

2022

Annual Report
RenaissanceRe Holdings Ltd.

RenaissanceRe

OUR PURPOSE

is to protect communities
and enable prosperity.

OUR VISION

is to be the best underwriter.

OUR MISSION

is to match desirable risk
with efficient capital.

Contents

Financial Highlights	1
Letter to Shareholders	2
Message from the Chair	8
Comments on Regulation G	10
Form 10-K	13
Board of Directors and Leadership Team	Last Page
Office Locations, Financial and Investor Information	Inside Back Cover

Financial Highlights

Financial Highlights for RenaissanceRe Holdings Ltd. and Subsidiaries

(In thousands of United States dollars, except per share amounts and percentages)	2022	2021	2020
Gross premiums written	\$ 9,213,540	\$ 7,833,798	5,806,165
Net income (loss) available (attributable) to RenaissanceRe common shareholders	\$ (1,096,578)	\$ (73,421)	731,482
Operating income (loss) available (attributable) to RenaissanceRe common shareholders ⁽¹⁾	\$ 315,556	\$ 81,599	14,640
Total assets	\$ 36,552,878	\$ 33,959,502	30,820,580
Total shareholders' equity attributable to RenaissanceRe	\$ 5,325,274	\$ 6,624,281	7,560,248
Per common share amounts			
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted	\$ (25.50)	\$ (1.57)	15.31
Operating income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted ⁽¹⁾	\$ 7.30	\$ 1.72	0.12
Book value per common share	\$ 104.65	\$ 132.17	138.46
Tangible book value per common share ⁽¹⁾	\$ 98.81	\$ 126.27	133.09
Tangible book value per common share plus accumulated dividends ⁽¹⁾	\$ 123.81	\$ 149.79	155.17
Dividends per common share	\$ 1.48	\$ 1.44	1.40
Ratios			
Return on average common equity	% (22.0)	% (1.1)	11.7
Operating return on average common equity ⁽¹⁾	% 6.3	% 1.3	0.2
Net claims and claim expense ratio	% 68.5	% 74.6	74.0
Underwriting expense ratio	% 29.2	% 27.5	27.9
Combined ratio	% 97.7	% 102.1	101.9

⁽¹⁾ Represents a non-GAAP financial measure, which is reconciled in the “Comments on Regulation G” on pages 10-12.

Financial Strength Ratings

	A.M. Best ⁽¹⁾	S&P ⁽²⁾	Moody's ⁽³⁾	Fitch ⁽⁴⁾
Renaissance Reinsurance Ltd.	A+	A+	A1	A+
DaVinci Reinsurance Ltd.	A	A+	A3	–
Fontana Reinsurance Ltd.	A	–	–	–
Fontana Reinsurance U.S. Ltd.	A	–	–	–
Renaissance Reinsurance of Europe Unlimited Company	A+	A+	–	–
Renaissance Reinsurance U.S. Inc.	A+	A+	–	–
RenaissanceRe Europe AG	A+	A+	–	–
RenaissanceRe Specialty U.S. Ltd.	A+	A+	–	–
Top Layer Reinsurance Ltd.	A+	AA	–	–
Vermeer Reinsurance Ltd.	A	–	–	–
RenaissanceRe Syndicate 1458	–	–	–	–
Lloyd's Overall Market Rating	A	A+	–	AA-
RenaissanceRe ERM Score	Very Strong	Very Strong	–	–

Ratings as of February 3, 2023.

⁽¹⁾ The A.M. Best ratings for the Company's principal operating subsidiaries and joint ventures represent the insurer's financial strength rating. The Lloyd's Overall Market Rating represents RenaissanceRe Syndicate 1458's financial strength rating. RenaissanceRe has been assigned a “Very Strong” Enterprise Risk Management (“ERM”) score by A.M. Best.

⁽²⁾ The S&P ratings for the Company's principal operating subsidiaries and joint ventures represent the insurer's financial strength rating and the issuer's long-term issuer credit rating. The Lloyd's Overall Market Rating represents RenaissanceRe Syndicate 1458's financial strength rating. RenaissanceRe has been assigned a “Very Strong” ERM score by S&P.

⁽³⁾ The Moody's ratings represent the insurer's financial strength rating.

⁽⁴⁾ The Fitch rating for Renaissance Reinsurance represents the insurer's financial strength rating. The Lloyd's Overall Market Rating represents Syndicate 1458's financial strength rating.

Letter to Shareholders



Our customers need reinsurance capacity, and they need it now more than at any other time in my career; in part because the world is a riskier place; in part because other forms of risk capital have fatigued. Our willingness and ability to be a long-term partner by providing consistent capacity continues to differentiate us when it matters the most.”

By Kevin O'Donnell

President and Chief Executive Officer

Dear Shareholders,

In 2022, we remained true to our strategy and culture, supported our customers when they needed us most and remained financially resilient despite large natural catastrophes and a historically unfavorable investment market. We demonstrated our unwavering commitment to our vision to be the best underwriter and our mission to match desirable risk with efficient capital. These polestars guided our actions and kept us on a path we are uniquely positioned to chart – underwriting property and casualty reinsurance risk.

I. Our Performance in 2022

FINANCIAL PERFORMANCE

Last year, I ended my letter with, “Going forward, we are poised to benefit from higher interest rates and improved pricing for our products.” In hindsight, while this statement was correct, I do not think anyone truly anticipated what 2022 held in store for the world and its implications for our company and industry. It was a transitional year for reinsurance, the final straw that forced the shift to more sustainable market conditions for the supply and demand for risk capital that we believe will ultimately benefit all stakeholders.

To begin with, it was the sixth consecutive tumultuous year for catastrophes. Across the world, people and communities were impacted by a war in Europe and extreme weather events, culminating in Hurricane Ian, the second-largest natural catastrophe in history.

Even more influential, however, was the historically unprecedented increase in interest rates driven by the resurgence of economic inflation. This resulted in widespread mark-to-market losses that impacted reinsurers and cedents alike, contributing to a reduction in estimated reinsurance capital of over \$60 billion from 2021 to 2022. This constraint in supply was mirrored by an increased need for reinsurance as a result of significant inflation, which increased loss costs.

Against this backdrop, we reported a net loss attributable to our common shareholders of \$1.1 billion and operating income available to common shareholders of \$316 million. Our return on average common equity was (22)% and our operating return on average common equity was 6%. Our change in book value per common share was (21)% and our change in tangible book value per common share plus change in accumulated dividends was (21)%.

CAPITAL MANAGEMENT

The strength of our balance sheet entering 2022 helped us absorb financial market volatility and positioned us for success in 2023. Our first preference is to deploy capital into profitable business. We had ample opportunity to do so at the January 1, 2023 renewal, despite material mark-to-market losses on our investment portfolio during the year. In part, this was due to beginning 2022 with excess capital; in part, it was due to judicious management of that capital over the course of the year.

Earlier in the year, we had returned more than \$163 million of capital to shareholders through share repurchases. At mid-year, we proactively decided to pause these repurchases in anticipation of market opportunities at January 1. This decision proved correct and the opportunities we found were beyond even what we expected.

We also paid common dividends of \$65 million in 2022, and recently increased our quarterly dividend for the 28th consecutive year.

THREE DRIVERS OF PROFIT

Consistent with prior years, I would like to discuss our three drivers of profit, which are underwriting income, fee income and investment income.

Underwriting Income

Our first driver of profit is the income we earn from our core underwriting business. In 2022, this was a gain of \$150 million, comprised of a gain of \$166 million in our Casualty and Specialty segment and a loss of \$16 million in our Property segment.

This represents an improvement from 2021, when we reported an underwriting loss of \$109 million, driven by a \$186 million loss in our Property segment. Overall industry losses in 2022 were of a similar magnitude to 2021 (at \$132 billion vs \$146 billion). So, despite similar levels of overall activity, and the costliest Florida hurricane in history, our underwriting business performed materially better in 2022. The key drivers of this improved performance were the growing profitability of our Casualty and Specialty business, with underwriting income more than doubling year-over-year, as well as increased rate and better terms and conditions in our Property business.

In last year's Letter to Shareholders, I highlighted multiple dynamics that were driving increases in property reinsurance rates. These were:

- The poor performance of the industry, especially in third-party capital,
- The impact of social inflation,

- The market's increasing reluctance to accept volatility,
- Significantly reduced retro capacity, especially for higher frequency risk, and
- Increased cost of volatility.

Each of these property market dynamics is still in play, if not exacerbated. To this list we now need to add:

- The resurgence of economic inflation,
- Increased cost of capital, and
- A material supply/demand imbalance.

The confluence of these factors resulted in a step change in the property reinsurance market at January 1, 2023. Heading into the renewal, I publicly outlined several underwriting changes we would require to provide our investors with an increased margin of safety. They were:

- Substantial rate increases,
- Increased retentions on property programs,
- Tighter terms and conditions and narrowing coverage,
- Offering non-concurrent capacity and private placements,
- Broad participation at improved economics across cedents' reinsurance programs (including casualty and specialty), and
- Reducing participation on any program where conditions were not met.

We achieved these conditions at January 1, and believe they will persist well into the future.

For our Casualty and Specialty segment, 2022 was a solid year where we were able to deliver consistent profitability despite several large events, including the Russian invasion of Ukraine. Against this backdrop, we increased Casualty and Specialty net premiums written by 42% and delivered a combined ratio of 95%.

Our Casualty and Specialty book features an enviable combination of accelerated growth in strong underwriting years (2020 to 2022) coupled with downside protection against the softer underwriting years (2014 to 2019) through adverse development covers protecting the Tokio Millennium Re business we acquired and Lloyd's 2009 to 2017 Casualty business.

Looking forward, we continue to find opportunities in this segment. In particular, many specialty lines were nearly as dislocated as property catastrophe at the January 1, 2023 renewal, including cyber, terror, aviation, and marine & energy. In our financial lines business, over the course of 2022, we capitalized on several opportunities to grow our mortgage business on attractive terms. Our outlook for 2023 includes the possibility for an economic recession, so going forward we are focused on optimizing the profitability of our

financial lines business rather than growing it. Finally, in traditional casualty, rate increases are starting to slow and, in some lines such as D&O, even reduce. Reductions in ceding commissions are helping offset this slowdown. In 2023, we will continue to optimize the portfolio, focusing on profitability.

Fee Income

Our second driver of profit is the fee income we earn from our Capital Partners business. For the year, management and performance fees totaled \$119 million. Given the elevated catastrophe activity, performance fees were diminished in the second half of the year.

It was another challenging market to raise new funds, and our success in this environment was due to the hard work of our Capital Partners team and its differentiated value proposition. Increasingly, third-party investors are valuing strong underwriting and risk management capabilities, which supported us in raising over \$1.4 billion in third-party capital across DaVinci, Medici, Fontana, Vermeer and Upsilon in 2022, plus an additional \$400 million for the January 1, 2023, renewal.

In 2022, we advanced our leadership position in the third-party capital management market with an innovative joint venture – Fontana. Fontana is the first fund targeting institutional third-party capital investors that is 100% dedicated to writing casualty and specialty risks, including long-tail lines. The formation of Fontana enables us to employ the same strategy in our Casualty and Specialty business that we have successfully deployed for over 20 years in our Property business. It sets us apart from our peers, as we are the only reinsurer that has both owned and managed, rated and fronted “at-scale” vehicles for every class of risk that we write.

Fontana delivers significant benefits to our key stakeholders:

- For our Customers – it helps us to be a broader, deeper partner by providing long-term capital that allows us further flexibility to grow our Casualty and Specialty segment and bring additional capacity to dislocated markets;
- For our Capital Partners – it offers investors direct access to market leading underwriting and claims management through a whole account quota share of our Casualty and Specialty book of business; and
- For our Shareholders – it reduces expected volatility and furthers our strategic aim of monetizing our competitive advantage in underwriting by trading underwriting risk for fee income.

I believe our strategic choices over the last decade and proven track record of disciplined execution make us uniquely capable of bringing a solution such as Fontana to market. For example, we built the underwriting infrastructure necessary to source attractive casualty and specialty risk and underwrite it profitably. We now have over 40 underwriters in this segment – many with decades of experience – as well as strong relationships with the largest and most prominent insurance companies in the world. Equally important, we have built a robust Casualty and Specialty claims infrastructure, which is vital to managing the lifecycle of this business profitably.

Our underwriting focus also distinguishes Fontana from other, investment-centered vehicles, as we expect its return to primarily derive from underwriting profit, not investment return. None of the competitive advantages we bring to Fontana can be quickly or cheaply replicated by third-party capital. This should provide investors with the confidence they need to invest in long-tail lines and the liquidity they will ultimately desire to efficiently exit, creating a deep and sustainable moat around this business.

As of January 1, 2023, we managed over \$10 billion of third-party capital, inclusive of Top Layer Re capacity. Our capital partners are overwhelmingly long-term oriented investors that have remained aligned to our strategy of matching risk to capital through significant periods of industry volatility. Looking ahead, we expect the size and scale of our Capital Partners platform to contribute meaningfully and sustainably to fee income as a key driver of profit.

Investment Income

Our third driver of profit is investment income. Our vision to be the best underwriter centers our value creation formula on net underwriting profitability, rather than on investment returns on the assets we hold. This means we do not accept risk for less than the expected cost of holding it, or target asset accumulation as an objective of our underwriting strategy. Rather, we construct our investment portfolio to support our underwriting strategy, and as a result our investment portfolio continues to be, by necessity, highly liquid, well-rated and relatively low duration.

That said, we manage over \$22 billion in investments on which our stakeholders expect us to obtain a reasonable return. Heading into 2022, we anticipated higher interest rates and mark-to-market impacts. Most asset classes performed poorly in 2022, with the S&P 500 down 18%, and many classes of fixed income performing similarly if not worse.

This should be a case of short-term pain for long-term gain. Interest rates appear to have reset at a new, higher equilibrium. We are beginning to realize the benefits in the form of increased coupon rates on new bonds in our portfolio as well as accretion to par on existing bonds as they approach maturity.

Given the lengthening duration of our liabilities due to the growth in our Casualty and Specialty business, we also took the opportunity in 2022 to grow our alternative investments portfolio, increasing allocations to both private credit and private equity.

As a result of all these changes, our investment portfolio should contribute significantly more profit to our bottom line in 2023 and forward.

II. Consistent Strategy and Enduring Relevance in the Value Chain

In past letters, I have discussed how RenaissanceRe has grown and changed as a company during my tenure as CEO. This process was necessary and healthy as it reflected the evolving needs of our customers and the markets we serve.

As much as RenaissanceRe has changed, however, we remain remarkably similar to the company that revolutionized the reinsurance market in the aftermath of 1992's Hurricane Andrew. While many of the innovations that we introduced to reinsurance have since become standard practices, our deep understanding and management of risk continues to provide us with the confidence to occupy a unique and profitable position in the insurance value chain. Sometimes this has been a contrarian path, but we fully believe we are best equipped to navigate it successfully.

From the beginning, our strategy has included a focus on reinsurance. We have built considerable bench strength and expertise in this area, and we have always been a leading provider of property catastrophe protection. This strategic consistency provides us conviction in our view of risk and enables us to outperform across market cycles. It also allowed us to take a leadership role in the current market.

We welcome volatility because we know how to price and manage it. We are able to identify and shift to the most profitable opportunities, and employ our Gross-to-Net strategy to optimize our net position. In the past, we purchased significant retrocessional protection to control our net risk; now we are increasingly focused on using rate and terms and conditions to shape our portfolio.

Equally important, over the last decade, we have diversified our business to include more casualty and specialty risks. This portfolio has transformed RenaissanceRe into a diversified reinsurer with broad access to risk and considerable investment, operating and premium leverage. As our Casualty and Specialty business has matured, it has become an increasingly larger and more consistent contributor to our bottom line.

And finally, we have grown our Capital Partners business alongside the strategic evolution of our top line premium. This allows us to provide multiple forms of capacity – owned and managed, rated and fronted – for every class of risk that we write, and also provides our business with significant earnings diversification, and a complement to volatility, in the form of stable fee income.

THE END OF THE EASY MONEY ERA

Our continuing commitment to property catastrophe reinsurance helped distinguish us in 2022, a time when many companies in the property and casualty industry retreated from this business. The primary driver of this pullback was poor financial performance driven by climate change, inflation, and losses from secondary perils such as Russia's invasion of Ukraine and COVID-19.

At a more essential level, however, I believe there has been a fundamental mismatch between risk and capital in the property catastrophe business. Debt capital naively wrote equity risk. This mismatch was driven by a period of low interest rates, during which investors were compelled to stretch for yield. This was particularly apparent in the third-party capital market, where investments are frequently structured like debt instruments, and have debt-like returns attributed to them. But I believe the mismatch afflicted most of the property and casualty industry, amplifying its deleterious effect on rates.

It is a fact that property catastrophe business, regardless of the form it takes, is inherently risky. For this reason, property catastrophe reinsurance needs to be the most profitable business line in property and casualty, commensurate with the level of volatility it absorbs.

It is likewise a fact that property catastrophe events are randomly distributed. As a result, there are sometimes extended periods where property catastrophe volatility appears low. While this seemingly low volatility is a temporary statistical anomaly, it can drive extended soft market cycles. Reversion to the mean, however, is inevitable.

Mean reversion is the part of the cycle where we now find ourselves. Many investors assumed more risk than they were prepared to bear, and now that volatility has resumed, this capital has become fatigued. I am surprised that capital persisted as long as it did – which I attribute more to central bankers' commitment to easy money than debt capitals' suitability for taking property catastrophe risk. With higher interest rates, investors no longer need to stretch for yield, which will reduce "tourist capital" and reinsurance supply. Many years from now, 2022 will likely mark the end of an era of easy money stretching back to at least 2008.

SHIFTING PARETO FRONTIER

The rapid retrenchment of interest rates in 2022 coupled with heightened volatility has forced the step change in reinsurance pricing I discussed earlier. This step change is most evident in property catastrophe, but we believe it will ultimately affect all lines as the increased cost of capital reverberates.

This step change was overdue, and necessary for the long-term interests of all of our stakeholders. The cost of capital, and especially risk capital, has increased. This has caused the Pareto efficient frontier to shift upward materially, with each unit of risk needing to deliver significantly higher expected profit. We have the best tools in the industry to approach this efficient frontier, and view this adjustment as an opportunity to substantially improve our profitability. Obviously, this is a very good outcome for our shareholders and investors in our Capital Partners business.

Not as obvious is the fact that it is also good for our customers by ensuring continuing reinsurance availability. This shift better aligns the interests of our customers and investors, and appropriately incentivizes investors to continue providing their capital. This is especially true now, as the impacts of climate change and inflation have amplified risk globally, while rising interest rates have created numerous attractive deployment opportunities in other, better understood asset classes.

ENDURING RELEVANCE IN THE INSURANCE VALUE CHAIN

Some have questioned the continuing relevance of the reinsurance industry in light of the realignment in interests that took place at January 1, 2023. I find this question dubious for two reasons.

First – after six consecutive years of elevated catastrophe losses, I assert that the value proposition of reinsurance has never been clearer to our customers and our purpose to protect communities and enable prosperity has never been more important. Our customers rely on the long-term health of the reinsurance industry to continue to provide protection to their customers.

Second – reinsurance is a critical link in the insurance value chain for which there is no perfect substitute. Said another way, reinsurance can profitably bear risk in ways that other forms of risk capital, such as debt or equity, cannot. Reinsurance has always played an important role in the insurance value chain, and in its absence, a profit-seeking insurance company would choose to shift its strategy to occupy this important niche.

I have discussed the role of reinsurers in previous letters to shareholders, but in summary, no other form of capital will ever be as consistently efficient in buffering volatility. Our customers need reinsurance capacity, and they need it now more than at any other time in my career; in part because the world is a riskier place; in part because other forms of risk capital have fatigued. Our willingness and ability to be a long-term partner by providing consistent capacity continues to differentiate us when it matters the most.

GOVERNANCE

In May 2023, Anthony (Tony) Santomero will be retiring from the Board at the end of his term. On behalf of the management team, I would like to thank Tony for his 15 years of distinguished service to RenaissanceRe, in particular in his role as the Chair of the Investment and Risk Management Committee. Tony brought deep financial acumen to the Board, with a broad academic, macroeconomic and banking perspective.

This year we are pleased to nominate Torsten Jeworrek to stand for election as an independent director at our Annual General Meeting of Shareholders in May 2023. As a former Member of the Board of Management and the CEO Reinsurance of Munich Reinsurance AG, Torsten brings a global perspective, and wealth of risk understanding and reinsurance experience to the Board.

IN CLOSING, AND LOOKING FORWARD TO OUR FOURTH DECADE

RenaissanceRe will celebrate our 30th anniversary in 2023. I have been here for most of these years and played a role in many of our biggest changes. It is what has stayed the same, however, that has kept RenaissanceRe special. I have discussed the consistency of our strategy, but this consistency is equally applicable to our unique culture. We work hard to maintain the same ethos that has infused our success since we began, such as working as an Integrated System, with a flat hierarchical structure, shared outcomes, a principles-based approach and an unrelenting focus on strong underwriting. I believe our success here is reflected in our deep bench strength and the long tenures of our employees, without whom we could not have achieved all that we have over the prior three decades. I look forward to coming to work every day because I get to be the captain of the best team in the industry.

I believe that we are better positioned to deliver long-term stakeholder value in 2023 than we have been in decades. We are in the midst of one of the hardest markets we have experienced, characterized by substantially more demand

for our products than the market can supply. In addition, higher interest rates and the benefits of asset leverage from our operating scale creates a strong tailwind for investment income. Finally, our Capital Partners business continues to grow and provide a source of stable, diversifying fees.

In closing, we enter 2023 with an enduring value proposition and each of our three drivers of profit poised to deliver outperformance over the course of the year. I could not be more excited about the current environment or our positioning in it, and look forward to capitalizing on the tremendous opportunities ahead to create material value for our shareholders.

Sincerely,



Kevin J. O'Donnell
President and Chief Executive Officer

Cautionary Statement Regarding Forward-Looking Statements

Any forward-looking statements made in this Letter to Shareholders and Annual Report, including any statements regarding any future results of operations and financial positions, business strategy, plan and any objectives for future operations, reflect RenaissanceRe's current views with respect to future events and financial performance and are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements are subject to numerous factors that could cause actual results to differ materially from those set forth in or implied by such forward-looking statements, including the factors affecting future results disclosed in RenaissanceRe's filings with the SEC, including its Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q.

Message from the Chair

“2022 was a great year, both strategically and operationally, where management demonstrated strong industry leadership and tactical execution, while continuing its track record of exceptional risk and capital management.”

By James L. Gibbons
Non-Executive Chair



As Kevin discussed in his letter, 2022 was a defining year for RenaissanceRe. The Board is proud of what the Company accomplished in a difficult environment that tested the entire property and casualty industry. RenaissanceRe was steadfast in its strategy, prudent in its capital management and unwavering in its leadership at the January 1 renewal. In summary, the Board believes that 2022 was a year where the Company executed well on behalf of shareholders and, as a result, enters 2023 in a position of strength with a clear sense of purpose and a focus on capturing the many opportunities the year will surely bring.

STRATEGIC CONSISTENCY AND INDUSTRY LEADERSHIP

More than any time in recent memory, 2022 was a year of mounting investor skepticism regarding the sustainability of reinsurance as a business. This was driven by many factors, including concerns over persistent volatility associated with property catastrophe risk, the increasing impact of secondary perils, the growing risk of climate change and the continuing pressure of inflation. Across the industry, this resulted in widespread fatigue in third-party capital and an overall decline in the supply of reinsurance capital for property risk.

RenaissanceRe was founded nearly 30 years ago on the belief that it was not only possible to underwrite property catastrophe reinsurance profitably, but also that our underwriting expertise would allow us to do so in a

manner that would deliver superior long-term returns to our shareholders. With the support of the Board, management conducted a review of RenaissanceRe's strategic positioning in the insurance value chain in order to test this belief, while at the same time evaluating several alternative strategies that had increasingly been adopted by peers.

Following this rigorous process, management concluded that the focused and unique strategic position of the Company as a best-in-class reinsurer with a commitment to underwriting property catastrophe risk was valuable, and that the Company's competitive advantage in understanding risk and matching it with the most efficient capital would continue to inure to the benefit of shareholders. The Board has thoroughly reviewed management's analysis, and strongly concurs with its conclusion.

This focused and consistent strategy provided RenaissanceRe a competitive advantage at one of the most pivotal and successful January 1 renewals in the Company's history. Early in the cycle, management demonstrated leadership by clearly delineating a series of pricing and underwriting objectives designed to increase the margin of safety and better ensure long-term profitability for shareholders. The RenaissanceRe team accomplished these ambitious objectives, which fundamentally reset the relationship between insurers and reinsurers. We believe that this reset represents a more stable, long-term equilibrium that should protect the interests of both investors and customers.

PRUDENT CAPITAL MANAGEMENT

Against a volatile backdrop of historic increases in interest rates and elevated industry catastrophe losses, the Board recognizes management's demonstration of prudent capital management. The Company took proactive steps to maintain a strong capital position throughout the year, which ensured the flexibility necessary to deploy capital into attractive underwriting opportunities. This capital management strategy included share repurchases in the first half of the year and, as both bond and reinsurance market dynamics dislocated, a proactive shift to retaining capital. This positioned RenaissanceRe to capture outstanding underwriting opportunities at the January 1 renewal.

During the year, RenaissanceRe also extended its leadership in third-party capital management. In addition to raising significant capital in the face of substantial industry fatigue, the Company also launched an innovative joint venture, Fontana, which is the only rated third-party balance sheet dedicated to casualty and specialty risk.

RenaissanceRe is unique in its ability to bring both owned and managed capital to every risk that it writes, and amply demonstrated this ability throughout the course of 2022 to the benefit of shareholders.

PEOPLE & OPERATIONS

Management successfully demonstrated robust succession planning in 2022, as the Company drew on its deep bench strength to make several senior underwriting promotions, including a new Group Chief Underwriting Officer and senior underwriting regional and segment roles. At the same time in 2022, headcount increased by 11%, a testament to management's ability to successfully retain and recruit talent in a difficult labor market. In aggregate, effective people management allowed RenaissanceRe to hone the execution of its strategy and strengthen its franchise at an important time in the market, while minimizing disruptions and maintaining its unique culture.

As RenaissanceRe grows, it has also been careful to retain important aspects of this culture and nimble execution. In 2022, this included undertaking several initiatives to upgrade its systems and workflow, increasing stability and resilience and streamlining processes. Operational efficiency is critical to ongoing success, and the Board is pleased to see the Company continue to advance this endeavor.

RESPONDING TO EVOLVING RISKS

As I wrote last year, the Board remains focused on managing and mitigating evolving risks. One of the most significant risks the industry faces is climate change, and RenaissanceRe is committed to reducing its impact. In furtherance of this laudable goal, the Board fully supports Kevin's assumption of the role of Chair of ClimateWise. As

an organization, ClimateWise provides a robust forum for the insurance industry to coordinate activities in a collective response to climate change, helping facilitate and finance the transition to net zero and seeking out opportunities to develop innovative products, such as nature-based solutions.

Another evolving and highly prominent risk landscape that the Board oversees is cyber and data security. This year, management executed a hypothetical cyber incident response tabletop exercise facilitated by an external expert and with the participation of the Board. This exercise was successful, and I believe is indicative of the Company's strong focus on enterprise risk management. Of course, such exercises are supplemented by robust planning and prevention that takes place across the Company daily.

GOVERNANCE

In 2022, in line with best practices, the Board rotated independent auditors, welcoming PricewaterhouseCoopers (PwC) into this critical role. Management undertook a rigorous selection and approval process, and we appreciate the fresh perspective that PwC has provided.

At the upcoming Annual General Meeting of Shareholders in May 2023, Anthony (Tony) Santomero will be retiring from the Board at the end of his term. Over his 15 years of service, including 11 years as Chair of our Investment and Risk Management Committee, Tony has helped guide RenaissanceRe through a period of significant expansion and diversification. On behalf of the Board, I would like to thank him for his leadership and many contributions to the Company's success during his tenure.

As Tony retires, the RenaissanceRe Board has nominated Torsten Jeworrek to stand for election. An important role of the Board is governance of RenaissanceRe's strategy, and Torsten has decades of global reinsurance leadership experience that will be invaluable to the Board as we fulfill this duty.

In summary, 2022 was a great year, both strategically and operationally, where management demonstrated strong industry leadership and tactical execution, while continuing its track record of exceptional risk and capital management. The Board of Directors couldn't be prouder of the many accomplishments of the RenaissanceRe team in 2022, and couldn't be more excited about the many opportunities to deliver superior shareholder returns in 2023.

Sincerely,



James L. Gibbons
Non-Executive Chair

Comments on Regulation G

In addition to the financial measures prepared in accordance with generally accepted accounting principles in the U.S. ("GAAP") set forth in this Annual Report, the Company has included certain non-GAAP financial measures within the meaning of Regulation G. The Company has provided certain of these financial measures in previous investor communications and the Company's management believes that such measures are important to investors and other interested persons, and that investors and such other persons benefit from having a consistent basis for comparison between quarters and for comparison with other companies within or outside the industry. These measures may not, however, be comparable to similarly titled measures used by companies within or outside of the insurance industry. Investors are cautioned not to place undue reliance on these non-GAAP measures in assessing the Company's overall financial performance.

Operating Income (Loss) Available (Attributable) to RenaissanceRe Common Shareholders and Operating Return on Average Common Equity – Annualized

The Company uses "operating income (loss) available (attributable) to RenaissanceRe common shareholders" as a measure to evaluate the underlying fundamentals of its operations and believes it to be a useful measure of its corporate performance. "Operating income (loss) available (attributable) to RenaissanceRe common shareholders" as used herein differs from "net income (loss) available (attributable) to RenaissanceRe common shareholders," which the Company believes is the most directly comparable GAAP measure, by the exclusion of (1) net realized and unrealized gains and losses on investments, excluding other investments - catastrophe bonds, (2) net foreign exchange gains and losses, (3) corporate expenses associated with the acquisition of TMR and the subsequent sale of RenaissanceRe UK, (4) the income tax expense or benefit associated with these adjustments and (5) the portion of these adjustments attributable to the Company's redeemable noncontrolling interests. The Company's management believes that "operating income (loss) available (attributable) to RenaissanceRe common shareholders" is useful to investors because it more accurately measures and predicts the Company's results of operations by removing the variability arising from these adjustments. The Company also uses "operating income (loss) available (attributable) to RenaissanceRe common shareholders" to calculate "operating income (loss) available (attributable) to RenaissanceRe common shareholders per common share - diluted" and "operating return on average common equity - annualized." The following table is a reconciliation of: (1) net income (loss) available (attributable) to RenaissanceRe common shareholders to "operating income (loss) available (attributable) to RenaissanceRe common shareholders"; (2) net income (loss) available (attributable) to RenaissanceRe common shareholders per common share - diluted to "operating income (loss) available (attributable) to RenaissanceRe common shareholders per common share - diluted"; and (3) return on average common equity - annualized to "operating return on average common equity - annualized." Comparative information for all prior periods has been updated to conform to the current methodology and presentation.

Comments on Regulation G (Continued)

(in thousands of United States dollars, except per share amounts and percentages)	Year Ended December 31,		
	2022	2021	2020
Net income (loss) available (attributable) to RenaissanceRe common shareholders	\$ (1,096,578)	\$ (73,421)	\$ 731,482
Adjustment for net realized and unrealized losses (gains) on investments, excluding other investments - catastrophe bonds	1,670,150	183,101	(827,667)
Adjustment for net foreign exchange losses (gains)	56,909	41,006	(27,773)
Adjustment for corporate expenses associated with the acquisition of TMR and the subsequent sale of RenaissanceRe UK ⁽¹⁾	—	135	47,964
Adjustment for income tax expense (benefit) ⁽²⁾	(83,149)	(11,521)	29,863
Adjustment for net (loss) income attributable to redeemable noncontrolling interests ⁽³⁾	(231,776)	(57,701)	60,771
Operating income (loss) available (attributable) to RenaissanceRe common shareholders	\$ 315,556	\$ 81,599	\$ 14,640
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share - diluted	\$ (25.50)	\$ (1.57)	\$ 15.31
Adjustment for net realized and unrealized losses (gains) on investments, excluding other investments - catastrophe bonds	38.80	3.88	(17.54)
Adjustment for net foreign exchange losses (gains)	1.32	0.87	(0.59)
Adjustment for corporate expenses associated with the acquisition of TMR and the subsequent sale of RenaissanceRe UK ⁽¹⁾	—	—	1.02
Adjustment for income tax expense (benefit) ⁽²⁾	(1.93)	(0.24)	0.63
Adjustment for net (loss) income attributable to redeemable noncontrolling interests ⁽³⁾	(5.39)	(1.22)	1.29
Operating income (loss) available (attributable) to RenaissanceRe common shareholders per common share - diluted	\$ 7.30	\$ 1.72	\$ 0.12
Return on average common equity - annualized	(22.0)%	(1.1)%	11.7%
Adjustment for net realized and unrealized losses (gains) on investments, excluding other investments - catastrophe bonds	33.5%	2.9%	(13.4)%
Adjustment for net foreign exchange losses (gains)	1.1%	0.6%	(0.4)%
Adjustment for corporate expenses associated with the acquisition of TMR and the subsequent sale of RenaissanceRe UK ⁽¹⁾	—%	—%	0.8%
Adjustment for income tax expense (benefit) ⁽²⁾	(1.7)%	(0.2)%	0.5%
Adjustment for net (loss) income attributable to redeemable noncontrolling interests ⁽³⁾	(4.6)%	(0.9)%	1.0%
Operating return on average common equity - annualized	6.3%	1.3%	0.2%

⁽¹⁾ Included in the year ended December 31, 2020 is the loss on sale of RenaissanceRe UK of \$30.2 million.

⁽²⁾ Represents the income tax (expense) benefit associated with the adjustments to net income (loss) available (attributable) to RenaissanceRe common shareholders. The income tax impact is estimated by applying the statutory rates of applicable jurisdictions, after consideration of other relevant factors.

⁽³⁾ Represents the portion of the adjustments above that are attributable to the Company's redeemable noncontrolling interests, including the income tax impact of those adjustments.

Comments on Regulation G (Continued)

Tangible Book Value Per Common Share and Tangible Book Value Per Common Share Plus Accumulated Dividends

The Company has included in this Annual Report “tangible book value per common share” and “tangible book value per common share plus accumulated dividends.” “Tangible book value per common share” is defined as book value per common share excluding goodwill and intangible assets per share. “Tangible book value per common share plus accumulated dividends” is defined as book value per common share excluding goodwill and intangible assets per share, plus accumulated dividends.

The Company’s management believes “tangible book value per common share” and “tangible book value per common share plus accumulated dividends” are useful to investors because they provide a more accurate measure of the realizable value of shareholder returns, excluding the impact of goodwill and intangible assets. The following table is a reconciliation of book value per common share to “tangible book value per common share” and “tangible book value per common share plus accumulated dividends.”

	Year Ended December 31,		
	2022	2021	2020
Book value per common share	\$ 104.65	\$ 132.17	\$ 138.46
Adjustment for goodwill and other intangibles ⁽¹⁾	(5.84)	(5.90)	(5.37)
Tangible book value per common share	98.81	126.27	133.09
Adjustment for accumulated dividends	25.00	23.52	22.08
Tangible book value per common share plus accumulated dividends	\$ 123.81	\$ 149.79	\$ 155.17
Change in book value per common share	(20.8)%	(4.5)%	14.9%
Change in tangible book value per common share plus change in accumulated dividends	(20.6)%	(4.0)%	17.9%

⁽¹⁾ For 2022, 2021 and 2020, goodwill and other intangibles included \$17.8 million, \$18.6 million and \$23.0 million, respectively, of goodwill and other intangibles included in investments in other ventures, under equity method.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2022

OR

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

**For the transition period from _____ to _____
Commission File No. 001-14428**

RENAISSANCERE HOLDINGS LTD.

(Exact Name Of Registrant As Specified In Its Charter)

Bermuda

98-0141974

(State or Other Jurisdiction of Incorporation or Organization)

(I.R.S. Employer Identification Number)

Renaissance House, 12 Crow Lane, Pembroke HM 19 Bermuda

(Address of Principal Executive Offices)

(441) 295-4513

(Registrant's telephone number)

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

Title of each class	Trading symbol	Name of each exchange on which registered
Common Shares, Par Value \$1.00 per share	RNR	New York Stock Exchange
Depository Shares, each representing a 1/1,000th interest in a Series F 5.750% Preference Share, Par Value \$1.00 per share	RNR PRF	New York Stock Exchange
Depository Shares, each representing a 1/1,000th interest in a Series G 4.20% Preference Share, Par Value \$1.00 per share	RNR PRG	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company, as defined in Rule 12b-2 of the Act. Large accelerated filer ☒, Accelerated filer ☐, Non-accelerated filer ☐, Smaller reporting company ☐, Emerging growth company ☐

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

The aggregate market value of Common Shares held by nonaffiliates of the registrant at June 30, 2022 was \$6.7 billion based on the closing sale price of the Common Shares on the New York Stock Exchange on that date.

The number of Common Shares, par value US \$1.00 per share, outstanding at February 3, 2023 was 43,719,732.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for the 2023 Annual General Meeting of Shareholders are incorporated by reference into Part III of this report.

RENAISSANCERE HOLDINGS LTD.
TABLE OF CONTENTS

	<u>Page</u>
NOTE ON FORWARD-LOOKING STATEMENTS	1
PART I	3
ITEM 1. BUSINESS	3
ITEM 1A. RISK FACTORS	33
ITEM 1B. UNRESOLVED STAFF COMMENTS	46
ITEM 2. PROPERTIES	46
ITEM 3. LEGAL PROCEEDINGS	46
ITEM 4. MINE SAFETY DISCLOSURES	46
PART II	47
ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER REPURCHASES OF EQUITY SECURITIES	47
ITEM 6. RESERVED	49
ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	50
ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	97
ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	103
ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	103
ITEM 9A. CONTROLS AND PROCEDURES	103
ITEM 9B. OTHER INFORMATION	105
ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS	108
PART III	106
ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE	106
ITEM 11. EXECUTIVE COMPENSATION	106
ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED SHAREHOLDER MATTERS	106
ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE	106
ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES	106
PART IV	106
ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES	106
ITEM 16. 10-K SUMMARY	112
SIGNATURES	113
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS	F-1
INDEX TO SCHEDULES TO CONSOLIDATED FINANCIAL STATEMENTS	S-1

NOTE ON FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K for the year ended December 31, 2022, of RenaissanceRe Holdings Ltd. contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. Forward-looking statements are necessarily based on estimates and assumptions that are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which, with respect to future business decisions, are subject to change. These uncertainties and contingencies can affect actual results and could cause actual results to differ materially from those expressed in any forward-looking statements made by, or on behalf of, us. In particular, statements using words such as “may,” “should,” “estimate,” “expect,” “anticipate,” “intend,” “believe,” “predict,” “potential,” or words of similar import generally involve forward-looking statements. For example, we may include certain forward-looking statements in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” with regard to trends in results, prices, volumes, operations, investment results, margins, combined ratios, fees, reserves, market conditions, risk management and exchange rates. This Form 10-K also contains forward-looking statements with respect to our business and industry, such as those relating to our strategy and management objectives, plans and expectations regarding our response and ability to adapt to changing economic conditions, market standing and product volumes, competition and new entrants in our industry, industry capital, insured losses from loss events, government initiatives and regulatory matters affecting the reinsurance and insurance industries.

The inclusion of forward-looking statements in this report should not be considered as a representation by us or any other person that our current objectives or plans will be achieved. Numerous factors could cause our actual results to differ materially from those addressed by the forward-looking statements, including the following:

- our exposure to natural and non-natural catastrophic events and circumstances and the variance they may cause in our financial results;
- the effect of climate change on our business, including the trend towards increasingly frequent and severe climate events;
- the effectiveness of our claims and claim expense reserving process;
- the effect of emerging claims and coverage issues;
- the performance of our investment portfolio and financial market volatility;
- the effects of inflation;
- the ability of our ceding companies and delegated authority counterparties to accurately assess the risks they underwrite;
- our ability to maintain our financial strength ratings;
- the highly competitive nature of our industry;
- our reliance on a small number of brokers;
- collection on claimed retrocessional coverage, and new retrocessional reinsurance being available on acceptable terms or at all;
- the historically cyclical nature of the (re)insurance industries;
- our ability to attract and retain key executives and employees;
- our ability to successfully implement our business, strategies and initiatives;
- our exposure to credit loss from counterparties;
- our need to make many estimates and judgments in the preparation of our financial statements;
- our ability to effectively manage capital on behalf of investors in joint ventures or other entities we manage;
- changes to the accounting rules and regulatory systems applicable to our business, including changes in Bermuda and U.S. laws or regulations;
- other political, regulatory or industry initiatives adversely impacting us;
- our ability to comply with covenants in our debt agreements;
- the effect of adverse economic factors, including changes in the prevailing interest rates and recession or the perception that recession may occur;
- the effect of cybersecurity risks, including technology breaches or failure;
- a contention by the IRS that any of our Bermuda subsidiaries are subject to taxation in the U.S.;
- the effects of possible future tax reform legislation and regulations in the jurisdictions in which we operate;
- our ability to determine any impairments taken on our investments;

- our ability to raise capital on acceptable terms, including through debt instruments, the capital markets, and third party investments in our joint ventures and managed fund partners;
- our ability to comply with applicable sanctions and foreign corrupt practices laws; and
- our dependence on the ability of our operating subsidiaries to declare and pay dividends.

As a consequence, our future financial condition and results may differ from those expressed in any forward-looking statements made by or on behalf of us. The factors listed above, which are discussed in more detail in “Part I, Item 1A. Risk Factors,” in this Form 10-K, should not be construed as exhaustive. Forward-looking statements speak only as of the date they are made, and we undertake no obligation to revise or update forward-looking statements to reflect new information, events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

PART I

ITEM 1. BUSINESS

In this Form 10-K, references to “RenaissanceRe” refer to RenaissanceRe Holdings Ltd. (the parent company) and references to “we,” “us,” “our” and the “Company” refer to RenaissanceRe Holdings Ltd. together with its subsidiaries, unless the context requires otherwise.

Defined terms used throughout this Form 10-K are included in the “Glossary of Defined Terms” at the end of “Part I, Item 1. Business” of this Form 10-K. We have also included a “Glossary of Selected Insurance and Reinsurance Terms” at the end of “Part I, Item 1. Business” of this Form 10-K.

All dollar amounts referred to in this Form 10-K are in U.S. dollars unless otherwise indicated.

Due to rounding, numbers presented in the tables included in this Form 10-K may not add up precisely to the totals provided.

