergers and statutory share exchanges; • material dispositions of corporate assets not in the ordinary course of business; • any dissolution of the corporation proposed by or on behalf of an interested shareholder; or • any reclassification, including a reverse stock split, recapitalization or merger of the corporation with its subsidiaries that increases the percentage of voting shares beneficially owned by an interested shareholder by more than 5%. An interested shareholder of a corporation is, among others, a person who is, or an affiliate or associate of the corporation who was within three years of the transaction, a beneficial owner of more than 10% of any class of the outstanding voting shares of the corporation unless a majority of disinterested directors approved the acquisition of shares making a person an interested shareholder. Unless the affiliated transaction comes within an applicable exemption, an affiliated transaction in the three years after a person becomes an interested shareholder must be approved by the affirmative vote of a majority of the disinterested directors and by the affirmative vote of the holders of two-thirds of the voting shares other than shares beneficially owned by the interested shareholder. After three years, an affiliated transaction must be approved by the affirmative vote of the holders of two-thirds of the voting shares other than shares beneficially owned by the interested shareholder, unless the affiliated transaction is approved by a majority of the disinterested directors or meets "fair price" criteria. We have not made any election in our articles of incorporation not to be covered by this provision of the Virginia law. Under Virginia law, voting rights for "control shares" must be approved by a corporation's shareholders, not including the shares held by interested parties. "Control shares" are shares whose acquisition entitles the acquirer to between 1/5 and 1/3, between 1/3 and 1/2, or greater than 1/2 of a corporation's voting power. If a shareholder has acquired control shares with a majority of all voting power and these shares have been given voting rights, all other shareholders' rights. Virginia law exempts from these provisions acquisitions where the corporation is a party to the governing agreement. We have not made any election not to be governed by these provisions of Virginia law. Our board of directors can elect not to be governed by these provisions at any time before four days after receipt of a control share acquisition notice. Insurance Holding Company Regulations on Change of Control We are regulated as an insurance holding company and are subject to state and foreign laws that restrict the ability of any person to obtain control of an insurance holding company without prior regulatory approval. Without this approval or an exemption, no person may acquire, or seek to acquire, any voting security of an insurance holding company that controls an insurance subsidiary, or merge with the holding company if, as a result, the person would obtain control of the holding company. "Control" is generally defined as the direct or indirect power to direct or cause the direction of the management and policies of a person and is usually presumed to exist if a person directly or indirectly owns or controls 10% or more of the voting securities of another person. Directors' Duties Under Virginia law, directors must discharge their duties in accordance with their good faith business judgment of the best interests of the corporation. Directors may rely on the advice or acts of others, including officers, employees, attorneys, accountants and board committees, if they have a good faith belief in their competence. Directors' actions are not subject to a reasonable or prudent person standard. Virginia's federal and state courts have focused on the process involved with directors' decision-making and are generally supportive of directors if they have based their decision on an informed process. These elements of Virginia law could make it more difficult to take over a Virginia corporation than corporations in other states. Our bylaws provide that shareholders seeking to make a proposal or nominate a director at an annual meeting of shareholders (other than a proposal or nomination of a director to be included in the Company's proxy materials pursuant to our "proxy access" bylaw) must give notice in writing of the proposal or nomination to the Secretary of the Company, by registered or certified United States mail, at our principal executive offices, not earlier than the close of business on the 120th day and not later than the close of business on the 90th day prior to the first anniversary of the preceding year's annual meeting, unless the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, in which case notice must be given not earlier than the close of business on the 120th day prior to the date of such annual meeting and not later than the close of business on the later of the 90th day prior to the date of such annual meeting or the 10th day following the date on which the Company first publicly announces the date of such meeting, whichever is later. Our bylaws also specify certain requirements for the notice. These provisions may preclude shareholders from making a proposal or nominating a director at an annual meeting of shareholders. Our bylaws provide shareholders with "proxy access," which permits a shareholder (or a group of up to 20 shareholders) holding at least 3% of our outstanding common shares continuously for at least three years to nominate and include director nominees (up to the greater of two individuals or 20% of the number of directors in office as of the last day on which notice of such nomination(s) may be given) in the Company's proxy materials. Any eligible shareholder, or group of shareholders, wishing to nominate and include director nominees in the Company's proxy materials must give notice in writing of the proposed nomination(s), along with certain nomination materials, to the Secretary of the Company, by registered or certified United States mail, at our principal

executive officers, not later than the close of business on 120th day nor earlier than the close of business on the 150th day prior to the anniversary date of the immediately preceding mailing date for the notice of annual meeting of shareholders. Our bylaws also specify certain requirements for the notice, nominee(s) and accompanying nomination materials. These provisions may preclude certain shareholders from nominating director nominees, or certain director nominees from being properly nominated, in each case pursuant to our proxy access provisions. EXHIBIT 10. 10 (f) PERFORMANCE-BASED RESTRICTED STOCK UNIT AWARD AGREEMENT AWARDED TO XXXXX AWARD DATE [ ] VESTING SCHEDULE VESTING DATE [ ] PERCENTAGE OF UNITS 100% MARKEL CORPORATION (the "Company") grants you ("you" or the "Participant") the opportunity to receive restricted stock units ("Units"). The number of Units you may receive will be based on performance conditions as set forth in Exhibit A- Performance Criteria. Until the Vesting Date stated above, these Units are forfeitable and nontransferable, except as specifically provided in this Award Agreement. The Compensation Committee of the Company's Board of Directors (the "Committee") or its authorized delegate will administer this Agreement and its decisions will be final. Any capitalized terms not defined in this Award Agreement will have the meanings provided in the Markel Corporation 2016 Equity Incentive Compensation Plan (the "Plan"). The terms of the award are: 1. Performance Conditions: The performance conditions for your award are set forth in Exhibit A. Your award potential is expressed as a percentage of your eligible salary. On the date the Committee certifies the completion of the Performance Criteria in Exhibit A (the "Determination Date"), the Committee will also determine the dollar equivalent of your Units. The number of Units you will receive is determined by dividing the dollar equivalent by the Fair Market Value of a share of Company Stock on the Determination Date. You will not be awarded any Units if your employment ends prior to the Determination Date. 2. Vesting For Units: If you remain employed through the Vesting Date, the Units will become vested and non-forfeitable. For each vested Unit, the Company will issue you a share of Company Stock. These shares of Company Stock will be issued on or as soon as administratively practicable but no later than 90 days after either: a. the Vesting Date, or b. such later date as may be elected by you pursuant to a valid deferral election in accordance with procedures determined by the Company. 3. Forfeiture of Units. In general, if you separate from service before the Vesting Date, any unvested Units will be forfeited. Under the circumstances set forth below (subject to the other terms of this Award Agreement, including Section 6), Units will vest or be forfeited, in whole or part, upon separation from service before the Vesting Date as follows: (a) Death or Disability. If you separate from service due to death or Disability, then the unvested Units will become fully vested and non-forfeitable, and shares will be issued on the date on which your death or Disability occurs or as soon as administratively practicable (but in any event no later than 90 days) thereafter. (b) 55/5. If you separate from service for any reason (other than due to death, Disability or termination for Cause) after turning 55 years old and, at the time of separation, you have at least 5 consecutive years of service with the Company or its Subsidiaries since your most recent hire date, then the unvested Units will become fully vested and non-forfeitable, and shares will be issued on the date on which your 1 If necessary or appropriate to ensure orderly administration of the Company's payroll and tax reporting obligations, the Company may accelerate vesting and payment of restricted stock units up to a maximum of thirty days before the date on which such restricted stock units would otherwise have vested and been paid. separation occurs or as soon as administratively practicable (but in any event no later than 90 days) thereafter, subject to Section 4 (Specified Employee) below. (c) Military Service. If you separate from service due to military service or are absent from work due to an approved military leave, then the number of Units set forth in this Award will be vested on a pro rata basis based on a fraction of the number of whole months from January 1 of the calendar year following the calendar year in which the Award Date occurs until the date of separation / leave commencement divided by 36, and shares will be issued on the earlier of (i) the otherwise applicable Vesting Date or (ii) the date on which your separation occurs or as soon as administratively practicable (but in any event no later than 90 days) thereafter, subject to Section 4 below. Any remaining unvested Units will be forfeited as of the date of separation / leave commencement; except that a Participant who separates from service due to military service or who is absent from work due to approved military leave, and who returns to active employment with the Company upon cessation of such military service before the otherwise applicable Vesting Date will vest in any remaining unvested Units if employed on the Vesting Date. (d) Involuntary Termination; Redundancy. If you separate from service due to involuntary termination other than for Cause, then the unvested Units will become fully vested and non-forfeitable, and shares will be issued on the date on which your separation from service occurs (or as soon as administratively practicable (but in any event no later than 90 days) thereafter, subject to Section 4 below. (e) Change in Control. If you separate from service within 12 months after a Change in Control due to Involuntary Termination, then the unvested Units will become fully vested and non-forfeitable, and shares will be issued on the date on which your separation from service occurs (or as soon as administratively practicable (but in any event no later than 90 days) thereafter, subject to Section 4 below. For this purpose, Involuntary Termination means your employment is involuntarily terminated without Cause or you terminate your employment for Good Reason, in each case as defined in the Plan. If you have elected to defer the receipt of shares for your vested Units pursuant to a valid deferral election and you separate from service (whether before or after the Vesting Date) for any reason other than death or Disability, then shares will be issued for your vested Units, including any Units which become vested as a result of your separation, as soon as administratively practicable (but in any event no later than 90 days) after the date on which you have elected to receive the shares, notwithstanding the above. 4. Six Month Delay for Specified Employees. If you separate from service before the Vesting Date as set forth in Section 3 above, other than due to death or Disability, and if you are a "specified employee" (as defined in Section 409A (a) (2) (B) (i) of the Code and the generally applicable Internal Revenue Service guidance thereunder) on the date of your separation, then, notwithstanding anything in Section 3 to the contrary, no shares will be issued for your Units until the date that is six months after the date of your separation (or until the date of your death, if earlier). Any shares which you would otherwise have been entitled to receive during the first six months following the date of your separation will be issued instead on the date which is six months after the date of your separation (or on the date of your death, if earlier). Whether you are a "specified employee" will be determined under guidelines established by the Company for this purpose. 5. "Separation from Service" Defined:

References throughout this Agreement to the Participant's "separation from service" and variations thereof will have the meaning set forth in Section 1.409A-1(h) of the Treasury Regulations, as amended from time to time, applying the default terms thereof.

**6. Forfeiture and Restitution.** If during the period of the Participant's employment and two years thereafter, the Company's Co-Chief Executive Officers, or either of them, with respect to any Participant other than to any employee who is an executive officer of the Company for purposes of Section 16 of the Securities Exchange Act of 1934 (including themselves) or the Committee (with respect to a Section 16 Officer) determines, in their or its sole and complete discretion, that the Participant has engaged in any the following, then they or it may either: (a) cancel this Award without any payment, and / or (b) require the Participant to repay the gross amount of any payment received under this Award within the previous two years, by delivery of a number of shares equal to the number of Units awarded (or the Fair Market Value thereof in cash): a. the Participant has become associated with, recruited or solicited customers or other employees of the Company or its Subsidiaries for, or has become employed by, rendered services to, or acquired any interest in (other than any non-substantial interest) any business that is in competition with the Company or its Subsidiaries, b. the Participant's employment has been terminated for Cause, c. the Participant has disclosed the terms of this Agreement to any person other than, on a confidential basis, their spouse, attorneys, accountants or financial advisors or in response to a court order, or d. the Participant has engaged in conduct detrimental to the interests of the Company or its Subsidiaries. In addition, this Award shall be subject to any recoupment or clawback policy that is adopted by, or applicable to, the Company, pursuant to any requirement of law or any exchange listing requirement related to clawback or other recovery of incentive compensation. The provisions of this Section 6 are material consideration for this Award, which would not have been granted had Participant not agreed to them. If a Participant fails to repay in full any amount subject to repayment under this Section 6 within thirty (30) days following a demand from the Company, the Company may enforce the terms of this Section 6 by obtaining a court order against the Participant for the return of such amount, and the Participant consents to jurisdiction in the courts set forth in Section 11 for purposes of obtaining such an order. The Company may also offset any amount it otherwise owes to the Participant to collect any amount due under this Section 6. The remedies outlined in this Section 6 are without limitation as to any other remedies the Company may pursue against the Participant at law or in equity.

**7. Transfer Restrictions.** The Participant's rights to the Units are not subject to sale, assignment, transfer, pledge, or encumbrance.