OVERVIEW

RenaissanceRe is a global provider of reinsurance and insurance that specializes in matching well-structured risks with efficient sources of capital. We provide property, casualty and specialty reinsurance and certain insurance solutions to customers, principally through intermediaries. Established in 1993, we have offices in Bermuda, Australia, Ireland, Singapore, Switzerland, the U.K., and the U.S. We are one of the world’s leading providers of property and casualty and specialty reinsurance.

Our mission is to match desirable, well-structured risks with efficient sources of capital to achieve our vision of being the best underwriter. We believe that this will allow us to produce superior returns for our shareholders over the long term, and to further our purpose of protecting communities and enabling prosperity. We seek to accomplish these goals by (i) being a trusted, long-term partner to our customers for assessing and managing risk, (ii) delivering responsive and innovative solutions, (iii) leveraging our core capabilities of risk assessment and information management, (iv) investing in these core capabilities in order to serve our customers across market cycles, and (v) keeping our promises.

Our core products include property, casualty and specialty reinsurance, and certain insurance products, principally distributed through intermediaries with whom we have cultivated strong long-term relationships. Our business consists of the following reportable segments: (1) Property, which is comprised of catastrophe and other property (re)insurance, and (2) Casualty and Specialty, which is comprised of casualty and specialty (re)insurance. The underwriting results of our operating subsidiaries and underwriting platforms are included in our Property and Casualty and Specialty segment results as appropriate.

Our strategy focuses on operating as an integrated system of three competitive advantages: superior risk selection, superior customer relationships and superior capital management. We provide value to our customers and partners in the form of financial security, innovative products, and responsive service. We are known as a leader in paying valid claims promptly.

There are three principal drivers of profit that generate diversified earnings streams for our business - underwriting income, fee income, and investment income. Underwriting income is the income that we earn from our core underwriting business. By accepting the volatility that this business brings, we believe that we can generate superior long-term returns and achieve our vision. Fee income is the income that we earn primarily from managing third-party capital in our Capital Partners unit, and is composed of management fee income and performance fee income. Investment Income is income derived from the investment portfolio that we maintain to support our business. We take a disciplined approach in building a relatively conservative, well-structured investment portfolio with a focus on fixed income investments. We view fee income, in particular management fee income, and investment income as relatively stable sources of income.

We principally measure our financial success through long-term growth in tangible book value per common share plus the change in accumulated dividends. We believe this metric is the most appropriate measure of our financial performance, and in respect of which we believe we have delivered superior performance over time.

Our current business strategy focuses predominantly on writing reinsurance, although we also write excess and surplus lines insurance through delegated authority arrangements. Additionally, we pursue a number of other opportunities, such as creating and managing our joint ventures and managed funds, executing customized reinsurance transactions to assume or cede risk, and managing certain strategic investments directed at classes of risk other than catastrophe reinsurance. From time to time we consider diversification into new ventures, either through organic growth, the formation of new joint ventures or managed funds, or the acquisition of, or the investment in, other companies or books of business of other companies.

We continually explore appropriate and efficient ways to address the risk needs of our clients and the impact of various regulatory and legislative changes on our operations. We have created, and manage, multiple capital vehicles across several jurisdictions and may create additional risk bearing vehicles or enter into additional jurisdictions in the future. In addition, our differentiated strategy and capabilities position us to pursue bespoke or large solutions for clients.

CORPORATE STRATEGY

Our mission is to match desirable, well-structured risks with efficient sources of capital to achieve our vision of being the best underwriter. We believe that this will allow us to produce superior returns for our shareholders over the long term, and to fulfill our purpose to protect communities and enable prosperity. Our strategy for achieving these objectives, which is supported by our core values, our principles and our culture, is to operate an integrated system of three competitive advantages: *superior customer relationships*, *superior risk selection* and *superior capital management*. We believe all three competitive advantages are required to achieve our objectives, and we aim to seamlessly coordinate the delivery of these competitive advantages for the benefit of our shareholders, ceding insurers, brokers, investors in our joint ventures and managed funds, and other stakeholders.

Superior Customer Relationships. We aim to be a trusted long-term partner to our customers for assessing and managing risk and delivering responsive solutions. We believe our modeling and technical expertise, our risk management products, and our track record of keeping our promises have made us a provider of first choice in many lines of business to our customers worldwide. We seek to offer stable, predictable and consistent risk-based pricing and a prompt turnaround on claims.

Superior Risk Selection. We aim to build a portfolio of risks that produces an attractive risk-adjusted return on utilized capital. We develop a perspective of each risk using both our underwriters' expertise and sophisticated risk selection techniques, including computer models and databases, such as REMS®. We pursue a disciplined approach to underwriting and seek to select only those risks that we believe will produce a portfolio with an attractive return, subject to prudent risk constraints. We manage our portfolio of risks dynamically, both within sub-portfolios and across the Company.

Superior Capital Management. We aim to match the portfolio of risk that we build with the most appropriate form(s) of capital. As a result of our strategy and the diversified nature of our business, we believe that we are uniquely positioned to utilize various forms of capital depending on the situation. We access capital through joint ventures, managed funds, debt and equity markets, and other structures when we forecast increased demand in the market, and we return capital to our shareholders and capital partners investors when the demand for our coverages appears to decline and when we believe a return of capital would be beneficial to our shareholders and investors. When possible, our preference is to deploy any excess capital into profitable business opportunities before returning excess capital to shareholders. In our capital partners business, we aim to leverage our access to business and our underwriting capabilities on an efficient capital base, develop fee income, generate profit commissions, diversify our portfolio, and provide attractive risk-adjusted returns to our capital providers.

We believe we are well positioned to fulfill our objectives by virtue of the experience and skill of our management team, our integrated and flexible underwriting and operating platform, our significant financial strength, our strong relationships with brokers, customers and capital partners, our commitment to superior service and our proprietary modeling technology. In particular, we believe our strategy, high performance culture, and commitment to our customers and capital partners help us to differentiate ourselves by offering specialized services and products at times and in markets where capacity and alternatives may be limited.

UNDERWRITING SEGMENTS

Underwriting Income

Our first driver of profit is underwriting income, which we earn on our core underwriting business. Our underwriting results are reflected in our reportable segments: (1) Property, which is comprised of catastrophe and other property (re)insurance written on behalf of our consolidated operating subsidiaries, joint ventures and managed funds; and (2) Casualty and Specialty, which is comprised of casualty and specialty (re)insurance written on behalf of our consolidated operating subsidiaries, joint ventures and managed funds. Our underwriting results reflect the full value of the business written on behalf of our consolidated operating subsidiaries, joint ventures and managed funds, before we reflect the interests of third-party investors in our consolidated joint ventures and managed funds that are not retained by us.

The following table shows gross premiums written allocated between our segments. Operating results relating to our segments are included in “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

<u>Year ended December 31,</u>	<u>2022</u>		<u>2021</u>		<u>2020</u>	
	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>
(in thousands, except percentages)						
Property	\$ 3,734,241	40.5 %	\$ 3,958,724	50.5 %	\$ 2,999,142	51.7 %
Casualty and Specialty	5,479,299	59.5 %	3,875,074	49.5 %	2,807,023	48.3 %
Total gross premiums written	<u>\$ 9,213,540</u>	<u>100.0 %</u>	<u>\$ 7,833,798</u>	<u>100.0 %</u>	<u>\$ 5,806,165</u>	<u>100.0 %</u>

Across our segments, we write proportional business as well as excess of loss business, and certain insurance business through delegated authority arrangements. Our relative mix of business between proportional business and excess of loss business has fluctuated in the past and will likely vary in the future. Proportional and delegated authority business typically have relatively higher premiums per unit of expected underwriting income as well as a higher acquisition expense ratio and combined ratio than traditional excess of loss reinsurance, as these coverages tend to be exposed to relatively more attritional, and frequent, losses while being subject to less expected severity.

The following table shows gross premiums written allocated between excess of loss, proportional and delegated authority for each of our segments:

<u>Year ended December 31, 2022</u>	<u>Property</u>	<u>Casualty and Specialty</u>	<u>Total</u>
(in thousands)			
Excess of loss	\$ 2,354,919	\$ 914,607	\$ 3,269,526
Proportional	785,394	4,092,210	4,877,604
Delegated authority	593,928	472,482	1,066,410
Total gross premiums written	<u>\$ 3,734,241</u>	<u>\$ 5,479,299</u>	<u>\$ 9,213,540</u>
<u>Year ended December 31, 2021</u>			
(in thousands)			
Excess of loss	\$ 2,485,999	\$ 663,749	\$ 3,149,748
Proportional	924,342	2,853,339	3,777,681
Delegated authority	548,383	357,986	906,369
Total gross premiums written	<u>\$ 3,958,724</u>	<u>\$ 3,875,074</u>	<u>\$ 7,833,798</u>
<u>Year ended December 31, 2020</u>			
(in thousands)			
Excess of loss	\$ 2,075,961	\$ 626,468	\$ 2,702,429
Proportional	656,653	1,925,884	2,582,537
Delegated authority	266,528	254,671	521,199
Total gross premiums written	<u>\$ 2,999,142</u>	<u>\$ 2,807,023</u>	<u>\$ 5,806,165</u>

Property Segment

Our Property segment includes our catastrophe class of business, principally comprised of excess of loss reinsurance and excess of loss retrocessional reinsurance to insure insurance and reinsurance companies against natural and man-made catastrophes. It also includes our other property class of business, primarily comprised of proportional reinsurance, property per risk, property (re)insurance, binding facilities and regional U.S. multi-line reinsurance, which have exposure to natural and man-made catastrophes.

The following table shows gross premiums written in our Property segment allocated by class of business:

<u>Year ended December 31,</u>	<u>2022</u>		<u>2021</u>		<u>2020</u>	
(in thousands, except percentages)	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>
Catastrophe	\$ 2,076,752	55.6 %	\$ 2,235,736	56.5 %	\$ 1,886,785	62.9 %
Other property	1,657,489	44.4 %	1,722,988	43.5 %	1,112,357	37.1 %
Total Property segment gross premiums written	<u>\$ 3,734,241</u>	<u>100.0 %</u>	<u>\$ 3,958,724</u>	<u>100.0 %</u>	<u>\$ 2,999,142</u>	<u>100.0 %</u>

We write catastrophe reinsurance and insurance coverage protecting against natural and man-made catastrophes such as earthquakes, hurricanes, typhoons and tsunamis, winter storms, freezes, floods, fires, windstorms, tornadoes, explosions and acts of terrorism. We offer this coverage to insurance companies and other reinsurers primarily on an excess of loss basis. This means we begin paying when our customers' claims from a catastrophe exceed a certain retained amount. We also offer proportional coverages and other structures on a catastrophe-exposed basis.

Our excess of loss property contracts generally cover natural perils, and our predominant exposure under such coverage is to property damage. However, other risks, including business interruption and other non-property losses, may also be covered under our property reinsurance contracts when arising from a covered peril.

We offer our coverages on a worldwide basis. Because of the wide range of possible catastrophic events to which we are exposed, including the size of such events and the potential for multiple events to occur in the same time period, our property business is volatile and our financial condition and results of operations reflect this volatility. To moderate the volatility of our risk portfolio, we may increase or decrease our presence in the property business based on market conditions and our assessment of risk-adjusted pricing adequacy. We frequently purchase reinsurance or other protection for our own account for a number of reasons, including to optimize the expected outcome of our underwriting portfolio, to manage capital requirements for regulated entities and to reduce the financial impact that a large catastrophe or a series of catastrophes could have on our results.

Casualty and Specialty Segment

We write casualty and specialty reinsurance and insurance across a broad range of classes of business, including general casualty, professional liability, credit and other specialty lines. This business is predominantly reinsurance, although the Company also writes insurance business, primarily through delegated authority arrangements. As a result of our financial strength and stable, long-term relationships with leading underwriters of casualty and specialty insurance globally, we offer significant capacity in this segment.

The following table shows gross premiums written in our Casualty and Specialty segment aggregated by class of business:

<u>Year ended December 31,</u>	<u>2022</u>		<u>2021</u>		<u>2020</u>	
(in thousands, except percentages)	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>
General casualty (1)	\$ 1,560,594	28.5 %	\$ 1,258,536	32.5 %	\$ 904,594	32.2 %
Professional liability (2)	1,728,570	31.5 %	1,283,864	33.1 %	836,120	29.8 %
Credit (3)	1,062,183	19.4 %	498,946	12.9 %	514,192	18.3 %
Other specialty (4)	1,127,952	20.6 %	833,728	21.5 %	552,117	19.7 %
Total Casualty and Specialty segment gross premiums written	<u>\$ 5,479,299</u>	<u>100.0 %</u>	<u>\$ 3,875,074</u>	<u>100.0 %</u>	<u>\$ 2,807,023</u>	<u>100.0 %</u>

(1) Includes automobile liability, casualty clash, employer's liability, umbrella or excess casualty, workers' compensation and general liability.

(2) Includes directors and officers, medical malpractice, and professional indemnity.

(3) Includes financial guaranty, mortgage guaranty, political risk, surety and trade credit.

(4) Includes accident and health, agriculture, aviation, cyber, energy, marine, satellite and terrorism. Lines of business such as regional multi-line and whole account may have characteristics of various other classes of business, and are allocated accordingly.

We offer our casualty and specialty reinsurance products principally on a proportional basis, and we also provide excess of loss coverage. These products frequently include tailored features such as limits or sub-limits which we believe help us manage our exposures. Any liability exceeding, or otherwise not subject to, such limits reverts to the cedant.

Our Casualty and Specialty segment also offers certain casualty insurance products, including general liability and professional liability lines of business. Syndicate 1458 also writes business through delegated authority arrangements. We write this business in a similar manner to our reinsurance business, and view it through a reinsurance lens, with a focus on approaching it as a portfolio of risks.

Other

In addition to our two reportable segments, we have an Other category. Our Other category primarily includes the results of: (1) our investment unit which manages and invests the funds generated by our consolidated operations; (2) our share of strategic investments in certain markets we believe offer attractive risk-adjusted returns or where we believe our investment adds value, and where, rather than assuming exclusive management responsibilities ourselves, we partner with other market participants; and

(3) corporate expenses, certain expenses related to acquisitions and dispositions, capital servicing costs and noncontrolling interests.

Geographic Breakdown

Our exposures are generally diversified across geographic zones, but are also a function of market conditions and opportunities. Our largest exposure has historically been to the U.S. and Caribbean.

The following table sets forth the amounts and percentages of our gross premiums written allocated to the territory of coverage exposure:

<u>Year ended December 31,</u>	<u>2022</u>		<u>2021</u>		<u>2020</u>	
(in thousands, except percentages)	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>	<u>Gross Premiums Written</u>	<u>Percentage of Gross Premiums Written</u>
<i>Property Segment</i>						
U.S. and Caribbean	\$ 2,343,830	25.5 %	\$ 2,257,088	28.8 %	\$ 1,683,538	29.0 %
Worldwide	1,053,369	11.4 %	1,188,737	15.2 %	889,917	15.3 %
Japan	104,767	1.1 %	114,981	1.5 %	102,228	1.8 %
Australia and New Zealand	86,080	0.9 %	69,188	0.9 %	40,243	0.7 %
Europe	62,998	0.7 %	253,678	3.2 %	189,587	3.3 %
Worldwide (excluding U.S.) (1)	37,436	0.4 %	34,742	0.4 %	62,058	1.1 %
Other	45,761	0.5 %	40,310	0.5 %	31,571	0.5 %
Total Property Segment	3,734,241	40.5 %	3,958,724	50.5 %	2,999,142	51.7 %
<i>Casualty and Specialty Segment</i>						
U.S. and Caribbean	2,556,466	27.7 %	1,721,663	22.0 %	1,248,981	21.5 %
Worldwide	2,328,030	25.3 %	1,746,450	22.3 %	1,315,386	22.6 %
Europe	327,831	3.6 %	217,721	2.8 %	121,369	2.1 %
Worldwide (excluding U.S.) (1)	177,746	1.9 %	108,376	1.4 %	56,225	1.0 %
Australia and New Zealand	35,973	0.4 %	29,001	0.4 %	12,429	0.2 %
Other	53,253	0.6 %	51,863	0.6 %	52,633	0.9 %
Total Casualty and Specialty Segment	5,479,299	59.5 %	3,875,074	49.5 %	2,807,023	48.3 %
Total gross premiums written	<u>\$ 9,213,540</u>	<u>100.0 %</u>	<u>\$ 7,833,798</u>	<u>100.0 %</u>	<u>\$ 5,806,165</u>	<u>100.0 %</u>

(1) The category "Worldwide (excluding U.S.)" consists of contracts that cover more than one geographic region (other than the U.S.).

Principal Wholly-Owned Operating Subsidiaries

Currently, our principal wholly-owned operating subsidiaries are Renaissance Reinsurance, RREAG, Renaissance Reinsurance U.S., RenaissanceRe Specialty U.S. and Syndicate 1458. Through these subsidiaries we write the property and casualty and specialty (re)insurance that drives our underwriting income.

Renaissance Reinsurance is our primary flagship balance sheet, through which we have broad exposure to a range of risks. Our other balance sheets allow us to optimize where and how we write specific risks, considering geographic location, regulatory flexibility, and the ability to access different markets of risk. For example, RenaissanceRe Specialty U.S. writes excess and surplus U.S. risk which can be supported on a quota share reinsurance or delegated authority basis through managing general agents. We utilize our integrated and flexible underwriting platform to ensure that risks are matched with the optimal principal wholly-owned operating subsidiary balance sheet.

CAPITAL PARTNERS

Fee Income

We pursue a number of other opportunities, including creating and managing our joint ventures and managed funds, executing structured reinsurance transactions to assume or cede risk and managing certain strategic investments. These opportunities aid us in generating our second driver of profit, the fee income that we earn on our capital management business. Compared to our other drivers of profit, we view fee income as a relatively stable, lower-volatility and capital efficient source of income.

Our capital management business is one of the oldest, largest and most respected in the industry and provides us with a larger capital base, through which, we are able to write more business and reach a broader customer base. In addition to the business that we write for our own account, we also write risk with capital provided by third parties. Because we often co-invest alongside our third-party capital providers, we view them as partners in achieving our mission of matching well-structured risks with efficient sources of capital. Our third-party capital partners are typically institutional investors seeking investment returns that are less correlated with the broader capital markets.

We believe that we benefit from our ability to optimize our portfolio construction across our vehicles and business through superior risk selection. Our third-party capital partners benefit from our ability to access the best risk and construct high-quality portfolios in tailored geographies to suit their investment needs. At the same time, this business benefits our customers, as it allows us to write more risk in various forms across balance sheets with diversified counterparties. We are also able to offer additional investment opportunities to institutional and other investors to serve as our capital partners and make targeted investments in certain of the products that we offer.

Managed Joint Ventures and Managed Funds

We manage a number of joint ventures and managed funds which provide us with an additional presence in the market, enhance our client relationships and generate fee income and profit commissions. Currently, our principal joint ventures and managed funds include DaVinci, Top Layer, Fontana, Medici, Upsilon and Vermeer:

Entity	Consolidated ⁽¹⁾	December 31, 2022		
		RenaissanceRe's economic ownership ⁽²⁾	Generates Management Fee Income ⁽³⁾	Generates Performance Fee Income ⁽⁴⁾
<i>DaVinci</i>	X	30.9%	X	X
<i>Fontana</i>	X	31.6%	X	X
<i>Medici</i>	X	12.8%	X	—
<i>Vermeer</i>	X	0%	X	—
<i>Top Layer</i>	— ⁽⁵⁾	—	X	—
<i>Upsilon</i>	X ⁽⁶⁾	—	X	X

(1) As a result of our controlling voting interest, we consolidate these entities in our financial statements, and third parties' economic interest in the entities' net assets and net income are reflected in our Consolidated Balance Sheets and Consolidated Statements of Operations in "Redeemable noncontrolling interests" and "Net (income) loss attributable to redeemable noncontrolling interests," respectively.

(2) Represents the Company's noncontrolling economic ownership in each of the entities.

(3) Management fees are fees that we receive for the day-to-day management and oversight of our joint venture vehicles and managed funds.

(4) Performance fees may be negative in a particular period if, for example, large losses occur, which can potentially result in no performance fees or the reversal of previously accrued performance fees.

(5) Top Layer is not consolidated. It is owned 50% by State Farm and 50% by Renaissance Reinsurance.

(6) Upsilon includes Upsilon RFO and Upsilon Fund. We consolidate the financial results of Upsilon RFO and account for the portion of its premium that we do not own as a ceded retrocession. We do not consolidate the financial results of Upsilon Fund.

DaVinci

We formed DaVinci in 2001 to expand our capacity to provide property catastrophe reinsurance and certain lines of casualty and specialty reinsurance on a global basis. Third-party investors own a majority of the economic interest in DaVinci, which provides them with access to attractive risk while generating a management fee and a performance fee stream of income for us. We control a majority of the outstanding voting rights in DaVinci, DaVinci Reinsurance's holding company, and as a result, consolidate DaVinci in our financial results. RUM, a wholly owned subsidiary of RenaissanceRe, acts as the exclusive underwriting manager for DaVinci. Through our operating subsidiaries, principally Renaissance Reinsurance, we participate on every risk that DaVinci Reinsurance assumes, ensuring alignment. From time to time, Renaissance Reinsurance or certain other operating subsidiaries write business for both themselves and DaVinci Reinsurance, and then cede a portion to DaVinci Reinsurance.

Fontana

Fontana is our newest joint venture and assumes casualty and specialty risks, including long-tail lines. Third-party investors own a majority of the economic interest in Fontana, which provides them with access to attractive casualty and specialty risk while generating a management fee and a performance fee stream of income for us. Fontana also allows us to increase casualty and specialty capacity for our customers. We control a majority of the outstanding voting rights in Fontana, and as a result, consolidate it in our financial results. Fontana assumed a whole account quota share of our global casualty and specialty book of business, including the credit portfolio, ensuring alignment. Fontana comprises a group of reinsurance operating companies and their holding companies, in which we maintain a significant economic investment.

Medici

Medici principally invests in property catastrophe bonds, although it may also invest in various other insurance-based investment instruments that have returns primarily correlated to property catastrophe risk. Third-party investors own a majority of the participating, non-voting common shares of Medici, pursuant to which they own a majority of Medici's economic benefits, which provides them with access to attractive catastrophe bond risks while generating a management fee stream of income for us. Medici allows us to increase our participation in our customers' catastrophe bond offerings and broaden our relationships with them. We control all of Medici's outstanding voting rights, and as a result consolidate it in our financial results. RFM, a wholly owned subsidiary of RenaissanceRe, acts as the exclusive investment fund manager of Medici. We maintain a significant investment in Medici.

Vermeer

Vermeer expands our ability to provide capacity focused on risk remote layers in the U.S. property catastrophe market. We maintain majority voting control of Vermeer, and as a result consolidate it in our financial results. Stichting Pensioenfond Zorg en Welzijn, a pension fund represented by PGGM, retains 100% of Vermeer's economic benefits. Vermeer is managed by RUM in return for a management fee. We separately participate in the risks written by Vermeer through our wholly-owned balance sheets.

Top Layer

We established Top Layer in 1999 to expand our ability to write high excess non-U.S. property catastrophe reinsurance. Top Layer is owned 50% by State Farm and 50% by Renaissance Reinsurance, although State Farm provides the majority of Top Layer's underwriting capacity through a \$3.9 billion stop-loss reinsurance agreement, and therefore State Farm retains most of Top Layer's underwriting results. Since we do not control Top Layer, we do not consolidate it in our financial results. Top Layer is managed by RUM in return for a management fee. We maintain a significant investment in Top Layer.

Upsilon

Upsilon gives us the ability to provide additional capacity to the worldwide aggregate and per-occurrence primary and retrocessional property catastrophe excess of loss market on a collateralized basis, either directly, or through business written by Renaissance Reinsurance and then ceded to Upsilon RFO.

Upsilon is composed of Upsilon RFO and Upsilon Fund. Upsilon RFO is the risk bearing entity. As a segregated accounts company, Upsilon RFO holds identified pools of assets and liabilities in accounts that are each ring-fenced or segregated from any claims from the creditors of Upsilon RFO's general account and from the creditors of other segregated accounts within Upsilon RFO. Upsilon Fund is a fund structure

through which third-party investors can invest in property reinsurance risk managed by us. Upsilon Fund is managed by RFM in return for a management fee and a performance fee. We consolidate the financial results of Upsilon RFO and account for the portion of its premium that we do not own as a ceded retrocession. We maintain a significant investment in Upsilon.

Non-Controlling Interest

We manage DaVinci, Fontana, Medici, and Vermeer, and own all or a majority of the voting interests, but own no, or a minority, economic interest of each. As a result of our controlling voting interests, we fully consolidate these entities in our financial statements, even though we do not retain the full value of economic outcomes generated by these entities. The portions of the economic outcomes that are not retained by us are ultimately allocated to the third-party investors who hold the non-controlling interests in these entities. The economic outcomes may include underwriting results, investments results, and foreign exchange impacts, among other items. For example, if one of these entities were to generate underwriting losses due to a natural catastrophe, the full amount would be reflected in net income (loss) on our consolidated statement of operations, but ultimately we would only retain a portion of that amount in our net income (loss) attributable to RenaissanceRe. In the Company's Consolidated Balance Sheets and Consolidated Statements of Operations, we allocate the portion of these items attributable to third parties in the "Net (income) loss attributable to redeemable noncontrolling interests" line item. Refer to "Note 9. Noncontrolling Interests" in our "Notes to the Consolidated Financial Statements" for additional information regarding our redeemable noncontrolling interests and how this accounting treatment impacts the Company's financial results.

Other Transactions

From time to time, we pursue other customized reinsurance and financing transactions. For example, we have participated in, and continuously analyze, other attractive opportunities in the market for insurance-linked securities and derivatives. We believe our products contain a number of customized features designed to fit the needs of our capital partners, as well as our risk management objectives.

INVESTMENTS

Investment Income

Our investment portfolio generates our third driver of profit, investment income. We structure our investment portfolio to emphasize the preservation of capital and the availability of liquidity to meet our claims obligations, to be well diversified across market sectors, and to generate relatively attractive returns on a risk-adjusted basis over time.

Our investment portfolio serves as a stable capital base against which we can underwrite risk, and also allows us to generate relatively attractive investment income and returns over time. Our investment portfolio includes both investments that we make on behalf of the Company and whose investment results are fully retained by the Company, as well as investments that we manage on behalf of our joint ventures and managed funds, in which we retain only a partial economic interest.

The majority of our investments are highly-rated fixed income securities. We also hold a significant amount of short-term investments which have a maturity of one year or less when purchased. In addition, we hold other investments, including catastrophe bonds, fund investments, term loans and direct private equity investments, which offer the potential for higher returns but with relatively higher levels of risk. Our investment portfolio takes into account the duration of our liabilities and the level of strategic asset risk we wish to assume over the medium- to long-term. We may from time to time re-evaluate our investment guidelines and explore investment allocations to other asset classes that either increase or decrease our overall asset risk. To further the sustainability of our investment portfolio, we consider certain environmental, social and governance factors within our investment strategy. Our investments are subject to market-wide risks and fluctuations, as well as to risks inherent in particular securities.

For additional information regarding our investment portfolio, refer to "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition, Liquidity and Capital Resources—Investments" and "Note 4. Investments" in our "Notes to the Consolidated Financial Statements."

Strategic Investments

We also pursue strategic investments where, rather than assuming exclusive management responsibilities ourselves, we partner with other market participants. These investments may be directed at classes of risk other than catastrophe reinsurance, and at times may also be directed at non-insurance risks, such as Insurtech opportunities. We find these investments attractive because of their target risk-adjusted returns, and because of their ability to help advance our business objectives and capabilities. We believe that our strategic investments provide us with enhanced risk access and information on markets that are core to our business, as well as potential new markets for future growth consideration. For example, we have strategic investments in the Tower Hill Companies which grant us access to participants in the Florida homeowners insurance market.

COMPETITION

The markets in which we operate are highly competitive. Our competitors include independent reinsurance and insurance companies, subsidiaries, divisions and/or affiliates of globally recognized insurance companies, domestic and international underwriting operations, such as managing general agents, as well as a range of other entities offering risk transfer protection on a collateralized or other non-traditional basis. As our business and the (re)insurance industry continue to evolve, we expect our competitors to evolve as well, and we may face competition from other non-traditional participants, such as technology or Insurtech companies, among others.

We believe that our principal competitors are traditional insurance and reinsurance companies, but also include third-party capital managers. We also compete with certain Lloyd's syndicates active in the London market. Hedge funds, pension funds and endowments, investment banks, insurance exchanges and other capital market participants may also be active in the reinsurance market and the market for related risk, either through the formation of reinsurance companies or through the use of financial products, such as catastrophe bonds and other insurance-linked securities.

RISK MANAGEMENT

Underwriting Risk Management

Our primary underwriting goal is to construct a portfolio of reinsurance and insurance contracts and other financial risks that maximizes our return on shareholders' equity, subject to prudent risk constraints, and to generate long-term growth in tangible book value per common share plus the change in accumulated dividends. We assess each new (re)insurance contract on the basis of the expected incremental return relative to the incremental contribution to portfolio risk.

We have developed a proprietary pricing and exposure management system, REMS®, which has analytic and modeling capabilities that help us to assess the risk and return of each incremental (re)insurance contract in relation to our overall portfolio of (re)insurance contracts. We believe that REMS® is a robust underwriting and risk management system that has been successfully integrated into our business processes and culture. In conjunction with pricing models that we run outside of REMS®, the REMS® framework encompasses and facilitates risk capture, analysis, correlation, portfolio aggregation and capital allocation within a single system for all of our natural and non-natural hazards (re)insurance contracts. We continue to invest in and improve REMS®, incorporating our underwriting and modeling experience and adding proprietary software and industry data. We believe that the expertise and tools are state of the art and have been fully embedded in our underwriting processes.

We generally utilize a multiple model/method approach when evaluating a proposed transaction, combining both probabilistic and deterministic techniques. We combine the analyses generated by REMS® with other information and other model inputs available to us, including our own knowledge of the client submitting the proposed program, to assess the premium offered against the risk of loss and the cost of utilized capital which the program presents. The underlying risk models integrated into our underwriting and REMS® framework are a combination of internally constructed and commercially available models. We use commercially available models to assist with validating and stress testing our base model and REMS® results.

Before we bind a (re)insurance risk, exposure data, historical loss information and other risk data is gathered from customers. Using a combination of proprietary software, underwriting experience, actuarial techniques and engineering expertise, the exposure data is reviewed and augmented, as we deem appropriate. We use this data as primary inputs into the REMS© modeling system as a base to create risk distributions to represent the risk being evaluated. We believe that the REMS© modeling system helps us to analyze each contract on a consistent basis, assisting our determination of what we believe to be an appropriate price to charge for each policy based upon the risk to be assumed. In part, through the process described above and the utilization of REMS©, we seek to compare our estimate of the expected returns in respect of a contract with the amount of capital we notionally allocate to the contract based on our estimate of its marginal impact on our portfolio of risks. A key advantage of our REMS© framework is our ability to include additional perils, risks and geographic areas that may not be captured in commercially available natural hazards risk models.

We periodically review the estimates and assumptions that are reflected in REMS© and our other tools, driven either by new hazard science and understanding or by experience of loss events. We continually monitor frequency and severity trends for our casualty lines of business, in particular emerging trends toward higher levels of social inflation. Where appropriate, we are able to shift our business mix away from classes and industry sectors that are particularly sensitive to higher social inflation trends. More generally, our team of scientists at RenaissanceRe Risk Sciences Inc. have been tracking the influence of climate change to better understand the impact of natural catastrophes on our business.

Our underwriters use the combination of our risk assessment and underwriting process, REMS© and other tools in their pricing decisions, which we believe provides them with several competitive advantages. These include the ability to: (i) simulate a range of potential outcomes that adequately represents the risk to an individual contract; (ii) analyze the incremental impact of an individual reinsurance contract on our overall portfolio; (iii) better assess the underlying exposures associated with assumed retrocessional business; (iv) price contracts within a short time frame; (v) capture various classes of risk, including catastrophe and other insurance risks; (vi) assess risk across multiple entities (including our various joint ventures and managed funds) and across different components of our capital structure; and (vii) provide consistent pricing information. As part of our risk management process, we also use REMS© to assist us, as a retrocedant, with the purchase of reinsurance coverage for our own account.

Our underwriting and risk management process, in conjunction with REMS©, quantifies and manages our exposure to claims from single events and the exposure to losses from a series of events. As part of our pricing and underwriting process, we also assess a variety of other factors, including: (i) the reputation of the proposed cedant and the likelihood of establishing a long-term relationship with the cedant; (ii) the geographic area in which the cedant does business and its market share; (iii) historical loss data for the cedant and, where available, for the industry as a whole in the relevant regions and lines of business, in order to compare the cedant's historical catastrophe loss experience to industry averages; (iv) the cedant's pricing strategies; and (v) the perceived financial strength of the cedant and factors such as the cedant's historical record of making premium payments in full and on a timely basis.

In order to estimate the risk profile of each line of non-natural hazard reinsurance (*i.e.*, our casualty and specialty lines of business), we establish probability distributions and assess the correlations with the rest of our portfolio. In lines with catastrophe risk, such as marine, energy and terrorism, we seek to directly leverage our skill in modeling property reinsurance risks, and aim to appropriately estimate and manage the correlations between these casualty and specialty lines and our property reinsurance portfolio. For other classes of business, in which we believe we have little or no natural catastrophe exposure, and therefore less correlation with our property reinsurance coverages, we derive probability distributions from a variety of underlying information sources, including recent historical experience, and the application of judgment as appropriate. The nature of some of these businesses lends itself less to the analysis we use for our property reinsurance coverages, reflecting both the nature of available exposure information, and the impact of human factors such as tort exposure. We produce probability distributions to represent our estimates of the related underlying risks which our products cover, which we believe helps us to make consistent underwriting decisions and to manage our total risk portfolio.

In addition, we also produce, utilize, and report on models which measure our utilization of capital in light of regulatory capital considerations and constraints. Our position in respect of these regulatory capital models is reviewed by our risk management professional staff and periodically reported to and reviewed by senior underwriting personnel and executive management with responsibility for our regulated operating entities.

Enterprise Risk Management

We believe that high-quality and effective ERM is best achieved when it is a shared cultural value throughout the organization and consider ERM to be a key process which is the responsibility of every individual within the Company. We have developed and utilize tools and processes we believe support a culture of risk management and create a robust framework of ERM within our organization. We believe that our ERM processes and practices help us to identify potential events that may affect us, quantify, evaluate and manage the risks to which we are exposed, and provide reasonable assurance regarding the achievement of our objectives. We also believe that effective ERM assists our efforts to minimize the likelihood of suffering financial outcomes in excess of the ranges which we have estimated in respect of specific investments, underwriting decisions, or other operating or business activities, although we do not believe this risk can be eliminated. In particular, we utilize our risk management tools to support our efforts to monitor our capital and liquidity positions, on a consolidated basis and for each of our major operating subsidiaries, and to allocate an appropriate amount of capital to support the risks we have assumed in the aggregate and for each of our major operating subsidiaries.

Our Board of Directors is responsible for overseeing enterprise-wide risk management and is actively involved in the monitoring of risks that could affect us. The members of the Board have regular, direct access to the senior executives and other officers responsible for identifying and monitoring our risks and coordinating our ERM, including our Group Chief Risk Officer, Chief Financial Officer, and Group General Counsel, each of whom reports directly to our Chief Executive Officer, as well as other senior personnel such as our Chief Investment Officer, Chief Compliance Officer, Chief Accounting Officer, Global Corporate Controller and Head of Internal Audit. The Board also receives regular reports from the Controls and Compliance Committee, which includes members of senior management, compliance professionals and others and oversees policies and procedures relating to accounting, financial reporting, internal controls, legal and regulatory matters, and complex transactions, among other matters.

Our ERM framework operates via a three lines of defense model. The first line of defense consists of individual functions that deliberately assume risks on our behalf and own and manage risk within the Company on a day-to-day and business operational basis. The second line of defense is responsible for risk oversight and also supports the first line to understand and manage risk. A dedicated risk team led by the Group Chief Risk Officer is responsible for this second line and reports to the Board of Directors' Investment and Risk Management Committee and the Chief Executive Officer. The third line of defense, our Internal Audit team, reports to the Audit Committee of the Board of Directors and provides independent, objective assurance as to the assessment of the adequacy and effectiveness of our internal control systems and also coordinates risk-based audits and compliance reviews and other specific initiatives to evaluate and address risk within targeted areas of our business.

The principal risk areas that make up our ERM framework are assumed risk (including reserve risk), business environment risk and operational risk:

- *Assumed Risk.* We define assumed risk as activities where we deliberately take risk against our capital base, including underwriting risks and other quantifiable risks such as credit risk and market risk as they relate to investments, ceded reinsurance credit risk and strategic investment risk, each of which can be analyzed in substantial part through quantitative tools and techniques. Of these, we believe underwriting risk to be the most material to us. In order to understand, monitor, quantify and proactively assess underwriting risk, we seek to develop and deploy appropriate tools to estimate the comparable expected returns on potential business opportunities and the impact that such incremental business could have on our overall risk profile. We use the tools and methods described above in "Underwriting" to seek to achieve these objectives. Embedded within our consideration of assumed risk is our management of our aggregate, consolidated risk profile. In part through the utilization of REMS® and our other systems and procedures, we analyze our in-force aggregate assumed risk portfolio on a daily basis. We believe this capability helps us to manage our aggregate exposures and to rigorously analyze and evaluate individual proposed transactions in the context of our in-force portfolio. This aggregation process captures line of business, segment and corporate risk profiles, calculates internal and external capital tests and explicitly models ceded reinsurance. Generally, additional data is added quarterly to our aggregate risk framework to reflect updated or new information or estimates relating to matters such as interest rate risk, credit risk, capital adequacy and liquidity. This information is used in day-to-day decision making for

underwriting, investments and operations and is also reviewed quarterly from both a unit level and consolidated financial position perspective. We also regularly assess, monitor and review our regulatory risk capital and related constraints.

- *Reserve Risk.* Reserve risk is a subcomponent of assumed risk. We define reserve risk as the risks related to our reserve for net claims and claim expenses, including the amount, both absolute and relative, of our reserve for net claims and claim expenses, and the impact of economic, social, legal and regulatory matters. Our reserve for net claims and claim expenses is subject to significant uncertainty and has the potential to develop adversely in future periods. While reserve risk may increase in both absolute terms and relative to its overall consideration in our ERM framework, we employ robust resources, procedures and technology to identify, understand, quantify and manage this risk. Our reserving methodologies and sensitivities for each respective line of business described in “Part II. Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Summary of Critical Accounting Estimates—Claims and Claim Expense Reserves.”
- *Business Environment Risk.* We define business environment risk as the risk of changes in the business, political or regulatory environment that could negatively impact our short term or long-term financial results or the markets in which we operate. This risk area also typically includes emerging risks. These risks are predominately extrinsic to us and our ability to alter or eliminate these risks is limited, so we focus our efforts on monitoring developments, assessing potential impacts of any changes, and investing in cost effective means to attempt to mitigate the consequences of, and ensure compliance with, any new requirements applicable to us.
- *Operational Risk.* We are subject to a number of additional risks arising out of operational, regulatory, and other matters. We define operational risk to include the risk we fail to create, manage, control or mitigate the people, processes, structures or functions required to execute our strategic and tactical plans and assemble an optimized portfolio of assumed risk, and to adjust to and comply with the evolving requirements of business environment risk applicable to us. In light of the rapid evolution of our markets, business environment, and business initiatives, we seek to continually invest in the tools, processes and procedures we use to mitigate our exposure to operational risk on a cost-effective basis. As with assumed risk and business environment risk, operational risk presents intrinsic uncertainties, and we may fail to appropriately identify or mitigate applicable operational risk.

We address other areas of operational risk through our business continuity and incident response program, human resource practices such as motivating and retaining top talent, our strict tax protocols and our legal and regulatory policies and procedures.

Environmental and Climate Change Matters

Our principal economic exposures arise from our coverages for natural disasters and catastrophes. We believe, and believe the consensus view of current scientific studies substantiates, that changes in climate conditions, primarily global temperatures and expected sea levels, have increased, and are likely to continue to increase, the severity and frequency of weather related natural disasters and catastrophes relative to the historical experience over the past 100 years. While it is difficult to distinguish between permanent climate change and transient climate variability, an ever expanding body of research suggests that these trends are in fact man-made, and, if correct, we believe that this trend will not revert to the mean but continue to worsen. We believe that this increase in severe weather, coupled with currently projected demographic trends in catastrophe-exposed regions, contributes to factors that will increase the average economic value of expected losses, increase the number of people exposed per year to natural disasters and in general exacerbate disaster risk, including risks to infrastructure, global supply chains and agricultural production. Accordingly, we expect an increase in both the frequency and magnitude of claims, especially from properties located in coastal areas.

The consideration of the impacts of climate change is integral to our ERM process. We have taken measures to mitigate losses related to climate change through our underwriting process and by continuously monitoring and adjusting our risk management models to reflect the higher level of risk that we think will persist. We have been progressively integrating the consideration of the financial risk of climate change into our governance frameworks, risk management processes, and business strategies over the

past several years, and many of our regulators are increasingly focused on these and other climate change disclosures.

Additionally, as a (re)insurance company, we believe that we play a role in helping to facilitate the transition to a lower-carbon economy through three primary means: (i) by assuming risk, to promote the liquidity and capital necessary to enable the orderly transition of industries, businesses and society towards a lower carbon future; (ii) as an asset owner, by using our investment portfolio to promote a low-carbon future; and (iii) through our business operations, by striving to reduce our operational carbon footprint.

Our Board of Directors and its committees are actively engaged in the oversight of environmental, social and governance initiatives and receive regular updates from management on progress and developments, and our executive management team and the Board of Directors receive regular reports.

In addition to the impacts that environmental incidents have on our business, there has been a proliferation of governmental and regulatory scrutiny related to climate change and greenhouse gases, which will also affect our business.

INFORMATION TECHNOLOGY AND CYBERSECURITY

Our business and support functions utilize information systems that provide critical services to both our employees and our customers. We have an integrated team of professionals who manage and support our communication platforms, transaction-management systems, and analytics and reporting capabilities, including the development of proprietary solutions like REMS®. We use both cloud-based platforms and services and off-site, secure data centers in North America and Europe for our core applications.