**8. Tax Withholding.** Unless alternative arrangements satisfactory to the Company are made, the Company will withhold from the payment for the vested Units shares with a Fair Market Value equal to the minimum amount of any foreign, federal, state, or local income, employment or other taxes imposed on the payment required to be withheld by law. The Fair Market Value will be determined on the Vesting Date.

**9. Binding Effect.** Subject to the limitations stated above, this Agreement will be binding upon and inure to the benefit of the Participant's legatees, distributees, and personal representatives and the successors of the Company.

**10. Change in Capital Structure.** The Units will be adjusted as the Committee determines is equitably required in the event of a dividend in the form of stock, spin-off, stock split-up, subdivision or consolidation of shares of Company Stock or other similar changes in capitalization.

**11. Interpretation.** This Agreement will be construed under and be governed by the laws of the Commonwealth of Virginia. ~~THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF VIRGINIA OR THE CIRCUIT COURT FOR THE COUNTY OF HENRICO WILL HAVE EXCLUSIVE JURISDICTION OVER ANY DISPUTES ARISING OUT OF OR RELATED TO THE PLAN OR THIS AGREEMENT.~~

**12. Code Section 409A.** This Agreement is intended to comply with the applicable requirements of Sections 409A (a) (2) through (4) of the Code, and will be interpreted to the extent context reasonably permits in accordance with this intent. The parties agree to modify this Agreement or the timing (but not the amount) of any payment to the extent necessary to comply with Section 409A of the Code and avoid application of any taxes, penalties, or interest thereunder. However, in the event that any amounts payable under this Agreement are subject to any taxes, penalties or interest under Section 409A of the Code or otherwise, the Participant will be solely liable for the payment thereof.

**13. Acceptance.** By accepting any Units or benefits under this Agreement, Participant is accepting all the provisions hereof, including without limitation Section 6 hereof.

IN WITNESS WHEREOF, the Company has caused this Agreement to be signed as of the award date shown above.

MARKEL CORPORATION By: EXHIBIT 10. 10 (g) AWARDED TO XXXXX AWARD DATE XXXXX VESTING SCHEDULE VESTING DATE XXXXX PERCENTAGE OF UNITS 100% MARKEL CORPORATION (the "Company") grants you ("you" or the "Participant") XX restricted stock units ("Units"). Until the Vesting Date stated above, these Units are forfeitable and nontransferable, except as specifically provided in this Award Agreement. The Compensation Committee of the Company's Board of Directors (the "Committee") or its authorized delegate will administer this Agreement and its decisions will be final. Any capitalized terms not defined in this Award Agreement will have the meanings provided in the Markel Corporation 2016 Equity Incentive Compensation Plan (the "Plan").

**1. Vesting For Units.** If you remain employed through the Vesting Date, the Units will become vested and non-forfeitable. For each vested Unit, the Company will issue you a share of Company Stock. These shares of Company Stock will be issued on or as soon as administratively practicable but no later than 90 days after either:

**2. Forfeiture of Units.** In general, if you separate from service before the Vesting Date, any unvested Units will be forfeited. Under the circumstances set forth below (subject to the other terms of this Award Agreement, including Section 5), Units will vest or be forfeited, in whole or part, upon separation from service before the Vesting Date as follows:

(b) **Involuntary Termination; Redundancy.** If you separate from service due to involuntary termination other than for Cause, then the unvested Units will become fully vested and non-forfeitable, and shares will be issued on the date on which your separation from service occurs (or as soon as administratively practicable (but in any event no later than 90 days) thereafter, subject to Section 3 below.

(c) **Change in Control.** If you separate from service within 12 months after a Change in Control due to Involuntary Termination, then the unvested Units will become fully vested and non-forfeitable, and shares will be issued on the date on which your separation from service occurs (or as soon as administratively practicable (but in any event no later than 90 days) thereafter, subject to Section 3 below. For this purpose, Involuntary Termination means you're your employment is involuntarily terminated without Cause or you terminate your employment for



Good Reason, in each case as defined in the Plan. If you have elected to defer the receipt of shares for your vested Units pursuant to a valid deferral election and you separate from service (whether before or after the Vesting Date) for any reason other than death or Disability, then shares will be issued for your vested Units, including any Units which have become vested as a result of such separation, as soon as administratively practicable (but in any event no later than 90 days) after the date on which you have elected to receive the shares, notwithstanding the above.

3. Six Month Delay for Specified Employees. If you separate from service before the Vesting Date as set forth in Section 2 above, other than due to death or Disability, and if you are a "specified employee" (as defined in Section 409A (a) (2) (B) (i) of the Code and the generally applicable Internal Revenue Service guidance thereunder) on the date of your separation, then, notwithstanding anything in Section 2 to the contrary, no shares will be issued for your Units until the date that is six months after the date of your separation (or until the date of your death, if earlier). Any shares which you would otherwise have been entitled to receive during the first six months following the date of your separation will be issued instead on the date which is six months after the date of your separation (or on the date of your death, if earlier). Whether you are a "specified employee" will be determined under guidelines established by the Company for this purpose.

4. Separation from Service Defined. References throughout this Agreement to the Participant's "separation from service" and variations thereof will have the meaning set forth in Section 1.409A-1 (h) of the Treasury Regulations, as amended from time to time, applying the default terms thereof.

5. Forfeiture and Restitution. If during the period of the Participant's employment and two years thereafter, the Company's Co-Chief Executive Officers, or either of them, with respect to any Participant other than to any employee who is an executive officer of the Company for purposes of Section 16 of the Securities Exchange Act of 1934 (including themselves) or the Committee (with respect to a Section 16 Officer) determines, in their or its sole and complete discretion, that the Participant has engaged in any the following, then they or it may either: (a) cancel this Award without any payment, and / or (b) require the Participant to repay the gross amount of any payment received under this Award within the previous two years, by delivery of a number of shares equal to the number of Units awarded (or the Fair Market Value thereof in cash). In addition, this Award shall be subject to any recoupment or clawback policy that is adopted by, or applicable to, the Company, pursuant to any requirement of law or any exchange listing requirement related to clawback or other recovery of incentive compensation. The provisions of this Section 5 are material consideration for this Award, which would not have been granted had Participant not agreed to them. If a Participant fails to repay in full any amount subject to repayment under this Section 5 within thirty (30) days following a demand from the Company, the Company may enforce the terms of this Section 5 by obtaining a court order against the Participant for the return of such amount, and the Participant consents to jurisdiction in the courts set forth in Section 10 for purposes of obtaining such an order. The Company may also offset any amount it otherwise owes to the Participant to collect any amount due under this Section 5. The remedies outlined in this Section 5 are without limitation as to any other remedies the Company may pursue against the Participant at law or in equity.

6. Transfer Restrictions. The Participant's rights to the Units are not subject to sale, assignment, transfer, pledge, or encumbrance.

7. Tax Withholding. Unless alternative arrangements satisfactory to the Company are made, the Company will withhold from the payment for the vested Units shares with a Fair Market Value equal to the minimum amount of any foreign, federal, state, or local income, employment or other taxes imposed on the payment required to be withheld by law. The Fair Market Value will be determined on the Vesting Date.

8. Binding Effect. Subject to the limitations stated above, this Agreement will be binding upon and inure to the benefit of the Participant's legatees, distributees, and personal representatives and the successors of the Company.

9. Change in Capital Structure. The Units will be adjusted as the Committee determines is equitably required in the event of a dividend in the form of stock, spin-off, stock split-up, subdivision or consolidation of shares of Company Stock or other similar changes in capitalization.

10. Interpretation. This Agreement will be construed under and be governed by the laws of the Commonwealth of Virginia. THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF VIRGINIA OR THE CIRCUIT COURT FOR THE COUNTY OF HENRICO WILL HAVE EXCLUSIVE JURISDICTION OVER ANY DISPUTES ARISING OUT OF OR RELATED TO THE PLAN OR THIS AGREEMENT.

11. Code Section 409A. This Agreement is intended to comply with the applicable requirements of Sections 409A (a) (2) through (4) of the Code, and will be interpreted to the extent context reasonably permits in accordance with this intent. The parties agree to modify this Agreement or the timing (but not the amount) of any payment to the extent necessary to comply with Section 409A of the Code and avoid application of any taxes, penalties, or interest thereunder. However, in the event that any amounts payable under this Agreement are subject to any taxes, penalties or interest under Section 409A of the Code or otherwise, the Participant will be solely liable for the payment thereof.

12. Acceptance. By accepting any Units or benefits under this Agreement, Participant is accepting all the provisions hereof, including without limitation Section 5 hereof.