Information security and privacy are important concerns, with an escalating cyber-threat environment and evolving regulatory requirements driving continued investment in this area. Our information security program is designed to meet or exceed industry best practices. We are subject to a number of cybersecurity and data privacy laws and regulations, such as those promulgated by the BMA, NYDFS and EU. Pursuant to applicable regulations, we have established and maintain a cybersecurity program designed to protect our information technology systems and customer data. Our program is designed to comply with all applicable cybersecurity regulatory requirements and we continue to evaluate and assess our compliance in the changing regulatory environment.

We have in place, and seek to continuously improve, a comprehensive system of security controls, managed by a dedicated staff. Periodically, we engage the services of reputable third parties to perform security penetration testing, and update our security controls based on any findings. In addition, we are subject to independent assessment and review by regulators, as well as an annual audit of our security controls by our independent internal audit team. We also provide regular security risk education awareness and training sessions for all staff.

We have implemented incident response and business continuity plans for our operations, which are regularly tested with respect to our business-critical infrastructure and systems. We employ data backup procedures that seek to ensure that our key business systems and data are regularly backed up, and can be restored promptly if, and as needed. In addition, we generally store backup information at off-site locations, in order to seek to minimize our risk of loss of key data in the event of a disaster. Our recovery plans involve arrangements with our off-site, secure data centers and cloud infrastructure. We believe we will be able to utilize these plans to efficiently recover key system functionality in the event that our primary systems are unavailable due to various scenarios, such as natural disasters.

RATINGS

Financial strength ratings are an important factor in evaluating and establishing the competitive position of reinsurance and insurance companies. We have received high claims-paying and financial strength ratings from A.M. Best, S&P, Moody's and Fitch. Rating organizations continually review the financial positions of our principal operating subsidiaries and joint ventures and ratings may be revised or revoked by the agencies which issue them. Additionally, rating organizations may make changes in their capital models and rating methodologies, which could have a material impact on our business.

In addition, S&P and A.M. Best assess companies' ERM practices, which is an opinion on the many critical dimensions of risk that determine overall creditworthiness. RenaissanceRe has been assigned an ERM score of "Very Strong" from each of these agencies, which is the highest ERM score assigned. See "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, Financial Condition, Liquidity and Capital Resources—Ratings" for the ratings of our principal operating subsidiaries and joint ventures by segment, and details of recent ratings actions.

RESERVES FOR CLAIMS AND CLAIM EXPENSES

We believe the most significant accounting judgment made by management is our estimate of claims and claim expense reserves. Claims and claim expense reserves represent estimates, including actuarial and statistical projections at a given point in time, of the ultimate settlement and administration costs for unpaid claims and claim expenses arising from the insurance and reinsurance contracts we sell. Our claims and claim expense reserves are a combination of case reserves, additional case reserves (ACR) and incurred but not reported losses and incurred but not enough reported losses collectively referred to as IBNR. Case reserves are losses reported to us by insureds and ceding companies, but which have not yet been paid. If deemed necessary and in certain situations, we establish ACR which represents our estimates for claims related to specific contracts which we believe may not be adequately estimated by the client as of that date or within the IBNR. We establish IBNR using actuarial techniques and expert judgement to represent the anticipated cost of claims which have not been reported to us yet or where we anticipate increased reporting. Our reserving committee, which includes members of our senior management, reviews, discusses, and assesses the reasonableness and adequacy of the reserving estimates included in our audited consolidated financial statements. Because of the nature of the coverages that we provide, the amount and timing of the cash flows associated with our policy liabilities will fluctuate, perhaps significantly, and, therefore, are highly uncertain.

Our reserving techniques, assumptions and processes differ among our Property and Casualty and Specialty segments. Refer to "Note 7. Reserve for Claims and Claim Expenses" in our "Notes to the Consolidated Financial Statements" for more information on the risks we insure and reinsure, the reserving techniques, assumptions and processes we follow to estimate our claims and claim expense reserves, prior year development of the reserve for claims and claim expenses, analysis of our incurred and paid claims development and claims duration information for each of our Property and Casualty and Specialty segments. In addition, refer to "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Summary of Critical Accounting Estimates—Claims and Claim Expense Reserves" for more information on our current estimates versus our initial estimates of our claims reserves, and sensitivity analysis for each of our Property and Casualty and Specialty segments.

MARKETING

We believe that our modeling and technical expertise, the risk management products we provide to our customers, and our reputation for paying claims promptly has enabled us to become a provider of first choice in many lines of business to our customers worldwide. We market our products primarily through reinsurance brokers and we focus our marketing efforts on targeted brokers and partners. We believe that our existing portfolio of business is a valuable asset and, therefore, we attempt to continually strengthen relationships with our existing brokers and customers. We believe that by maintaining close relationships with brokers, we are able to obtain access to a broad range of potential reinsureds.

We believe that primary insurers' and brokers' willingness to use a particular reinsurer is based not just on pricing, but also on the financial security of the reinsurer, its claim paying ability ratings and demonstrated willingness to promptly pay valid claims, the quality of a reinsurer's service, the reinsurer's willingness and ability to design customized programs, its long-term stability and its commitment to provide stable reinsurance capacity across market cycles.

Our portfolio of business continues to be characterized by relatively large transactions with ceding companies with whom we do business, although no current relationship exceeds 10% of our gross premiums written.

Our brokers assess client needs and also perform data collection, contract preparation and other administrative tasks, enabling us to market our products cost effectively. Our distribution is reliant on a small number of broker relationships, which has continued to decrease in recent years as a result of consolidation in the broker sector. We expect this concentration to continue. In 2022, three brokerage firms accounted for 82.2% of our gross premiums written.

The following table shows the percentage of our Property and Casualty and Specialty segments' gross premiums written generated through subsidiaries and affiliates of our largest brokers:

<u>Year ended December 31, 2022</u>	<u>Property</u>	<u>Casualty and Specialty</u>	<u>Total</u>
Aon plc	41.0 %	31.6 %	35.4 %
Marsh & McLennan Companies, Inc.	31.3 %	34.6 %	33.3 %
Arthur J. Gallagher	5.1 %	19.2 %	13.5 %
Total of largest brokers	77.4 %	85.4 %	82.2 %
All others	22.6 %	14.6 %	17.8 %
Total	100.0 %	100.0 %	100.0 %

HUMAN CAPITAL RESOURCES

Human Capital Resources Oversight

At RenaissanceRe, our people are our most valuable resource and are core to our success. We believe in fostering an open and collaborative culture that encourages employees to take ownership of their performance and development. Our executive management team is committed to creating an environment where every person on our team can succeed. The Corporate Governance and Human Capital Management Committee of our Board of Directors is actively engaged in the oversight of our employees, work environment, DEI initiatives and compensation practices, and receives regular updates from management on progress and developments, and our executive management team and Corporate Governance and Human Capital Management Committee receive regular reports on progress against our annual human resources tactical plans.

Employees

At February 3, 2023, we employed 718 people worldwide (February 2, 2022 - 649, February 1, 2021 - 604). Of these employees, 185 were located in Bermuda, 167 in the U.S., 348 in Europe and 18 in the Asia-Pacific region.

Talent Acquisition, Development, and Retention

We strive to hire talented people and invest heavily in their development to aid them in their professional and personal growth. As employees grow at RenaissanceRe, we support them in mastering specific competencies at each career level, and we believe our Career Development Framework provides all our employees with tools to facilitate career growth at RenaissanceRe. We also invest in the professional growth of our leaders through customized leadership development programs to build advanced skills and capabilities across a diverse set of participants within the organization. Our bespoke approach to development encourages continuous learning through skills-based training, technical development and stretch assignments. We aim to attract, motivate, reward and retain the best people by aligning our performance management practices with our compensation and benefits programs.

Work Environment

We endeavor to provide a safe, healthy and supportive work environment that promotes the well-being of our employees and the value that they contribute to our global organization. We actively encourage open dialogue with our employees, and conduct regular surveys to measure employee satisfaction and engagement, allowing us to ensure that lower-scoring areas are addressed and clear guidance and support is provided.

Diversity, Equity and Inclusion Initiatives

We believe that by seeking diversity, creating equity and practicing inclusion we will build an even stronger culture and company. Our cross-functional DEI Executive Council, chaired by our Chief Portfolio Officer, sets our DEI strategy, identifying focus areas such as raising awareness of DEI throughout our organization, enhancing our recruitment and selection process, and furthering equity around leadership opportunities and development. Our DEI governance structure also includes local advisory committees responsible for implementation at a country level.

Compensation Practices

We design our compensation programs to incorporate a range of components that we believe help to attract and retain talented individuals and mitigate potential risks, while rewarding employees for pursuing our strategic and financial objectives through appropriate risk taking, risk management and prudent tactical and strategic decision making. We strive to provide fair and living employee wages that are competitive and consistent with employee positions, skill levels, experience, knowledge and geographic location. We do this by performing regular market checks of our competitive pay programs in each of our locations, as well as an annual pay cycle review where we assess each employee's pay levels.

REGULATION

Most countries and all U.S. states regulate (re)insurance business to varying degrees. We currently operate in Australia, Bermuda, Ireland, Singapore, Switzerland, the U.K. and the U.S. Our operating subsidiaries are principally regulated by the regulatory authorities of their respective jurisdictions, and may also be subject to regulation in the jurisdictions of their ceding companies. Expansion into additional (re)insurance markets could expose us or our subsidiaries to increasing regulatory oversight. However, we intend to continue to conduct our operations so as to minimize the likelihood that our Bermudian subsidiaries will become subject to direct U.S. regulation.

Bermuda Regulation

Overview. All Bermuda companies must comply with the provisions of the Bermuda Companies Act 1981. Bermuda-licensed insurance companies and management companies are also regulated under the Bermuda Insurance Act 1978 and related regulations. The Insurance Act imposes solvency and liquidity standards as well as auditing and reporting requirements, and confers on the BMA powers to supervise, investigate and intervene in the affairs of insurance companies. As a holding company, RenaissanceRe is not directly regulated as an insurer under the Insurance Act. However, our Bermuda-licensed operating insurance subsidiaries, branches, joint ventures and managed funds are subject to various requirements under Bermuda law depending on their classification under the Insurance Act.

Our Bermuda-licensed entities registered under the Insurance Act include:

- *Class 4 general business insurers:* Renaissance Reinsurance and DaVinci Reinsurance
- *Class 3B general business insurers:* RenaissanceRe Specialty U.S., Vermeer and RREAG, Bermuda Branch
- *Class 3A general business insurers:* Top Layer, Fontana Reinsurance Ltd. and Fontana Reinsurance U.S. Ltd.
- *Class 3 general business insurer:* Shima Reinsurance Ltd.
- *Collateralized insurer:* Upsilon RFO
- *SPIs:* Mona Lisa Re Ltd. and Fibonacci Reinsurance Ltd.
- *Insurance managers:* RUM and RenaissanceRe Underwriting Management Ltd.

The European Parliament recognizes Bermuda's regulatory regime as achieving Solvency II equivalence for its commercial (re)insurers and insurance groups. Equivalence between Bermuda's regulatory regime and the U.K.'s prudential regime was maintained following the U.K.'s transition out of the EU.

From time to time, RenaissanceRe's Bermuda-licensed operating insurance subsidiaries, branches, joint ventures and managed funds may apply for, and be granted, certain modifications to, or exemptions from, regulatory requirements which may otherwise apply to them.

Group Supervision. The BMA acts as the group supervisor of the RenaissanceRe Group and it has designated Renaissance Reinsurance to be the “designated insurer” in respect of the RenaissanceRe Group. The designated insurer is required to ensure that the RenaissanceRe Group complies with the provisions of the Insurance Act pertaining to groups and all related group solvency and group supervision rules.

The BMA has certain powers of investigation and intervention, relating to Bermuda-licensed entities and their holding companies, subsidiaries and other affiliates, including the power to cancel a Bermuda-licensed entity’s registration, which it may exercise in the interest of such an insurer’s policyholders or if there is any risk of insolvency or a breach of the Insurance Act or the license conditions of a Bermuda-licensed entity.

Disclosure and Reporting Requirements. At the group level, the RenaissanceRe Group is required to file audited annual financial statements and submit a quarterly financial return to the BMA. At the entity level, both general and statutory audited annual financial statements for our Bermuda registered insurers must be filed with the BMA, and are available free of charge on the BMA’s website. Certain insurers and insurance groups are also required to prepare and publish a Financial Condition Report, or “FCR.” We file a consolidated group FCR, inclusive of certain of our joint ventures and managed funds, and a separate FCR for RREAG, in lieu of a standalone FCR for RREAG, Bermuda Branch, which are available on our website. In addition, general business insurers are generally required to file an annual capital and solvency return, or “BSCR,” with the BMA. The BSCR is a mathematical model designed to give the BMA robust methods for determining an insurer’s capital adequacy. Our 2021 group BSCR exceeded the target capital level. We are currently completing our 2022 group BSCR, and at this time, we believe we will exceed the target capital. At this time, we believe each company that is required to file will exceed the minimum amount required to be maintained under Bermuda law.

For so long as shares of RenaissanceRe are listed on the NYSE or another recognized stock exchange, the Insurance Act requires that the BMA be notified in writing when any person becomes, or ceases to be, a “controller” (as defined by applicable regulations to include significant shareholders, managing directors, and chief executives of the registered insurer or its parent company) of any Bermuda registered insurer or its parent company or an “officer” (as defined by applicable regulations) of any Bermuda registered insurer. We must also file with the BMA any changes to an “officer” or “controller” (as such are defined by applicable regulations) of our insurance managers on an annual basis.

Capital, Solvency, and Liquidity Requirements. Certain solvency requirements apply to all Bermuda companies under the Bermuda Companies Act 1981. Additional requirements apply to insurance companies. At the group level, the value of the insurance group’s assets must exceed the amount of the insurance group’s liabilities by the group minimum solvency margin. At the entity level, where applicable, a general business insurer’s statutory assets must exceed its statutory liabilities by an amount equal to or greater than the prescribed minimum solvency margin. Minimum solvency is determined on the basis of registration category. The most stringent solvency requirements are applicable to Renaissance Reinsurance and DaVinci Reinsurance, as Class 4 general business insurers, and require: the greater of (i) \$100.0 million, (ii) 50% of net premiums written (with a credit for reinsurance ceded not exceeding 25% of gross premiums), (iii) 15% of net aggregate loss and loss expense provisions and other insurance reserves, or (iv) 25% of the ECR. Additional regulations apply to the determination of the types of capital instruments that may be used to satisfy the solvency requirements.

RenaissanceRe and certain of our Bermuda registered insurers are also generally required to maintain available statutory economic capital and surplus at a level at least equal to their ECR, which level may be adjusted by the BMA. The BMA has established a target capital level applicable to certain registration categories, and to insurance groups, equal to 120% of the applicable ECR, which is not a required level of statutory economic capital and surplus, but serves as an early warning tool for the BMA. Failure to maintain statutory capital at least equal to the target capital level would likely result in increased BMA regulatory oversight. An insurer engaged in general business is generally required to maintain a minimum liquidity ratio equal to the value of its relevant assets at not less than 75% of the amount of its relevant liabilities.

Restrictions on Dividends, Distributions and Reductions of Capital. Our Bermuda registered insurers are generally prohibited from declaring or paying any dividends if in breach of the required minimum solvency margin or minimum liquidity ratio, or if the declaration or payment of such dividend would cause them to fail to meet the required minimum solvency margin or minimum liquidity ratio or if certain solvency requirements are not met. Additional restrictions apply to any dividend and any reduction in statutory capital over applicable thresholds.

Income Taxes. Currently, neither we nor our shareholders are required to pay Bermuda income or profits tax, withholding tax, capital gains tax, capital transfer tax, estate duty or inheritance tax in respect of our shares. We have obtained an assurance from the Minister of Finance of Bermuda under the Exempted Undertakings Tax Protection Act 1966 that, if Bermuda enacts legislation imposing any tax on profits, income, capital asset, gain or appreciation or any tax in the nature of estate duty or inheritance tax, such tax shall not be applicable to us, our operations or our shares, debentures or other obligations until March 31, 2035, except insofar as such tax applies to persons ordinarily resident in Bermuda or is payable by us in respect of real property owned or leased by us in Bermuda.

Additional Rules and Regulations: Certain of our Bermuda-licensed entities are subject to additional regulatory requirements, including the following:

- *Insurance Code of Conduct.* All Bermuda registered insurers are generally required to comply with the BMA's Insurance Code of Conduct, which establishes duties, requirements and standards regarding sound corporate governance, risk management and internal controls.
- *Special Purpose Insurer and Collateralized Insurer Reporting Requirements.* Unlike other (re)insurers, SPIs and collateralized insurers are fully funded to meet their (re)insurance obligations; therefore the application and supervision processes. However, these entities remain subject to annual financial statements and solvency reporting and disclosure requirements.
- *Insurance Manager Reporting Requirements.* Insurance managers are required to report to the BMA information regarding their management and operations, as well as certain events, for example, a failure to comply with a condition imposed upon it by the BMA.
- *Economic Substance Act.* Every Bermuda registered entity engaged in a relevant activity (which includes insurance, fund management activities and holding entity activities) and from which it earns gross revenue must satisfy economic substance requirements by maintaining a substantial economic presence in Bermuda, and certain of our entities registered in Bermuda are subject to annual reporting obligations regarding this requirement.
- *Policyholder Priority.* The Insurance Amendment (No. 2) Act 2018 provides that, subject to the prior payment of preferential debts under the Employment Act 2000 and the Bermuda Companies Act 1981, the insurance debts of an insurer must be paid in priority to all other unsecured debts of the insurer.
- *Investment Fund Regulation.* The Bermuda Investment Funds Act 2006 sets standards and criteria applicable to the establishment and operation of investment funds in Bermuda with a view to protecting investors. The BMA is responsible for supervising and regulating investment funds. Each of Medici and Upsilon Fund is registered or authorized and regulated by the BMA Investment Funds Act. Under this Act, registered funds and authorized funds are subject to offering disclosure requirements and obligations with respect to service providers, depositary functions, safekeeping obligations, valuations, and reporting to investors and the public, among other requirements.
- *Investment Business Regulation.* RenaissanceRe Fund Management Ltd. recently applied for a standard license under the Investment Business Act 2003. Upon the BMA's approval of this license application, RFM's investment business activities will be subject to additional supervision by the BMA.

U.S. Regulation

Overview. Renaissance Reinsurance U.S. is a Maryland-domiciled insurer licensed or accredited as a reinsurer in all 50 states and the District of Columbia. It is also a certified reinsurer with the U.S. Treasury. Renaissance Reinsurance U.S. is subject to considerable regulation and supervision by state insurance regulators. State insurance departments regulate insurer solvency, authorized investments, loss and loss adjustment expense and unearned premium reserves, and deposits of securities for the benefit of policyholders. They also conduct periodic examinations and require the filing of annual and other reports relating to the financial condition of companies and other matters. The MIA, as Renaissance Reinsurance U.S.'s domestic regulator, is the primary financial regulator of Renaissance Reinsurance U.S. RREAG, US Branch is in runoff, but is still subject to supervision by the NYDFS.

Holding Company Regulation. We are subject to the insurance holding company laws of Maryland, which require Renaissance Reinsurance U.S. to file certain reports concerning its capital structure, ownership, financial condition, general business operations, and material risks with the MIA. Generally, all affiliate

transactions involving Renaissance Reinsurance U.S. must be fair and reasonable and, if material or of specified types, require prior notice to and approval or non-disapproval by the MIA.

Disclosure and Reporting Requirements. Renaissance Reinsurance U.S. is required to file various detailed reports, including annual and quarterly financial statements in accordance with prescribed statutory accounting rules, with regulatory officials in the jurisdictions in which it conducts business. In addition, the Risk Management and Own Risk Solvency and Assessment Act requires Renaissance Reinsurance U.S. and RREAG, US Branch to: (i) maintain a risk management framework for identifying, assessing, monitoring, managing, and reporting its material and relevant risks; (ii) complete an ORSA at least once each year and at any time there is a significant change to the risk profile of Renaissance Reinsurance U.S. or its holding company system; and (iii) submit an ORSA summary report to the MIA at not more than each year.

Capital and Surplus Requirements. Renaissance Reinsurance U.S. is required to meet certain minimum statutory capital and surplus requirements under Maryland law, including risk-based capital requirements, and to submit an annual report regarding its risk-based capital levels to the MIA. As of December 31, 2022, we believe Renaissance Reinsurance U.S. exceeded all applicable Maryland minimum capital and surplus requirements.

Restrictions on Dividends and Distributions. Maryland law places limitations on the amounts of dividends or distributions payable by Renaissance Reinsurance U.S., including the requirement that any “extraordinary dividends” require certain regulatory notices and approvals (or non-disapprovals) and must be paid out of earned surplus. Renaissance Reinsurance U.S. must also provide notice to the MIA of payment of ordinary dividends.

Acquisition of Control. Any person seeking to acquire “control” (which presumptively includes holders of 10% or more of the outstanding voting securities) of a Maryland-domestic insurer or of an entity that directly or indirectly controls a Maryland-domestic insurer, must provide advance notice to and obtain approval of the MIA. Therefore, any investor who intends to acquire 10% or more of RenaissanceRe’s outstanding voting securities may need to comply with these laws and would be required to file statements and reports with the MIA before such acquisition. In addition, any existing controlling person of a Maryland-domestic insurer seeking to divest its controlling interest in the insurer must file with the MIA a confidential notice of the proposed divestiture at least 30 days prior to the cessation of control (unless a person acquiring control from the divesting party has filed notice of the proposed acquisition of control with the Commissioner).

RREAG, US Branch. The U.S. casualty portfolio of RREAG, US Branch was transferred to Renaissance Reinsurance U.S. in 2019. The remaining property and specialty business portfolio of RREAG, US Branch will be runoff until all liabilities are extinguished, a process that we expect to take several years.

RREAG, US Branch is licensed in New York and Kansas and it is an accredited reinsurer in 48 states, and the District of Columbia. The NYDFS is RREAG, US Branch’s insurance regulator in the U.S. RREAG, US Branch is subject to New York’s holding company laws as well as laws and regulations pertaining to solvency, capital and surplus, authorized investments, deposits of securities for the benefit of policyholders, cybersecurity, corporate governance and the financial risks related to climate change. As of December 31, 2022, we believe RREAG, US Branch exceeded all applicable minimum capital and surplus requirements. The NYDFS may conduct periodic examinations of RREAG, US Branch and requires the filing of annual and other reports relating to RREAG, US Branch’s financial condition and risk-based capital levels. RREAG, US Branch does not pay ordinary dividends and would need approval from the NYDFS for any return of capital to RREAG.

Reinsurance Regulation. The insurance laws of each U.S. state indirectly regulate the sale of reinsurance to licensed ceding insurers by non-admitted alien reinsurers acting from locations outside the state through the state’s credit for reinsurance laws. With some exceptions, the sale of insurance within a jurisdiction where the insurer is not admitted to do business is prohibited.

Although reinsurance contract terms and rates are generally not subject to regulation by state insurance authorities, a U.S. insurance company ordinarily will enter into a reinsurance agreement only if it can obtain credit on its statutory financial statements for the reinsurance ceded. State insurance regulators permit U.S. ceding insurers to take credit for reinsurance ceded to non-admitted, non-U.S. reinsurers, or “alien reinsurers,” if the reinsurance contract contains certain minimum provisions and the alien reinsurer provides appropriate security for its outstanding obligations. The amount of security that an alien reinsurer may be required to provide and the form of that security varies significantly and depends on an alien reinsurer’s financial strength and its status in a given U.S. state. As alien reinsurers, Renaissance Reinsurance,

DaVinci Reinsurance, RREAG, RenaissanceRe Specialty U.S., and Vermeer have each been approved by one or more U.S. states as a “Certified Reinsurer” or “Reciprocal Jurisdiction Reinsurer,” which permits it to post reduced or zero security, respectively, while still allowing its cedents to take financial statement credit for the reinsurance.

Federal Oversight and Other Government Intervention. Although generally the insurance industry is not directly regulated by the federal government, federal legislation and initiatives can affect the industry and our business. The Dodd-Frank Act created the Federal Insurance Office, which performs various functions with respect to insurance, including the submission of reports to Congress that could ultimately lead to changes in the regulation of insurers and reinsurers in the U.S., and has preemption authority over state insurance laws that conflict with certain international agreements.

The Dodd-Frank Act also authorizes the U.S. Treasury and the Office of the U.S. Trade Representative to enter into international agreements of mutual recognition regarding the prudential regulation of insurance or reinsurance, or “covered agreements.” The U.S. and EU entered into a bilateral agreement regarding the prudential regulation of insurance and reinsurance in 2017, and have been working to complete internal requirements and procedures in order to satisfy substantive and timing requirements. Following the U.K.’s decision to leave the EU, the U.S. and the U.K. also entered into a bilateral agreement in 2018, which largely reflects the provisions of the U.S.-EU covered agreement. The U.S.-EU and U.S.-U.K. covered agreements require U.S. state insurance regulators to work towards eliminating statutory collateral requirements for qualifying EU and U.K. reinsurers, and setting certain standards. All states and the District of Columbia have adopted the NAIC’s amendments to the Credit for Reinsurance Model Law that are intended to implement the reinsurance collateral provisions of the covered agreements. Under the terms of the covered agreements, as of September 1, 2022, state credit for reinsurance laws that result in non-U.S. reinsurers subject to the covered agreements being treated less favorably than U.S. reinsurers may be preempted by the applicable covered agreement.

U.K. Regulation

Lloyd’s Regulation. The operations of RSML are subject to oversight by Lloyd’s, substantially effected through the Lloyd’s Council. RSML’s business plan for Syndicate 1458, including maximum underwriting capacity, requires annual approval by Lloyd’s. Lloyd’s may require changes to any business plan presented to it or additional capital to be provided to support the underwriting plan. We have deposited certain assets with Lloyd’s to support RenaissanceRe CCL’s underwriting business at Lloyd’s.

By entering into a membership agreement with Lloyd’s, RenaissanceRe CCL has undertaken to comply with all Lloyd’s bye-laws and regulations as well as the provisions of the Lloyd’s Acts and the Financial Services and Markets Act 2000, as amended by the Financial Services Act 2012. Our obligations under this arrangement include the following:

- **Capital Requirements.** The underwriting capacity of a member of Lloyd’s must be supported by providing a deposit, referred to as “Funds at Lloyd’s” or “FAL,” in an amount determined on the basis of such entity’s solvency and capital requirements. The amount of such deposit is calculated for each member through the completion of an annual capital adequacy exercise. In addition, if the FAL are not sufficient to cover all losses, the Lloyd’s Central Fund provides an additional level of security for policyholders. Dividends from a Lloyd’s managing agent and a Lloyd’s corporate member can be declared and paid provided the relevant company has sufficient profits available for distribution.
- **Ratings.** The financial security of the Lloyd’s market as a whole is regularly assessed by three independent rating agencies (A.M. Best, S&P and Fitch). Syndicates at Lloyd’s take their financial security rating from the rating of the Lloyd’s market. A satisfactory credit rating issued by an accredited rating agency is necessary for Lloyd’s syndicates to be able to trade in certain classes of business at current levels.
- **Intervention Powers.** The Lloyd’s Council has wide discretionary powers to regulate members’ underwriting at Lloyd’s, including, the power to withdraw a member’s permission to underwrite business or to underwrite a particular class of business and to change the basis on which syndicate expenses are allocated.
- **Assessments.** If Lloyd’s determines that the Central Fund needs to be increased, it has the power to assess premium levies on current Lloyd’s members up to 5% of a member’s underwriting capacity in any one year.

PRA and FCA Regulation. The PRA and the FCA regulate all financial services firms in the U.K. including the Lloyd's market, RSML and RREAG, UK Branch, and have substantial powers of intervention in relation to regulated firms. Lloyd's is required to implement certain rules prescribed by the PRA and the FCA. If it appears to either the PRA or the FCA that either Lloyd's is not fulfilling its delegated regulatory responsibilities or that managing agents are not complying with the applicable regulatory rules and guidance, the PRA or the FCA may intervene at their discretion.

Solvency II and the U.K.'s Domestic Prudential Regime. Solvency II, which is in effect in the EU Member States, represents a risk-based approach to insurance regulation and capital adequacy. Its principal goals are to improve the correlation between capital and risk, effect group supervision of insurance and reinsurance affiliates, implement a uniform capital adequacy structure for (re)insurers across the EU Member States, establish consistent corporate governance standards for insurance and reinsurance companies, and establish transparency through standard reporting of insurance operations. Under Solvency II, an insurer's or reinsurer's capital adequacy in relation to various insurance and business risks may be measured with an internal model developed by the insurer or reinsurer and approved for use by the Member State's regulator or pursuant to a standard formula developed by the European Commission.

Following "Brexit," U.K. authorized insurers, including RREAG, UK Branch, are now subject to the U.K.'s separate domestic prudential regime. This regime is identical to the Solvency II regime from January 1, 2021, although the two regimes may begin to diverge over time. The U.K. is currently undertaking a review of Solvency II and of the regulatory regime applicable to U.K. authorized insurers and reinsurers. RREAG, UK Branch is not required to hold capital at the branch level. In light of this and related matters, the PRA granted various modifications and waivers to RREAG, UK Branch from its Solvency II regulatory reporting requirements.

Lloyd's is subject to an annual PRA solvency test which measures whether Lloyd's has sufficient assets in the aggregate to meet all outstanding liabilities of its members, both current and run-off. If Lloyd's fails this test, the PRA may require the entire Lloyd's market to cease underwriting or individual Lloyd's members may be required to cease or reduce their underwriting.

Change of Control. Prior approval from the PRA and the FCA is required before any person or entity, together with its associates, acquires "control" of a regulated insurer, reinsurer or Lloyd's managing agent or corporate member. Any company or individual that, together with its or his associates, acquires or controls 10% or more of the voting power in a regulated entity or its parent company, would be considered to have acquired control for these purposes, as would a person who had significant influence over the management of such entity or its parent company by virtue of their shareholding or voting power in either. A purchaser of 10% or more of RenaissanceRe's common shares or voting power would therefore be considered to have acquired control of RSML.

Swiss Regulation

Overview. RREAG is a reinsurance company licensed and supervised by the Swiss Financial Supervisory Authority, or FINMA. As such, RREAG must comply with Swiss insurance supervisory law applicable to reinsurers. RREAG maintains branch operations in Australia, Bermuda, the U.K. and the U.S., each in accordance with applicable local regulations. In addition, our group affiliate RenaissanceRe Services of Switzerland AG must comply with applicable provisions of the Swiss Federal Financial Services Act to continue its distribution activities for insurance-linked securities.

Adequacy of Financial Resources. RREAG must comply with capital, solvency, and reserve requirements, such as the Swiss Solvency Test, under applicable Swiss regulations, including the Insurance Supervisory Act and the Insurance Supervisory Ordinance. Certain of these requirements may be determined by FINMA. The solvency requirement of the SST is met if the available risk-bearing capital reaches or exceeds the required target capital. The SST has been recognized by the EU and the U.K. as an equivalent standard to European and U.K. standards, respectively. These and other regulations limit the amount of capital that RREAG may distribute to its holding company parent.

Additional Regulatory Requirements. RREAG is subject to additional regulatory requirements under Swiss law, including the following:

- **Reporting and Disclosure Requirements.** RREAG has to submit an annual report (including audited financial statements and a management report), an annual supervisory report, and a forward-looking self-assessment of its risk situation and capital requirements, or ORSA, to FINMA each year. RREAG is also required to maintain and update with FINMA a regulatory business plan,

including details on its organization, financials, qualified participants, management, oversight, control persons, and responsible actuary. RREAG must notify FINMA of any changes to the business plan, and FINMA is required to approve certain changes.

- *Dividends and Distributions.* RREAG may only distribute dividends out of its retained earnings or distributable reserves based on the audited annual accounts of the company. Any distribution of dividends may be subject to the approval of FINMA (as a change of the regulatory business plan) if they have a bearing on the solvency of the reinsurer and/or the interests of the insured.
- *Change of Control.* Any person who intends to directly or indirectly participate in RREAG with a participation reaching or exceeding the thresholds of 10% of the capital or voting rights in RREAG must notify FINMA. Moreover, any participant of RREAG must notify FINMA if it changes its participation to cross below certain thresholds of the capital or voting rights in RREAG.

Additional Regulation

Certain of our other branches and affiliated entities are subject to regulation in other jurisdictions, including those described below. We do not regard the effect of these regulations to be material to us at this time.

- *Singapore:* Branches of Renaissance Reinsurance and DaVinci Reinsurance based in the Republic of Singapore have each received a license to carry on insurance business as a general reinsurer and are regulated by the Accounting and Corporate Regulatory Authority as a foreign company pursuant to Singapore's Companies Act. Renaissance Services of Asia Pte. Ltd., our Singapore-based service company, is registered with the Accounting and Corporate Regulatory Authority and subject to Singapore's Companies Act.
- *Ireland:* Renaissance Reinsurance of Europe is regulated and supervised by the Central Bank of Ireland and is subject to the requirements of Solvency II. Renaissance Reinsurance of Europe and Renaissance Services of Europe Ltd., our Dublin-based Irish service company, are both registered with the Companies Registration Office in Ireland and subject to the Companies Act 2014.
- *Australia:* RREAG, Australia Branch, based in Sydney, Australia, provides coverage to insurers and reinsurers from Australia and New Zealand. The activities of RREAG, Australia Branch are licensed and regulated by APRA and the Australian Securities and Investments Commission. Pursuant to these regulations, RREAG, Australia Branch is subject to certain reporting and capital requirements in Australia.

GLOSSARY OF DEFINED TERMS

"2019 Large Loss Events"	Hurricane Dorian and Typhoons Faxai and Hagibis and certain losses associated with aggregate loss contracts
"2020 Weather-Related Large Loss Events"	Hurricanes Laura, Sally, Isaias, Delta, Zeta and Eta, the California, Oregon and Washington wildfires, Typhoon Maysak, the August 2020 Derecho, and losses associated with aggregate loss contracts
"2021 Weather-Related Large Losses"	Winter Storm Uri, the European Floods, Hurricane Ida, Other 2021 Catastrophe Events and loss estimates associated with certain aggregate loss contracts triggered during 2021 as a result of weather-related catastrophe events
"2022 Weather-Related Large Loss Events"	Hurricane Ian, Other 2022 Catastrophe Events and loss estimates associated with certain aggregate loss contracts triggered during 2022 as a result of weather-related catastrophe events.
"A.M. Best"	A.M. Best Company, Inc.
"ACR"	additional case reserves
"APRA"	Australian Prudential Regulation Authority
"BMA"	Bermuda Monetary Authority
"BSCR"	Bermuda solvency and capital requirement
"Code of Ethics"	RenaissanceRe's Code of Ethics and Conduct
"DaVinci"	DaVinciRe Holdings Ltd. and its subsidiaries
"DaVinci Reinsurance"	DaVinci Reinsurance Ltd.

“DEI”	Diversity, Equity and Inclusion
“ECR”	Enhanced Capital Requirement
“ERM”	enterprise risk management
“EU”	European Union
“Exchange Act”	the Securities Exchange Act of 1934, as amended
“FAL”	a deposit that must be submitted to support the underwriting capacity of a member of Lloyd’s
“FASB”	Financial Accounting Standards Board
“FCA”	U.K. Financial Conduct Authority
“FCR”	financial condition report
“FINMA”	Swiss Financial Market Supervisory Authority
“Fitch”	Fitch Ratings Ltd.
“Fontana”	Fontana Holdings L.P. and its subsidiaries
“Form 10-K”	this Annual Report on Form 10-K for the year ended December 31, 2021
“GAAP”	generally accepted accounting principles in the U.S.
“IBNR”	incurred but not reported
“IRA”	Inflation Reduction Act
“MIA”	Maryland Insurance Administration
“Medici”	RenaissanceRe Medici Fund Ltd.
“Moody’s”	Moody’s Investors Service
“NAIC”	National Association of Insurance Commissioners
“NYDFS”	New York State Department of Financial Services
“NYSE”	New York Stock Exchange
“OECD”	Organisation for Economic Co-operation and Development
“OFAC”	U.S. Treasury’s Office of Foreign Assets Control
“ORSA”	Own Risk and Solvency Assessment
“Other 2021 Catastrophe Events”	the hail storm in Europe in late June 2021, the wildfires in California during the third quarter of 2021, the tornadoes in the Central and Midwest U.S. in December 2021, and the Midwest Derecho in December 2021.
“Other 2022 Catastrophe Events”	the floods in Eastern Australia in February and March of 2022, Storm Eunice, the severe weather in France in May and June of 2022, Hurricane Fiona and the typhoons in Asia during the third quarter of 2022, and Hurricane Nicole and Winter Storm Elliott during the fourth quarter of 2022.
“PFIC”	passive foreign investment company
“PGGM”	PGGM Vermogensbeheer B.V.
“Platinum”	Platinum Underwriters Holdings, Ltd.
“PRA”	U.K. Prudential Regulatory Authority
“Proxy Statement”	Proxy Statement for the Annual General Meeting of Shareholders to be held on May 16, 2022
“Q3 2020 Weather-Related Catastrophe Events”	Hurricane Laura, Hurricane Sally, the third quarter 2020 wildfires in California, Oregon and Washington, other third quarter catastrophe events including the August 2020 derecho which impacted the U.S. Midwest, Hurricane Isaias, and Typhoon Maysak
“Q4 2020 Weather-Related Catastrophe Events”	Hurricanes Zeta, Delta, Hurricane Eta and wildfires on the West Coast of the United States during the fourth quarter of 2021
“REMS®”	Renaissance Exposure Management System
“Renaissance Reinsurance”	Renaissance Reinsurance Ltd.
“Renaissance Reinsurance of Europe”	Renaissance Reinsurance of Europe Unlimited Company
“Renaissance Reinsurance U.S.”	Renaissance Reinsurance U.S. Inc.

"RenaissanceRe CCL"	RenaissanceRe Corporate Capital (UK) Limited
"RenaissanceRe Group"	RenaissanceRe group of companies
"RenaissanceRe Specialty U.S."	RenaissanceRe Specialty U.S. Ltd.
"RenaissanceRe"	RenaissanceRe Holdings Ltd.
"RFM"	RenaissanceRe Fund Management Ltd.
"RREAG, Australia Branch"	RenaissanceRe Europe AG, Australia Branch
"RREAG, Bermuda Branch"	RenaissanceRe Europe AG, Bermuda Branch
"RREAG, UK Branch"	RenaissanceRe Europe AG, UK Branch
"RREAG, US Branch"	RenaissanceRe Europe AG, US Branch
"RREAG"	RenaissanceRe Europe AG
"RSML"	RenaissanceRe Syndicate Management Ltd.
"RUM"	Renaissance Underwriting Managers, Ltd.
"S&P"	Standard and Poor's Rating Services
"SEC"	U.S. Securities and Exchange Commission
"Securities Act"	Securities Act of 1933, as amended
"SPI"	special purpose insurer
"SST"	Swiss Solvency Test
"State Farm"	State Farm Mutual Automobile Insurance Company
"Syndicate 1458"	RenaissanceRe Syndicate 1458
"TMR"	collectively, Tokio Millennium Re AG and certain associated entities and subsidiaries
"Top Layer"	Top Layer Reinsurance Ltd.
"Tower Hill Companies"	collectively, our investments in a group of Tower Hill affiliated companies including Bluegrass Insurance Management, LLC, Tower Hill Claims Service, LLC, Tower Hill Holdings, Inc., Tower Hill Insurance Group, LLC, Tower Hill Insurance Managers, LLC, Tower Hill Re Holdings, Inc., Tower Hill Signature Insurance Holdings, Inc., Tower Hill Risk Management LLC and Tomoka Re Holdings, Inc.
"U.K."	United Kingdom
"U.S. persons"	a citizen or resident of the United States, a U.S. partnership or corporation, or an estate or trust that is not a foreign estate or trust
"U.S. Treasury"	U.S. Department of the Treasury
"U.S."	United States of America
"Upsilon"	collectively, Upsilon Fund and Upsilon RFO
"Upsilon Fund"	RenaissanceRe Upsilon Fund Ltd.
"Upsilon RFO"	Upsilon RFO Re Ltd.
"Vermeer"	Vermeer Reinsurance Ltd.

GLOSSARY OF SELECTED INSURANCE AND REINSURANCE TERMS

Accident year	Year of occurrence of a loss. Claim payments and reserves for claims and claim expenses are allocated to the year in which the loss occurred for losses occurring contracts and in the year the loss was reported for claims made contracts.
Acquisition expenses	The aggregate expenses incurred by a company for acquiring new business, including commissions, underwriting expenses, premium taxes and administrative expenses.
Additional case reserves; ACR	Additional case reserves represent management's estimate of reserves for claims and claim expenses that are allocated to specific contracts, less paid and reported losses by the client.
Attachment point	The dollar amount of loss (per occurrence or in the aggregate, as the case may be) above which excess of loss reinsurance becomes operative.
Bordereaux	A report providing premium or loss data with respect to identified specific risks. This report is periodically furnished to a reinsurer by the ceding insurers or reinsurers.
Bound	A (re)insurance contract is considered bound, and the (re)insurer responsible for the risks of the contract, when both parties agree to the terms and conditions set forth in the contract.
Broker	An intermediary who negotiates contracts of insurance or reinsurance, receiving a commission for placement and other services rendered, between (1) a policy holder and a primary insurer, on behalf of the insured party, (2) a primary insurer and reinsurer, on behalf of the primary insurer, or (3) a reinsurer and a retrocessionaire, on behalf of the reinsurer.
Capacity	The percentage of surplus, or the dollar amount of exposure, that an insurer or reinsurer is willing or able to place at risk. Capacity may apply to a single risk, a program, a line of business or an entire book of business. Capacity may be constrained by legal restrictions, corporate restrictions or indirect restrictions.
Case reserves	Loss reserves, established with respect to specific, individual reported claims.
Casualty insurance or reinsurance	Insurance or reinsurance that is primarily concerned with the losses caused by injuries to third persons and their property (in other words, persons other than the policyholder) and the legal liability imposed on the insured resulting therefrom. Also referred to as liability insurance.
Catastrophe	A severe loss, typically involving multiple claimants. Common perils include earthquakes, hurricanes, hailstorms, severe winter weather, floods, fires, tornadoes, typhoons, explosions and other natural or man-made disasters. Catastrophe losses may also arise from acts of war, acts of terrorism and political instability.
Catastrophe excess of loss reinsurance	A form of excess of loss reinsurance that, subject to a specified limit, indemnifies the ceding company for the amount of loss in excess of a specified retention with respect to an accumulation of losses resulting from a "catastrophe."
Catastrophe-linked securities; cat-linked securities	Cat-linked securities are generally privately placed fixed income securities where all or a portion of the repayment of the principal is linked to catastrophic events. This includes securities where the repayment is linked to the occurrence and/or size of, for example, one or more hurricanes or earthquakes, or insured industry losses associated with these catastrophic events.