EXHIBIT 10. 10 (h) DEFERRAL ELECTION FOR [ YEAR ] RESTRICTED STOCK UNIT AWARDS You may be selected by the Compensation Committee of the Markel Corporation Board of Directors (the "Committee") to receive a restricted stock unit ("RSU") award in [ YEAR ]. There are two different types of RSU awards that you may be selected to receive: a time-based or "retention" RSU award (which vests based solely on your continued service and the passage of time) or a performance-based RSU award (which vests based both on your continued service and the achievement of certain performance goals). You may elect to defer payment of all or a portion of any RSU award you receive in [ YEAR ] by completing and returning the enclosed deferral election by the due date set forth below. You may make separate deferral elections for time-based and performance-based RSU awards. Performance-based RSU awards are expected to be granted in the first quarter of [ YEAR ]. The awards typically consist of a cash dollar value which, if the applicable performance goals are achieved, will be converted into a number of RSUs in early [ YEAR ] based on the fair market value of Markel common stock at that time. The RSUs typically cliff vest and, unless deferred, will be paid in shares of Markel common stock on or about December 31, [ YEAR ], subject to your continued employment and the other terms and conditions of the award. Pursuant to the enclosed Deferral Election, you may elect to defer payment of all or a portion of any vested RSUs resulting from any performance-based RSU award you receive in [ YEAR ] until a specific date or until you reach a specific age, either of which must be after December 31, [ YEAR ], or the applicable vesting

date. If you elect to defer your vested RSUs until a specific age or date, you will not receive payment for the RSUs until such age or date, even if you separate from service from Markel in the meantime (unless your separation is due to death or Disability). Time-based RSU awards are not granted in regular annual cycles and are instead used to address specific retention needs identified by the Committee. Time-based RSUs typically vest over three years after the grant date, either on a cliff or graded annual basis as determined by the Committee. Pursuant to the enclosed Deferral Election, you may elect to defer payment of all or a portion of any vested time-based RSU award you receive in [ YEAR ] until a specific date or until you reach a specific age, either of which must be after the applicable vesting date. You will be taxed at ordinary income rates on the value of any Markel common stock that you receive with respect to any vested RSUs at the time of payment. You may sell the shares at that time, subject to any securities law restrictions, or have Markel withhold an appropriate number of shares to satisfy the tax obligation. The Committee selects RSU award recipients and determines the terms of RSU awards, whether time-based or performance-based, in its sole discretion. The fact that you have been given the opportunity to make a deferral election does not entitle you to receive any RSU award or guarantee that you will vest in any RSUs that may be awarded. The terms of any RSU award you receive may differ from the terms described above. Any RSU award you may receive will be subject to all terms and conditions of the applicable plan document and your individual award agreement, which will control over any contrary provisions hereof. There are advantages and disadvantages to making a deferral election. You should consider your particular tax and financial situation before deciding to do so and are encouraged to consult your tax or financial planning advisor in making a decision. Note that deferral elections, once made, are irrevocable. You will not have another opportunity to defer payment of any RSU award you receive in [ YEAR ] after the due date set forth below. For a Deferral Election to be effective you must complete and return the attached form by December [ XX ], [ YEAR ]. Name: \_\_\_\_\_ Complete the information below if you wish to defer payment of any vested RSU award you receive in [ YEAR ]. You may make separate elections for time-based and performance-based RSU awards. Payment of vested RSUs is made in a single lump sum in shares of common stock of Markel Corporation ("Shares"), less any withholding or other applicable taxes. **THIS DEFERRAL ELECTION MUST BE COMPLETED AND RECEIVED BY THE COMMITTEE OR A DESIGNEE NO LATER THAN DECEMBER [ 16 ], [ YEAR ] TO BE EFFECTIVE FOR THE [ YEAR ] PLAN YEAR.**

**1. Deferral Election For Performance-Based RSU Awards** You may elect to defer payment of any performance-based RSU award you receive in [ YEAR ] (under which RSUs will typically be issued in early [ YEAR ]). Note that this election only applies to any RSUs resulting from a [ YEAR ] performance-based RSU award, including any discretionary RSUs awarded in connection with such award, and not to any retention or other time-based restricted stock units awarded during [ YEAR ]. To defer any [ YEAR ] performance-based RSU award select one of the following: [ ] I hereby elect to defer payment of any Shares payable under any performance-based RSU award I receive in [ YEAR ], including any discretionary RSUs awarded in connection with such award. I wish to receive payment of any Shares deferred hereunder at the following time (s) [ indicate one or more times below; total of all percentages you enter must equal 100 % ]: [ ] I wish to receive payment of \_\_\_\_\_ percent of the Shares deferred hereunder upon my attainment of age (the date you attain this age must be later than December 31, [ YEAR ]): \_\_\_\_\_. [ You may add additional percentages and ages below if you wish. ] [ ] I wish to receive payment of \_\_\_\_\_ percent of the Shares deferred hereunder upon the following calendar date (date must be later than December 31, [ YEAR ]): \_\_\_\_\_. [ You may add additional percentages and calendar dates below if you wish. ] Note that if you should separate from service from Markel (other than due to your death or becoming Disabled as defined in your Award Agreement) prior to the date (s) or age (s) you have elected above, your RSUs will remain deferred and will not be paid until the date (s) or age (s) you have elected. If you should die or become Disabled (as defined in your award agreement) prior to the date (s) or age (s) you have elected above, then all of your remaining vested, unpaid RSUs will be paid on or within 90 days after the date of your death or Disability.

**2. Deferral Election For Time-Based RSU Awards** You may elect to defer payment of any time-based RSU award you receive in [ YEAR ]. Note that this election only applies to any time-based RSU award you may receive in [ YEAR ], not to any performance-based RSU award you may receive in [ YEAR ], including any discretionary RSUs awarded in connection with such award. To defer any [ YEAR ] time-based RSU award select only one of the following: [ ] I wish to make the same deferral election (s) with respect to any time-based RSU award I receive in [ YEAR ] as I have made in Section 1 above with respect to any [ YEAR ] performance-based RSU I receive. [ ] I hereby elect to defer payment of any Shares payable under any time-based RSU award I receive in [ YEAR ]. I wish to receive payment of any Shares deferred hereunder at the following time (s) [ indicate one or more times below; total of all percentages you enter must equal 100 % ]: [ ] I wish to receive payment of \_\_\_\_\_ percent of the Shares deferred hereunder upon my attainment of age (the date you attain this age must be later than the applicable vesting date which in all likelihood will be no later than three years from the award date or December 31, [ YEAR ]): \_\_\_\_\_. [ You may add additional percentages and ages below if you wish. ] [ ] I wish to receive payment of \_\_\_\_\_ percent of the Shares deferred hereunder upon the following calendar date (date must be later than the applicable vesting date which in all likelihood will be no later than three years from the award date or December 31, [ YEAR ]): \_\_\_\_\_. [ You may add additional percentages and calendar dates below if you wish. ] Note if the vesting date is later than the date or age selected then such deferral election will be void and the RSUs will vest in accordance with the terms of the award agreement. Your deferred RSUs will remain subject to all other terms and conditions of the applicable plan document and your individual award agreement. Note that payment of any Shares otherwise payable upon your separation from service with Markel Corporation may be required to be delayed for an additional six months in order to comply with Section 409A of the Internal Revenue Code. I understand that I am making the elections contained herein in accordance with the terms of the applicable plan document and that the terms of the plan and my award agreement will be used to resolve any ambiguity or inconsistency that should arise in connection with the making of these elections. Participant's Signature Date Exhibit 21

CERTAIN SUBSIDIARIES OF MARKEL CORPORATION Subsidiary State or Other Jurisdiction of Incorporation or Organization Alterra Capital Holdings Limited Bermuda Lodgepine Capital Management Limited Bermuda Markel Bermuda