Cede; cedant; ceding company	When a party reinsures its liability with another, it “cedes” business and is referred to as the “cedant” or “ceding company.”
Claim	Request by an insured or reinsured for indemnification by an insurance company or a reinsurance company for losses incurred from an insured peril or event.
Claims made contracts	Contracts that cover claims for losses occurring during a specified period that are reported during the term of the contract.
Claims and claim expense ratio, net	The ratio of net claims and claim expenses to net premiums earned determined in accordance with either statutory accounting principles or GAAP.
Claim reserves	Liabilities established by insurers and reinsurers to reflect the estimated costs of claim payments and the related expenses that the insurer or reinsurer will ultimately be required to pay in respect of insurance or reinsurance policies it has issued. Claims reserves consist of case reserves, established with respect to individual reported claims, additional case reserves and “IBNR” reserves. For reinsurers, loss expense reserves are generally not significant because substantially all of the loss expenses associated with particular claims are incurred by the primary insurer and reported to reinsurers as losses.
Combined ratio	The combined ratio is the sum of the net claims and claim expense ratio and the underwriting expense ratio. A combined ratio below 100% generally indicates profitable underwriting prior to the consideration of investment income. A combined ratio over 100% generally indicates unprofitable underwriting prior to the consideration of investment income.
Delegated authority	A contractual arrangement between an insurer or reinsurer and an agent whereby the agent is authorized to bind insurance or reinsurance on behalf of the insurer or reinsurer. The authority is normally limited to a particular class or classes of business and a particular territory. The exercise of the authority to bind insurance or reinsurance is normally subject to underwriting guidelines and other restrictions such as maximum premium income. Under the delegated authority, the agent is responsible for issuing policy documentation, the collection of premium and may also be responsible for the settlement of claims.
Excess of loss reinsurance or insurance	Reinsurance or insurance that indemnifies the reinsured or insured against all or a specified portion of losses on underlying insurance policies in excess of a specified amount, which is called a “level” or “retention.” Also known as non-proportional reinsurance. Excess of loss reinsurance is written in layers. A reinsurer or group of reinsurers accepts a layer of coverage up to a specified amount. The total coverage purchased by the cedant is referred to as a “program” and will typically be placed with predetermined reinsurers in pre-negotiated layers. Any liability exceeding the outer limit of the program reverts to the ceding company, which also bears the credit risk of a reinsurer’s insolvency.
Exclusions	Those risks, perils, or classes of insurance with respect to which the reinsurer will not pay loss or provide reinsurance, notwithstanding the other terms and conditions of reinsurance.
Expense override	An amount paid to a ceding company in addition to the acquisition cost to compensate for overhead expenses.
Frequency	The number of claims occurring during a given coverage period.

Funds at Lloyd's	Funds of an approved form that are lodged and held in trust at Lloyd's as security for a member's underwriting activities. They comprise the members' deposit, personal reserve fund and special reserve fund and may be drawn down in the event that the member's syndicate level premium trust funds are insufficient to cover its liabilities. The amount of the deposit is related to the member's premium income limit and also the nature of the underwriting account.
Generally Accepted Accounting Principles in the United States	Accounting principles as set forth in the statements of the Financial Accounting Standards Board and related guidance, which are applicable in the circumstances as of the date in question.
Gross premiums written	Total premiums for insurance written and assumed reinsurance during a given period.
Incurred but not reported; IBNR	Reserves for estimated losses that have been incurred by insureds and reinsureds but not yet reported to the insurer or reinsurer, including unknown future developments on losses that are known to the insurer or reinsurer.
Insurance-linked securities	Financial instruments whose values are driven by (re)insurance loss events. Our investments in insurance-linked securities are generally linked to property losses due to natural catastrophes.
International Financial Reporting Standards	Accounting principles, standards and interpretations as set forth in opinions of the International Accounting Standards Board which are applicable in the circumstances as of the date in question.
Layer	The interval between the retention or attachment point and the maximum limit of indemnity for which a reinsurer is responsible.
Line	The amount of excess of loss reinsurance protection provided to an insurer or another reinsurer, often referred to as limit.
Line of business	The general classification of insurance written by insurers and reinsurers, e.g., fire, allied lines, homeowners and surety, among others.
Lloyd's	Depending on the context, this term may refer to (a) the society of individual and corporate underwriting members that insure and reinsure risks as members of one or more syndicates (i.e., Lloyd's is not an insurance company); (b) the underwriting room in the Lloyd's building in which managing agents underwrite insurance and reinsurance on behalf of their syndicate members (in this sense Lloyd's should be understood as a market place); or (c) the Corporation of Lloyd's which regulates and provides support services to the Lloyd's market.
Loss; losses	An occurrence that is the basis for submission and/or payment of a claim. Whether losses are covered, limited or excluded from coverage is dependent on the terms of the policy.
Loss reserve	For an individual loss, an estimate of the amount the insurer expects to pay for the reported claim. For total losses, estimates of expected payments for reported and unreported claims. These may include amounts for claims expenses.
Managing agent	An underwriting agent which has permission from Lloyd's to manage a syndicate and carry on underwriting and other functions for a member.
Net claims and claim expenses	The expenses of settling claims, net of recoveries, including legal and other fees and the portion of general expenses allocated to claim settlement costs (also known as claim adjustment expenses or loss adjustment expenses) plus losses incurred with respect to net claims.
Net claims and claim expense ratio	Net claims and claim expenses incurred expressed as a percentage of net earned premiums.
Net premiums earned	The portion of net premiums written during or prior to a given period that was actually recognized as income during such period.

Net premiums written	Gross premiums written for a given period less premiums ceded to reinsurers and retrocessionaires during such period.
Perils	This term refers to the causes of possible loss in the property field, such as fire, windstorm, collision, hail, etc. In the casualty field, the term "hazard" is more frequently used.
Profit commission	A provision found in some reinsurance agreements that provides for profit sharing. Parties agree to a formula for calculating profit, an allowance for the reinsurer's expenses, and the cedant's share of such profit after expenses.
Property insurance or reinsurance	Insurance or reinsurance that provides coverage to a person with an insurable interest in tangible property for that person's property loss, damage or loss of use.
Property per risk	Reinsurance on a treaty basis of individual property risks insured by a ceding company.
Proportional reinsurance	A generic term describing all forms of reinsurance in which the reinsurer shares a proportional part of the original premiums and losses of the reinsured. (Also known as pro rata reinsurance, quota share reinsurance or participating reinsurance.) In proportional reinsurance, the reinsurer generally pays the ceding company a ceding commission. The ceding commission generally is based on the ceding company's cost of acquiring the business being reinsured (including commissions, premium taxes, assessments and miscellaneous administrative expense) and also may include a profit factor. See also "Quota Share Reinsurance."
Quota share reinsurance	A form of proportional reinsurance in which the reinsurer assumes an agreed percentage of each insurance policy being reinsured and shares all premiums and losses accordingly with the reinsured. See also "Proportional Reinsurance."
Reinstatement premium	The premium charged for the restoration of the reinsurance limit of a contract to its full amount after payment by the reinsurer of losses as a result of an occurrence.
Reinsurance	An arrangement in which an insurance company, the reinsurer, agrees to indemnify another insurance or reinsurance company, the ceding company, against all or a portion of the insurance or reinsurance risks underwritten by the ceding company under one or more policies. Reinsurance can provide a ceding company with several benefits, including a reduction in net liability on insurances and catastrophe protection from large or multiple losses. Reinsurance also provides a ceding company with additional underwriting capacity by permitting it to accept larger risks and write more business than would be possible without an equivalent increase in capital and surplus, and facilitates the maintenance of acceptable financial ratios by the ceding company. Reinsurance does not legally discharge the primary insurer from its liability with respect to its obligations to the insured.
Reinsurance to Close	Also referred to as a RITC, it is a contract to transfer the responsibility for discharging all the liabilities that attach to one year of account of a syndicate into a later year of account of the same or different syndicate in return for a premium.
Retention	The amount or portion of risk that an insurer retains for its own account. Losses in excess of the retention level are paid by the reinsurer. In proportional treaties, the retention may be a percentage of the original policy's limit. In excess of loss business, the retention is a dollar amount of loss, a loss ratio or a percentage.
Retrocedant	A reinsurer who cedes all or a portion of its assumed insurance to another reinsurer.

Retrocessional reinsurance; Retrocessionaire	A transaction whereby a reinsurer cedes to another reinsurer, the retrocessionaire, all or part of the reinsurance that the first reinsurer has assumed. Retrocessional reinsurance does not legally discharge the ceding reinsurer from its liability with respect to its obligations to the reinsured. Reinsurance companies cede risks to retrocessionaires for reasons similar to those that cause primary insurers to purchase reinsurance: to reduce net liability on insurances, to protect against catastrophic losses, to stabilize financial ratios and to obtain additional underwriting capacity.
Risks	A term used to denote the physical units of property at risk or the object of insurance protection that are not perils or hazards. Also defined as chance of loss or uncertainty of loss.
Solvency II	A set of regulatory requirements that codify and harmonize the EU insurance and reinsurance regulation. Among other things, these requirements impact the amount of capital that EU insurance and reinsurance companies are required to hold. Solvency II came into effect on January 1, 2016.
Specialty lines	Lines of insurance and reinsurance that provide coverage for risks that are often unusual or difficult to place and do not fit the underwriting criteria of standard commercial products carriers.
Statutory accounting principles	Recording transactions and preparing financial statements in accordance with the rules and procedures prescribed or permitted by Bermuda, U.S. state insurance regulatory authorities including the NAIC and/or in accordance with Lloyd's specific principles, all of which generally reflect a liquidating, rather than going concern, concept of accounting.
Stop loss	A form of reinsurance under which the reinsurer pays some or all of a cedant's aggregate retained losses in excess of a predetermined dollar amount or in excess of a percentage of premium.
Submission	An unprocessed application for (i) insurance coverage forwarded to a primary insurer by a prospective policyholder or by a broker on behalf of such prospective policyholder, (ii) reinsurance coverage forwarded to a reinsurer by a prospective ceding insurer or by a broker or intermediary on behalf of such prospective ceding insurer or (iii) retrocessional coverage forwarded to a retrocessionaire by a prospective ceding reinsurer or by a broker or intermediary on behalf of such prospective ceding reinsurer.
Surplus lines insurance	Any type of coverage that cannot be placed with an insurer admitted to do business in a certain jurisdiction. Risks placed in excess and surplus lines markets are often substandard in respect to adverse loss experience, unusual, or unable to be placed in conventional markets due to a shortage of capacity.
Syndicate	A member or group of members underwriting (re)insurance business at Lloyd's through the agency of a managing agent or substitute agent to which a syndicate number is assigned.
Treaty	A reinsurance agreement covering a book or class of business that is automatically accepted on a bulk basis by a reinsurer. A treaty contains common contract terms along with a specific risk definition, data on limit and retention, and provisions for premium and duration.
Underwriting	The insurer's or reinsurer's process of reviewing applications submitted for insurance coverage, deciding whether to accept all or part of the coverage requested and determining the applicable premiums.
Underwriting capacity	The maximum amount that an insurance company can underwrite. The limit is generally determined by a company's retained earnings and investment capital. Reinsurance serves to increase a company's underwriting capacity by reducing its exposure from particular risks.

Underwriting expense ratio	The ratio of the sum of the acquisition expenses and operational expenses to net premiums earned.
Underwriting expenses	The aggregate of policy acquisition costs, including commissions, and the portion of administrative, general and other expenses attributable to underwriting operations.
Unearned premium	The portion of premiums written representing the unexpired portions of the policies or contracts that the insurer or reinsurer has on its books as of a certain date.

AVAILABLE INFORMATION

We maintain a website at www.renre.com. The information on our website is not incorporated by reference in this Form 10-K. We make available, free of charge through our website, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the SEC. We also make available, free of charge from our website, our Audit Committee Charter, Corporate Governance and Human Capital Management Committee Charter, Corporate Governance Guidelines, and Code of Ethics. Such information is also available in print for any shareholder who sends a request to RenaissanceRe Holdings Ltd., Attn: Office of the Corporate Secretary, P.O. Box HM 2527, Hamilton, HMGX, Bermuda. The SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers, including the Company, that file electronically with the SEC. The address of the SEC's website is www.sec.gov.

ITEM 1A. RISK FACTORS

Factors that could have a material impact on our results of operations or financial condition are outlined below. Additional risks not presently known to us or that we currently deem insignificant may also impair our business or results of operations as they become known or as facts and circumstances change. Any of the risks described below could cause our actual results to differ materially from those in the forward-looking statements contained in this Form 10-K and other documents we file with the SEC:

Risks Related to our (Re)insurance Business

Our exposure to natural and non-natural catastrophic events and circumstances could cause significant variance in, or adversely impact, our financial results.

We have substantial exposure to natural and non-natural catastrophic events and circumstances, such as earthquakes, hurricanes, tsunamis, winter storms, freezes, floods, fires, tornadoes, hailstorms, drought, pandemics, cyber-risks, political unrest, war, riots and acts of terrorism. Historically, a relatively large percentage of our coverage exposures has been concentrated in natural disasters in the U.S. Southeast or West Coast, but we have significant exposure to large catastrophic events globally. As a result, our operating results have historically been, and we expect will continue to be, significantly affected by the frequency and severity of loss events. For example, in the third quarter of 2022, our results were impacted by Hurricane Ian, which is expected to be one of the costliest natural disasters ever to impact the United States.

The occurrence, or nonoccurrence, of catastrophic events, the frequency and severity of which are inherently unpredictable, may cause significant volatility in our quarterly and annual financial results and may materially adversely affect our financial condition, results of operations and cash flows. In addition, we believe that certain factors may continue to increase the number and severity of claims from catastrophic events in the future, including increases in the value and geographic concentration of insured property, increasing risks associated with extreme weather events because of changes in climate conditions and sea-level rise, and the effects of higher-than-expected inflation.

The trend towards increasingly frequent and severe climate events could exacerbate our potential exposure to losses from natural perils.

Our largest estimated economic exposures arise from natural disasters and other catastrophes. We believe the trend towards increased severity and frequency of weather-related natural disasters and catastrophes arises in part from climate change. In addition, we believe that climate change and shifting demographic

trends in catastrophe exposed regions each contributes to increases in the average economic value of expected losses. Further, we believe that the recent increase in catastrophic events is indicative of permanent climate change rather than transient climate variability.

A substantial portion of our property coverages may be adversely impacted by climate change. While we have invested heavily to understand the influence of climate change on the weather and its impact on the risks that we take, we cannot predict with certainty the frequency or severity of tropical cyclones, wildfires or other natural catastrophes, and our risk assessments may not accurately reflect shifting environmental and climate related risks. Unanticipated factors could lead to additional insured losses that exceed our current estimates, resulting in disruptions to or adverse impacts on our business, the market, or our clients. Further, some of our investments, such as catastrophe-linked securities and property catastrophe joint ventures or managed funds, could also be adversely impacted by climate change.

Our claims and claim expense reserves are subject to inherent uncertainties, and if actual claims exceed our reserves, our financial results could be adversely affected.

Our results of operations and financial condition depend upon our ability to accurately assess the potential losses associated with the risks that we insure and reinsure. Our claims and claim expense reserves reflect our estimates of these potential losses. We use actuarial and computer models, historical reinsurance and insurance industry loss statistics, and management's experience and judgment to assist in the establishment of appropriate claims and claim expense reserves. See "Part I, Item 1. Business—Underwriting and Enterprise Risk Management." We revise our estimates and judgments as additional experience and other data become available, as new or improved methodologies are developed, as loss trends and claims inflation impact future payments, or as rules and regulations change.

Due to the assumptions and estimates involved in establishing reserves, they are inherently uncertain. As information emerges and losses are paid, we expect that some of our assumptions or estimates will change, perhaps materially, and that our actual net claims and claim expenses paid and reported will differ, perhaps materially, from the reserve estimates reflected in our financial statements. For example, our significant gross and net reserves associated with the large catastrophe events of the past several years, as well as those associated with the COVID-19 pandemic, remain subject to significant uncertainty.

If we determine that our claims and claim expense reserves are inadequate, we may be required to increase these reserves at the time of the determination and take charges in our consolidated statement of operations, reducing our net income and available capital. Conversely, if our reserving estimates are too conservative, it could impede our ability to grow our business. Our claims reserves are large, and a small percentage increase to those liabilities could materially adversely affect our financial condition and results of operations.

Emerging claim and coverage issues, or other litigation, could adversely affect us.

Unanticipated developments in the law as well as changes in social conditions could result in unexpected claims for coverage under our insurance and reinsurance contracts. These developments and changes may adversely affect us, perhaps materially, by, for example, imposing additional coverage obligations beyond our underwriting intent or increasing the number or size of claims to which we are subject. We believe that our property results have been adversely impacted over recent periods by increasing fraud and abuses at the primary claims level, as well as other forms of social inflation, and that these trends may continue. Assignment of benefits practices, particularly in Florida, have resulted in increases in the size and number of claims and incidences of litigation, which may directly affect us through policies we write or by reducing the value of investments we have in Florida domestic reinsurers.

These legal and social changes and their impact may not become apparent until some time after their occurrence. Our exposure to these uncertainties could be exacerbated by social inflation trends, including increased litigation, expanded theories of liability and higher jury awards. The full effects of these and other unforeseen emerging claims and coverage issues are extremely difficult to predict. As a result, the full extent of our liability under our coverages may not be known for many years after a contract is issued. Furthermore, we expect that our exposure to this uncertainty will grow as our casualty business grows, because in these "long-tail" lines claims can typically be made for many years, making them more susceptible to these trends than our property and specialty businesses, which are generally more "short-tail."

We depend on a few insurance and reinsurance brokers for a preponderance of our business, and any loss of business provided by them could adversely affect us.

We market our insurance and reinsurance products worldwide through a limited number of insurance and reinsurance brokers, with three brokerage firms (Aon plc, March & McLennan Companies, Inc. and Arthur J. Gallagher) accounting for 77.4% of our gross premiums written. For additional information relating to premiums written generated by our largest brokers, refer to “Item 1. Business—Marketing.” As a result, the loss of a broker, through a merger, acquisition or otherwise, could result in the loss of a substantial portion of our business, which would reduce our premium volume and could have a material adverse effect on us. Further, due to the concentration of our brokers, they may have increased power to dictate the terms and conditions of our arrangements with them, which could have a negative impact on our business.

Retrocessional reinsurance may not be available to us on acceptable terms or provide the coverage we intended to obtain, or we may not be able to collect on claimed retrocessional coverage.

The retrocessional reinsurance that we purchase for our own account is generally subject to annual renewal. Even when reinsurance market conditions in general are strong, retrocessional market conditions may limit or prevent us from obtaining desired amounts of retrocessional reinsurance. For example, recent large catastrophe events have limited and may continue to limit or prevent us from obtaining desired amounts of new or replacement coverage on favorable terms or from entities with satisfactory creditworthiness. This could limit the amount of business we are willing to write or decrease the protection available to us following large loss events.

When we purchase reinsurance or retrocessional reinsurance for our own account, complex coverage issues or coverage disputes may impede our ability to collect amounts we believe we are owed. We have significant reinsurance recoverable associated with the large catastrophe events of the past several years, and the insolvency of any of our reinsurers, or the inability or reluctance of any of our reinsurers to make timely payments to us under the terms of our reinsurance agreements, could have a material adverse effect on us.

In addition, a large portion of our reinsurance protection is concentrated with a relatively small number of reinsurers, which could increase credit risk and may make it difficult to negotiate favorable terms and conditions. The risk of such concentration of retrocessional coverage may be increased by recent and future consolidation within the industry.

The (re)insurance business is historically cyclical and the pricing and terms for our products may decline, which would affect our profitability and ability to maintain or grow premiums.

The (re)insurance industry has historically been cyclical by product and market. After experiencing a prolonged soft market cycle several years ago, we believe that the current (re)insurance underwriting market is in a hard market phase for many lines of business, characterized by increasing prices and improving terms and conditions. This shift has likely been caused by recent withdrawals of alternative capital, the number of catastrophic events and continuing prior year adverse development. We cannot assure you that the higher premium rates will continue, and rates may decrease in the future. If demand for our products falls or the supply of competing capacity rises, our prospects for potential growth may be adversely affected. In particular, we might lose existing customers or suffer a decline in business during shifting market cycles, which we might not regain when industry conditions improve.

We believe the hard/soft market cycle dynamic is likely to persist, and that we may return to soft market conditions in the future. Additionally, it is possible that increased access of primary insurers to capital, new technologies and other factors may reduce the duration or eliminate or significantly lessen the impact of any current or future hard reinsurance underwriting market. The cumulative impact of these risks could negatively impact our profitability and ability to maintain or grow premiums.

We depend on the policies, procedures and expertise of ceding companies and delegated authority counterparties, who may fail to accurately assess the risks they underwrite, which exposes us to operational and financial risks.

We do not separately underwrite each primary risk assumed under our reinsurance contracts or pursuant to our delegated authority business. Accordingly, we are heavily dependent on the original underwriting decisions made by our ceding companies and delegated authority counterparties, who may not have adequately evaluated the risks to be reinsured. As a result, the premiums they cede to us may not properly compensate us for the risks we assume, which could materially adversely affect our financial condition. In addition, it is possible that our delegated authority counterparties or other counterparties authorized to bind policies on our behalf will fail to comply with regulatory requirements, such as those relating to sanctions, or

our own standards regarding underwriting and reputational risk tolerance, which could lead to increased regulatory and operational burden, among other risks. To the extent we continue to increase the proportional coverages we offer, we will increase our aggregate exposure to risks of this nature.

A decline in our financial strength ratings may adversely impact our business, perhaps materially.

Financial strength ratings are used by ceding companies and reinsurance intermediaries to assess the financial strength and quality of reinsurers and insurers. Rating agencies evaluate us periodically and may downgrade or withdraw their financial strength ratings if we do not continue to meet their criteria. In addition, rating agencies may make changes in their capital models and rating methodologies, which could increase the amount of capital required to support our ratings. In December 2021, S&P announced proposed changes to its rating methodologies, and further proposed changes are expected to be announced in early 2023. The proposed changes have not been finalized, so the potential impact, if any, these changes may have on our ratings is unknown.

A ratings downgrade or other negative ratings action could adversely affect our ability to compete with other reinsurers and insurers, the marketability of our product offerings, access to and cost of borrowing, and ability to write new business. We could also breach covenants under, or incur higher borrowing costs on, our credit facilities. In addition, if we are downgraded below a certain rating level, nearly all of our reinsurance contracts contain provisions permitting cedants to cancel coverage and/or requiring us to post collateral for our obligations.

For the current ratings of certain of our subsidiaries and joint ventures and additional ratings information, refer to “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition, Liquidity and Capital Resources—Ratings.”

We operate in a highly competitive environment.

Competition and consolidation in the (re)insurance industry could adversely impact us. We compete with major U.S. and non-U.S. insurers and reinsurers, many of which have greater financial, marketing and management resources than we do. In addition, pension funds, endowments, investment banks, investment managers, hedge funds and other capital markets participants have been active in the reinsurance market, either through the formation of reinsurance companies or the use of other financial products intended to compete with traditional reinsurance. We may also face competition from non-traditional competitors, as well as Insurtech start-up companies and others who aim to leverage access to “big data,” artificial intelligence or other emerging technologies to gain a competitive advantage.

We expect competition to continue to increase over time. It is possible that new or alternative capital could cause reductions in prices of our products or reduce the duration or amplitude of attractive portions of the historical market cycles. New entrants or existing competitors, which may include government sponsored funds or other vehicles, may attempt to replicate all or part of our business model and provide further competition in the markets in which we participate. We will also need to continue to invest significant time and resources in new technologies and new ways to deliver our products and services in order to maintain our competitive position. The tax policies of the countries where our customers operate, as well as government sponsored or backed insurance companies and catastrophe funds may also affect demand for reinsurance, sometimes significantly.

Along with increased competition, there has also been significant consolidation in the (re)insurance industry over the last several years, including among our competitors, customers and brokers. These consolidated enterprises may try to use their enhanced market power or better capitalization to negotiate price reductions for our products and services or obtain a larger market share through increased line sizes. If competitive pressures decrease the prices for our products, we would generally expect to reduce our future underwriting activities, resulting in lower premium volume and profitability. Reinsurance intermediaries may also continue to consolidate, potentially adversely impacting our ability to access business and distribute our products.

As the insurance industry consolidates, we expect competition for customers to become more intense, and sourcing and properly servicing each customer to become even more important. We could incur greater expenses relating to customer acquisition and retention, further reducing our operating margins. In addition, insurance companies that merge may be able to spread their risks across a consolidated, larger capital base so that they require less reinsurance. Any of the foregoing could adversely affect our business or results of operations.

Large non-recurring contracts and reinstatement premiums may increase the volatility of our financial results.

Our premiums are prone to significant volatility due to factors including the timing of contract inception, as well as our differentiated strategy and capabilities which position us to pursue potentially non-recurring bespoke or large solutions for clients. In addition, after a large catastrophic event or circumstance, we may record significant amounts of reinstatement premium, which can cause quarterly, non-recurring fluctuations in both our written and earned premiums in our Property segment. These and other factors may increase the volatility of our financial results.

Risks Related to our Strategy and Operations

The loss of key senior members of management and the inability to attract and retain qualified personnel could adversely affect us.

Our success depends upon our ability to attract and retain our senior officers and to attract and retain additional qualified personnel in the future. The loss of services of members of our senior management team and the uncertain transition of new members of our senior management team may strain our ability to execute our strategic initiatives, or make it more difficult to retain customers, attract or maintain our capital support, or meet other needs of our business. This risk may be particularly acute for us relative to some of our competitors because some of our senior executives work in countries where they are not citizens (such as Bermuda) and work permit and immigration issues could adversely affect the ability to retain or hire key persons.

The preparation of our consolidated financial statements requires us to make many estimates and judgments.

The preparation of consolidated financial statements requires us to make many estimates and judgments that affect the reported amounts of assets, liabilities (including claims and claim expense reserves), shareholders' equity, revenues and expenses, and related disclosures. On an ongoing basis, we evaluate our estimates, including those related to premiums written and earned, our net claims and claim expenses, reinsurance recoverables, investment valuations and income taxes. We base our estimates on historical experience, where possible, and on various other assumptions we believe to be reasonable under the circumstances, which form the basis for our judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Our judgments and estimates may not reflect, and may deviate materially from, our actual results. For more details on our estimates and judgments, see "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Summary of Critical Accounting Estimates."

We are exposed to risks in connection with our management of capital on behalf of investors in joint ventures or other entities we manage.

Our operating subsidiaries owe certain legal duties and obligations (including reporting, governance and allocation obligations) to third-party investors and are subject to laws and regulations relating to the management of third-party capital. Complying with these obligations, laws and regulations requires significant management time and attention. Faulty judgments, simple errors or mistakes, or the failure of our personnel to adhere to established policies and procedures could result in our failure to comply with applicable obligations, laws or regulations, which could result in significant liabilities, penalties or other losses to us and seriously harm our business and results of operations.

In addition, our third-party capital providers may, subject to restrictions, redeem their interests in our joint ventures and managed funds or we may be unable to attract and raise additional third-party capital for our existing or potential new joint ventures and managed funds. The loss, or alteration in a negative manner, of any of this capital support could cause us to forego fee income and other income-generating opportunities and could materially impact our financial condition and results of operations. Moreover, we can provide no assurance that we will be able to attract and raise additional third-party capital for our existing joint ventures and managed funds or for potential new joint ventures and managed funds and therefore we may forego existing and/or potentially attractive fee income and other income generating opportunities.

The covenants in our debt agreements limit our financial and operational flexibility, which could have an adverse effect on our financial condition.

We have incurred indebtedness and may incur additional indebtedness in the future. Our indebtedness primarily consists of publicly traded notes, letters of credit and a revolving credit facility. For more details on

our indebtedness, see “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition, Liquidity and Capital Resources—Capital Resources.”

The agreements governing our indebtedness contain covenants that limit our ability and the ability of some of our subsidiaries to make particular types of investments or other restricted payments, sell or place a lien on our or their respective assets, merge or consolidate. Some of these agreements also require us or our subsidiaries to maintain specific financial ratios or contain cross-defaults to our other indebtedness. Under certain circumstances, if we or our subsidiaries fail to comply with these covenants or meet these financial ratios, the noteholders or the lenders could declare a default and demand immediate repayment of all amounts owed to them or, where applicable, cancel their commitments to lend or issue letters of credit or, where the reimbursement obligations are unsecured, require us to pledge collateral or, where the reimbursement obligations are secured, require us to pledge additional or a different type of collateral.

We may from time to time modify our business and strategic plan, and these changes could adversely affect us and our financial condition.

We frequently monitor and analyze opportunities to acquire or make strategic investments in new or other businesses. The negotiation of potential acquisitions or strategic investments as well as the integration of an acquired business could be unsuccessful, result in a substantial diversion of management resources, or lead to other unanticipated risks or challenges. In addition, while our current business strategy focuses predominantly on writing reinsurance, we also write excess and surplus lines insurance through delegated authority arrangements. Risks associated with implementing or changing our business strategies and initiatives, including risks related to developing or enhancing our operations, controls and other infrastructure, may not have an impact on our publicly reported results until many years after implementation. Our failure to carry out our business plans may have an adverse effect on our long-term results of operations and financial condition.

We are subject to cybersecurity risks and may incur increasing costs to minimize those risks.

Cybersecurity threats and incidents have increased in recent years, and we may be subject to heightened cyber-related risks. Our business depends on the proper functioning and availability of our information technology platform, including communications and data processing systems and our proprietary systems. We are also required to effect electronic transmissions with third parties including brokers, clients, vendors and others with whom we do business, as well as with our Board of Directors. We cannot guarantee that the controls and procedures we or third parties have in place to protect or recover our systems and information will be effective, successful or sufficiently rapid to avoid harm to our business.

Security breaches, including at third parties that have our information, could expose us to a risk of loss or misuse of our information, litigation and potential liability. In addition, cyber incidents, such as ransomware attacks, that impact the availability, reliability, speed, accuracy or other proper functioning of our systems could have a significant impact on our operations and financial results. We may not have the resources or technical sophistication to anticipate or prevent rapidly evolving types of cyberattacks. A significant cyber incident, including system failure, security breach, disruption by malware or other damage could interrupt or delay our operations, result in a violation of applicable cybersecurity and privacy and other laws, damage our reputation, cause a loss of customers or expose sensitive customer data, or give rise to monetary fines and other penalties, which could be significant. While management is not aware of any cybersecurity or information security incident or breach that has had a material effect on our operations, there can be no assurances that a cybersecurity incident that could have a material impact on us will not occur in the future.

The cybersecurity regulatory environment is evolving, and it is likely that the costs of complying with new or developing regulatory requirements will increase. In addition, we operate in a number of jurisdictions with strict data privacy and other related laws, which could be violated in the event of a significant cybersecurity incident or in the event of noncompliance by our personnel. Failure to comply with these obligations can give rise to fines and other penalties, which could be significant.

See “Part I, Item 1. Business—Information Technology and Cybersecurity” for additional information related to information technology and cybersecurity.

The determination of impairments taken is highly subjective and could materially impact our financial condition or results of operations.

The determination of impairments taken on our investments, investments in other ventures, goodwill and other intangible assets and loans varies by type of asset and is based upon our periodic evaluation and assessment of known and inherent risks associated with the respective asset class. Such evaluations and assessments are revised as conditions change and new information becomes available. Management

updates its evaluations regularly and reflects impairments in operations as such evaluations are revised. We cannot assure you that we have accurately assessed the level of impairments taken in our financial statements. Furthermore, management may determine that impairments are needed in future periods and any such impairment will be recorded in the period in which it occurs, which could materially impact our financial condition or results of operations. Historical trends may not be indicative of future impairments.

Risks Related to the Economic Environment

A decline in our investment performance could reduce our profitability and capital resources.

We have historically derived a meaningful portion of our income from our invested assets, which are principally comprised of fixed maturity securities. Accordingly, our financial results are subject to a variety of investment risks, including risks relating to general economic conditions, inflation, market volatility, interest rate fluctuations, foreign currency risk, liquidity risk and credit and default risk. Volatility in global financial markets has impacted, and may continue to impact, the value of our investment portfolio and our strategic investments. Additionally, some of our investments are subject to pre-payment or reinvestment risk. Our investment portfolio also includes securities with a longer duration, which may be more susceptible to risks such as inflation. Changes in various factors, including prevailing interest rates and credit spreads may cause fluctuations in the market value of our fixed maturity investments. The Federal Reserve increased its benchmark interest rate to the highest level in 15 years in 2022, and may raise it further in the coming year. Increases in interest rates could cause the market value of our investment portfolio to decrease, which could reduce our capital resources. Conversely, any decline in interest rates could reduce our investment yield and net investment income, which would reduce our overall profitability. Interest rates are highly sensitive to many factors, including governmental and monetary policies, inflation levels, domestic and international economic and political conditions, and other factors beyond our control.

A portion of our investment portfolio is allocated to other classes of investments including equity securities, catastrophe bonds, term loans and interests in alternative investment vehicles such as private equity investments, private credit investments and hedge funds. For certain investments, the valuation on our consolidated balance sheet may differ significantly from the values that would be used if ready markets existed for the securities representing interests in the relevant investment vehicles. If we were to sell these assets (which may be necessary if we need liquidity to pay claims), it may be at significantly lower prices than we have recorded them. Furthermore, our interests in many of the investment classes described above are subject to restrictions on redemptions and sales that limit our ability to liquidate these investments in the short term. The performance of these classes of investments is also dependent on individual investment managers and investment strategies. It is possible that these investment managers will leave, the investment strategies will become ineffective or that the managers will fail to follow our investment guidelines. Our investment portfolio may become concentrated in a limited number of issuers or have significant exposure to certain geographic areas or economic sectors. Concentration of investments can increase investment risk and portfolio volatility. Any of the foregoing could result in a decline in our investment performance and capital resources, and accordingly, adversely affect our financial results.

We may be adversely impacted by inflation.

The principal markets in which we operate are susceptible to monetary inflation, which could cause loss costs to increase, impact the performance of our investment portfolio, and borrowing costs to increase. We believe the risks of inflation across our key markets have increased following two years of significant increases in inflation in the United States and elsewhere. In particular, the steps taken by governments in responding to the COVID-19 pandemic, and the costs of such actions, led to significant inflation, while other widespread economic factors such as supply chain disruptions have contributed and may continue to contribute as well. The impact of inflation on loss costs could be more pronounced for those lines of business that are long tail in nature, as they require a relatively long period of time to finalize and settle claims. Changes in the level of inflation may also result in an increased level of uncertainty in our estimation of loss reserves, particularly for long tail lines of business, and may require us to strengthen reserves, with a corresponding reduction in our net income in the period in which the deficiency is identified. Unanticipated higher inflation could also lead to higher interest rates, which would decrease or create volatility in the value of our fixed income securities and potentially other investments. To the extent higher inflation could lead to currency fluctuation, we may also experience increased volatility on foreign exchange gains and losses in our consolidated financial statements. If inflation continues to increase for a prolonged period or increase further, any of the risks described above could be exacerbated, and the impact on the global economy generally and on our customers could negatively affect our business, financial condition and results of operations.

We are exposed to counterparty credit risk, which could increase our liabilities and reduce liquidity.

Counterparty credit risk typically increases during periods of economic uncertainty, and we believe our exposure has increased in recent years. In connection with the settlement of reinsurance balances, we assume a substantial degree of credit risk associated with our brokers. In accordance with industry practice, we pay virtually all amounts owed on claims under our policies to reinsurance brokers, who then forward these payments to the ceding insurers that have purchased reinsurance from us. Likewise, premiums due to us by ceding insurers are virtually all paid to brokers, who then pass the amounts to us. Many of our contracts provide that if a broker fails to make a payment to a ceding insurer, we remain liable to the ceding insurer for the deficiency. Conversely, when the ceding insurer pays premiums to brokers for payment to us, these premiums are considered to have been received by us upon receipt by the broker and the ceding insurer is no longer liable to us for those amounts, even if we have not received the premiums.

We are also exposed to the credit risk of our customers, who, pursuant to their contracts with us, frequently pay us over time. We may not collect all our premiums receivable from our ceding insurers and reinsurers, and we may not collect all our reinsurance recoverable from our own retrocessionaires. We have significant premiums receivable and reinsurance recoverable, and our failure to collect even a small portion of these amounts, or a meaningful delay in the collection of recoverables as to which our own underlying obligations are due, could negatively affect our results of operations and financial condition, perhaps materially.

The continuing COVID-19 pandemic has and may continue to adversely affect our financial performance and ability to conduct operations.

The COVID-19 pandemic has had immense impacts on a global scale, including on the insurance and reinsurance industries. It is difficult to predict all of the potential impacts of the COVID-19 pandemic on the markets in which we participate and our ability to effectively respond to these changing market dynamics.

While COVID-19-related governmental and societal restrictions have been scaled back in the jurisdictions in which we operate, the pandemic significantly increased economic uncertainty. To the extent these conditions continue and recur or worsen, they could have the following impacts on our business operations and current and future financial performance and could impact us in other ways that we cannot predict:

- We have significant exposure to losses stemming from COVID-19 related claims, and we expect losses to emerge over time as the full impact of the pandemic and its effects on the global economy are realized. The extent to which the COVID-19 pandemic triggers coverage is dependent on specific policy language, terms and exclusions.
- Ongoing disruption in global financial markets and economic uncertainty due to the continuing impact of COVID-19 could cause us to incur investment losses, including credit impairments in our fixed maturity portfolio, or decline in interest rates which may reduce our future net investment income. Responses to the pandemic, including by governments, may lead or contribute to continued high inflation.
- Our counterparty credit risk may also increase, as some of our counterparties may face increased financial difficulties due to the ongoing impacts of COVID-19 on the world economy and financial markets.
- From an operational perspective, while many of the jurisdictions in which we operate have relaxed COVID restrictions, our employees, directors and agents, as well as the workforces of our brokers, vendors, service providers, retrocessionaires and other counterparties, were recently and may in the future again be adversely affected by the COVID-19 pandemic, or efforts to mitigate the pandemic.

The impact of the COVID-19 pandemic could also exacerbate the other risks we face described herein. All of the foregoing events or potential outcomes, including in combination with other risk factors included herein, could cause a material adverse effect on our results of operations for any period, and, depending on their severity, could also materially and adversely affect our financial condition.

We may be adversely affected by foreign currency fluctuations.

We routinely transact business in currencies other than the U.S. dollar, our financial reporting currency. Moreover, we maintain a portion of our cash and investments in currencies other than the U.S. dollar, and certain of our subsidiaries use or have used non-U.S. dollar functional currencies. Although we generally seek to hedge significant non-U.S. dollar positions, we may experience losses resulting from fluctuations in the values of these foreign currencies, which could cause our consolidated earnings to decrease. In

addition, failure to manage our foreign currency exposures could cause our results of operations to be more volatile. Our significant third-party capital management operations may further complicate these foreign currency operational needs and risk.

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

Our exposure to significant catastrophic events may cause significant volatility in our operating and capital needs. To the extent that our existing capital is insufficient to support our future operating requirements, we may need to raise additional funds through financings or limit our growth. Any further equity, debt or hybrid financings, or capacity needed for letters of credit, if available at all, may be on terms that are unfavorable to us. For example, in a rising interest rate environment such as the one prevailing throughout 2022 and into 2023, our borrowing costs have and may continue to increase, new debt may be available only on terms and conditions less favorable than those of our existing debt, and our access to credit may be negatively impacted. Additionally, any indebtedness we incur at higher interest rates may require higher ongoing debt service payments than our existing debt arrangements, which could leave us with less cash available for our operations. We are also exposed to the risk that the contingent capital facilities we have in place may not be available as expected.

If we are unable to obtain adequate capital when needed, we may not be able to grow and take advantage of favorable market conditions, or we may be required to reduce the amount of business that we write, impacting our results of operations and financial condition.

In addition, we are exposed to the risk that we may be unable to raise new capital for our joint ventures, managed funds and other private alternative investment vehicles, which would reduce our future fee income and market capacity, and thus negatively affect our results of operations and financial condition. For example, it is possible that substantial losses ceded to the alternative capital sector over a period of years, and restraints on capital return and maintenance of collateral for prior loss periods by a number of market participants, may contribute to a reduction in investor appetite to this product class in the near term.

We may be affected by adverse economic factors outside of our control, including recession or the perception that recession may occur and international socio-political events.

An economic recession or slowdown in economic activity may result from a new surge in the COVID-19 pandemic, from international events involving war or civil, political, or social unrest, or from other factors outside of our control. For example, we have experienced losses related to the conflict between Russia and Ukraine, and the conflict may expand, which could increase our potential exposures or have far-reaching impacts on the global economy. Additionally, governmental, business and societal responses to such events, such as restrictions on public gatherings, sanctions, trade restrictions, increased unemployment, and supply chain disruptions could worsen the impact of such events and could have an impact on our business and on our customers' businesses. Any such events could increase our probability of losses. These events could also reduce the demand for insurance and reinsurance, which would reduce our premium volume and could have a material adverse effect on our business and results of operations.

Risks Related to Legal and Regulatory Matters

The regulatory systems under which we operate could restrict our ability to operate, increase our costs, or otherwise adversely impact us.

Our operating subsidiaries conduct business globally and are subject to varying degrees of regulation and supervision in multiple jurisdictions. See "Part I, Item 1. Business—Regulation." These statutes, regulations and policies may, among other things, restrict the ability of our subsidiaries, joint ventures or managed funds to write certain business, make certain investments and distribute funds. We may not be able to comply fully with, or obtain appropriate exemptions from, these statutes and regulations, which could result in restrictions on our ability to do business or undertake activities that are regulated in these jurisdictions, which could subject us to fines and/or penalties. Our current or future business strategy could cause one or more of our currently unregulated subsidiaries to become subject to some form of regulation in the future. Any failure to comply with current or future applicable laws or regulations could result in restrictions on our ability to do business or undertake activities that are regulated in these jurisdictions, which could subject us to fines and other penalties. In addition, changes in the laws or regulations to which our operating subsidiaries are subject or in their interpretation could have an adverse effect on our business.

Several of our operating subsidiaries are not licensed or admitted in any jurisdiction except Bermuda, conduct business only from their offices in Bermuda and do not maintain offices in the U.S. The insurance and reinsurance regulatory framework continues to be subject to increased scrutiny in many jurisdictions,

including the U.S. and Europe. If our Bermuda insurance or reinsurance operations become subject to the insurance laws of any state in the U.S., jurisdictions in the EU, or elsewhere, we could face challenges to the future operations of these companies. We could also be required to allocate considerable time and resources to comply with any new or additional regulatory requirements in any of the jurisdictions in which we operate, and any such requirements could impact the operations of our insurance and/or non-insurance subsidiaries, result in increased costs for us and impact our financial condition

It is possible that individual jurisdiction or cross border regulatory developments could adversely differentiate Bermuda, the jurisdiction in which we are subject to group supervision, or could exclude Bermuda-based companies from benefits such as market access, mutual recognition or reciprocal rights made available to other jurisdictions, which could adversely impact us. Any such development could significantly and negatively affect our operations.

Political, regulatory and industry initiatives by state and international authorities could adversely affect our business.

The insurance and reinsurance regulatory framework is subject to heavy scrutiny by the U.S. and individual state governments, as well as a number of international authorities, and we believe it is likely there will be increased regulatory intervention in our industry in the future.

We could also be adversely affected by proposals or enacted legislation that provide for reinsurance capacity in markets and to consumers that we target, expand the scope of coverage under existing policies for perils such as hurricanes or earthquakes or for a pandemic disease outbreak, mandate the terms of insurance and reinsurance policies, expand the scope of the Federal Insurance Office or establish a new federal insurance regulator or otherwise revise laws, regulations, or contracts under which we operate, which may disproportionately benefit the companies of one country over those of another. Moreover, government-backed entities may represent competition for the coverages we provide, either directly or by competing for the business of our customers, thereby reducing the potential amount of third-party private protection our clients may need or desire.

Bermuda is also subject to increasing scrutiny by political bodies outside of Bermuda, including the EU Code of Conduct Group. See *“The OECD and the jurisdictions in which we operate may pursue measures that might increase our taxes and reduce our net income and increase our reporting requirements.”* Due to this increased legislative and regulatory scrutiny of the reinsurance industry and Bermuda, our cost of compliance with applicable laws may increase, which could result in a decrease to our profitability. Further, as we continue to expand our business operations outside of Bermuda, we are increasingly subject to new and additional regulations, including, for example, laws relating to anti-corruption and anti-bribery.

We face risks related to changes in Bermuda law and regulations, and the political environment in Bermuda.

We are incorporated in Bermuda and many of our operating companies are domiciled in Bermuda. Therefore, changes in Bermuda law and regulation may have an adverse impact on our operations, such as the imposition of tax liability, increased regulatory supervision or changes in regulation.

In addition, we are subject to changes in the political environment in Bermuda, which could make it difficult to operate in, or attract talent to, Bermuda. In addition, Bermuda, which is currently an overseas territory of the U.K., may consider changes to its relationship with the U.K. in the future. These changes could adversely affect Bermuda or the international reinsurance market focused there, either of which could adversely impact us commercially.

Our liquidity could be impacted due to regulatory requirements for collateral by non-U.S. insurers.

Many jurisdictions in the U.S. do not permit insurance companies to take credit for reinsurance obtained from unlicensed or non-admitted insurers on their statutory financial statements unless security is posted, the form and quantity of which is also subject to the regulations of those jurisdictions, or another basis for credit is met by the reinsurer. Our contracts generally require us to post such security via a letter of credit, a trust account, or where applicable utilize a multi-beneficiary reinsurance trust, with the release of such security being controlled by the ceding insurance company and/or a regulator. Because of these requirements, we could be put at a competitive disadvantage relative to certain of our competitors who are licensed and admitted in U.S. jurisdictions. Further, if we are not able to access sufficient unrestricted liquid assets from our other operations in order to operate our business from time to time, our business could be adversely impacted. See “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition, Liquidity and Capital Resources—Liquidity and Cash Flows—Credit Facilities, Trusts and Other Collateral Arrangements—Multi-Beneficiary Reinsurance Trusts and

Multi-Beneficiary Reduced Collateral Reinsurance Trusts” for a discussion of certain of these collateral arrangements.

Regulatory regimes and changes to accounting rules may adversely impact our financial results irrespective of business operations.

Accounting standards and regulatory changes may require modifications to our accounting principles, both prospectively and for prior periods, and such changes could have an adverse impact on our financial results. Required modification of our existing principles, and new disclosure requirements, could have an impact on our results of operations and increase our expenses in order to implement and comply with any new requirements.

Our business is subject to certain laws and regulations relating to sanctions and foreign corrupt practices, the violation of which could adversely affect our operations.

We must comply with all applicable economic sanctions and anti-bribery laws and regulations of the U.S. and other jurisdictions. U.S. laws and regulations that may be applicable to us include economic trade sanctions laws and regulations administered by OFAC as well as certain laws administered by the U.S. Department of State. The sanctions laws and regulations of non-U.S. jurisdictions in which we operate may differ to some degree from those of the U.S. and these differences may additionally expose us to sanctions violations.

In addition, we are subject to the Foreign Corrupt Practices Act and other anti-bribery laws that generally prohibit corrupt payments or improper gifts to non-U.S. governments or officials. It is possible that an employee or intermediary could fail to comply with applicable laws and regulations. In such event, we could be exposed to civil penalties, criminal penalties and other sanctions, including fines or other punitive actions. In addition, such violations could damage our business and our reputation. Such criminal or civil sanctions, penalties, other sanctions, and damage to our business and reputation could adversely affect our financial condition and results of operations.

Our business may be subject to governmental and societal responses to climate change which could affect our profitability.

In addition to the impacts that environmental incidents have on our business, there are also risks to our business arising from the transition to a lower carbon economy, including from proliferation of governmental and regulatory scrutiny related to climate change and greenhouse gases. Our investment assets could be affected by a market shift away from carbon-intensive industries or businesses, increased costs or fees associated with the production of greenhouse gases, and decreased profitability in sectors that produce or use carbon-based fuels. Additionally, demand for insurance coverage could be negatively impacted to the extent that carbon-intensive businesses are impacted by this transition, and claims and losses related to those industries could increase, either of which could have a material negative effect on our business and results of operations.

Concerns over the negative impacts of climate change have led and will continue to lead to new regulatory responses. New laws and regulations relating sustainability and climate change are under consideration or being adopted, which may include specific disclosure requirements or obligations, and that this may result in additional investments and implementation of new practices and reporting processes, all entailing additional compliance costs and risk.

Risks Related to Taxation

Our Bermuda subsidiaries may be subject to U.S. corporate income tax.

We conduct a significant amount of business through Bermuda subsidiaries that we believe are not subject to U.S. corporate income tax as they are not engaged in a trade or business in the U.S. Since there is considerable uncertainty, however, as to the activities that constitute being engaged in a trade or business within the U.S., we cannot be certain that the U.S. Internal Revenue Service will not contend successfully that any of our non-U.S. companies is engaged in a trade or business in the U.S. Were this to occur, such company could be subject to U.S. corporate income and additional branch profits taxes on the portion of its earnings effectively connected to such U.S. business. If we or one or more of our Bermuda subsidiaries were ultimately held to be subject to taxation, our earnings would correspondingly decline.

While we have maintained our rigorous tax-related operating protocols during the ongoing COVID-19 pandemic, it is possible that any ongoing or future travel restrictions may give rise to substantial operating challenges.

U.S. tax changes could reduce our access to capital, decrease demand for our products, impact our shareholders or investors in our joint ventures or other entities we manage or otherwise adversely affect us.

In 2017, the U.S. adopted tax reform legislation, commonly referred to as the Tax Cuts and Jobs Act. The Tax Cuts and Jobs Act included a new base erosion anti-avoidance tax that would have substantially altered the taxation of affiliate reinsurance between our operating affiliates which are subject to U.S. taxation and our non-U.S. affiliates which are not. Although base erosion anti-avoidance tax has not significantly impacted us to date as the affiliate reinsurance targeted by the base erosion anti-avoidance tax was not material to our operations, it could limit our ability to execute affiliate reinsurance transactions that would otherwise be undertaken for non-tax business reasons, such as efficient use of capital within our group, in the future and could result in higher prices for the reinsurance products we buy and sell.

The Tax Cuts and Jobs Act increased the likelihood that we or any of our non-U.S. subsidiaries or any entity managed by us will be deemed a “controlled foreign corporation” within the meaning of the Internal Revenue Code for U.S. federal tax purposes. Specifically, the Tax Cuts and Jobs Act expands the definition of “U.S. shareholder” for “controlled foreign corporation” purposes to include “U.S. persons” who own 10% or more of the value of a foreign corporation’s shares, rather than only looking to voting power held. In the event a corporation is characterized as a “controlled foreign corporation,” any “U.S. shareholder” of the “controlled foreign corporation” is required to include its pro rata share of certain insurance and related investment income in income for a taxable year, even if such income is not distributed.

In addition to changes in the “controlled foreign corporation” rules, the Tax Cuts and Jobs Act contained modifications to certain provisions relating to PFIC status that could, for example, discourage U.S. persons from investing in our joint ventures or other entities we manage. While we believe that we should not be characterized as a PFIC, we cannot assure you that this will continue to be the case in future years. It is also possible that joint venture entities managed by us may be characterized as PFICs, which could make these entities less attractive to investors and reduce our fee income.

It is currently anticipated (though not assured) that we will operate each of our non-U.S. subsidiaries in such a way that gross related person insurance income will constitute less than 20% of the gross insurance income of each of our non-U.S. insurance subsidiaries for any taxable year in the foreseeable future. On January 25, 2022, proposed regulations were published which could, if finalized in their current form, substantially expand the definition of related person insurance income to include insurance income of our non-U.S. subsidiaries related to affiliate reinsurance transactions. These regulations would apply to taxable years beginning after the date the regulations are finalized. Although we cannot predict whether, when or in what form the proposed regulations might be finalized, the proposed regulations, if finalized in their current form, could limit our ability to execute affiliate reinsurance transactions that would otherwise be undertaken for non-tax business reasons in the future and could increase the risk that gross related person insurance income could constitute 20% or more of the gross insurance income of one or more of our non-U.S. insurance subsidiaries in a particular taxable year, which could result in such related person insurance income being taxable to U.S. persons that own our shares.

The Inflation Reduction Act which was adopted in the U.S. in 2022 includes, among other things, a 15% corporate alternative minimum tax and an excise tax on certain stock buybacks. While we do not currently expect to be impacted by the tax provisions contained in the IRA, we cannot guarantee that we will not be adversely impacted by the IRA in the future if the nature or magnitude of our U.S. operations changes or as a result of future guidance implementing the IRA provisions.

Further, the taxation of us or our subsidiaries and our shareholders may be the subject of future tax legislation, which could have a material adverse effect on us or our shareholders.

The OECD and the jurisdictions in which we operate may pursue measures that might increase our taxes and reduce our net income and increase our reporting requirements.

The OECD has published reports and launched a global dialog among member and non-member countries on measures to limit harmful tax competition. These measures are largely directed at counteracting the effects of jurisdictions perceived by the OECD to be tax havens or offering preferential tax regimes. In 2017, the EU initiated similar measures and identified certain jurisdictions, including Bermuda, which it considered had tax systems that facilitated offshore structuring by attracting profits without commensurate economic activity. The EU did temporarily add Bermuda to its “blacklist” of non-cooperative jurisdictions for tax purposes from March 2019 until May 2019, when Bermuda adopted economic substance legislation that the EU deemed compliant with its requirements. The EU also temporarily added Bermuda to its “greylist” from February 2022 until October 2022. The “greylist” is a list of jurisdictions that have made sufficient

commitments to reform their tax policies but remain subject to close monitoring while they are executing on their commitments.

In addition, in 2015, the OECD published its final series of Base Erosion and Profit Shifting reports related to its attempt to coordinate multilateral action on international tax rules. The actions recommended changes in the tax law which, if adopted, could subject us to additional taxes and increase the complexity and cost of tax compliance.

Following the recommendations in the final series of these reports, the OECD has continued to consult on and review the tax challenges arising from the digital economy. In May 2019, the OECD published a “Programme of Work,” divided into two pillars, with the goal of tackling the challenges of taxing the digital economy. The OECD then published Blueprints for the two pillars late in 2020 and commenced a public consultation on the proposals.

In 2021, significant steps were taken to develop a plan for implementing a two-pillar solution. In October 2021, the OECD/G20 Inclusive Framework released a statement agreeing on a two-pillar solution to address the tax challenges arising from the digital economy. Pillar One addresses the broader challenge of a digitalized economy and focuses on the allocation of group profits among taxing jurisdictions based on a market-based concept rather than historical “permanent establishment” concepts. Pillar One includes explicit exclusions for Regulated Financial Services, so is not expected to have a material impact on insurance and reinsurance groups. Pillar Two addresses the remaining Base Erosion and Profit Shifting risk of group shifting profits to entities in low tax jurisdictions by introducing a global minimum tax on large groups (groups with consolidated revenues in excess of €750 million), which would require large groups to calculate the effective tax in each of the jurisdictions in which they operate, and pay an additional top-up tax where the group’s effective tax rate in a jurisdiction is below 15%. In December 2021, the OECD issued Pillar Two model rules for domestic implementation of the global minimum tax and on December 15, 2022 the EU member states unanimously adopted a Directive to implement the Pillar Two rules into EU law. EU member states have until December 31, 2023 to transpose the Directive into national law, with those laws generally coming into effect for fiscal years beginning on or after December 31, 2023. If the countries in which we operate amend their tax laws to fully adopt the Pillar Two framework, there may be an increase in the company’s income taxes.

Further, we could be adversely impacted by other changes in tax laws, tax treaties or tax regulations or the interpretation or enforcement thereof by taxation authorities in the jurisdictions in which we operate, which could materially adversely affect our results of operations.

Risks Related to the Ownership of our Securities

Because we are a holding company, we are dependent on dividends and payments from our subsidiaries.

As a holding company with no direct operations, we rely on our investment income, cash dividends and other permitted payments from our subsidiaries to make principal and interest payments on our debt and to pay dividends to our shareholders. From time to time, we may not have sufficient liquid assets to meet these obligations. Regulatory restrictions on the payment of dividends under Bermuda law, Swiss law and various U.S. laws regulate the ability of our subsidiaries to pay dividends. If our subsidiaries are restricted from paying dividends to us, we may be unable to pay dividends to our shareholders or to repay our indebtedness.

Some aspects of our corporate structure may discourage third-party takeovers and other transactions or prevent the removal of our current board of directors and management.

Some provisions of our bye-laws may discourage third parties from making unsolicited takeover bids or prevent the removal of our current board of directors and management. In particular, our bye-laws prohibit transfers of our capital shares if the transfer would result in a person owning or controlling shares that constitute 9.9% or more of any class or series of our shares, unless otherwise waived at the discretion of the Board. In addition, our bye-laws reduce the total voting power of any shareholder owning, directly or indirectly, beneficially or otherwise, more than 9.9% of our common shares to not more than 9.9% of the total voting power of our shares unless otherwise waived at the discretion of the Board. These provisions may have the effect of deterring purchases of large blocks of our common shares or proposals to acquire us, even if our shareholders might deem these purchases or acquisition proposals to be in their best interests.

In addition, our bye-laws provide for, among other things:

- a classified Board, whose size is generally fixed and whose members may be removed by the shareholders only for cause upon a 66 2/3% vote;
- restrictions on the ability of shareholders to nominate persons to serve as directors, submit resolutions to a shareholder vote and requisition special general meetings;
- a large number of authorized but unissued shares which may be issued by the Board without further shareholder action; and
- a 66 2/3% shareholder vote to amend, repeal or adopt any provision inconsistent with several provisions of the bye-laws.

These bye-law provisions make it more difficult to acquire control of us by means of a tender offer, open market purchase, proxy contest or otherwise and could discourage a prospective acquirer from making a tender offer or otherwise attempting to obtain control of us. In addition, these bye-law provisions could prevent the removal of our current Board of Directors and management. To the extent these provisions discourage takeover attempts, they could deprive shareholders of opportunities to realize takeover premiums for their shares or could depress the market price of the shares.

In addition, many jurisdictions in which our insurance and reinsurance subsidiaries operate have laws and regulations that require regulatory approval of a change in control of an insurer or an insurer's holding company. Where such laws apply to us and our subsidiaries, there can be no effective change in our control unless the person seeking to acquire control has filed a statement with the regulators and has obtained prior approval for the proposed change from such regulators. Under these laws, control is typically presumed when a person acquires, directly or indirectly, 10% or more of the voting power of the insurance company or its parent, although this presumption is rebuttable. Therefore, a person may not acquire 10% or more of our common shares without the prior approval of the applicable insurance regulators.

Investors may have difficulty in serving process or enforcing judgments against us in the U.S.

We are a Bermuda company. In addition, many of our officers and directors reside in countries outside the U.S. All or a substantial portion of our assets and the assets of these officers and directors may be located outside the U.S. Investors may have difficulty effecting service of process within the U.S. on our directors and officers who reside outside the U.S. or recovering against us or these directors and officers on judgments of U.S. courts based on civil liabilities provisions of the U.S. federal securities laws whether or not we appoint an agent in the U.S. to receive service of process.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We lease office space in Bermuda, which houses our headquarters and principal executive offices, as well as in other locations throughout the U.S. and in the U.K., Australia, Ireland, Singapore and Switzerland. We believe that our current office space is sufficient for us to conduct our operations, although our needs may change in the future. To date, the cost of acquiring and maintaining our office space has not been material to us as a whole.

ITEM 3. LEGAL PROCEEDINGS

The information required by this Item relating to legal proceedings is incorporated herein by reference to information included in "Note 19. Commitments, Contingencies and Other Items" in our "Notes to the Consolidated Financial Statements."

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER REPURCHASES OF EQUITY SECURITIES

MARKET INFORMATION AND NUMBER OF HOLDERS

Our common shares are listed on the NYSE under the symbol "RNR." On February 3, 2023, there were 106 holders of record of our common shares.

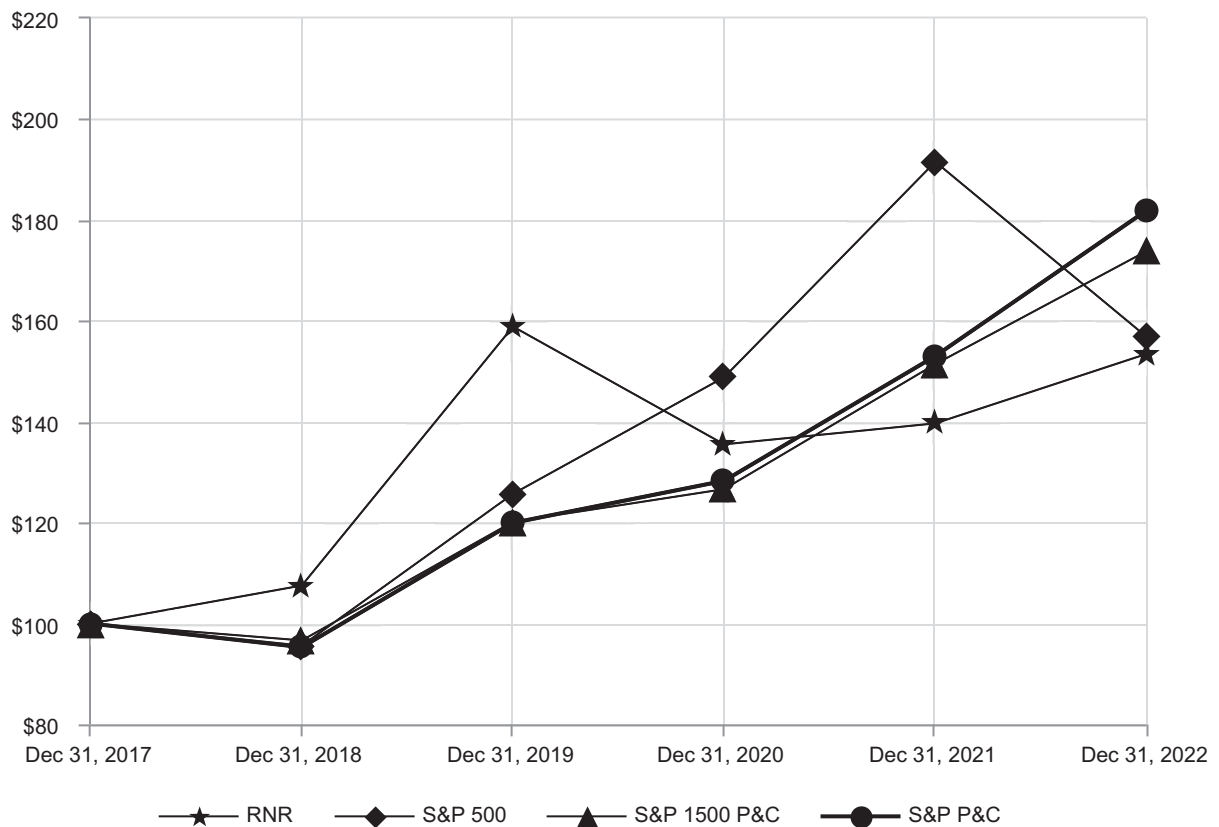
DIVIDENDS

On February 8, 2023, the Board of Directors of the Company announced a quarterly dividend of \$0.38 per common share on its common shares. The dividend is payable on March 31, 2023, to shareholders of record on March 15, 2023. The declaration and payment of future dividends is at the sole discretion of our board of directors after taking into account various factors, including our financial condition, settlement indemnifications, operating results, available cash and current and anticipated cash needs.

PERFORMANCE GRAPH

The following graph compares the cumulative return on our common shares, including reinvestment of our dividends on our common shares, to such return for the S&P 500 Index, the S&P's Property-Casualty Industry Group Stock Price Index, the published industry index that we previously used, and the S&P Composite 1500 Property & Casualty Insurance Index, the new published industry index that we have selected, for the five-year period commencing December 31, 2017 and ending December 31, 2022, assuming \$100 was invested on December 31, 2017. We previously compared our performance to the S&P 500 Property & Casualty Insurance Industry Group Stock Price Index but changed to the S&P Composite 1500 Property & Casualty Insurance Index because we believe it is a more appropriate peer group index and better reflects our business and the companies with which we compete. Each measurement point on the graph below represents the cumulative shareholder return as measured by the last sale price at the end of each calendar year during the period from January 1, 2018 through December 31, 2022. As depicted in the graph below, during this period, the cumulative return was (1) 53.5% on our common shares; (2) 56.9% for the S&P 500 Index; (3) 81.9% for the S&P Property-Casualty Industry Group Stock Price Index; and (4) 73.9% for the S&P Composite 1500 Property & Casualty Insurance Industry Index.

COMPARISON OF FIVE YEAR CUMULATIVE TOTAL RETURN



ISSUER REPURCHASES OF EQUITY SECURITIES

Our share repurchase program may be effected from time to time, depending on market conditions and other factors, through open market purchases and privately negotiated transactions. On each of February 4, 2022, May 16, 2022 and August 2, 2022, our Board of Directors approved a renewal of our authorized share repurchase program to an aggregate amount of up to \$500.0 million. Unless terminated earlier by our Board of Directors, the program will expire when we have repurchased the full value of the shares authorized. The table below details the repurchases that were made under the program during the fourth quarter of 2022, and also includes other shares purchased, which represents common shares surrendered by employees in respect of withholding tax obligations on the vesting of restricted stock.

	Total Shares Purchased		Other Shares Purchased		Shares Purchased Under Repurchase Program		Dollar Amount Still Available Under Repurchase Program
	Shares Purchased	Average Price per Share	Shares Purchased	Average Price per Share	Shares Purchased	Average Price per Share	
							(in millions)
Beginning dollar amount available to be repurchased							\$ 500.0
October 1 - 31, 2022	—	\$ —	—	\$ —	—	\$ —	500.0
November 1 - 30, 2022	15	\$ 154.29	15	\$ 154.29	—	\$ —	500.0
December 1 - 31, 2022	98	\$ 181.79	98	\$ 181.79	—	\$ —	500.0
Total	113	\$ 178.14	113	\$ 178.14	—	\$ —	\$ 500.0

During 2022, pursuant to our publicly announced share repurchase program, we repurchased 1.1 million common shares at an aggregate cost of \$162.8 million and an average price of \$155.00 per common share. At December 31, 2022, \$500.0 million remained available for repurchase under the share repurchase program. In the future, we may authorize additional purchase activities under the currently authorized share repurchase program, increase the amount authorized under the share repurchase program, or adopt additional trading plans. Our decision to repurchase common shares will depend on, among other matters, the market price of the common shares and our capital requirements.

ITEM 6. [Reserved]

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following is a discussion and analysis of our results of operations for 2022 compared to 2021, as well as our liquidity and capital resources at December 31, 2022. This discussion and analysis should be read in conjunction with the audited consolidated financial statements and notes thereto included in this filing. This filing contains forward-looking statements that involve risks and uncertainties. Actual results may differ materially from the results described or implied by these forward-looking statements. See “Note on Forward-Looking Statements.” For a discussion and analysis of our results of operations for 2021 compared to 2020, please refer to the disclosures set forth under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations” on pages 54-108 of our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on February 4, 2022.

In this Form 10-K, references to “RenaissanceRe” refer to RenaissanceRe Holdings Ltd. (the parent company) and references to “we,” “us,” “our” and the “Company” refer to RenaissanceRe Holdings Ltd. together with its subsidiaries, unless the context requires otherwise. Defined terms used throughout this Form 10-K are included in the “Glossary of Defined Terms” at the end of “Part I, Item 1. Business” of this Form 10-K.

All dollar amounts referred to in this Form 10-K are in U.S. dollars unless otherwise indicated.

Due to rounding, numbers presented in the tables included in this Form 10-K may not add up precisely to the totals provided.

INDEX TO MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

	<u>Page</u>
OVERVIEW	51
SELECTED CONSOLIDATED FINANCIAL DATA	53
SUMMARY OF CRITICAL ACCOUNTING ESTIMATES	54
Claims and Claim Expense Reserves	54
Premiums and Related Expenses	61
Reinsurance Recoverable	61
Fair Value Measurements and Impairments	62
Income Taxes	64
SUMMARY RESULTS OF OPERATIONS	66
FINANCIAL CONDITION, LIQUIDITY AND CAPITAL RESOURCES	79
Financial Condition	79
Liquidity and Cash Flows	80
Capital Resources	85
Reserve for Claims and Claim Expenses	86
Investments	87
Ratings	91
SUPPLEMENTAL GUARANTOR FINANCIAL INFORMATION	102
CURRENT OUTLOOK	94

OVERVIEW

RenaissanceRe is a global provider of reinsurance and insurance that specializes in matching well-structured risks with efficient sources of capital. We provide property, casualty and specialty reinsurance and certain insurance solutions to customers, principally through intermediaries. Established in 1993, we have offices in Bermuda, Australia, Ireland, Singapore, Switzerland, the U.K., and the U.S. We are one of the world's leading providers of property and, casualty and specialty reinsurance.

Our mission is to match desirable, well-structured risks with efficient sources of capital to achieve our vision of being the best underwriter. We believe that this will allow us to produce superior returns for our shareholders over the long term, and to further our purpose of protecting communities and enabling prosperity. We seek to accomplish these goals by (i) being a trusted, long-term partner to our customers for assessing and managing risk, (ii) delivering responsive and innovative solutions, (iii) leveraging our core capabilities of risk assessment and information management, (iv) investing in these core capabilities in order to serve our customers across market cycles, and (v) keeping our promises.

Our core products include property, casualty and specialty reinsurance, and certain insurance products, principally distributed through intermediaries with whom we have cultivated strong long-term relationships. Our business consists of the following reportable segments: (1) Property, which is comprised of catastrophe and other property (re)insurance, and (2) Casualty and Specialty, which is comprised of casualty and specialty (re)insurance. The underwriting results of our operating subsidiaries and underwriting platforms are included in our Property and Casualty and Specialty segment results as appropriate.

Our strategy focuses on operating as an integrated system of three competitive advantages: superior risk selection, superior customer relationships and superior capital management. We provide value to our customers and partners in the form of financial security, innovative products, and responsive service. We are known as a leader in paying valid claims promptly.

There are three principal drivers of profit that generate diversified earnings streams for our business - underwriting income, fee income, and investment income. Underwriting income is the income that we earn from our core underwriting business. By accepting the volatility that this business brings, we believe that we can generate superior long-term returns and achieve our vision. Fee income is the income that we earn primarily from managing third-party capital in our Capital Partners unit, and is composed of management fee income and performance fee income. Compared to our other drivers of profit, we view fee income as a relatively stable, lower-volatility and capital efficient source of income. Investment Income is income derived from the investment portfolio that we maintain to support our business. We take a disciplined approach in building a relatively conservative, well-structured investment portfolio with a focus on fixed income investments. We view fee income, in particular management fee income, and investment income as relatively stable sources of income.

We principally measure our financial success through long-term growth in tangible book value per common share plus the change in accumulated dividends. We believe this metric is the most appropriate measure of our financial performance, and in respect of which we believe we have delivered superior performance over time.

Our current business strategy focuses predominantly on writing reinsurance, although we also write excess and surplus lines insurance through delegated authority arrangements. Additionally, we pursue a number of other opportunities, such as creating and managing our joint ventures and managed funds, executing customized reinsurance transactions to assume or cede risk, and managing certain strategic investments directed at classes of risk other than catastrophe reinsurance. From time to time we consider diversification into new ventures, either through organic growth, the formation of new joint ventures or managed funds, or the acquisition of, or the investment in, other companies or books of business of other companies.

We continually explore appropriate and efficient ways to address the risk needs of our clients and the impact of various regulatory and legislative changes on our operations. We have created, and manage, multiple capital vehicles across several jurisdictions and may create additional risk bearing vehicles or enter into additional jurisdictions in the future. In addition, our differentiated strategy and capabilities position us to pursue bespoke or large solutions for clients.

Revenues and Expenses

Our revenues are principally derived from three sources: (1) net premiums earned from the reinsurance and insurance policies we sell; (2) net investment income and net realized and unrealized gains from the investment of our capital funds and the investment of the cash we receive on the policies which we sell; and (3) fees received from our joint ventures, managed funds and structured reinsurance products, which are primarily reflected in redeemable non-controlling interest or as an offset to acquisition or operating expenses.

Our expenses primarily consist of: (1) net claims and claim expenses incurred on the policies of reinsurance and insurance we sell; (2) acquisition costs, which typically represent a percentage of the premiums we write; (3) operating expenses, which primarily consist of personnel expenses, rent and other expenses; (4) corporate expenses, which include certain executive, legal and consulting expenses, costs for research and development, transaction and integration-related expenses, and other miscellaneous costs, including those associated with operating as a publicly traded company; and (5) interest and dividends related to our debt and preference shares. We are also subject to taxes in certain jurisdictions in which we operate. Since the majority of our income is currently earned in Bermuda, which does not have a corporate income tax, the tax impact to our operations has historically been minimal.

The underwriting results of an insurance or reinsurance company are discussed frequently by reference to its net claims and claim expense ratio, underwriting expense ratio, and combined ratio. The net claims and claim expense ratio is calculated by dividing net claims and claim expenses incurred by net premiums earned. The underwriting expense ratio is calculated by dividing underwriting expenses (acquisition expenses and operational expenses) by net premiums earned. The combined ratio is the sum of the net claims and claim expense ratio and the underwriting expense ratio. A combined ratio below 100% indicates profitable underwriting prior to the consideration of investment income. A combined ratio over 100% indicates unprofitable underwriting prior to the consideration of investment income. We also discuss our net claims and claim expense ratio on a current accident year basis and a prior accident years basis. The current accident year net claims and claim expense ratio is calculated by taking current accident year net claims and claim expenses incurred, divided by net premiums earned. The prior accident years net claims and claim expense ratio is calculated by taking prior accident years net claims and claim expenses incurred, divided by net premiums earned.

We manage DaVinci, Fontana, Medici, and Vermeer, and own all, or a majority, of the voting interests, but own no, or a minority, economic interest of each. As a result of our controlling voting interests, we fully consolidate these entities in our financial statements, even though we do not retain the full value of economic outcomes generated by these entities. The portions of the economic outcomes that are not retained by us are ultimately allocated to the third-party investors who hold the non-controlling interests in these entities. The economic outcomes may include underwriting results, investments results, and foreign exchange impacts, among other items. For example, if one of these entities were to generate underwriting losses due to a natural catastrophe, the full amount would be reflected in net income (loss) on our consolidated statements of operations, but ultimately we would only retain a portion of that amount in our net income (loss) attributable to RenaissanceRe. In the Company's Consolidated Balance Sheets and Consolidated Statements of Operations, we allocate the portion of these items attributable to third parties in the "Net (income) loss attributable to redeemable noncontrolling interests" line item. Refer to "Note 9. Noncontrolling Interests" in our "Notes to the Consolidated Financial Statements" for additional information regarding our redeemable noncontrolling interests and how this accounting treatment impacts the Company's financial results.

Effects of Inflation

General economic inflation has increased and there is a risk of inflation remaining elevated for an extended period, which could cause claims and claim expenses to increase, impact the performance of our investment portfolio or have other adverse effects. This risk may be exacerbated by the steps taken by governments and central banks throughout the world in responding to the COVID-19 pandemic, the impact from the war in Ukraine and global supply chain issues. More recently, many central banks have begun to raise interest rates, which could act as a countervailing force against some inflationary pressures. The actual effects of the current and potential future increase in inflation on our results cannot be accurately known until, among other items, claims are ultimately settled. The onset, duration and severity of an

inflationary period cannot be estimated with precision. We consider the anticipated effects of inflation on us in our catastrophe loss models and on our investment portfolio. Our estimates of the potential effects of inflation are also considered in pricing and in estimating reserves for unpaid claims and claim expenses. The potential exists, after a catastrophe loss, for the development of inflationary pressures in a local economy.

SELECTED CONSOLIDATED FINANCIAL DATA

The following tables set forth our selected consolidated financial data and other financial information at the end of and for each of the years in the five-year period ended December 31, 2022. The results of TMR are included in our consolidated financial data from March 22, 2019. The selected consolidated financial data should be read in conjunction with our consolidated financial statements and related notes thereto and the other information in this “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Form 10-K.

Year ended December 31,	2022	2021	2020	2019	2018
(in thousands, except share and per share data and percentages)					
Statements of Operations Data:					
Gross premiums written	\$ 9,213,540	\$ 7,833,798	\$ 5,806,165	\$ 4,807,750	\$ 3,310,427
Net premiums written	7,196,160	5,939,375	4,096,333	3,381,493	2,131,902
Net premiums earned	6,333,989	5,194,181	3,952,462	3,338,403	1,976,129
Net investment income	559,932	319,479	354,038	424,207	269,965
Net realized and unrealized gains (losses) on investments	(1,800,485)	(218,134)	820,636	414,109	(183,168)
Net claims and claim expenses incurred	4,338,840	3,876,087	2,924,609	2,097,021	1,120,018
Acquisition expenses	1,568,606	1,214,858	897,677	762,232	432,989
Operational expenses	276,691	212,184	206,687	222,733	178,267
Underwriting income (loss)	149,852	(108,948)	(76,511)	256,417	244,855
Net income (loss)	(1,159,816)	(103,440)	993,058	950,267	268,917
Net income (loss) available (attributable) to RenaissanceRe common shareholders	(1,096,578)	(73,421)	731,482	712,042	197,276
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted	(25.50)	(1.57)	15.31	16.29	4.91
Dividends per common share	1.48	1.44	1.40	1.36	1.32
Weighted average common shares outstanding – diluted	43,040	47,171	47,178	43,175	39,755
Return on average common equity	(22.0)%	(1.1)%	11.7 %	14.1 %	4.7 %
Combined ratio	97.7 %	102.1 %	101.9 %	92.3 %	87.6 %
At December 31,	2022	2021	2020	2019	2018
Balance Sheet Data:					
Total investments	\$ 22,220,436	\$ 21,442,659	\$20,558,176	\$17,368,789	\$11,885,747
Total assets	36,552,878	33,959,502	30,820,580	26,330,094	18,676,196
Reserve for claims and claim expenses	15,892,573	13,294,630	10,381,138	9,384,349	6,076,271
Unearned premiums	4,559,107	3,531,213	2,763,599	2,530,975	1,716,021
Debt	1,170,442	1,168,353	1,136,265	1,384,105	991,127
Capital leases	22,020	22,459	22,853	25,072	25,853
Preference shares	750,000	750,000	525,000	650,000	650,000
Total shareholders' equity attributable to RenaissanceRe	5,325,274	6,624,281	7,560,248	5,971,367	5,045,080
Common shares outstanding	43,718	44,445	50,811	44,148	42,207
Book value per common share	\$ 104.65	\$ 132.17	\$ 138.46	\$ 120.53	\$ 104.13
Accumulated dividends	25.00	23.52	22.08	20.68	19.32
Book value per common share plus accumulated dividends	<u>\$ 129.65</u>	<u>\$ 155.69</u>	<u>\$ 160.54</u>	<u>\$ 141.21</u>	<u>\$ 123.45</u>
Change in book value per common share plus change in accumulated dividends	(19.7)%	(3.5)%	16.0 %	17.1 %	5.7 %

SUMMARY OF CRITICAL ACCOUNTING ESTIMATES

Claims and Claim Expense Reserves

General Description

We believe the most significant accounting judgment made by management is our estimate of claims and claim expense reserves. Claims and claim expense reserves represent estimates, including actuarial and statistical projections at a given point in time, of the ultimate settlement and administration costs for unpaid claims and claim expenses arising from the insurance and reinsurance contracts we sell. Our claims and claim expense reserves are a combination of case reserves, additional case reserves, or ACR, and incurred but not reported losses and incurred but not enough reported losses, collectively referred to as IBNR. Case reserves are losses reported to us by insureds and ceding companies, but which have not yet been paid. If deemed necessary and in certain situations, we establish ACR, which represents our estimates for claims related to specific contracts that we believe may not be adequately estimated by the client as of that date or within the IBNR. We establish IBNR using actuarial techniques and expert judgement to represent the anticipated cost of claims which have not been reported to us yet or where we anticipate increased reporting. Our reserving committee, which includes members of our senior management, reviews, discusses, and assesses the reasonableness and adequacy of the reserving estimates included in our audited consolidated financial statements.

The following table summarizes our reserve for claims and claim expenses by segment, allocated between case reserves, additional case reserves and IBNR:

At December 31, 2022	Case Reserves	Additional Case Reserves	IBNR	Total
(in thousands)				
Property	\$ 1,956,688	\$ 2,008,891	\$ 3,570,253	\$ 7,535,832
Casualty and Specialty	1,864,365	167,993	6,324,383	8,356,741
Total	<u>\$ 3,821,053</u>	<u>\$ 2,176,884</u>	<u>\$ 9,894,636</u>	<u>\$ 15,892,573</u>
At December 31, 2021				
(in thousands)				
Property	\$ 1,555,210	\$ 1,996,760	\$ 2,825,718	\$ 6,377,688
Casualty and Specialty	1,784,334	128,065	5,004,543	6,916,942
Total	<u>\$ 3,339,544</u>	<u>\$ 2,124,825</u>	<u>\$ 7,830,261</u>	<u>\$ 13,294,630</u>

Activity in the liability for unpaid claims and claim expenses is summarized as follows:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Reserve for claims and claim expenses, net of reinsurance recoverable, as of beginning of period	\$ 9,025,961	\$ 7,455,128
Net incurred related to:		
Current year	4,586,422	4,125,557
Prior years	(247,582)	(249,470)
Total net incurred	<u>4,338,840</u>	<u>3,876,087</u>
Net paid related to:		
Current year	105,885	574,230
Prior years	<u>1,924,271</u>	<u>1,649,872</u>
Total net paid	<u>2,030,156</u>	<u>2,224,102</u>
Foreign exchange ⁽¹⁾	<u>(152,997)</u>	<u>(81,152)</u>
Reserve for claims and claim expenses, net of reinsurance recoverable, as of end of period	11,181,648	9,025,961
Reinsurance recoverable as of end of period	<u>4,710,925</u>	<u>4,268,669</u>
Reserve for claims and claim expenses as of end of period	<u>\$15,892,573</u>	<u>\$13,294,630</u>

(1) Reflects the impact of the foreign exchange revaluation of the reserve for claims and claim expenses, net of reinsurance recoverable, denominated in non-U.S. dollars as at the balance sheet date.

The following table details our prior year development by segment of its liability for unpaid claims and claim expenses:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
	(Favorable) adverse development	(Favorable) adverse development
Property	\$ (205,741)	\$ (233,373)
Casualty and Specialty	<u>(41,841)</u>	<u>(16,097)</u>
Total favorable development of prior accident years net claims and claim expenses	<u>\$ (247,582)</u>	<u>\$ (249,470)</u>

Our reserving methodology for each line of business uses a loss reserving process that calculates a point estimate for our ultimate settlement and administration costs for claims and claim expenses. We do not calculate a range of estimates and do not discount any of our reserves for claims and claim expenses. We use this point estimate, along with paid claims and case reserves, to record our best estimate of additional case reserves and IBNR in our consolidated financial statements. Under GAAP, we are not permitted to establish estimates for catastrophe claims and claim expense reserves until an event occurs that gives rise to a loss.

Reserving for our claims involves other uncertainties, such as the dependence on information from ceding companies, the time lag inherent in reporting information from the primary insurer to us or to our ceding companies, and different reserving practices among ceding companies. The information received from ceding companies is typically in the form of bordereaux, broker notifications of loss and/or discussions with ceding companies or their brokers. This information may be received on a monthly, quarterly or transactional basis and normally includes paid claims and estimates of case reserves. We may also receive an estimate or provision for IBNR from certain ceding companies. This information is often updated and adjusted from time to time during the loss settlement period as new data or facts in respect of initial claims, client accounts, industry or event trends may be reported or emerge in addition to changes in applicable statutory and case laws.

Our estimates of large losses are based on factors including currently available information derived from claims information from certain customers and brokers, industry assessments of losses, proprietary models,

historical reinsurance and insurance loss experience and statistics, management's experience and judgment to assist the establishment of appropriate claims and claim expense reserves, and the terms and conditions of our contracts. The uncertainty of our estimates for large losses is also impacted by the preliminary nature of the information available, the magnitude and relative infrequency of the loss, the expected duration of the respective claims development period, inadequacies in the data provided to the relevant date by industry participants, the potential for further reporting lags or insufficiencies and, in certain cases, the form of the claims and legal issues under the relevant terms of insurance and reinsurance contracts. In addition, a significant portion of the net claims and claim expenses associated with certain large losses can be concentrated with a few large clients and therefore the loss estimates for these losses may vary significantly based on the claims experience of those clients. The contingent nature of business interruption and other exposures will also impact losses in a meaningful way, which we believe may give rise to significant complexity in respect of claims handling, claims adjustment and other coverage issues, over time. Given the magnitude of certain losses, there can be meaningful uncertainty regarding total covered losses for the insurance industry and, accordingly, several of the key assumptions underlying our loss estimates. Loss reserve estimation in respect of our retrocessional contracts poses further challenges compared to directly assumed reinsurance. In addition, our actual net losses may increase if our reinsurers or other obligors fail to meet their obligations.