LimitedBermudaMarkel CATCo Investment Management Ltd. BermudaMarkel CATCo Re Ltd. BermudaMarkel CATCo Reinsurance Fund Ltd. BermudaBlack / White & Associates Insurance BrokersCaliforniaEssentia Insurance CompanyMissouriEvanston Insurance CompanyIllinoisMarkel American Insurance CompanyVirginiaMarkel Aspen, Inc. DelawareFirstComp Insurance CompanyNebraskaMarkel Holdings GmbHGermanyMarkel Insurance S. E. GermanyMarkel India Investments, Inc. VirginiaMarkel Insurance CompanyIllinoisMarkel Global Reinsurance CompanyDelawareMarkel International Holdings (Delaware) LimitedDelawareCaunce O' Hara & Company LimitedEnglandFSB Insurance Service LimitedEnglandGalleon Marine Insurance Agency LimitedEnglandMarkel Capital LimitedEnglandMarkel Consultaney Services LimitedEnglandMarkel International (Dubai) LimitedDubai / UAEMarkel International Hong Kong LimitedHong KongMarkel International Insurance Company LimitedEnglandMarkel International Labuan LimitedMalaysiaMarkel International Singapore Pte. LimitedSingaporeMarkel Law LLPEnglandMarkel Protection LimitedEnglandMarkel Services India Private LimitedIndiaMarkel Syndicate Management LimitedEnglandMarkel Service, IncorporatedVirginiaMarkel Surety Holding CorporationDelawareSureTee Insurance CompanyTexasSurety International SPCCayman IslandsMarkel Ventures, Inc. VirginiaBrahmin Leather Works, LLCDelawareBuckner Heavylift Cranes, LLCNorth CarolinaCapTech Ventures, Inc. VirginiaCosta Farms Holdings, LLCFloridaCottrell, Inc. GeorgiaEagle Construction of Va., LLCVirginiaEllieott Dredge Enterprises, LLCMarylandHaveo WP LLCDelawareLansing Building Products, LLCVirginiaMarkel Eagle Investment, LLCVirginiaMarkel Eagle Investment II, LLCVirginiaMarkel Food Group, Inc. VirginiaMetromont, LLCSouth CarolinaPanel Specialists, Inc. TexasParkLand Ventures, Inc. VirginiaPartnerMD, LLCVirginiaRetail Data, LLCVirginiaRosemont Investment Group, LLCDelawareVSC Fire & Security, Inc. VirginiaWeldship LLPPennsylvaniaMarkel West, Inc. CaliforniaMINT Canadian Specialty Underwriters LimitedCanadaMarkel Canada LimitedCanadaMKL Services CompanyVirginiaNephila Advisors LLCDelawareNephila Holdings Ltd. BermudaNautical Management Ltd. BermudaNephila Capital Ltd. BermudaNephila Syndicate Management LimitedEnglandRubik Reinsurance Ltd. BermudaPrairie State Administrative Services, Inc. IllinoisState National Companies, Inc. DelawareCity National Insurance CompanyTexasIndependent Specialty Insurance CompanyDelawareNational Specialty Insurance CompanyTexasPinnacle National Insurance CompanyTexasState National Insurance Company, Inc. TexasSuperior Specialty Insurance CompanyDelawareT. B. A. Insurance Group, Ltd. TexasUnited Specialty Insurance CompanyDelaware Exhibit 23 Consent of Independent Registered Public Accounting Firm We consent to the incorporation by reference in the registration statements No. 333-253330 on Form S-3 and No. 333-107661, No. 333-178051, No. 333-181419, No. 333-211415, No. 333-239331, and No. 333-253317 on Form S-8 of our reports dated February 17, 2023, with respect to the consolidated financial statements of Markel Corporation and the effectiveness of internal control over financial reporting. Exhibit 31. 1 CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULE 13a-14 (a) / 15d-14 (a) I, Thomas S. Gayner, certify that: 1. I have reviewed this annual report on Form 10-K of Markel Corporation; 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 (s) 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 (s) 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. February 17, 2023 /s/ Thomas S. GaynerThomas S. GaynerChief Executive Officer (Principal Executive Officer) Exhibit 31. 2 CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER I, Brian J. Costanzo, certify that: February 17, 2023 /s/ Brian J. CostanzoBrian J. CostanzoSenior Vice President, Finance, Chief Accounting Officer and Controller (Principal Financial Officer) Exhibit 32. 1 FURNISHED PURSUANT TO 18 U. S. C. SECTION 1350 In connection with the Annual Report of Markel Corporation (the "Company") on Form 10-K for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned certifies pursuant to 18 U. S. C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge: 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. February 17, 2023 /s/ Thomas S.

~~Gayner Thomas S. Gayner Chief Executive Officer (Principal Executive Officer) / s / Brian J. Costanzo Brian J. Costanzo Senior Vice President, Finance, Chief Accounting Officer and Controller (Principal Financial Officer)~~