Because of the inherent uncertainties discussed above, we have developed a reserving philosophy which attempts to incorporate prudent assumptions and estimates, and we have generally experienced favorable development on prior accident years net claims and claim expenses in the last several years. However, there is no assurance that this favorable development on prior accident years net claims and claim expenses will occur in future periods.

Our reserving techniques, assumptions and processes differ among our Property and Casualty and Specialty segments. Refer to "Note 7. Reserve for Claims and Claim Expenses" in our "Notes to the Consolidated Financial Statements" for more information on the risks we insure and reinsure, the reserving techniques, assumptions and processes we follow to estimate our claims and claim expense reserves, prior year development of the reserve for claims and claim expenses, analysis of our incurred and paid claims development and claims duration information for each of our Property and Casualty and Specialty segments.

Property Segment

Actual Results vs. Initial Estimates

As discussed above, the key assumption in estimating reserves for our Property segment is our estimate of incurred claims and claim expenses. The table below shows our initial estimates of incurred claims and claim expenses for each accident year and how these initial estimates have developed over time. The initial estimate of accident year incurred claims and claim expenses represents our estimate of the ultimate settlement and administration costs for claims incurred in our Property segment occurring during a particular accident year, and as reported as of December 31 of that year. The re-estimated incurred claims and claim expenses as of December 31 of subsequent years, represent our revised estimates as reported as of those dates. Our most recent estimates as reported at December 31, 2022 differ from our initial accident year estimates and demonstrate that our most recent estimate of incurred claims and claim expenses are reasonably likely to vary from our initial estimate, perhaps significantly. Changes in this estimate will be recorded in the period in which they occur. In accident years where our current estimates are lower than our initial estimates, we have experienced favorable development, in comparison, for accident years where our current estimates are higher than our original estimates we have experienced adverse development. The table is presented on a net basis and, therefore, includes the benefit of reinsurance recoverable. In addition, we have included historical incurred claims and claim expenses development information related to Platinum and TMR in the table below. For incurred accident year claims and claim expenses denominated in currencies other than USD, we have used the current year-end balance sheet foreign exchange rate for all periods provided, thereby eliminating the effects of changes in foreign currency translation rates from the incurred accident year claims development information included in the table below.

The following table details our Property segment incurred claims and claim expenses, net of reinsurance, as of December 31, 2022.

(in thousands)	Incurred Claims and Claim Expenses, Net of Reinsurance									
	For the year ended December 31,									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Accident Year										
2013	\$ 312,792	\$ 288,846	\$ 267,276	\$ 245,077	\$ 233,993	\$ 230,368	\$ 230,603	\$ 233,668	\$ 236,185	\$ 234,533
2014	—	299,256	276,253	263,337	258,384	257,237	254,897	248,847	245,956	247,101
2015	—	—	368,476	352,454	331,342	320,695	309,509	303,110	292,867	300,028
2016	—	—	—	447,077	460,729	445,119	427,918	409,221	399,222	408,757
2017	—	—	—	—	1,639,389	1,453,773	1,342,224	1,319,428	1,273,721	1,207,671
2018	—	—	—	—	—	918,764	985,180	941,093	818,156	820,098
2019	—	—	—	—	—	—	955,220	928,613	875,408	779,852
2020	—	—	—	—	—	—	—	1,568,157	1,583,694	1,565,564
2021	—	—	—	—	—	—	—	—	2,338,470	2,311,045
2022	—	—	—	—	—	—	—	—	—	2,232,896
Total										<u>\$ 10,107,545</u>

Our initial and subsequent estimates of incurred claims and claim expenses, net of reinsurance, are impacted by available information derived from claims information from customers and brokers, industry assessments of losses, proprietary models, historical reinsurance and insurance loss experience and statistics, management's experience and judgment to assist the establishment of appropriate claims and claim expense reserves, and the terms and conditions of our contracts. As described above, given the complexity in reserving for claims and claims expenses associated with property losses, and catastrophe excess of loss reinsurance contracts in particular, which make up a significant proportion of our Property segment, we have experienced development, both favorable and unfavorable, in any given accident year. For example, net claims and claim expenses associated with the 2019 accident year have experienced favorable development. This is largely driven by reductions in estimated net ultimate claims and claim expenses associated with the 2019 Large Loss Events. In comparison, net claims and claim expenses associated with the 2020 accident year experienced adverse development during the year ended December 31, 2021, but returned to similar reserves as we initially posted during the year ended December 31, 2022. The adverse development was driven by an increase in expected net claims and claim expenses as new and additional claims information was received associated with the 2020 Weather-Related Large Loss Events.

In accident years with a low level of insured catastrophe losses, our other property lines of business contribute a greater proportion of our overall incurred claims and claim expenses within our Property segment, compared to years with a high level of insured catastrophe losses. We expect that certain of our other property lines of business will tend to generate less volatility in future calendar years and, as such, we would expect to see a slower more stable increase or decrease in estimated incurred net claims and claim expenses over time in such business. Certain of our other property contracts are also exposed to catastrophe events, resulting in increased volatility of incurred claims and claim expenses driven by the occurrence of catastrophe events. In addition, volatility in the initial estimate associated with large catastrophe losses and the speed at which we settle claims can vary significantly based on the type of event. We also anticipate that losses from the COVID-19 pandemic will be highly complex and uncertain, given the unprecedented situation, and will take longer to develop given the nature of the losses, thus potentially adding volatility to our incurred net claims and claim expenses.

Sensitivity Analysis

The table below shows the impact on our reserve for claims and claim expenses, net income (loss) and shareholders' equity as of and for the year ended December 31, 2022 of a reasonable range of possible outcomes associated with our estimates of gross ultimate losses for claims and claim expenses incurred within our Property segment. The reasonable range of possible outcomes is based on a distribution of outcomes of our ultimate incurred claims and claim expenses from large losses. In addition, we adjust the loss ratios and development curves in our other property lines of business in a similar fashion to the

sensitivity analysis performed for our Casualty and Specialty segment, discussed in greater detail below. In general, our reserve for claims and claim expenses for more recent losses are subject to greater uncertainty and, therefore, greater variability and are likely to experience material changes from one period to the next. This is due to uncertainty with respect to the size of the industry losses, which contracts have been exposed to the loss and the magnitude of claims incurred by our clients. As our claims age, more information becomes available and we believe our estimates become more certain, although there is no assurance this trend will continue in the future. As a result, the sensitivity analysis below is based on the age of each accident year, our current estimated incurred claims and claim expenses for the losses occurring in each accident year, and a reasonable range of possible outcomes of our current estimates of claims and claim expenses by accident year. The impact on net income (loss) and shareholders' equity assumes no increase or decrease in reinsurance recoveries, loss related premium or profit commission, or redeemable noncontrolling interest.

Property Claims and Claim Expense Reserve Sensitivity Analysis

	Reserve for Claims and Claim Expenses at December 31, 2022	\$ Impact of Change Reserve for Claims and Claim Expenses at December 31, 2022	% Impact of Change on Gross Reserve for Claims and Claim Expenses at December 31, 2022	% Impact of Change on Net Income (Loss) for the Year Ended December 31, 2022	% Impact of Change on Shareholders' Equity at December 31, 2022
(in thousands, except percentages)					
Higher	\$ 8,125,317	\$ 589,485	3.7 %	50.8 %	(11.1)%
Recorded	\$ 7,535,832	\$ —	— %	— %	— %
Lower	\$ 7,142,727	\$ (393,105)	(2.5)%	(33.9)%	7.4 %

We believe the changes we made to our estimated incurred claims and claim expenses represent a reasonable range of possible outcomes based on our experience to date and our future expectations. While we believe these are a reasonable range of possible outcomes, we do not believe the above sensitivity analysis should be considered an actuarial reserve range. In addition, the sensitivity analysis only reflects a reasonable range of possible outcomes in our underlying assumptions. It is possible that our estimated incurred claims and claim expenses could be significantly higher or lower than the sensitivity analysis described above. For example, we could be liable for exposures we do not currently believe are covered under our policies. These changes could result in significantly larger changes to our estimated incurred claims and claim expenses, net income and shareholders' equity than those noted above, and could be recorded across multiple periods. The inflationary outlook is also highly uncertain and could result in larger changes than those depicted above. We continue to monitor the inflationary environment and reflect our view within our best estimate reserves. We also caution that the above sensitivity analysis is not used by management in developing our reserve estimates and is also not used by management in managing the business.

Casualty and Specialty Segment

Actual Results vs. Initial Estimates

As discussed above, the key assumption in estimating reserves for our Casualty and Specialty segment is our estimate of incurred claims and claim expenses. Standard actuarial techniques are used to calculate the ultimate claims and claim expenses. The key assumptions in the determination of ultimate claims and claim expenses include the estimated incurred claims and claim expenses ratio and the estimated loss reporting patterns. The table below shows our initial estimates of incurred claims and claim expenses for each accident year and how these initial estimates have developed over time. The initial estimate of accident year incurred claims and claim expenses represents our estimate of the ultimate settlement and administration costs for claims incurred in our Casualty and Specialty segment occurring during a particular accident year, and as reported as of December 31 of that year. The re-estimated incurred claims and claim expenses as of December 31 of subsequent years, represent our revised estimates as reported as of those dates. Our most recent estimates as reported at December 31, 2022 differ from our initial accident year estimates and demonstrates that our initial estimate of incurred claims and claim expenses are reasonably

likely to vary from our most recent estimate, perhaps significantly. Changes in this estimate will be recorded in the period in which they occur. In accident years where our current estimates are lower than our initial estimates, we have experienced favorable development while accident years where our current estimates are higher than our original estimates indicate adverse development. The table is presented on a net basis and, therefore, includes the benefit of reinsurance recoverable. In addition, we have included historical incurred claims and claim expenses development information related to Platinum and TMR in the table below. For incurred accident year claims denominated in currencies other than USD, we have used the current year-end balance sheet foreign exchange rate for all periods provided, thereby eliminating the effects of changes in foreign currency translation rates from the incurred accident year claims development information included in the table below.

The following table details our Casualty and Specialty segment incurred claims and claim expenses, net of reinsurance, as of December 31, 2022.

(in thousands)	Incurred Claims and Claim Expenses, Net of Reinsurance									
	For the year ended December 31,									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Accident Year										
2013	\$ 590,242	\$ 588,095	\$ 559,965	\$ 535,968	\$ 523,642	\$ 509,143	\$ 487,222	\$ 478,205	\$ 481,950	\$ 477,100
2014	—	695,244	689,624	694,504	674,414	656,655	669,543	640,779	635,233	636,964
2015	—	—	761,464	779,834	821,290	801,604	788,355	805,053	810,781	824,490
2016	—	—	—	945,940	981,453	980,292	972,137	937,587	946,993	950,798
2017	—	—	—	—	1,284,763	1,262,729	1,290,103	1,248,949	1,263,344	1,293,340
2018	—	—	—	—	—	1,238,246	1,298,264	1,299,006	1,308,994	1,357,942
2019	—	—	—	—	—	—	1,241,269	1,234,332	1,234,242	1,235,474
2020	—	—	—	—	—	—	—	1,491,604	1,455,782	1,341,439
2021	—	—	—	—	—	—	—	—	1,690,563	1,642,920
2022	—	—	—	—	—	—	—	—	—	2,297,481
Total										<u>\$ 12,057,948</u>

As each accident year has developed, our estimated expected incurred claims and claim expenses, net of reinsurance, have changed. As an example, our re-estimated incurred claims and claim expenses decreased for the 2020 accident year from the initial estimates. This decrease was principally driven by actual reported and paid net claims and claim expenses associated with the 2020 accident year being lower than expected, which has resulted in a reduction in our expected ultimate claims and claim expense ratio for this accident year. In comparison, the 2018 accident year has developed adversely compared to our initial estimates of incurred claims and claim expenses and our current estimates are higher than our initial estimates. The increase in incurred claims and claim expenses for the 2018 accident year is due to reported losses generally coming in higher than expected on attritional net claims and claim expenses.

The reserving methodology for our Casualty and Specialty segment is weighted more heavily to our initial estimate in the early periods immediately following the contracts' inception through the use of the expected loss ratio method. The expected loss ratio method estimates the incurred losses by multiplying the initial expected loss ratio by the earned premium. Under the expected loss ratio method, no reliance is placed on the development of claims and claim expenses. The determination of when reported losses are sufficient and credible to warrant selection of an ultimate loss ratio different from the initial expected loss ratio also requires judgment. We generally make adjustments for reported loss experience indicating unfavorable variances from the initial expected loss ratio sooner than reported loss experience indicating favorable variances as reporting of losses in excess of expectations tends to have greater credibility than an absence of, or lower than expected level of, reported losses. Over time, as a greater number of claims are reported and the credibility of reported losses improves, actuarial estimates of IBNR are typically based on the Bornhuetter-Ferguson actuarial method. The Bornhuetter-Ferguson actuarial method places weight on claims and claim expenses development experience. If there is adverse development of prior accident years claims and claim expenses, we generally select the Bornhuetter-Ferguson actuarial method to ensure the claim experience is considered in the determination of our estimated claims and claim expenses with the associated business. If we believe we lack the claims experience in the early stages of development of a line of business, we may not select the Bornhuetter-Ferguson actuarial method until such time as we

believe there is greater credibility in the level of reported losses. As development experience for claims and claim expenses on prior accident years becomes credible, the Bornhuetter-Ferguson actuarial method is generally selected which places greater weight on this reported experience as it develops. The Bornhuetter-Ferguson actuarial method estimates our expected ultimate claims and claim expenses by applying our initial estimated loss ratio to our undeveloped premium, and adding the reported losses to the estimate.

Sensitivity Analysis

The table below shows the impact on our Casualty and Specialty segment reserve for claims and claim expenses, net income (loss) and shareholders' equity as of and for the year ended December 31, 2022, of a reasonable range of possible outcomes associated with a variety of reasonable actuarial assumptions for our estimates of gross ultimate claims and claim expense ratios and loss reporting patterns. The impact on net income (loss) and shareholders' equity assumes no increase or decrease in reinsurance recoveries, loss related premium or profit commission, or redeemable noncontrolling interest.

Casualty and Specialty Claims and Claim Expense Reserve Sensitivity Analysis

(in thousands, except percentages)	Estimated Loss Reporting Pattern	\$ Impact of Change on Reserves for Claims and Claim Expenses at December 31, 2022	% Impact of Change on Reserve for Claims and Claim Expenses at December 31, 2022	% Impact of Change on Net Income (Loss) for the Year Ended December 31, 2022	% Impact of Change on Shareholders' Equity at December 31, 2022
Increase expected claims and claim expense ratio by 10%	Slower reporting	\$ 1,193,432	7.5 %	102.9 %	(22.4)%
Increase expected claims and claim expense ratio by 10%	Expected reporting	\$ 849,548	5.3 %	73.2 %	(16.0)%
Increase expected claims and claim expense ratio by 10%	Faster reporting	\$ 549,339	3.5 %	47.4 %	(10.3)%
Expected claims and claim expense ratio	Slower reporting	\$ 312,884	2.0 %	27.0 %	(5.9)%
Expected claims and claim expense ratio	Expected reporting	\$ —	— %	— %	— %
Expected claims and claim expense ratio	Faster reporting	\$ (273,106)	(1.7)%	(23.5)%	5.1 %
Decrease expected claims and claim expense ratio by 10%	Slower reporting	\$ (565,340)	(3.6)%	(48.7)%	10.6 %
Decrease expected claims and claim expense ratio by 10%	Expected reporting	\$ (847,224)	(5.3)%	(73.0)%	15.9 %
Decrease expected claims and claim expense ratio by 10%	Faster reporting	\$ (1,093,228)	(6.9)%	(94.3)%	20.5 %

We believe that ultimate claims and claim expense ratios 10.0 percentage points above or below our estimated assumptions constitute a reasonable range of possible outcomes based on our experience to date and our future expectations. In addition, we believe that the adjustments we made to speed up or slow down our estimated loss reporting patterns represent a reasonable range of possible outcomes. While we believe these are a reasonable range of possible outcomes, we do not believe the above sensitivity analysis should be considered an actuarial reserve range. In addition, the sensitivity analysis only reflects a reasonable range of possible outcomes in our underlying assumptions. It is possible that our initial estimated claims and claim expense ratios and loss reporting patterns could be significantly different from the sensitivity analysis described above. For example, we could be liable for exposures we do not currently believe are covered under our contracts. These changes could result in significantly larger changes to reserves for claims and claim expenses, net income and shareholders' equity than those noted above, and could be recorded across multiple periods. The inflationary outlook is also highly uncertain and could result in larger changes than those depicted above. We continue to monitor the inflationary environment and reflect our view within our best estimate reserves. We also caution that the above sensitivity analysis is not used by management in developing our reserve estimates and is also not used by management in managing the business.

Premiums and Related Expenses

Premiums are recognized as income, net of any applicable reinsurance or retrocessional coverage purchased, over the terms of the related contracts and policies. Premiums written are based on contract and policy terms and include estimates based on information received from both insureds and ceding companies. Subsequent revisions to premium estimates are recorded in the period in which they are determined. Unearned premiums represents the portion of premiums written that relate to the unexpired terms of contracts and policies in force. Amounts are computed by pro rata methods based on statistical data or reports received from ceding companies. Reinstatement premiums are estimated after the occurrence of a loss and are recorded in accordance with the contract terms based upon paid losses and case reserves. Reinstatement premiums are earned when written.

Due to the nature of reinsurance, ceding companies routinely report and remit premiums to us subsequent to the contract coverage period. Consequently, premiums written and receivable include amounts reported by the ceding companies, supplemented by our estimates of premiums that are written but not reported. The estimation of written premiums may be affected by early cancellation, election of contract provisions for cut-off and return of unearned premiums or other contract disruptions. The time lag involved in the process of reporting premiums is shorter than the lag in reporting losses. In addition to estimating premiums written, we estimate the earned portion of premiums written which is subject to judgment and uncertainty. Any adjustments to written and earned premiums, and the related losses and acquisition expenses, are accounted for as changes in estimates and are reflected in the results of operations in the period in which they are made.

Lines of business that are similar in both the nature of their business and estimation process may be grouped for purposes of estimating premiums. Premiums are estimated based on ceding company estimates and our own judgment after considering factors such as: (1) the ceding company's historical premium versus projected premium, (2) the ceding company's history of providing accurate estimates, (3) anticipated changes in the marketplace and the ceding company's competitive position therein, (4) reported premiums to date and (5) the anticipated impact of proposed underwriting changes. Estimates of premiums written and earned are based on the selected ultimate premium estimate, the terms and conditions of the reinsurance contracts and the remaining exposure from the underlying policies. We evaluate the appropriateness of these estimates in light of the actual premium reported by the ceding companies, information obtained during audits and other information received from ceding companies.

We estimate our provision for current expected credit losses by applying specific percentages against each premiums receivable based on the counterparty's credit ratings. The percentages applied are based on information received from both insureds and ceding companies and are then adjusted by us based on industry knowledge and our judgment and estimates. We then evaluate the overall adequacy of the provision for current expected credit losses based on other qualitative and judgmental factors. At December 31, 2022, the Company's premiums receivable balance was \$5.1 billion (2021 - \$3.8 billion). Of the Company's premiums receivable balance as of December 31, 2022, the majority are receivables from highly rated counterparties. At December 31, 2022, the Company held a provision for current expected credit losses on its premiums receivable of \$4.6 million (2021 - \$2.8 million).

Reinsurance Recoverable

We enter into retrocessional reinsurance agreements in order to help reduce our exposure to large losses and to help manage our risk portfolio. Amounts recoverable from reinsurers are estimated in a manner consistent with the claims and claim expense reserves associated with the related assumed reinsurance. For multi-year retrospectively rated contracts, we accrue amounts (either assets or liabilities) that are due to or from our retrocessionaires based on estimated contract experience. If we determine that adjustments to earlier estimates are appropriate, such adjustments are recorded in the period in which they are determined.

The estimate of reinsurance recoverable can be more subjective than estimating the underlying claims and claim expense reserves as discussed under the heading "Claims and Claim Expense Reserves" above. In particular, reinsurance recoverable may be affected by deemed inuring reinsurance, frequency and timing of industry losses reported by various statistical reporting services, loss development, loss buffer tables and various other factors. Reinsurance recoverable on dual trigger reinsurance contracts require us to estimate our ultimate losses applicable to these contracts as well as estimate the ultimate amount of insured industry

losses that will be reported by the applicable statistical reporting agency, as per the contract terms. In addition, the level of our additional case reserves and IBNR reserves has a significant impact on reinsurance recoverable. These factors can impact the amount and timing of the reinsurance recoverable to be recorded.

The majority of the balance we have accrued as recoverable will not be due for collection until some point in the future. The amounts recoverable that will ultimately be collected are subject to uncertainty due to the ultimate ability and willingness of reinsurers to pay our claims at a future point in time, for reasons including insolvency or elective run-off, contractual dispute and various other reasons. In addition, because the majority of the balances recoverable will not be collected for some time, economic conditions as well as the financial and operational performance of a particular reinsurer may change, and these changes may affect the reinsurer's willingness and ability to meet their contractual obligations to us on uncollateralized recoverable balances. To reflect these uncertainties, we estimate and record a provision for current expected credit losses for potential uncollectible reinsurance recoverable which reduces reinsurance recoverable and net income.

We estimate our provision for current expected credit losses by applying specific percentages against each reinsurance recoverable based on our counterparty's credit rating. The percentages applied are based on historical industry default statistics developed by major rating agencies and are then adjusted by us based on industry knowledge and our judgment and estimates. We then evaluate the overall adequacy of the provision for current expected credit losses based on other qualitative and judgmental factors. At December 31, 2022, our reinsurance recoverable balance was \$4.7 billion (2021 - \$4.3 billion). Of this amount, 47.2% is fully collateralized by our reinsurers, 52.0% is recoverable from reinsurers rated A- or higher by major rating agencies and 0.8% is recoverable from reinsurers rated lower than A- by major rating agencies (2021 - 46.9%, 52.1% and 1.0%, respectively). The reinsurers with the three largest balances accounted for 20.8%, 7.0% and 5.4%, respectively, of our reinsurance recoverable balance at December 31, 2022 (2021 - 19.9%, 8.4% and 4.3%, respectively). The provision for current expected credit losses recorded against reinsurance recoverable was \$12.2 million at December 31, 2022 (2021 - \$8.3 million). The three largest company-specific components of the provision for current expected credit losses represented 14.3%, 9.1% and 8.0%, respectively, of our total provision for current expected credit losses at December 31, 2022 (2021 - 18.0%, 13.9% and 11.2%, respectively).

Fair Value Measurements and Impairments

Fair Value

The use of fair value to measure certain assets and liabilities with resulting unrealized gains or losses is pervasive within our consolidated financial statements. Fair value is defined under accounting guidance currently applicable to us to be the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between open market participants at the measurement date. We recognize the change in unrealized gains and losses arising from changes in fair value in our consolidated statements of operations.

FASB ASC Topic *Fair Value Measurements and Disclosures* prescribes a fair value hierarchy that prioritizes the inputs to the respective valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to valuation techniques that use at least one significant input that is unobservable (Level 3).

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the level in the fair value hierarchy within which the fair value measurement in its entirety falls has been determined based on the lowest level input that is significant to the fair value measurement of the asset or liability. Our assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment, and we consider factors specific to the asset or liability.

In order to determine if a market is active or inactive for a security, we consider a number of factors, including, but not limited to, the volume of trading activity for the security in question, the price of the security compared to its par value (for fixed maturity investments), and other factors that may be indicative of market activity.

At December 31, 2022, we classified \$170.3 million and \$5.3 million of our assets and liabilities, respectively, at fair value on a recurring basis using Level 3 inputs (2021 - \$169.3 million and \$10.8 million, respectively). This represented 0.5% and 0.0% of our total assets and liabilities, respectively (2021 - 0.5% and 0.0%, respectively). Level 3 fair value measurements are based on valuation techniques that use at least one significant input that is unobservable. These measurements are made under circumstances in which there is little, if any, market activity for the asset or liability. We use valuation models or other pricing techniques that require a variety of inputs including contractual terms, market prices and rates, yield curves, credit curves, measures of volatility including credit spreads and projected cash flows, prepayment rates and correlations of such inputs, some of which may be unobservable, to value these Level 3 assets and liabilities.

Refer to “Note 5. Fair Value Measurements” in our “Notes to the Consolidated Financial Statements” for additional information about fair value measurements.

Impairments

The amount and timing of asset impairment is subject to significant estimation techniques and is a critical accounting estimate for us. The significant impairment reviews we complete are for our goodwill and other intangible assets and equity method investments, as described in more detail below.

Goodwill and Other Intangible Assets

Goodwill and other intangible assets acquired are initially recorded at fair value. Subsequent to initial recognition, finite lived other intangible assets are amortized over their estimated useful life, subject to impairment, and goodwill and indefinite lived other intangible assets are carried at the lower of cost or fair value, subject to impairment. If goodwill or other intangible assets are impaired, they are written down to their estimated fair values with a corresponding expense reflected in our consolidated statements of operations.

We assess goodwill and other intangible assets for impairment in the second half of each year, or more frequently if events or changes in circumstances indicate that the carrying amount may not be recoverable. For purposes of the annual impairment evaluation, we assess qualitative factors to determine if events or circumstances exist that would lead us to conclude that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If we determine that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then we do not perform a quantitative evaluation. Should we determine that a quantitative analysis is required, we will first determine the fair value of the reporting unit and compare that with the carrying value, including goodwill. If the fair value of the reporting unit exceeds its carrying amount, then goodwill is not considered impaired and no further analysis is required. If the carrying amount of a reporting unit exceeds its fair value, we then proceed to determine the amount of the impairment charge, if any. There are many assumptions and estimates underlying the fair value calculation. Principally, we identify the reporting unit or business entity that the goodwill or other intangible asset is attributed to, and review historical and forecasted operating and financial performance and other underlying factors affecting such analysis, including market conditions. Other assumptions used could produce significantly different results which may result in a change in the value of goodwill or our other intangible assets and a related charge in our consolidated statements of operations. An impairment charge could be recognized in the event of a significant decline in the implied fair value of those operations where the goodwill or other intangible assets are applicable. In the event we determine that the value of goodwill has become impaired, an accounting charge will be taken in the fiscal quarter in which such determination is made, which could have a material adverse effect on our results of operations in the period in which the impairment charge is recorded.

As a result of the Company's impairment assessment performed during the second half of 2022, the Company determined that there was no impairment during 2022, and therefore the Company recorded no intangible asset impairment charge during the year ended December 31, 2022. Refer to “Note 3. Goodwill and Other Intangible Assets” in our “Notes to the Consolidated Financial Statements” for additional information with respect to the impairment.

As at December 31, 2022, excluding the amounts recorded in investments in other ventures, under the equity method, as noted below, our consolidated balance sheets include \$210.9 million of goodwill (2021 - \$210.9 million) and \$26.9 million of other intangible assets (2021 - \$32.6 million). Impairment charges

related to these balances were \$Nil during the year ended December 31, 2022 (2021 - \$Nil). In the future, it is possible we will hold more goodwill and intangible assets, which would increase the degree of judgment and uncertainty embedded in our financial statements, and potentially increase the volatility of our reported results.

Investments in Other Ventures, Under Equity Method

Investments in which we have significant influence over the operating and financial policies of the investee are classified as investments in other ventures, under equity method, and are accounted for under the equity method of accounting. Under this method, we record our proportionate share of income or loss from such investments in our results for the period. Any decline in the value of investments in other ventures, under equity method, including goodwill and other intangible assets arising upon acquisition of the investee, considered by management to be other-than-temporary, is reflected in our consolidated statements of operations in the period in which it is determined. As of December 31, 2022, we had \$79.8 million (2021 - \$98.1 million) in investments in other ventures, under equity method on our consolidated balance sheets, including \$9.9 million of goodwill and \$7.9 million of other intangible assets (2021 - \$9.9 million and \$8.7 million). The carrying value of our investments in other ventures, under equity method, individually or in the aggregate, may, and likely will, differ from the realized value we may ultimately attain, perhaps significantly so.

In determining whether an equity method investment is impaired, we take into consideration a variety of factors including the operating and financial performance of the investee, the investee's future business plans and projections, recent transactions and market valuations of publicly traded companies where available, discussions with the investee's management, and our intent and ability to hold the investment until it recovers in value. Accordingly, we make assumptions and estimates in assessing whether an impairment has occurred and if, in the future, our assumptions and estimates made in assessing the fair value of these investments change, this could result in a material decrease in the carrying value of these investments. This would cause us to write-down the carrying value of these investments and could have a material adverse effect on our results of operations in the period the impairment charge is taken. We do not have any current plans to dispose of these investments, and cannot assure you we will consummate future transactions in which we realize the value at which these holdings are reflected in our financial statements. We have not recorded any other-than-temporary impairment charges related to goodwill and other intangible assets associated with our investments in other ventures, under equity method in any of the years ended December 31, 2022 or 2021. See "Note 3. Goodwill and Other Intangible Assets" in our "Notes to the Consolidated Financial Statements" for additional information.

Income Taxes

Income taxes have been determined in accordance with the provisions of FASB ASC Topic *Income Taxes*. Deferred tax assets and liabilities result from temporary differences between the amounts recorded in our consolidated financial statements and the tax basis of our assets and liabilities. Such temporary differences are primarily due to net operating loss carryforwards and GAAP versus tax basis accounting differences relating to unearned premiums, reserves for claims and claim expenses, deferred finance charges, deferred underwriting results, accrued expenses, investments, deferred acquisition expenses, intangible assets, amortization and depreciation. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period in which the change in tax rates is enacted. A valuation allowance against net deferred tax assets is recorded if it is more likely than not that all, or some portion, of the benefits related to deferred tax assets will not be realized.

At December 31, 2022, our net deferred tax asset (prior to our valuation allowance) and valuation allowance were \$316.8 million (2021 - \$192.4 million) and \$193.6 million (2021 - \$131.5 million), respectively. See "Note 14. Taxation" in our "Notes to the Consolidated Financial Statements" for additional information. At each balance sheet date, we assess the need to establish a valuation allowance that reduces the net deferred tax asset when it is more likely than not that all, or some portion, of the net deferred tax assets will not be realized. The valuation allowance assessment is performed separately in each taxable jurisdiction based on all available information including projections of future GAAP taxable income from each tax-paying component in each tax jurisdiction. The valuation allowance relates to a substantial portion of our net deferred tax assets in most jurisdictions in which we do business.

We have unrecognized tax benefits of \$Nil as of December 31, 2022 (2021 - \$Nil). Interest and penalties related to unrecognized tax benefits, would be recognized in income tax expense. At December 31, 2022, interest and penalties accrued on unrecognized tax benefits were \$Nil (2021 - \$Nil).

The following filed income tax returns are open for examination with the applicable tax authorities: tax years 2017 through 2021 with the U.S.; 2018 through 2021 with Ireland; 2020 through 2021 with the U.K.; 2018 through 2021 with Singapore; 2020 and 2021 with Switzerland; and 2018 through 2021 with Australia. We do not expect the resolution of these open years to have a significant impact on our consolidated statements of operations and financial condition.

SUMMARY OF RESULTS OF OPERATIONS

(in thousands, except per share amounts and percentages)		
Statements of Operations Highlights		
<u>Year ended December 31,</u>	2022	2021
Gross premiums written	\$ 9,213,540	\$ 7,833,798
Net premiums written	\$ 7,196,160	\$ 5,939,375
Net premiums earned	\$ 6,333,989	\$ 5,194,181
Net claims and claim expenses incurred	4,338,840	3,876,087
Acquisition expenses	1,568,606	1,214,858
Operational expenses	276,691	212,184
Underwriting income (loss)	\$ 149,852	\$ (108,948)
Net investment income	\$ 559,932	\$ 319,479
Net realized and unrealized gains (losses) on investments	(1,800,485)	(218,134)
Total investment result	\$ (1,240,553)	\$ 101,345
Net income (loss)	\$(1,159,816)	\$ (103,440)
Net income (loss) available (attributable) to RenaissanceRe common shareholders	\$(1,096,578)	\$ (73,421)
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted	\$ (25.50)	\$ (1.57)
Dividends per common share	\$ 1.48	\$ 1.44
Key Ratios		
<u>Year ended December 31,</u>	2022	2021
Net claims and claim expense ratio – current accident year	72.4 %	79.4 %
Net claims and claim expense ratio – prior accident years	(3.9)%	(4.8)%
Net claims and claim expense ratio – calendar year	68.5 %	74.6 %
Underwriting expense ratio	29.2 %	27.5 %
Combined ratio	97.7 %	102.1 %
Return on average common equity	(22.0)%	(1.1)%
Book Value		
<u>At December 31,</u>	2022	2021
Book value per common share	\$ 104.65	\$ 132.17
Accumulated dividends per common share	25.00	23.52
Book value per common share plus accumulated dividends	\$ 129.65	\$ 155.69
Change in book value per common share plus change in accumulated dividends	(19.7)%	(3.5)%
Balance Sheet Highlights		
<u>At December 31,</u>	2022	2021
Total assets	\$36,552,878	\$33,959,502
Total shareholders' equity attributable to RenaissanceRe	\$ 5,325,274	\$ 6,624,281

Results of Operations for 2022 Compared to 2021

Net loss attributable to RenaissanceRe common shareholders was \$1.1 billion in 2022, compared to \$73.4 million in 2021. As a result of our net loss attributable to RenaissanceRe common shareholders in 2022, we generated an return on average common equity of negative 22.0% and our book value per common share decreased from \$132.17 at December 31, 2021 to \$104.65 at December 31, 2022, a 19.7% decrease, after considering the change in accumulated dividends paid to our common shareholders.

The most significant items affecting our financial performance during 2022, on a comparative basis to 2021, include:

- *Investment Results* - our total investment result, which includes the sum of net investment income and net realized and unrealized gains (losses) on investments, was a loss of \$1.2 billion in 2022, compared to a gain of \$101.3 million in 2021, a decrease of \$1.3 billion. The primary driver of the lower total investment result for 2022 was realized and unrealized losses on our fixed maturity trading and equity investment portfolios. The investment result in 2021 was impacted by lower net realized and unrealized losses on our fixed maturity trading portfolio, which were partially offset by net realized and unrealized gains from our equity investments;
- *Impact of Weather-Related Large Losses and the Russia-Ukraine War* - we had a net negative impact on net loss attributable to RenaissanceRe common shareholders of \$807.6 million resulting from the 2022 Weather-Related Large Losses (as defined below) and \$23.9 million resulting from losses related to the Russia-Ukraine War. This compares to a net negative impact on net loss attributable to RenaissanceRe common shareholders of \$962.1 million resulting from the 2021 Weather-Related Large Losses in 2021;
- *Underwriting Results* - we generated underwriting income of \$149.9 million and had a combined ratio of 97.7% in 2022, compared to an underwriting loss of \$108.9 million and a combined ratio of 102.1% in 2021. Our underwriting income in 2022 was comprised of an underwriting loss of \$16.1 million in our Property segment, and underwriting income of \$166.0 million in our Casualty and Specialty segment. In comparison, our underwriting loss in 2021 was comprised of an underwriting loss of \$185.5 million in our Property segment, and underwriting income of \$76.6 million in our Casualty and Specialty segment.

Included in our underwriting results in 2022 was the impact of the 2022 Weather-Related Large Losses, which resulted in a net negative impact on the underwriting result of \$1.2 billion and added 20.0 percentage points to the combined ratio, primarily in our Property segment. In comparison, our underwriting results in 2021 were impacted by the 2021 Weather-Related Large Losses, which resulted in a net negative impact on the underwriting result of \$1.4 billion and added 28.5 percentage points to the combined ratio, primarily in our Property segment; and

- *Gross Premiums Written* - our gross premiums written increased by \$1.4 billion, or 17.6%, to \$9.2 billion, in 2022, compared to 2021. This was comprised of an increase of \$1.6 billion in our Casualty and Specialty segment, offset by a decrease of \$224.5 million in our Property segment. Gross premiums written in our Property segment included \$247.1 million of reinstatement premiums associated with the 2022 Weather-Related Large Losses for 2022, as compared to \$348.0 million of reinstatement premiums associated with the 2021 Weather-Related Large Losses for 2021.

Net Negative Impact

Net negative impact on underwriting result includes the sum of (1) net claims and claim expenses incurred, (2) assumed and ceded reinstatement premiums earned and (3) earned and lost profit commissions. Net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders is the sum of (1) net negative impact on underwriting result and (2) redeemable noncontrolling interest, both before consideration of any related income tax benefit (expense).

Our estimates of net negative impact are based on a review of our potential exposures, preliminary discussions with certain counterparties and actuarial modeling techniques. Our actual net negative impact, both individually and in the aggregate, may vary from these estimates, perhaps materially. Changes in these estimates will be recorded in the period in which they occur.

Meaningful uncertainty remains regarding the estimates and the nature and extent of the losses from these catastrophe events, driven by the magnitude and recent nature of each event, the geographic areas

impacted by the events, relatively limited claims data received to date, the contingent nature of business interruption and other exposures, potential uncertainties relating to reinsurance recoveries and other factors inherent in loss estimation, among other things.

2022 Net Negative Impact

The financial data below provides additional information detailing the net negative impact of the 2022 Weather-Related Large Losses on our consolidated financial statements in 2022.

Year ended December 31, 2022	Hurricane Ian	Other 2022 Catastrophe Events ⁽¹⁾	Aggregate Losses	2022 Weather-Related Large Losses ⁽²⁾
(in thousands)				
Net claims and claims expenses incurred	\$ (982,189)	\$ (330,973)	\$ (93,810)	\$ (1,406,972)
Assumed reinstatement premiums earned	221,801	27,138	52	248,991
Ceded reinstatement premiums earned	(57,913)	(579)	—	(58,492)
Earned (lost) profit commissions	(1,487)	(1,285)	(49)	(2,821)
Net negative impact on underwriting result	(819,788)	(305,699)	(93,807)	(1,219,294)
Redeemable noncontrolling interest	286,910	87,398	37,399	411,707
Net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders	<u>\$ (532,878)</u>	<u>\$ (218,301)</u>	<u>\$ (56,408)</u>	<u>\$ (807,587)</u>

The financial data below provides additional information detailing the net negative impact of the 2022 Weather-Related Large Losses on our segment underwriting results and consolidated combined ratio in 2022.

Year ended December 31, 2022	Hurricane Ian	Other 2022 Catastrophe Events ⁽¹⁾	Aggregate Losses	2022 Weather-Related Large Losses ⁽²⁾
(in thousands, except percentages)				
Net negative impact on Property segment underwriting result	\$ (811,828)	\$ (302,080)	\$ (93,807)	\$ (1,207,715)
Net negative impact on Casualty and Specialty segment underwriting result	(7,960)	(3,619)	—	(11,579)
Net negative impact on underwriting result	<u>\$ (819,788)</u>	<u>\$ (305,699)</u>	<u>\$ (93,807)</u>	<u>\$ (1,219,294)</u>
Percentage point impact on consolidated combined ratio	13.4	4.9	1.5	20.0

(1) "Other 2022 Catastrophe Events" includes the floods in Eastern Australia in February and March of 2022, Storm Eunice, the severe weather in France in May and June of 2022, Hurricane Fiona and the typhoons in Asia during the third quarter of 2022, and Hurricane Nicole and Winter Storm Elliott during the fourth quarter of 2022.

(2) "2022 Weather-Related Large Losses" includes Hurricane Ian, Other 2022 Catastrophe Events and loss estimates associated with certain aggregate loss contracts triggered during 2022 as a result of weather-related catastrophe events.

During 2022, losses related to Russia's invasion of Ukraine resulted in a net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders of \$23.9 million. This reflects net claims and claims expenses incurred and a net negative impact on underwriting result of \$26.1 million, which was solely in the Casualty and Specialty segment, partially offset by redeemable noncontrolling interest of \$2.2 million. The net negative impact on underwriting result had a 0.5 percentage point impact on the consolidated combined ratio.

2021 Net Negative Impact

The financial data in the table below provides additional information detailing the net negative impact of the 2021 Weather-Related Large Losses on our consolidated financial statements in 2021.

Year ended December 31, 2021	Winter Storm Uri	European Floods	Hurricane Ida	Other 2021 Catastrophe Events⁽¹⁾	Aggregate Losses⁽²⁾	Total 2021 Weather-Related Large Losses⁽³⁾
(in thousands)						
Net claims and claims expenses incurred	\$ (358,937)	\$ (360,644)	\$ (741,285)	\$ (85,941)	\$ (161,093)	\$ (1,707,900)
Assumed reinstatement premiums earned	86,626	90,346	156,061	9,939	6,140	349,112
Ceded reinstatement premiums earned	(11,045)	(16,372)	(27,467)	—	—	(54,884)
Earned (lost) profit commissions	773	8,084	—	1,645	—	10,502
Net negative impact on underwriting result	(282,583)	(278,586)	(612,691)	(74,357)	(154,953)	(1,403,170)
Redeemable noncontrolling interest	101,966	84,082	200,806	17,082	37,175	441,111
Net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders	<u>\$ (180,617)</u>	<u>\$ (194,504)</u>	<u>\$ (411,885)</u>	<u>\$ (57,275)</u>	<u>\$ (117,778)</u>	<u>\$ (962,059)</u>

The financial data in the table below provides additional information detailing the net negative impact of the 2021 Weather-Related Large Losses on our segment underwriting results and consolidated combined ratio in 2021.

Year ended December 31, 2021	Winter Storm Uri	European Floods	Hurricane Ida	Other 2021 Catastrophe Events⁽¹⁾	Aggregate Losses⁽²⁾	Total 2021 Weather-Related Large Losses⁽³⁾
(in thousands, except percentages)						
Net negative impact on Property segment underwriting result	\$ (275,566)	\$ (276,317)	\$ (596,271)	\$ (74,357)	\$ (154,953)	\$ (1,377,464)
Net negative impact on Casualty and Specialty segment underwriting result	(7,017)	(2,269)	(16,420)	—	—	(25,706)
Net negative impact on underwriting result	<u>\$ (282,583)</u>	<u>\$ (278,586)</u>	<u>\$ (612,691)</u>	<u>\$ (74,357)</u>	<u>\$ (154,953)</u>	<u>\$ (1,403,170)</u>
Percentage point impact on consolidated combined ratio	5.5	5.4	12.0	1.4	3.0	28.5

- (1) "Other 2021 Catastrophe Events" includes the hail storm in Europe in late June 2021, the wildfires in California during the third quarter of 2021, the tornadoes in the Central and Midwest U.S. in December 2021, and the Midwest Derecho in December 2021.
- (2) "Aggregate Losses" includes loss estimates associated with certain aggregate loss contracts triggered during 2021 as a result of weather-related catastrophe events.
- (3) "2021 Weather-Related Large Losses" includes Winter Storm Uri, the European Floods, Hurricane Ida, Other 2021 Catastrophe Events and Aggregate Losses.

Underwriting Results by Segment

Property Segment

Below is a summary of the underwriting results and ratios for our Property segment:

<u>Year ended December 31,</u> (in thousands, except percentages)	<u>2022</u>	<u>2021</u>
Gross premiums written	\$3,734,241	\$3,958,724
Net premiums written	\$2,847,659	\$2,868,002
Net premiums earned	\$2,770,227	\$2,608,298
Net claims and claim expenses incurred	2,044,771	2,163,016
Acquisition expenses	547,210	487,178
Operational expenses	194,355	143,608
Underwriting income (loss)	\$ (16,109)	\$ (185,504)
Net claims and claim expenses incurred – current accident year	\$2,250,512	\$2,396,389
Net claims and claim expenses incurred – prior accident years	(205,741)	(233,373)
Net claims and claim expenses incurred – total	\$2,044,771	\$2,163,016
Net claims and claim expense ratio – current accident year	81.2 %	91.9 %
Net claims and claim expense ratio – prior accident years	(7.4)%	(9.0)%
Net claims and claim expense ratio – calendar year	73.8 %	82.9 %
Underwriting expense ratio	26.8 %	24.2 %
Combined ratio	100.6 %	107.1 %

Property Gross Premiums Written

In 2022, our Property segment gross premiums written decreased by \$224.5 million, or 5.7%, to \$3.7 billion, compared to \$4.0 billion in 2021.

Gross premiums written in the catastrophe class of business were \$2.1 billion in 2022, a decrease of \$159.0 million, or 7.1%, compared to 2021. Included within gross premiums written in the catastrophe class of business were \$243.4 million of reinstatement premiums associated with the 2022 Weather-Related Large Losses as compared to \$339.7 million of reinstatement premiums associated with the 2021 Weather-Related Large Losses.

The decrease in gross premiums written in the catastrophe class of business was driven by lower reinstatement premiums, primarily due to a lower level of catastrophe losses in 2022 as compared to 2021, as well as a \$171.8 million reduction in Upsilon RFO, the majority of which is attributable to third party investors in Upsilon RFO. Excluding Upsilon RFO and the impact of the reinstatement premiums in each of the respective periods, gross premiums written in the catastrophe class of business increased from the comparative period, driven by an improved rate environment which has contributed to growth with existing clients and new opportunities across underwriting platforms.

Gross premiums written in the other property class of business were \$1.7 billion in 2022, a decrease of \$65.5 million, or 3.8%, compared to 2021. The decrease in gross premiums written in the other property class of business was principally due to the non-renewal of deals that did not meet our return hurdles, partially offset by growth and rate improvement across other areas within this class of business.

Our Property segment gross premiums continue to be characterized by a large proportion of U.S. and Caribbean premium, a significant amount of which provides coverage against windstorms, notably U.S. Atlantic windstorms, as well as earthquakes and other natural and man-made catastrophes.

Property Ceded Premiums Written

Year ended December 31,	2022	2021
(in thousands)		
Ceded premiums written	<u>\$ 886,582</u>	<u>\$ 1,090,722</u>

Ceded premiums written in our Property segment decreased 18.7%, to \$886.6 million, in 2022, compared to \$1.1 billion in 2021. The decrease in ceded premiums written was driven by the reduction in premiums ceded to Upsilon RFO third-party investors following a reduction in the size of Upsilon Fund, and a corresponding decrease in gross premiums written, as discussed above, in addition to a reduction in retrocessional purchases as part of our gross-to-net strategy, in conjunction with the growth in our managed third-party capital vehicles.

Due to the potential volatility of the reinsurance contracts which we sell, we purchase reinsurance to reduce our exposure to large losses and to help manage our risk portfolio. To the extent that appropriately priced coverage is available, we anticipate continued use of retrocessional reinsurance to reduce the impact of large losses on our financial results and to manage our portfolio of risk; however, the buying of ceded reinsurance in our Property segment is based on market opportunities and is not based on placing a specific reinsurance program each year. In addition, in future periods, we may utilize the growing market for insurance-linked securities to expand our purchases of retrocessional reinsurance if we find the pricing and terms of such coverages attractive.

Property Net Premiums Written

Twelve months ended December 31,	2022	2021
(in thousands)		
Net premiums written	<u>\$ 2,847,659</u>	<u>\$ 2,868,002</u>

Net premiums written in our Property segment were \$2.8 billion in 2022, a decrease of \$20.3 million, or 0.7%, compared to 2021. This decrease was driven by the reduction in assumed reinstatement premiums as well as the reduction in gross premiums written in the other property class of business. These were partially offset by the reduction in retrocessional purchases.

Property Underwriting Results

Our Property segment incurred an underwriting loss of \$16.1 million in 2022, compared to \$185.5 million in 2021, a reduction in the underwriting loss of \$169.4 million. In 2022, our Property segment generated a net claims and claim expense ratio of 73.8%, an underwriting expense ratio of 26.8% and a combined ratio of 100.6%, compared to 82.9%, 24.2% and 107.1%, respectively, in 2021.

Principally impacting the Property segment underwriting result and combined ratio in 2022 were the 2022 Weather-Related Large Losses, which resulted in a net negative impact on the Property segment underwriting result of \$1.2 billion and added 46.8 percentage points to its combined ratio. In comparison, 2021 was impacted by the 2021 Weather-Related Large Losses, which resulted in a net negative impact on the Property segment underwriting result of \$1.4 billion and added 58.6 percentage points to the combined ratio.

The net claims and claim expense ratio for prior accident years reflected net favorable development of 7.4%, primarily related to the 2017 to 2021 accident years. The underwriting expense ratio increased 2.6 percentage points, principally driven by lower performance based compensation expense in 2021, and a reduced benefit to the ratio following lower management fees due to reductions in Upsilon and the portfolio of structured reinsurance products.

Refer to “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Summary of Critical Accounting Estimates—Claims and Claim Expense Reserves” and “Note 8. Reserve for Claims and Claim Expenses” in our “Notes to the Consolidated Financial Statements” for additional discussion of our reserving techniques and prior year development of net claims and claim expenses.

Casualty and Specialty Segment

Below is a summary of the underwriting results and ratios for our Casualty and Specialty segment:

<u>Year ended December 31,</u> (in thousands, except percentages)	<u>2022</u>	<u>2021</u>
Gross premiums written	\$5,479,299	\$3,875,074
Net premiums written	\$4,348,501	\$3,071,373
Net premiums earned	\$3,563,762	\$2,585,883
Net claims and claim expenses incurred	2,294,069	1,713,071
Acquisition expenses	1,021,396	727,680
Operational expenses	82,336	68,576
Underwriting income (loss)	\$ 165,961	\$ 76,556
Net claims and claim expenses incurred – current accident year	\$2,335,910	\$1,729,168
Net claims and claim expenses incurred – prior accident years	(41,841)	(16,097)
Net claims and claim expenses incurred – total	\$2,294,069	\$1,713,071
Net claims and claim expense ratio – current accident year	65.5 %	66.9 %
Net claims and claim expense ratio – prior accident years	(1.1)%	(0.7)%
Net claims and claim expense ratio – calendar year	64.4 %	66.2 %
Underwriting expense ratio	30.9 %	30.8 %
Combined ratio	95.3 %	97.0 %

Casualty and Specialty Gross Premiums Written

In 2022, our Casualty and Specialty segment gross premiums written increased by \$1.6 billion, or 41.4%, to \$5.5 billion, compared to \$3.9 billion in 2021. The increase was due to growth in new and existing business and rate improvements. Premium increased across all classes of business and principally in casualty and credit lines of business. The growth in credit during 2022 was mainly in our mortgage book of business. Additionally, the growth in other specialty lines was due to growth in cyber business. Gross premiums written in 2022 also included positive premium developments on business underwritten in 2021 and prior years of approximately \$450 million. These changes in premium estimates occurred across all lines of business but principally in general casualty and professional liability lines and largely reflect rate improvements.

Our relative mix of business between proportional business and excess of loss business has fluctuated in the past and will likely continue to do so in the future. Proportional business typically has a higher expense ratio and tends to be exposed to more attritional and frequent losses, while being subject to less expected severity as compared to traditional excess of loss business.

Casualty and Specialty Ceded Premiums Written

<u>Year ended December 31,</u> (in thousands)	<u>2022</u>	<u>2021</u>
Ceded premiums written	\$ 1,130,798	\$ 803,701

Ceded premiums written in our Casualty and Specialty segment increased by 40.7%, to \$1.1 billion, in 2022, compared to \$803.7 million in 2021, primarily resulting from increased gross premiums written subject to our retrocessional quota share reinsurance programs, partially offset by a decrease in retrocessional purchases.

We purchase reinsurance to reduce our exposure to large losses and to help manage our risk portfolio. To the extent that appropriately priced coverage is available, we anticipate continued use of retrocessional reinsurance to reduce the impact of large losses on our financial results and to manage our portfolio of risk. As in our Property segment, the buying of ceded reinsurance in our Casualty and Specialty segment is based on market opportunities and is not based on placing a specific reinsurance program each year.

Casualty and Specialty Underwriting Results

Our Casualty and Specialty segment generated underwriting income of \$166.0 million in 2022, compared to \$76.6 million in 2021. In 2022, our Casualty and Specialty segment generated a net claims and claim expense ratio of 64.4%, an underwriting expense ratio of 30.9% and a combined ratio of 95.3%, compared to 66.2%, 30.8% and 97.0%, respectively, in 2021.

The decrease in the Casualty and Specialty segment combined ratio in 2022 was principally driven by a decrease of 1.8 percentage points in the net claims and claim expense ratio, primarily as a result of lower current accident year attritional losses principally due to a decrease in initial expected loss ratios in certain casualty classes of business. Additionally, our Casualty and Specialty segment experienced net favorable development on prior accident years net claims and claim expenses of \$41.8 million, or 1.1 percentage points, during 2022. The net favorable development during 2022 was primarily driven by reported losses generally coming in lower than expected on attritional net claims and claim expenses. See “Note 7. Reserve for Claims and Claim Expenses” in our “Notes to the Consolidated Financial Statements” for additional information related to the development of prior accident years net claims and claim expenses.

Refer to “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Summary of Critical Accounting Estimates—Claims and Claim Expense Reserves” and “Note 8. Reserve for Claims and Claim Expenses” in our “Notes to the Consolidated Financial Statements” for additional discussion of our reserving techniques and prior year development of net claims and claim expenses.

Fee Income

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Management Fee Income		
Joint ventures	\$ 56,746	\$ 43,074
Structured reinsurance products	26,592	34,639
Managed funds	25,564	31,358
Total management fee income	108,902	109,071
Performance Fee Income		
Joint ventures	4,354	14,235
Structured reinsurance products	4,451	4,917
Managed funds	972	280
Total performance fee income	9,777	19,432
Total fee income	\$ 118,679	\$ 128,503

The table above shows total fee income earned through third-party capital management activities, including various joint ventures, managed funds and certain structured retrocession agreements to which we are a party. Performance fees are based on the performance of the individual vehicles or products, and may be zero or negative in a particular period if, for example, large losses occur, which can potentially result in no performance fees or the reversal of previously accrued performance fees. Joint ventures include DaVinci, Top Layer, Vermeer, Fontana and certain entities investing in Langhorne Holdings LLC. Managed funds include Upsilon Fund and Medici. Structured reinsurance products and other includes certain reinsurance contracts and certain other vehicles through which we transfer risk to third-party capital.

In 2022, total fee income earned through third-party capital management activities decreased \$9.8 million, to \$118.7 million, as compared to \$128.5 million in 2021, primarily driven by lower performance fee income due to the impact of the 2022 Weather-Related Large Losses and continued impact of the deficit carried forward from weather-related losses in 2021 on our joint ventures, managed funds and structured reinsurance agreements. Management fee income was relatively stable in 2022, primarily due to the reduced size of our structured reinsurance products and lower capital managed at Upsilon Fund, largely offset by increased capital managed at other joint ventures and Medici, including the impact of Fontana from the second quarter of 2022.

The fees earned through third-party capital management activities are principally recorded through redeemable noncontrolling interest, or as an increase to underwriting income (reduction to underwriting loss), through a decrease in operating expenses or acquisition expenses. Below is a summary of the impact of fee income on the applicable financial statement line items.

<u>Year ended December 31</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Underwriting income (loss) - fee income on third-party capital management activities ⁽¹⁾	\$ 49,946	\$ 67,287
Equity in earnings of other ventures	94	50
Net income (loss) attributable to redeemable noncontrolling interest	68,639	61,166
Total fee income	<u>\$ 118,679</u>	<u>\$ 128,503</u>

- (1) Reflects total fee income earned through third-party capital management activities recorded through underwriting income (loss) as a decrease to operating expenses or acquisition expenses. The \$49.9 million includes \$46.9 million of management fee income, recorded as a reduction to operating expenses and \$3.0 million of performance fee income recorded as a reduction to acquisition expenses (2021 - \$67.3 million, \$62.1 million and \$5.2 million, respectively).

In addition to the \$118.7 million of fee income earned through our third-party capital management activities described above, we earned additional fee income of \$93.7 million on other underwriting-related activities, primarily related to expense overrides paid to us by our reinsurers. This additional fee income on other underwriting-related activities is recorded as a reduction to operating expenses or acquisition expenses, as applicable. The total fee income recorded through underwriting income (loss) are detailed in the table below.

<u>Year ended December 31</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Underwriting income (loss) - fee income on third-party capital management activities	\$ 49,946	\$ 67,287
Underwriting income (loss) - additional fee income on other underwriting-related activities	93,743	73,418
Total fee income recorded through underwriting income (loss) ⁽¹⁾	<u>\$143,689</u>	<u>\$140,705</u>
Impact of Total fees recorded through underwriting income (loss) on the combined ratio	2.3 %	2.7 %

- (1) The \$143.7 million includes \$123.2 million of management fee income, recorded as a reduction to operating expenses and \$20.5 million of performance fee income recorded as a reduction to acquisition expenses (2021 - \$140.7 million, \$126.6 million and \$14.1 million, respectively).

Net Investment Income

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Fixed maturity investments trading	\$ 382,165	\$ 234,911
Short term investments	41,042	2,333
Equity investments	20,864	9,017
Other investments		
Catastrophe bonds	94,784	64,860
Other	37,497	28,811
Cash and cash equivalents	5,197	297
	<u>581,549</u>	<u>340,229</u>
Investment expenses	(21,617)	(20,750)
Net investment income	<u>\$ 559,932</u>	<u>\$ 319,479</u>

Net investment income was \$559.9 million in 2022, compared to \$319.5 million in 2021, an increase of \$240.5 million. The increase was primarily driven by higher interest rates and increased yields within the Company's investment portfolio, primarily driven by an increase in yields on U.S. treasuries.

Net Realized and Unrealized Gains (Losses) on Investments

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Gross realized gains on fixed maturity investments trading	\$ 38,781	\$ 177,314
Gross realized losses on fixed maturity investments trading	(771,342)	(97,726)
Net realized gains (losses) on fixed maturity investments trading	(732,561)	79,588
Net unrealized gains (losses) on fixed maturity investments trading	(636,762)	(389,376)
Net realized and unrealized gains (losses) on investments-related derivatives ⁽¹⁾	(165,293)	(12,237)
Net realized gains (losses) on equity investments	43,035	335,491
Net unrealized gains (losses) on equity investments	(166,823)	(285,882)
Net realized and unrealized gains (losses) on equity investments	(123,788)	49,609
Net realized and unrealized gains (losses) on other investments - catastrophe bonds	(130,335)	(35,033)
Net realized and unrealized gains (losses) on other investments - other	(11,746)	89,315
Net realized and unrealized gains (losses) on investments	<u>\$ (1,800,485)</u>	<u>\$ (218,134)</u>

(1) Net realized and unrealized gains (losses) on investment-related derivatives includes fixed maturity investments related derivatives (interest rate futures, interest rate swaps, credit default swaps and total return swaps), and equity investments related derivatives (equity futures). See "Note 18. Derivative Instruments" in our "Notes to Consolidated Financial Statements" for additional information.

We structure our investment portfolio to emphasize the preservation of capital and the availability of liquidity to meet our claims obligations, to be well diversified across market sectors, and to generate relatively attractive returns on a risk-adjusted basis over time. A large majority of our investments are invested in the fixed income markets and, therefore, our realized and unrealized holding gains and losses on investments are highly correlated to fluctuations in interest rates. As interest rates decline, we will tend to have realized and unrealized gains from our investment portfolio, and as interest rates rise, we will tend to have realized and unrealized losses from our investment portfolio.

Net realized and unrealized losses on investments were \$1.8 billion in 2022, compared to \$218.1 million in 2021, an increase in net realized and unrealized losses of \$1.6 billion. Principally impacting our net realized and unrealized losses on investments in 2022 were:

- net realized and unrealized losses on our fixed maturity investments trading of \$1.4 billion compared to \$309.8 million in 2021, an increase of \$1.1 billion, primarily due to higher rates of inflation in 2022, coupled with increasing interest rates;
- net realized and unrealized losses on investments-related derivatives of \$165.3 million compared to net realized and unrealized losses of \$12.2 million in 2021, an increase of \$153.1 million, principally driven by the increase in interest rates and broad equity market declines, which negatively impacted our interest rate and equity futures, respectively, for 2022;
- net realized and unrealized losses on equity investments of \$123.8 million compared to net realized and unrealized gains of \$49.6 million in 2021, a decrease of \$173.4 million. The net realized and unrealized losses in 2022 were principally driven by broad equity market declines, compared to the gains in 2021, which were in line with the performance of the wider equity markets. The net realized and unrealized gains in 2021 were partially offset by net realized and unrealized losses from our investment in Trupanion, Inc.;
- net realized and unrealized losses on catastrophe bonds of \$130.3 million (primarily held in the Medici portfolio, the majority of which is owned by third party investors), principally driven by the impact of Hurricane Ian, as compared to \$35.0 million in 2021, which reflected general declines in the catastrophe bond market; and
- net realized and unrealized losses on our other investments of \$11.7 million compared to net realized and unrealized gains of \$89.3 million in 2021, a decline of \$101.1 million, which was a result of lower unrealized gains on our fund investments portfolio and increased losses on our direct private equity investment portfolio in 2022, compared to the gains in 2021, which were driven by fair value appreciation of underlying investments favorably impacting our portfolio of fund investments

Net Foreign Exchange Gains (Losses)

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Total foreign exchange gains (losses)	\$ (56,909)	\$ (41,006)

In 2022, net foreign exchange losses were \$56.9 million compared to \$41.0 million in 2021. The net foreign exchange loss in each of 2022 and 2021 was driven by losses attributable to third-party investors in Medici, which are consolidated but then allocated out through redeemable noncontrolling interest, and the impact of certain foreign exchange exposures related to our underwriting activities, which are not expected to recur.

Our functional currency is the U.S. dollar. We routinely write a portion of our business in currencies other than U.S. dollars and invest a portion of our cash and investment portfolio in those currencies. We are primarily impacted by foreign currency exposures associated with our underwriting operations and our investment portfolio, and may, from time to time, enter into foreign currency forward and option contracts to minimize the effect of fluctuating foreign currencies on the value of non-U.S. dollar denominated assets and liabilities.

Refer to “Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk” for additional information related to our exposure to foreign currency risk and “Note 18. Derivative Instruments” in our “Notes to the Consolidated Financial Statements” for additional information related to foreign currency forward and option contracts we have entered into.

Equity in Earnings (Losses) of Other Ventures

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Top Layer	\$ 6,347	\$ 8,286
Tower Hill Companies	(921)	(2,073)
Other	5,823	6,096
Total equity in earnings (losses) of other ventures	<u>\$ 11,249</u>	<u>\$ 12,309</u>

Equity in earnings of other ventures represents our pro-rata share of the net income from our investments in the Tower Hill Companies, Top Layer, and our equity investments in a select group of insurance and insurance-related companies, which are included in Other. Except for Top Layer, which is recorded on a current quarter basis, equity in earnings of other ventures is recorded one quarter in arrears. The carrying value of these investments on our consolidated balance sheets, individually or in the aggregate, may differ from the realized value we may ultimately attain, perhaps significantly so.

Earnings from our investments in other ventures was \$11.2 million in 2022, compared to \$12.3 million in 2021, a decrease of \$1.1 million. The decrease was primarily due to the impact of mark-to-market losses in the investment portfolios and underwriting losses of certain of these other ventures, partially offset by a valuation gain on our equity investment in one of the insurance-related companies.

Other Income (Loss)

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Assumed and ceded reinsurance contracts accounted for as derivatives and deposits	\$ 11,197	\$ 5,905
Other	1,439	4,975
Total other income (loss)	<u>\$ 12,636</u>	<u>\$ 10,880</u>

In 2022, we generated other income of \$12.6 million, compared to \$10.9 million in 2021, an increase of \$1.8 million, driven by gains on our assumed and ceded reinsurance contracts accounted for as derivatives and deposits. The 2021 other income results include a gain on the sale of a portion of one of our strategic investments recorded under the equity method.

Corporate Expenses

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Total corporate expenses	<u>\$ 46,775</u>	<u>\$ 41,152</u>

Corporate expenses include certain executive, director, legal and consulting expenses, costs for research and development, impairment charges related to goodwill and other intangible assets, and other miscellaneous costs, including those associated with operating as a publicly traded company. From time to time, we may revise the allocation of certain expenses between corporate and operating expenses to better reflect the characteristic of the underlying expense.

Corporate expenses increased \$5.6 million to \$46.8 million, in 2022, compared to \$41.2 million in 2021. The increase of \$5.6 million was primarily due to structuring fees incurred during 2022 associated with the renewal of our 5 year Wells Fargo revolving credit facility, and higher legal fees associated with the launch of Fontana.

Interest Expense and Preferred Share Dividends

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Interest Expense		
\$300.0 million 3.700% Senior Notes due 2025	\$ 11,100	\$ 11,100
\$300.0 million 3.450% Senior Notes due 2027	10,350	10,350
\$400.0 million 3.600% Senior Notes due 2029	14,400	14,400
\$150.0 million 4.750% Senior Notes due 2025 (DaVinci)	7,125	7,125
Other	5,360	4,561
Total interest expense	48,335	47,536
Preferred Share Dividends		
\$275.0 million 5.375% Series E Preference Shares	—	9,033
\$250.0 million 5.750% Series F Preference Shares	14,375	14,375
\$500.0 million 4.20% Series G Preference Shares	21,000	9,858
Total preferred share dividends	35,375	33,266
Total interest expense and preferred share dividends	\$ 83,710	\$ 80,802

Interest expense increased \$0.8 million to \$48.3 million in 2022, compared to \$47.5 million in 2021.

Preferred share dividends increased \$2.1 million to \$35.4 million in 2022, compared to \$33.3 million in 2021, driven by the issuance of 4.20% Series G Preference Shares in July 2021, resulting in only 6 months of dividends in 2021 compared to 12 months in 2022. This was partially offset by the redemption in full of the \$275.0 million 5.375% Series E Preference Shares in August 2021, resulting in zero months of dividends in 2022 compared to 8 months in 2021.

Income Tax Benefit (Expense)

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
(in thousands)		
Income tax benefit (expense)	\$ 59,019	\$ 10,668

We are subject to income taxes in certain jurisdictions in which we operate; however, since the majority of our income is generally earned in Bermuda, which does not have a corporate income tax, the tax impact to our operations has historically been minimal.

In 2022, we recognized an income tax benefit of \$59.0 million, compared to \$10.7 million in 2021. The increase in income tax benefit in 2022 was primarily driven by higher mark to market losses in taxable jurisdictions compared to the prior year, partially offset by U.S. underwriting income in the current year and a partial valuation allowance recorded against the U.S. mark to market losses during the current year.

At December 31, 2022, our net deferred tax asset before and after valuation allowance totaled \$316.8 million and \$123.2 million, respectively. Our operations in Ireland, the U.K., Singapore, Switzerland and the U.S. operations of TMR have historically produced GAAP taxable losses and we currently do not believe it is more likely than not that we will be able to recover the predominant amount of our net deferred tax assets in these jurisdictions. Accordingly we have recorded a valuation allowance on the majority of the net deferred tax asset in these jurisdictions. In addition, we recorded a partial valuation allowance in the current year of \$18.9 million against a portion of the unrealized losses in the U.S. investment portfolio.

Our effective income tax rate, which we calculate as income tax (expense) benefit divided by income or loss before taxes, may fluctuate significantly from period to period depending on the geographic distribution of pre-tax income or loss in any given period between different jurisdictions with comparatively higher tax rates and those with comparatively lower tax rates. Generally, the preponderance of our revenue and pre-tax income or loss is generated by our domestic (i.e., Bermuda) operations, in the form of underwriting income or loss and net investment income or loss, rather than our foreign operations. However, the geographic

distribution of pre-tax income or loss can vary significantly between periods for a variety of reasons, including the business mix and geographic location of the balance sheet on which net premiums are written and earned, the size and nature of net claims and claim expenses incurred, the amount and geographic location of operating expenses, net investment income and net realized and unrealized gains (losses) on investments and the amount of specific adjustments to determine the income tax basis in each of our operating jurisdictions. We expect our consolidated effective tax rate may increase in the future if our global operations outside of Bermuda expand. In addition, it is possible we could be adversely affected by changes in tax laws, regulation, or enforcement, any of which could increase our effective tax rate more rapidly or steeply than we currently anticipate.

Net Income (Loss) Attributable to Redeemable Noncontrolling Interests

<u>Year ended December 31,</u> (in thousands)	<u>2022</u>	<u>2021</u>
Redeemable noncontrolling interest - DaVinci	\$ (65,514)	\$ (102,932)
Redeemable noncontrolling interest - Medici	(70,504)	1,492
Redeemable noncontrolling interest - Vermeer	43,058	38,155
Redeemable noncontrolling interest - Fontana	(5,653)	—
Net income (loss) attributable to redeemable noncontrolling interests	<u>\$ (98,613)</u>	<u>\$ (63,285)</u>

Our net loss attributable to redeemable noncontrolling interests was \$98.6 million compared to \$63.3 million in 2021, an increase of \$35.3 million. This increase was primarily due to the following:

- Medici, which had a net loss attributable to redeemable noncontrolling interests in 2022 due to realized and unrealized losses on its catastrophe bonds portfolios, primarily driven by the widening of credit spreads on catastrophe bonds, the impact of Hurricane Ian, and foreign exchange losses on hedges related to foreign currency share classes, all of which are shared with our third-party investors. After taking into account the original currency carrying value of Medici's foreign currency share classes, foreign currency hedges had no net impact to Medici's investors;
- Fontana, which was launched in the second quarter of 2022 and had a net loss due to realized and unrealized losses on investments; partially offset by
- DaVinci, which had a lower net loss in 2022 compared to 2021, primarily resulting from the lower impact of the 2022 Weather-Related Large Losses as compared to the 2021 Weather-Related Large Losses, partially offset by higher realized and unrealized losses on investments in 2022 compared to 2021; and
- Vermeer, which had a higher net income in 2022 compared to 2021, primarily resulting from higher net investment income, partially offset by higher losses resulting from the 2022 Weather-Related Large Losses.

Refer to "Note 9. Noncontrolling Interests" in our "Notes to Consolidated Financial Statements" for additional information regarding our redeemable noncontrolling interests.

FINANCIAL CONDITION, LIQUIDITY AND CAPITAL RESOURCES

Financial Condition

As a Bermuda-domiciled holding company, RenaissanceRe has limited operations of its own. Its assets consist primarily of investments in subsidiaries and cash and securities in amounts which fluctuate over time. We therefore rely on dividends and distributions (and other statutorily permissible payments) from our subsidiaries, investment income and fee income to meet our liquidity requirements, which primarily include making principal and interest payments on our debt and dividend payments to our preference and common shareholders.

The payment of dividends by our subsidiaries is, under certain circumstances, limited by the applicable laws and regulations in the various jurisdictions in which our subsidiaries operate. In addition, insurance laws require our insurance subsidiaries to maintain certain measures of solvency and liquidity. We believe that each of our insurance subsidiaries and branches exceeded the minimum solvency, capital and surplus

requirements in their applicable jurisdictions at December 31, 2022. Certain of our subsidiaries and branches are required to file FCRs, with their regulators, which provide details on solvency and financial performance. Where required, these FCRs will be posted on our website. The regulations governing our and our principal operating subsidiaries' ability to pay dividends and to maintain certain measures of solvency and liquidity, and requirements to file FCRs are discussed in detail in "Part I, Item 1. Business, Regulation" and "Note 17. Statutory Requirements" in our "Notes to the Consolidated Financial Statements."

Liquidity and Cash Flows

Holding Company Liquidity

RenaissanceRe's principal uses of liquidity are: (1) common share related transactions including dividend payments to our common shareholders and common share repurchases, (2) preference share related transactions including dividend payments to our preference shareholders and preference share redemptions, (3) interest and principal payments on debt, (4) capital investments in our subsidiaries, (5) acquisition of, or investments in, new or existing companies or books of business of other companies and (6) certain corporate and operating expenses.

We attempt to structure our organization in a way that facilitates efficient capital movements between RenaissanceRe and our operating subsidiaries and to ensure that adequate liquidity is available when required, giving consideration to applicable laws and regulations, and the domiciliary location of sources of liquidity and related obligations. For example, our internal investment structures and cash pooling arrangements among the Company and certain of our subsidiaries help to efficiently facilitate capital and liquidity movements.

In the aggregate, our principal operating subsidiaries have historically produced sufficient cash flows to meet their expected claims payments and operational expenses and to provide dividend payments to us. In addition, our subsidiaries maintain a concentration of investments in high quality liquid securities, which management believes will provide additional liquidity for extraordinary claims payments should the need arise. However, in some circumstances, RenaissanceRe may determine it is necessary or advisable to contribute capital to our subsidiaries, or may be contractually required to contribute capital to our joint ventures or managed funds. For example, in 2022, RenaissanceRe contributed capital to RenaissanceRe Specialty U.S. to support growth in premiums. In addition, from time to time we invest in new managed joint ventures or managed funds, increase our investments in certain of our managed joint ventures or managed funds and contribute cash to investment subsidiaries. For instance, effective April 1, 2022, RenaissanceRe launched Fontana, an innovative joint venture dedicated to writing Casualty and Specialty risks. In certain instances, we may be required to make capital contributions to our subsidiaries or joint ventures or managed funds, for example, Renaissance Reinsurance is obligated to make a mandatory capital contribution of up to \$50.0 million in the event that a loss reduces Top Layer's capital below a specified level.

Sources of Liquidity

Historically, cash receipts from operations, consisting primarily of premiums, investment income and fee income, have provided sufficient funds to pay the losses and operating expenses incurred by our subsidiaries and to fund dividends and distributions to RenaissanceRe. Other potential sources of liquidity include borrowings under our credit facilities and issuances of securities.

The premiums received by our operating subsidiaries are generally received months or even years before losses are paid under the policies related to such premiums. Premiums and acquisition expenses generally are received within the first two years of inception of a contract, while operating expenses are generally paid within a year of being incurred. It generally takes much longer for net claims and claims expenses incurred to be reported and ultimately settled, requiring the establishment of reserves for claims and claim expenses and losses recoverable. Therefore, the amount of net claims paid in any one year is not necessarily related to the amount of net claims and claims expenses incurred in that year, as reported in the consolidated statement of operations.

We expect that our liquidity needs for the next 12 months will be met by our cash receipts from operations. However, as a result of a combination of market conditions, turnover of our investment portfolios and changes in investment yields, and the nature of our business where a large portion of the coverages we provide can produce losses of high severity and low frequency, future cash flows from operating activities

cannot be accurately predicted and may fluctuate significantly between individual quarters and years. In addition, due to the magnitude and complexity of certain large loss events, meaningful uncertainty remains regarding losses from these events and our actual ultimate net losses from these events may vary materially from preliminary estimates, which would impact our cash flows from operations.

Our “shelf” registration statement on Form S-3 under the Securities Act allows for the public offering of various types of securities, including common shares, preference shares and debt securities, which provides a source of liquidity. Because we are a “well-known seasoned issuer” as defined by the rules promulgated under the Securities Act, we are also eligible to file additional automatically effective registration statements on Form S-3 in the future for the potential offering and sale of additional debt and equity securities.

Credit Facilities, Trusts and Other Collateral Arrangements

We also maintain various other arrangements that allow us to access liquidity and satisfy collateral requirements, including revolving credit facilities, letter of credit facilities, and regulatory trusts, as well as other types of trust and collateral arrangements. Regulatory and other requirements to post collateral to support our reinsurance obligations could impact our liquidity. For example, many jurisdictions in the U.S. do not permit insurance companies to take credit for reinsurance obtained from unlicensed or non-admitted insurers on their statutory financial statements unless security is posted, so our contracts generally require us to post a letter of credit or provide other security (such as through a multi-beneficiary reinsurance trust). However, certain of our subsidiaries qualify as certified reinsurers or reciprocal reinsurers in one or more U.S. states, which has, and may continue to, reduce the amount of collateral that we are required to post. In addition, if we were to fail to comply with certain covenants in our debt agreements, we may have to pledge additional collateral.

Letter of Credit and Revolving Credit Facilities

We and certain of our subsidiaries, joint ventures, and managed funds maintain secured and unsecured revolving credit facilities and letter of credit facilities that provide liquidity and allow us to satisfy certain collateral requirements. The outstanding amounts drawn under each of our significant credit facilities are set forth below:

<u>At December 31, 2022</u>	<u>Issued or Drawn</u>
(in thousands)	
Revolving Credit Facility ⁽¹⁾	\$ —
Medici Revolving Credit Facility ⁽²⁾	30,000
Bilateral Letter of Credit Facilities	
Secured	447,384
Unsecured	625,750
Funds at Lloyd’s Letter of Credit Facility	275,000
	<u><u>\$ 1,378,134</u></u>

(1) At December 31, 2022, no amounts were issued or drawn under this facility.

(2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici’s issued voting shares, the financial statements of Medici are included in RenaissanceRe’s consolidated financial statements. The drawn amount of the Medici Revolving Credit Facility is included on the Company’s consolidated balance sheets under debt.

Refer to “Note 8. Debt and Credit Facilities” in our “Notes to the Consolidated Financial Statements” for additional information related to our significant debt and credit facilities.

Funds at Lloyd’s

As a member of Lloyd’s, the underwriting capacity, or stamp capacity, of Syndicate 1458 must be supported by providing a deposit, the FAL, in the form of cash, securities or letters of credit. At December 31, 2022, the FAL required to support the underwriting activities at Lloyd’s through Syndicate 1458 was £986.8 million (2021 - £756.0 million). Actual FAL posted for Syndicate 1458 at December 31, 2022 by RenaissanceRe Corporate Capital (UK) Limited was \$1,012.6 million (2021 - \$983.4 million), supported by a \$275.0 million

letter of credit and a \$737.6 million deposit of cash and fixed maturity securities (2021 - \$275.0 million and \$708.4 million, respectively). Refer to “Note 8. Debt and Credit Facilities” in our “Notes to the Consolidated Financial Statements” for additional information related to this letter of credit facility.

Multi-Beneficiary Reinsurance Trusts, Multi-Beneficiary Reduced Collateral Reinsurance Trusts

Renaissance Reinsurance, DaVinci Reinsurance and RREAG, use multi-beneficiary reinsurance trusts and/or multi-beneficiary reduced collateral reinsurance trusts to collateralize reinsurance liabilities. As described below, as of December 31, 2022, all of these trusts were funded in accordance with the relevant regulatory thresholds. However, assets held in these trusts may exceed the amount required under U.S. state regulations. In the second quarter of 2022, the New York State Department of Financial Services approved the release of a substantial portion of the surplus balance previously held in the Renaissance Reinsurance multi-beneficiary reinsurance trust.

Refer to “Note 17. Statutory Requirements” in our “Notes to the Consolidated Financial Statements” for additional information on our multi-beneficiary reinsurance trusts and multi-beneficiary reduced collateral reinsurance trusts.

Contractual Obligations

In assessing our liquidity requirements and cash needs, we also consider contractual obligations to which we are a party. In certain circumstances, our contractual obligations may be accelerated due to defaults under the agreements governing those obligations (including pursuant to cross-default provisions in such agreements) or in connection with certain changes in control of the Company, for example. In addition, in certain circumstances, in the event of a default these obligations may bear an increased interest rate or be subject to penalties.

The table below shows certain of our current and long-term contractual obligations:

At December 31, 2022	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
(in thousands)					
Long term debt obligations ⁽¹⁾					
3.600% Senior Notes due 2029	\$ 490,542	\$ 14,400	\$ 28,800	\$ 28,800	\$ 418,542
3.450% Senior Notes due 2027	346,561	10,350	20,700	315,511	—
3.700% Senior Notes due 2025	324,967	11,100	313,867	—	—
4.750% Senior Notes due 2025 (DaVinci)	166,612	7,125	159,487	—	—
Total long term debt obligations	1,328,682	42,975	522,854	344,311	418,542
Investment commitments ⁽²⁾	1,226,230	1,226,230	—	—	—
Operating lease obligations	93,204	7,097	17,223	15,454	53,430
Capital lease obligations	15,451	2,661	5,322	5,322	2,146
Payable for investments purchased	493,776	493,776	—	—	—
Reserve for claims and claim expenses ⁽³⁾	15,892,573	5,085,623	5,562,400	2,383,886	2,860,664
Total contractual obligations	<u>\$19,049,916</u>	<u>\$ 6,858,362</u>	<u>\$ 6,107,799</u>	<u>\$ 2,748,973</u>	<u>\$ 3,334,782</u>

(1) Includes contractual interest payments.

(2) The investment commitments do not have a defined contractual commitment date and we have therefore included them in the less than one year category.

(3) The amount and timing of the cash flows associated with our policy liabilities are highly uncertain. Refer to “Note 7. Reserve for Claims and Claim Expenses” in our “Notes to the Consolidated Financial Statements” for more information on our estimate of claims and claim expense reserves.

Cash Flows

Year ended December 31,	2022	2021
(in thousands)		
Net cash provided by (used in) operating activities	\$ 1,603,683	\$ 1,234,815
Net cash provided by (used in) investing activities	(3,016,176)	(816,296)
Net cash provided by (used in) financing activities	725,342	(302,461)
Effect of exchange rate changes on foreign currency cash	22,471	6,148
Net increase (decrease) in cash and cash equivalents	(664,680)	122,206
Cash and cash equivalents, beginning of period	1,859,019	1,736,813
Cash and cash equivalents, end of period	<u>\$ 1,194,339</u>	<u>\$ 1,859,019</u>

2022

During 2022, our cash and cash equivalents decreased by \$664.7 million, to \$1.2 billion at December 31, 2022, compared to \$1.9 billion at December 31, 2021.

Cash flows provided by operating activities. Cash flows provided by operating activities during 2022 were \$1.6 billion, compared to \$1.2 billion during 2021. Cash flows provided by operating activities during 2022 were primarily the result of certain adjustments to reconcile our net loss of \$1.2 billion to net cash provided by operating activities, including:

- an increase in reserve for claims and claim expenses of \$2.6 billion primarily resulting from net claims and claim expenses associated with the 2022 Weather-Related Large Losses;
- net realized and unrealized losses on investments of \$1.6 billion primarily driven by unrealized mark-to-market losses resulting from the significant increase in interest rates;
- an increase in unearned premiums of \$1.0 billion due to the growth in gross premiums written in the Casualty and Specialty segment;
- an increase in reinsurance balances payable of \$67.3 million principally driven by the issuance of non-voting preference shares to investors in Upsilon RFO, which are accounted for as prospective reinsurance and included in reinsurance balances payable on our consolidated balance sheet. See “Note 10. Variable Interest Entities” in our “Notes to the Consolidated Financial Statements” for additional information related to Upsilon RFO’s non-voting preference shares; partially offset by
- an increase in premiums receivable of \$1.4 billion due to the timing of receipts and increase in our gross premiums written;
- an increase in reinsurance recoverable of \$442.3 million due to the increase in net claims and claim expenses and recoverables associated with the 2022 Weather-Related Large Losses; and
- an increase of \$166.7 million in our prepaid reinsurance premiums due to the timing of payments.

Cash flows used in investing activities. During 2022, our cash flows *used in* investing activities were \$3.0 billion, principally reflecting net purchases of fixed maturity investments trading of \$2.8 billion, equity investments of \$202.3 million, and other investments of \$618.8 million, partially offset by cash flow from net sales of short term investments of \$640.4 million. The net purchases of fixed maturity investments trading was primarily funded by cash flows provided by operating activities, as described above, whereas the net purchase of other investments during 2022, was primarily driven by an increased allocation to catastrophe bonds and fund investments.

Cash flows provided by financing activities. Our cash flows *provided by* financing activities in 2022 were \$725.3 million, and were principally the result of:

- net inflows of \$1.0 billion primarily related to net third-party redeemable noncontrolling interest share transactions in Medici, DaVinci and Fontana; partially offset by

- the repurchase of 1.1 million of our common shares in open market transactions at an aggregate cost of \$162.8 million and an average price of \$155.00 per common share; and
- dividends paid on our common shares of \$64.7 million and on our preference shares of \$35.4 million.

2021

During 2021, our cash and cash equivalents increased by \$122.2 million, to \$1.9 billion at December 31, 2021, compared to \$1.7 billion at December 31, 2020.

Cash flows provided by operating activities. Cash flows provided by operating activities during 2021 were \$1.2 billion, compared to \$2.0 billion during 2020. Cash flows provided by operating activities during 2021 were primarily the result of certain adjustments to reconcile our net loss of \$103.4 million to net cash provided by operating activities, including:

- an increase in reserve for claims and claim expenses of \$2.9 billion primarily resulting from net claims and claim expenses associated with the 2021 Weather-Related Large Losses;
- an increase in unearned premiums of \$767.6 million due to the growth in gross premiums written across both our Property and Casualty and Specialty segments;
- an increase in reinsurance balances payable of \$372.6 million principally driven by the issuance of non-voting preference shares to investors in Upsilon RFO, which are accounted for as prospective reinsurance and included in reinsurance balances payable on our consolidated balance sheet. See “Note 11. Variable Interest Entities” in our “Notes to the Consolidated Financial Statements” for additional information related to Upsilon RFO’s non-voting preference shares; partially offset by
- an increase in reinsurance recoverable of \$1.3 billion due to the increase in net claims and claim expenses and recoverables associated with the 2021 Weather-Related Large Losses;
- an increase in premiums receivable of \$886.9 million due to the timing of receipts and increase in our gross premiums written;
- an increase of \$215.6 million in our deferred acquisition costs due to the growth in gross premiums written across both our Property and Casualty and Specialty segments;
- an increase of \$31.1 million in our prepaid reinsurance premiums due to an increase in ceded premiums written; and
- a decrease in other operating cash flows of \$437.2 million primarily reflecting subscriptions received in advance of the issuance of Upsilon RFO’s non-voting preference shares effective January 1, 2021, which were recorded in other liabilities at December 31, 2020. During 2021, in connection with the issuance of the non-voting preference shares of Upsilon RFO, other liabilities were reduced by the subscriptions received in advance, and reinsurance balances payable were increased by an offsetting amount, with corresponding impacts to other operating cash flows and the change in reinsurance balances payable, as noted above, on our consolidated statements of cash flows for 2021. See “Note 11. Variable Interest Entities” in our “Notes to the Consolidated Financial Statements” for additional information related to Upsilon RFO’s non-voting preference shares.

Cash flows used in investing activities. During 2021, our cash flows used in investing activities were \$816.3 million, principally reflecting net purchases of other investments of \$617.8 million, short term investments of \$252.8 million and fixed maturity investments trading of \$136.8 million, partially offset by cash flow from net sales of and equity investments of \$206.6 million. The net purchases of other investments, was primarily driven by an increased allocation to catastrophe bonds and fund investments, whereas the net purchases of short term investments and fixed maturity investments trading was primarily funded by cash flows provided by operating activities, as described above.

Cash flows used in financing activities. Our cash flows used in financing activities in 2021 were \$302.5 million, and were principally the result of:

- the repurchase of 6.6 million of our common shares in open market transactions at an aggregate cost of \$1.0 billion and an average price of \$156.78 per common share;

- the redemption of all 11 million of our outstanding 5.375% Series E Preference Shares on August 11, 2021 for \$275.0 million;
- dividends paid on our common and preference shares of \$67.8 million and \$32.9 million, respectively; and partially offset by
- net inflows of \$488.7 million associated with the issuance of 20 million of Depositary Shares (each representing 1/1000th interest in a share of our 4.20% Series G Preference Shares), net of expenses;
- net inflows of \$594.3 million primarily related to net third-party redeemable noncontrolling interest share transactions in DaVinci, Medici and Vermeer; and
- net inflows of \$30.0 million from the drawdown of the Medici Revolving Credit Facility. See “Note 9. Debt and Credit Facilities” in our “Notes to the Consolidated Financial Statements” for additional information related to the revolving credit facility available to Medici.

Capital Resources

We monitor our capital adequacy on a regular basis and seek to adjust our capital according to the needs of our business. In particular, we require capital sufficient to meet or exceed the capital adequacy ratios established by rating agencies for maintenance of appropriate financial strength ratings, the capital adequacy tests performed by regulatory authorities and the capital requirements under our credit facilities. From time to time, rating agencies may make changes in their capital models and rating methodologies, which could increase the amount of capital required to support our ratings. We may seek to raise additional capital or return capital to our shareholders through common share repurchases and cash dividends (or a combination of such methods). In the normal course of our operations, we may from time to time evaluate additional share or debt issuances given prevailing market conditions and capital management strategies, including for our operating subsidiaries, joint ventures and managed funds. In addition, as noted above, we enter into agreements with financial institutions to obtain letter of credit facilities for the benefit of our operating subsidiaries and certain of our joint ventures and managed funds in their reinsurance and insurance business.

Our total shareholders' equity attributable to RenaissanceRe and total debt was as follows:

At December 31, (in thousands)	2022	2021	Change
Common shareholders' equity	\$ 4,575,274	\$ 5,874,281	\$(1,299,007)
Preference shares	750,000	750,000	—
Total shareholders' equity attributable to RenaissanceRe	<u>\$ 5,325,274</u>	<u>\$ 6,624,281</u>	<u>\$(1,299,007)</u>
3.600% Senior Notes due 2029	\$ 394,221	\$ 393,305	\$ 916
3.450% Senior Notes due 2027	297,775	297,281	494
3.700% Senior Notes due 2025	299,168	298,798	370
4.750% Senior Notes due 2025 (DaVinci) ⁽¹⁾	149,278	148,969	309
Total senior notes	<u>1,140,442</u>	<u>1,138,353</u>	<u>2,089</u>
Medici Revolving Credit Facility ⁽²⁾	<u>30,000</u>	<u>30,000</u>	<u>—</u>
Total debt	<u>\$ 1,170,442</u>	<u>\$ 1,168,353</u>	<u>\$ 2,089</u>

(1) RenaissanceRe owns a noncontrolling economic interest in its joint venture DaVinci. Because RenaissanceRe controls a majority of DaVinci's issued voting shares, the consolidated financial statements of DaVinci are included in the consolidated financial statements of RenaissanceRe. However, RenaissanceRe does not guarantee or provide credit support for DaVinci and RenaissanceRe's financial exposure to DaVinci is limited to its investment in DaVinci's shares and counterparty credit risk arising from reinsurance transactions.

(2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici's outstanding issued voting shares, the financial statements of Medici are included in RenaissanceRe's consolidated financial statements. However, RenaissanceRe does not guarantee or provide credit support for Medici and RenaissanceRe's financial exposure to Medici is limited to its investment in Medici's shares and counterparty credit risk arising from reinsurance transactions.

Our shareholders' equity attributable to RenaissanceRe decreased \$1.3 billion during 2022 principally as a result of:

- our comprehensive loss attributable to RenaissanceRe of \$1.1 billion;
- the repurchase of 1.1 million common shares in open market transactions at an aggregate cost of \$162.8 million and an average price of \$155.00 per common share; and
- \$64.7 million and \$35.4 million of dividends on our common and preference shares, respectively.

For additional information related to the terms of our debt and significant credit facilities, see "Note 8. Debt and Credit Facilities" in our "Notes to the Consolidated Financial Statements." See "Note 11. Shareholders' Equity" in our "Notes to the Consolidated Financial Statements" for additional information related to our common and preference shares.

Reserve for Claims and Claim Expenses

We believe the most significant accounting judgment made by management is our estimate of claims and claim expense reserves. Claims and claim expense reserves represent estimates, including actuarial and statistical projections at a given point in time, of the ultimate settlement and administration costs for unpaid claims and claim expenses arising from the insurance and reinsurance contracts we sell. Our actual net claims and claim expenses paid will differ, perhaps materially, from the estimates reflected in our financial statements, which may adversely impact our financial condition, liquidity and capital resources.

Refer to "Note 7. Reserve for Claims and Claim Expenses" in our "Notes to the Consolidated Financial Statements" for more information on the risks we insure and reinsure, the reserving techniques, assumptions and processes we follow to estimate our claims and claim expense reserves, prior year development of the reserve for claims and claim expenses, analysis of our incurred and paid claims development and claims duration information for each of our Property and Casualty and Specialty segments. In addition, refer to "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Summary of Critical Accounting Estimates—Claims and Claim Expense Reserves" for more information on the reserving techniques, assumptions and processes we follow to estimate our claims and claim expense reserves, our current estimates versus our initial estimates of our claims reserves, and sensitivity analysis for each of our Property and Casualty and Specialty segments.

Investments

The table below shows our invested assets:

At December 31,	2022		2021		Change
(in thousands, except percentages)					
U.S. treasuries	\$ 7,180,129	32.3 %	\$ 6,247,779	29.1 %	\$ 932,350
Corporate ⁽¹⁾	\$ 4,390,568	19.8 %	\$ 3,689,286	17.2 %	\$ 701,282
Agencies	395,149	1.8 %	361,684	1.7 %	33,465
Non-U.S. government	383,838	1.7 %	549,613	2.6 %	(165,775)
Residential mortgage-backed	710,429	3.2 %	955,301	4.5 %	(244,872)
Commercial mortgage-backed	213,987	1.0 %	634,925	3.0 %	(420,938)
Asset-backed	1,077,302	4.8 %	1,068,543	5.0 %	8,759
Total fixed maturity investments, at fair value	14,351,402	64.6 %	13,507,131	63.1 %	844,271
Short term investments, at fair value	4,669,272	21.0 %	5,298,385	24.7 %	(629,113)
Equity investments, at fair value	625,058	2.8 %	546,016	2.5 %	79,042
Catastrophe bonds	1,241,468	5.6 %	1,104,034	5.1 %	137,434
Fund investments	1,086,706	4.9 %	725,802	3.4 %	360,904
Term loans	100,000	0.5 %	74,850	0.3 %	25,150
Direct private equity investments	66,780	0.3 %	88,373	0.4 %	(21,593)
Total other investments, at fair value	2,494,954	11.3 %	1,993,059	9.2 %	501,895
Investments in other ventures, under equity method	79,750	0.3 %	98,068	0.5 %	(18,318)
Total investments	<u>\$22,220,436</u>	<u>100.0 %</u>	<u>\$21,442,659</u>	<u>100.0 %</u>	<u>\$ 777,777</u>

(1) Corporate fixed maturity investments include non-U.S. government-backed corporate fixed maturity investments.

We structure our investment portfolio to emphasize the preservation of capital and the availability of liquidity to meet our claims obligations, to be well diversified across market sectors, and to generate relatively attractive returns on a risk-adjusted basis over time. Notwithstanding the foregoing, our investments are subject to market-wide risks and fluctuations, as well as to risks inherent in particular securities. For additional information regarding our investments and the fair value measurement of our investments refer to "Note 4. Investments" and "Note 5. Fair Value Measurements" in our "Notes to the Consolidated Financial Statements."

As the reinsurance coverages we sell include substantial protection for damages resulting from natural and man-made catastrophes, as well as for potentially large casualty and specialty exposures, we expect from time to time, to become liable for substantial claim payments on short notice. Accordingly, our investment portfolio as a whole is structured to seek to preserve capital and provide a high level of liquidity, which means that the large majority of our investments are highly rated fixed income securities, including U.S. treasuries, agencies, highly rated sovereign and supranational securities, high-grade corporate securities and mortgage-backed and asset-backed securities. We also have an allocation to publicly traded equities reflected on our consolidated balance sheet as equity investments and an allocation to other investments (including catastrophe bonds, direct private equity investments, fund investments and term loans).

The following table summarizes the composition of our investment portfolio, including the amortized cost, fair value, credit ratings and effective yields.

		Credit Rating ⁽¹⁾						Investments not subject to credit ratings
	Fair Value	AAA	AA	A	BBB	Non- Investment Grade	Not Rated	
December 31, 2022								
Fixed maturity investments trading, at fair value								
U.S. treasuries	\$ 7,180,129	\$ 20,532	\$7,159,597	\$ —	\$ —	\$ —	\$ —	\$ —
Corporate ⁽²⁾	4,390,568	191,679	393,590	1,367,062	1,426,758	975,818	35,661	—
Agencies	395,149	36,018	359,131	—	—	—	—	—
Non-U.S. government	383,838	151,726	219,250	8,922	2,802	1,138	—	—
Residential mortgage-backed	710,429	41,631	513,674	1,936	7,664	92,087	53,437	—
Commercial mortgage-backed	213,987	162,358	31,675	875	11,113	4,400	3,566	—
Asset-backed	1,077,302	693,998	196,642	63,222	42,347	73,551	7,542	—
Total fixed maturity investments trading, at fair value	14,351,402	1,297,942	8,873,559	1,442,017	1,490,684	1,146,994	100,206	—
Short term investments, at fair value	4,669,272	4,641,616	24,751	1,292	677	366	570	—
Equity investments, at fair value								
Fixed income exchange traded funds ⁽³⁾	295,481	—	—	8,405	201,112	85,964	—	—
Other equity investments	329,577	—	—	—	—	—	—	329,577
Total equity investments, at fair value	625,058	—	—	8,405	201,112	85,964	—	329,577
Other investments, at fair value								
Catastrophe bonds	1,241,468	—	—	—	—	1,241,468	—	—
Fund investments:								
Private credit funds	771,383	—	—	—	—	—	—	771,383
Private equity funds	315,323	—	—	—	—	—	—	315,323
Term loans	100,000	—	—	100,000	—	—	—	—
Direct private equity investments	66,780	—	—	—	—	—	—	66,780
Total other investments, at fair value	2,494,954	—	—	100,000	—	1,241,468	—	1,153,486
Investments in other ventures, under equity method	79,750	—	—	—	—	—	—	79,750
Total investments	\$22,220,436	\$5,939,558	\$8,898,310	\$1,551,714	\$1,692,473	\$2,474,792	\$100,776	\$1,562,813
	100.0 %	26.7 %	40.1 %	7.0 %	7.6 %	11.1 %	0.5 %	7.0 %

- (1) The credit ratings included in this table are those assigned by Standard & Poor's Corporation ("S&P"). When ratings provided by S&P were not available, ratings from other recognized rating agencies were used. The Company has grouped short term investments with an A-1+ and A-1 short term issue credit rating as AAA, short term investments with an A-2 short term issue credit rating as AA and short term investments with an A-3 short term issue credit rating as A.
- (2) Corporate fixed maturity investments include non-U.S. government-backed corporate fixed maturity investments.
- (3) The credit ratings included in this table are based on the credit rating of the underlying investment held in the exchange traded funds.

Fixed Maturity Investments and Short Term Investments

At December 31, 2022, our fixed maturity investments and short term investment portfolio had a weighted average credit quality rating of AA (2021 – AA) and a weighted average effective yield of 5.0% (2021 – 1.2%). At December 31, 2022, our non-investment grade and not-rated fixed maturity investments totaled \$1.2 billion or 8.7% of our fixed maturity investments (2021 - \$1.3 billion or 9.7%, respectively). In addition, within our other investments category we have funds that invest in non-investment grade and not-rated fixed income securities and non-investment grade cat-linked securities. At December 31, 2022, the funds that invest in non-investment grade and not-rated fixed income securities and non-investment grade cat-linked securities totaled \$2.0 billion (2021 – \$1.8 billion).

At December 31, 2022, we had \$4.7 billion of short term investments (2021 – \$5.3 billion). Short term investments are managed as part of our investment portfolio and have a maturity of one year or less when purchased. Short term investments are carried at fair value. The decrease in our allocation to short term investments at December 31, 2022, compared to December 31, 2021, was principally driven by increased allocations to U.S. treasuries.

The duration of our fixed maturity investments and short term investments at December 31, 2022 was 2.7 years (2021 - 3.0 years). From time to time, we may reevaluate the duration of our portfolio in light of the duration of our liabilities and market conditions.

The value of our fixed maturity investments will fluctuate with changes in the interest rate environment and when changes occur in economic conditions or the investment markets. Additionally, our differing asset classes expose us to other risks which could cause a reduction in the value of our investments.

Equity Investments

The following table summarizes the fair value of equity investments:

<u>At December 31,</u>	<u>2022</u>	<u>2021</u>	<u>Change</u>
(in thousands)			
Fixed income exchange traded funds	\$ 295,481	\$ 90,422	\$ 205,059
Financials	103,250	146,615	(43,365)
Equity exchange traded funds	90,510	114,919	(24,409)
Communications and technology	48,687	82,444	(33,757)
Consumer	33,447	51,083	(17,636)
Industrial, utilities and energy	25,326	26,645	(1,319)
Healthcare	24,617	28,796	(4,179)
Basic materials	3,740	5,092	(1,352)
Total equity investments	<u>\$ 625,058</u>	<u>\$ 546,016</u>	<u>\$ 79,042</u>

A portion of our investments included in equity investments is managed pursuant to diversified public equity securities mandates with third-party investment managers. In addition, our equity investments include more concentrated public equity positions that we invest in through our strategic investment portfolio. These investments are subject to a variety of risks including: company performance, the availability of strategic investment opportunities, and macro-economic, industry, and systemic risks of the equity markets overall. Consequently, the carrying value of our investment portfolio will vary over time as the value or size of our portfolio of strategic investments in marketable equity securities fluctuates. It is possible we will increase our equity allocation in the future, and it could, from time to time, have a material effect on our financial results.

Other Investments

The table below shows our portfolio of other investments:

At December 31,	2022	2021	Change
(in thousands)			
Catastrophe bonds	\$ 1,241,468	\$ 1,104,034	\$ 137,434
Fund investments	1,086,706	725,802	360,904
Term loans	100,000	74,850	25,150
Direct private equity investments	66,780	88,373	(21,593)
Total other investments	<u>\$ 2,494,954</u>	<u>\$ 1,993,059</u>	<u>\$ 501,895</u>

We account for our other investments at fair value in accordance with FASB ASC Topic *Financial Instruments*. The fair value of our fund investments, which include private equity funds, private credit funds and hedge funds, is recorded on our consolidated balance sheet in other investments, and is generally established on the basis of the net asset value per share (or its equivalent), determined by the managers of these investments in accordance with the applicable governing documents. Many of our fund investments are subject to restrictions on redemptions and sales which limit our ability to liquidate these investments in the short term.

Our fund managers and their fund administrators are generally unable to provide final fund valuations as of our current reporting date. We typically experience a reporting lag to receive a final net asset value report of one month for our hedge funds and three months for both private equity funds and private credit funds, although we have occasionally experienced delays of up to six months, particularly at year end. In circumstances where there is a reporting lag, we estimate the fair value of these funds by starting with the prior month or quarter-end fund valuation, adjusting these valuations for actual capital calls, redemptions or distributions, as well as the impact of changes in foreign currency exchange rates, and then estimating the return for the current period. This principally includes using preliminary estimates reported to us by our fund managers, where available, and estimating returns based on the performance of broad market indices, or other valuation methods. Actual final fund valuations may differ, perhaps materially, from our estimates and these differences are recorded in our consolidated statement of operations in the period in which they are reported to us as a change in estimate. Net income of \$19.8 million (2021 - \$7.0 million) is recorded between net investment income and net realized and unrealized gains (losses) on investments for 2022, representing the change in estimate during the period related to the difference between our estimate recorded on December 31, 2021 (2021 - December 31, 2020) due to the lag in reporting discussed above, and the actual amount reported in the final net asset values provided by our fund managers in the current year.

Our estimate of the fair value of catastrophe bonds is based on quoted market prices or, when such prices are not available, by reference to broker or underwriter bid indications. Refer to “Note 5. Fair Value Measurements” in our “Notes to the Consolidated Financial Statements” for additional information regarding the fair value measurement of our investments.

We have committed capital to direct private equity investments, fund investments, term loans, and investments in other ventures of \$2.9 billion, of which \$1.7 billion has been contributed at December 31, 2022 (2021 - \$2.7 billion and \$1.3 billion, respectively). Our remaining commitments to these investments at December 31, 2022 totaled \$1.2 billion (2021 - \$1.4 billion). In the future, we may enter into additional commitments in respect of these investments or individual portfolio company investment opportunities.

Investments in Other Ventures, under Equity Method

The table below shows our investments in other ventures, under equity method:

At December 31, (in thousands, except percentages)	2022			2021		
	Investment	Ownership %	Carrying Value	Investment	Ownership %	Carrying Value
Tower Hill Companies	\$ 78,698	2.0% - 25.0%	\$ 10,897	\$ 78,698	2.0% - 25.0%	\$ 25,575
Top Layer	65,375	50.0 %	23,562	65,375	50.0 %	25,903
Other	47,517	22.8 %	45,291	46,698	22.4 %	46,590
Total investments in other ventures, under equity method	<u>\$ 191,590</u>		<u>\$ 79,750</u>	<u>\$ 190,771</u>		<u>\$ 98,068</u>

The equity in earnings of the Tower Hill Companies and other ventures, under the equity method, are reported one quarter in arrears and Top Layer is reported on a current quarter basis. The realized value we ultimately attain for our investments in other ventures, under equity method will likely differ from the carrying value, perhaps materially.

Ratings

Financial strength ratings are important to the competitive position of reinsurance and insurance companies. We have received high long-term issuer credit and financial strength ratings and scores from A.M. Best, S&P, Moody's and Fitch, as applicable. These ratings represent independent opinions of an insurer's financial strength, operating performance and ability to meet policyholder obligations, and are not an evaluation directed toward the protection of investors or a recommendation to buy, sell or hold any of our securities. Rating organizations continually review the financial positions of our principal operating subsidiaries and joint ventures and ratings may be revised or revoked by the agencies which issue them. Additionally, rating organizations may change their rating methodology, which could have a material impact on our financial strength ratings.

In addition, S&P and A.M. Best assess companies' ERM practices, which is an opinion on the many critical dimensions of risk that determine overall creditworthiness. RenaissanceRe has been assigned an ERM score of "Very Strong" from each of these agencies, which is the highest ERM score assigned.

The ratings of our principal operating subsidiaries and joint ventures and the ERM score of RenaissanceRe as of February 3, 2023 are presented below.

	A.M. Best (1)	S&P (2)	Moody's (3)	Fitch (4)
Renaissance Reinsurance Ltd.	A+	A+	A1	A+
DaVinci Reinsurance Ltd.	A	A+	A3	—
Fontana Reinsurance Ltd.	A	—	—	—
Fontana Reinsurance U.S. Ltd.	A	—	—	—
Renaissance Reinsurance of Europe Unlimited Company	A+	A+	—	—
Renaissance Reinsurance U.S. Inc.	A+	A+	—	—
RenaissanceRe Europe AG	A+	A+	—	—
RenaissanceRe Specialty U.S. Ltd.	A+	A+	—	—
Top Layer Reinsurance Ltd.	A+	AA	—	—
Vermeer Reinsurance Ltd.	A	—	—	—
RenaissanceRe Syndicate 1458	—	—	—	—
Lloyd's Overall Market Rating	A	A+	—	AA-
RenaissanceRe ERM Score	Very Strong	Very Strong	—	—

- (1) The A.M. Best ratings for our principal operating subsidiaries and joint ventures represent the insurer's financial strength rating. The Lloyd's Overall Market Rating represents RenaissanceRe Syndicate 1458's financial strength rating. RenaissanceRe has been assigned a "Very Strong" ERM score by A.M. Best.
- (2) The S&P ratings for our principal operating subsidiaries and joint ventures represent the insurer's financial strength rating and the issuer's long-term issuer credit rating. The Lloyd's Overall Market Rating represents RenaissanceRe Syndicate 1458's financial strength rating. RenaissanceRe has been assigned a "Very Strong" ERM score by S&P.
- (3) The Moody's ratings represent the insurer's financial strength rating.
- (4) The Fitch rating for Renaissance Reinsurance represents the insurer's financial strength rating. The Lloyd's Overall Market Rating represents Syndicate 1458's financial strength rating.

A.M. Best

The outlook for all of our A.M. Best ratings is stable. "A+" is the second highest designation of A.M. Best's rating levels. "A+" rated insurance companies are defined as "Superior" companies and are considered by A.M. Best to have a very strong ability to meet their obligations to policyholders. "A" is the third highest designation assigned by A.M. Best, representing A.M. Best's opinion that the insurer has an "Excellent" ability to meet its ongoing obligations to policyholders.

S&P

The outlook for all of our S&P ratings is stable. The "A" range ("A+", "A", "A-"), which is the third highest rating assigned by S&P, indicates that S&P believes the insurers have strong capacity to meet their respective financial commitments but they are somewhat more susceptible to adverse effects or changes in circumstances and economic conditions than insurers rated higher.

Moody's

The outlook for all of our Moody's ratings is stable. Moody's Insurance Financial Strength Ratings represent its opinions of the ability of insurance companies to pay punctually policyholder claims and obligations and senior unsecured debt instruments. Moody's believes that insurance companies rated "A1" and "A3" offer good financial security.

Fitch

The outlook for all of our Fitch ratings is stable. Fitch believes that insurance companies rated “A+” have “Strong” capacity to meet policyholders and contract obligations on a timely basis with a low expectation of ceased or interrupted payments. Insurers rated “AA-” by Fitch are believed to have a very low expectation of ceased or interrupted payments and very strong capital to meet policyholder obligations.

Lloyd’s Overall Market Rating

A.M. Best, S&P and Fitch have each assigned a financial strength rating to the Lloyd’s overall market. The financial risks to policy holders of syndicates within the Lloyd’s market are partially mutualized through the Lloyd’s Central Fund, to which all underwriting members contribute. Because of the presence of the Lloyd’s Central Fund, and the current legal and regulatory structure of the Lloyd’s market, financial strength ratings on individual syndicates would not be particularly meaningful and in any event would not be lower than the financial strength rating of the Lloyd’s overall market.

SUPPLEMENTAL GUARANTOR FINANCIAL INFORMATION

RenaissanceRe Finance, a 100% owned subsidiary of RenaissanceRe, is the issuer of certain 3.700% Senior Notes due 2025 and 3.450% Senior Notes due 2027, each of which are fully and unconditionally guaranteed by RenaissanceRe. The guarantees are senior unsecured obligations of RenaissanceRe and rank equally in right of payment with all other existing and future unsecured and unsubordinated indebtedness of RenaissanceRe which may be outstanding from time to time. Each series of notes contain various covenants, including limitations on mergers and consolidations, and restrictions as to the disposition of, and the placing of liens on, stock of designated subsidiaries. For additional information related to the terms of our outstanding debt securities, see “Note 8. Debt and Credit Facilities” included herein.

The following tables present supplemental summarized financial information for RenaissanceRe and RenaissanceRe Finance, collectively the “Obligor Group.” Intercompany transactions among the members of the Obligor Group have been eliminated. The financial information of non-obligor subsidiaries has been excluded from the summarized financial information. Significant intercompany transactions and receivable/payable balances between the Obligor Group and non-obligor subsidiaries are presented separately in the summarized financial information:

Summarized Balance Sheets

<u>At December 31,</u>	<u>2022</u>
(in thousands)	
Assets	
Receivables due from non-obligor subsidiaries	\$ 370,219
Other current assets	216,909
Total current assets	\$ 587,128
Goodwill and other intangibles	\$ 104,718
Loan receivable from non-obligor subsidiaries	874,721
Other noncurrent assets	186,279
Total noncurrent assets	\$ 1,165,718
Liabilities	
Payables due to non-obligor subsidiaries	\$ 16,049
Other current liabilities	95,792
Total current liabilities	\$ 111,841
Loan payable to non-obligor subsidiaries	\$ 201,380
Other noncurrent liabilities	1,092,728
Total noncurrent liabilities	\$ 1,294,108

Summarized Statement of Operations

<u>Year ended December 31,</u>	<u>2022</u>
(in thousands)	
Revenues	
Intercompany revenue with non-obligor subsidiaries	\$ 33,914
Other revenue	645
Total revenues	34,559
Expenses	
Intercompany expense with non-obligor subsidiaries	24,262
Other expense	(15,527)
Total expenses	8,735
Income tax benefit (expense)	2,380
Net income (loss)	28,204
Dividends on RenaissanceRe preference shares	(8,844)
Net income (loss) attributable to Obligor Group	\$ 19,360

CURRENT OUTLOOK

We remain committed to being a global property, casualty and specialty reinsurer that operates at scale and as a leader in underwriting property catastrophe risk. We believe that this position is a critical link in the insurance value chain, where we have a competitive position. Over the last 10 years, we have made key strategic decisions to build the capabilities and scale that we believe will allow us to generate superior and sustainable long-term returns in an evolving marketplace.

Over time, we have diversified our sources of capital through various owned and managed balance sheets as well as equity, debt and insurance-linked securities markets, and we have expanded our business by adding new products, platforms, capabilities and customers. These actions have contributed to a diversification of earnings streams for our business, aid us in generating our three drivers of profit – underwriting income, fee income and investment income – and support our strategic position as a global

property, casualty and specialty reinsurer. We believe that our three drivers of profit are well positioned to set us up for success in 2023.

We believe that our understanding of volatility places us in a preferred position to accept risk, and we continue to see strong opportunities for growth across our portfolio. We think that our strategic commitment to reinsurance enhances our value proposition to customers because our reinsurance participation is consistent and broad, and our focus on reinsurance minimizes potential channel conflict with our customers.

We think that we are uniquely positioned to write a variety of risks, leveraging the enhancements we have made over the last several years to our risk and capital management technology and underwriting expertise to cover additional lines of business. We plan to continue to seek to take advantage of additional available opportunities and think that strategic decisions we have made in prior periods have laid the foundation for these initiatives. We believe that our clients value our ability to be a long-term partner who brings access to multiple forms of capital and innovative, large-scale solutions, and we are unique among our peers in that we have both owned and managed, and rated and fronted, vehicles across the risks that we write.

Moving forward, we expect to benefit from certain tailwinds, including the recent increases in reinsurance rates, growth in our Capital Partners unit and increased investment income. We also believe that we are reaping the benefits of higher operating leverage resulting from the investments that we have made in growing the scale of our business.

Reinsurance Market Trends and Developments

The January 1 renewals provided an opportunity to reset the relationship between insurers and reinsurers. This aligns with our expectations following the impact of Hurricane Ian and other recent catastrophes in the latter half of 2022. We believe that there was a structural shift at the January 1 renewals that should allow us to achieve the risk-adjusted returns that our investors require while providing the access to reliable, high-quality capital that our customers need. To achieve our vision, we need to be able to offset the volatility that our underwriting business brings with superior long-term returns. However, as our business has continued to diversify, some of the volatility that our earnings experience from natural catastrophe losses has lessened.

We set firm goals going into the January 1 renewals and believe that we successfully achieved what we set out to accomplish. The continued effects of climate change, inflation and the increasing occurrence of secondary perils drove changes in market dynamics. We believe that we took advantage of the opportunities that were presented, and through the successful execution of our gross-to-net strategy, significantly improved the efficiency of our portfolio.

Given the impact of catastrophes and trapped collateral reducing available collateral, including catastrophe bonds, there was dislocation in the retrocessional market, with retrocession less available and more expensive. Even in a challenging retrocessional market, in line with our gross-to-net strategy, we were able to obtain more coverage than anticipated due to our strong relationships and long track record.

Three Drivers of Profit

Underwriting Income

In line with the reset at the January 1 renewals, we saw rates increase across multiple lines of business that we write in both segments. We expect attractive opportunities to continue in 2023, and believe that we are in a strong position to take advantage of them due to: (i) our capital position; (ii) our ability to deploy excess capital; (iii) our status as one of the largest writers of property catastrophe risk and ability to anchor programs off of that position; and (iv) increased demand for property catastrophe risk at the upper ends of programs where we have capacity. We expect that these increases in rate may allow us to increase our underwriting income.

Property

Several large events impacted the property market during 2022, including Hurricane Ian. With the global impact of climate change, we expect the frequency and severity of perils such as drought, flood, rain, hail and wildfire to continue at the elevated levels we have seen in recent years. We think that expected losses, cost of capital and inherent volatility in this business are all increasing, which have created favorable pricing trends. Commensurate with the level of volatility that it absorbs, we think that property catastrophe risk

should be a highly profitable business line. As expected, these factors provided attractive opportunities at the January 1 renewals with increasing rate trends.

The January 1 renewals were characterized by significant supply and demand imbalances for property catastrophe reinsurance which led to a late renewal and resulted in an increase in rates, along with a tightening of terms and conditions. This benefited us because we have the unique capital flexibility and underwriting expertise to allow us to execute into a shifting market to build a portfolio that we believe has increased expected profitability, reduced risk and resulted in better diversification.

A byproduct of the rate increases was that some insurers determined to retain additional risk rather than pay additional rate. We anticipate that some of this risk will return to the reinsurance market as macroeconomic factors, such as inflation and climate change, continue to contribute to overall risk.

While we view the January 1 renewals as a success, a significant portion of the most dislocated part of the property catastrophe market, U.S. risk, does not renew until mid-year. We expect that the increased rates that we saw at the January 1 renewal will persist through 2023 and believe that we have ample capital to deploy to continue our growth. Looking ahead, we may begin to strategically shift some of our focus from the other property class of business to the property catastrophe class of business, which is exhibiting increasingly attractive opportunities.

Casualty and Specialty

The renewal in our Casualty and Specialty segment was also successful. We saw rate increases in many specialty classes and made progress on reducing ceding commissions in traditional casualty lines. We believe that our book of business continues to reflect the rate improvements that we have seen over the past several years, and should provide a consistent and stable source of underwriting income. We think that our prior work building strong relationships with key customers allowed us to gain superior access to desirable business.

We continue to see opportunities across multiple lines of business and geographies within our Casualty and Specialty segment, and we have expanded participation on multiple casualty and specialty lines. Across various classes we saw a positive movement in terms and conditions, and there were several dislocated markets that provided opportunities for us to lead business that we believe will be profitable. For lines of business where the expected margins did not meet our internal hurdle rates, we scaled back our exposure.

Fee Income

We take a differentiated approach to our Capital Partners business, with a focus on first sourcing the risks that we intend to write, and then matching it with the appropriate third-party capital. This approach, combined with our historical alignment with third-party investors in our joint ventures and managed funds has allowed us to successfully increase the size of our Capital Partners business in a challenging environment. We view the Capital Partners business as a permanent part of our strategic positioning.

We believe that compared to our other drivers of profit, fee income, particularly management fee income, provides a relatively stable and lower volatility source of income. Management fees are fees that we receive for the day-to-day management and oversight of our joint venture vehicles and managed funds, and as we continue to manage increasing amounts of capital on behalf of our third-party investors, we expect that they can increase. Performance fees are based on the performance of the individual vehicles or products, and while depressed during 2022 as a result of past natural catastrophe activity, we believe that they can begin to recover in 2023.

Investment Income

Over the course of 2022, we experienced significant mark-to-market losses in our investment portfolio. However, as a result of high-quality assets that compose our investment portfolio, we anticipate that we will be able to earn back most of these losses over time through a combination of accretion to par and increased net investment income as we undertake portfolio management to reinvest in assets with higher coupons.

Moving forward, we expect that the general increase in interest rates in the market should aid us in increasing our net investment income as the majority of our investments are highly-rated fixed income securities.

General Economic Conditions

We believe the stresses in the global economy will continue and that this may result in increased market volatility. Global events, including the COVID-19 pandemic, the war in Ukraine and global supply chain issues have contributed to widespread economic inflation. We consider the anticipated effects of inflation, including social, economic, and event-driven, in our catastrophe loss models, on our investment portfolio, and generally in the running of our business, and have enhanced our inflation framework to proactively monitor this trend.

Many central banks have raised interest rates, which could act as a countervailing force against some inflationary pressures. Historic increases in interest rates have driven significant short-term mark-to-market losses in our investment portfolio. However, we expect to see an increase in net investment income from our investment portfolio as interest rates have risen, and a reversal of the mark-to-market losses from accretion to par for certain securities that we hold to maturity.

The effects of interest rate trends on our reinsurance and insurance business could be magnified for longer-tail business lines that are more inflation-sensitive, particularly in our Casualty and Specialty segment, and in our other property class of business within our Property segment.

The risk of a global recession is a continuing concern. However, we believe that our business model is well positioned to be less sensitive to an inflationary or recessionary environment. This type of environment may increase demand for reinsurance by reducing the supply and increasing the cost of capital, and adjusting customers' risk tolerances. Consequently, reinsurance rates may rise while becoming more competitive as compared to other forms of risk capital.

See the "Risk Factors" section in our Form 10-K for additional information on factors that could cause our actual results to differ materially from those in the forward-looking statements contained in this Form 10-K and other documents we file with the SEC.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The following risk management discussion and the estimated amounts generated from sensitivities presented are forward-looking statements of market risk assuming certain market conditions occur. Actual results in the future may differ materially from these estimated results due to, among other things, actual developments in the global financial markets and changes in the composition of our investment portfolio, derivatives and product offerings. The results of analysis used by us to assess and mitigate risk should not be considered projections of future events or losses. Refer to "Note On Forward-Looking Statements" for additional discussion regarding forward-looking statements included herein.

We are principally exposed to four types of market risk: interest rate risk; foreign currency risk; credit risk; and equity price risk. Our policies to address these risks in 2022 were not materially different than those used in 2021.

Our investment guidelines permit, subject to approval, investments in derivative instruments such as futures, options, foreign currency forward contracts and swap agreements, which may be used to assume risks or for hedging purposes. Refer to "Note 18. Derivative Instruments" in our "Notes to the Consolidated Financial Statements" for additional information related to derivatives we have entered into.

Interest Rate Risk

Interest rate risk is the price sensitivity of a security to changes in interest rates. Our investment portfolio includes fixed maturity investments and short term investments, as well as private credit funds and term loans which primarily invest in debt instruments. The fair values of these investments will fluctuate with changes in interest rates. As a result, we are exposed to interest rate risk with respect to our overall net economic asset position, and also from an accounting standpoint since the assets are carried at fair value.

We may utilize derivative instruments, for example via interest rate overlay strategies, to manage or optimize our duration and treasury curve exposures. In addition, we attempt to maintain adequate liquidity in our fixed maturity investments portfolio to fund operations, pay reinsurance and insurance liabilities and claims and provide funding for unexpected events.

The following tables summarize the aggregate hypothetical increase (decrease) in fair value of our fixed maturity investment and short term investments, private credit funds and term loans from an immediate parallel shift in the treasury yield curve, assuming credit spreads remain constant, reflecting the use of an immediate time horizon since this presents the worst-case scenario:

At December 31, 2022 (in thousands, except percentages)	Interest Rate Shift in Basis Points				
	-100	-50	Base	50	100
Fair value of fixed maturity and short term investments			\$19,020,674		
Fair value of private credit funds			771,383		
Fair value of term loans			100,000		
Total fair value	\$20,383,013	\$20,131,215	\$19,892,057	\$19,655,793	\$19,409,094
Net increase (decrease) in fair value	\$ 490,956	\$ 239,158	\$ —	\$ (236,264)	\$ (482,963)
Percentage change in fair value	2.5 %	1.2 %	— %	(1.2)%	(2.4)%

At December 31, 2021 (in thousands, except percentages)	Interest Rate Shift in Basis Points				
	-100	-50	Base	50	100
Fair value of fixed maturity and short term investments			\$18,805,516		
Fair value of private credit funds			473,112		
Fair value of term loans			74,850		
Total fair value	\$19,848,073	\$19,600,750	\$19,353,478	\$19,106,257	\$18,859,086
Net increase (decrease) in fair value	\$ 494,595	\$ 247,272	\$ —	\$ (247,221)	\$ (494,392)
Percentage change in fair value	2.6 %	1.3 %	— %	(1.3)%	(2.6)%

As noted above, we use derivative instruments, primarily interest rate futures and interest rate swaps, within our portfolio of fixed maturity investments to manage our exposure to interest rate risk, which can include increasing or decreasing our exposure to this risk. At December 31, 2022, we had \$2.4 billion of notional long positions and \$0.5 billion of notional short positions of primarily U.S. Treasury futures contracts (2021 - \$2.2 billion and \$0.5 billion, respectively). Refer to “Note 18. Derivative Instruments” in our “Notes to the Consolidated Financial Statements” for additional information related to interest rate futures and swaps entered into by us.

At December 31, 2022, the aggregate hypothetical impact of an immediate upward parallel shift in the treasury yield curve of 100 basis points would be a decrease in the market value of our net position in interest rate futures of approximately \$40.8 million. Conversely, at December 31, 2022, the aggregate hypothetical impact of an immediate downward parallel shift in the treasury yield curve of 100 basis points would be an increase in the market value of our net position in interest rate futures of approximately \$41.9 million. The foregoing reflects the use of an immediate time horizon, since this presents the worst-case scenario. Credit spreads are assumed to remain constant in these hypothetical examples.

Foreign Currency Risk

Our functional currency for consolidated reporting purposes is the U.S. dollar. We routinely write a portion of our business in currencies other than U.S. dollars and invest a portion of our cash and investment portfolio

in those currencies. In addition, certain of our entities have, or have had, non-U.S. dollar functional currencies. As a result, we may experience foreign exchange gains and losses in our consolidated financial statements. We are primarily impacted by the foreign currency risk exposures noted below, and may, from time to time, enter into foreign currency forward and option contracts to minimize the effect of fluctuating foreign currencies on the value of non-U.S. dollar denominated assets and liabilities. Refer to “Note 18. Derivative Instruments” in our “Notes to the Consolidated Financial Statements” for additional information related to foreign currency forward and option contracts we have entered into.

Underwriting Operations

Our foreign currency policy with regard to our underwriting operations is generally to enter into foreign currency forward and option contracts for notional values that approximate the foreign currency liabilities, including claims and claim expense reserves and reinsurance balances payable, net of any cash, investments and receivables held in the respective foreign currency. Our use of foreign currency forward and option contracts is intended to minimize the effect of fluctuating foreign currencies on the value of non-U.S. dollar denominated assets and liabilities associated with our underwriting operations. We may determine not to match a portion of our projected underwriting related assets or liabilities with underlying foreign currency exposure with investments in the same currencies, which would increase our exposure to foreign currency fluctuations and potentially increase the impact and volatility of foreign exchange gains and losses on our results of operations.

Investment Portfolio

Our investment portfolio is exposed to currency fluctuations through our investments in non-U.S. dollar fixed maturity investments, short term investments and other investments. To economically hedge our exposure to currency fluctuations from these investments, we may enter into foreign currency forward contracts. In certain instances, we may assume foreign exchange risk as part of our investment strategy. Realized and unrealized foreign exchange gains or losses from the sale of our non-U.S. dollar fixed maturity investments trading and other investments, and foreign exchange gains or losses associated with our hedging of these non-U.S. dollar investments are recorded in net foreign exchange gains (losses) in our consolidated statements of operations. In the future, we may choose to increase our exposure to non-U.S. dollar investments.

The following tables summarize the principal currencies creating foreign exchange risk for us and our net foreign currency exposures and the impact of a hypothetical 10% change in our net foreign currency exposure, keeping all other variables constant, as of the dates indicated:

At December 31, 2022	AUD	CAD	EUR	GBP	JPY	NZD	Other	Total
(in thousands, except for percentages)								
Net assets (liabilities) denominated in foreign currencies	\$76,323	\$34,834	\$(434,498)	\$(138,642)	\$ (11,361)	\$ 4,335	\$(74,592)	\$(543,601)
Net foreign currency derivatives notional amounts	(62,818)	(19,645)	424,007	107,499	36,192	(1,617)	65,124	548,742
Total net foreign currency exposure	<u>\$13,505</u>	<u>\$15,189</u>	<u>\$(10,491)</u>	<u>\$(31,143)</u>	<u>\$ 24,831</u>	<u>\$ 2,718</u>	<u>\$ (9,468)</u>	<u>\$ 5,141</u>
Net foreign currency exposure as a percentage of total shareholders' equity attributable to RenaissanceRe	0.3 %	0.3 %	(0.2)%	(0.6)%	0.5 %	0.1 %	(0.2)%	0.1 %
Impact of a hypothetical 10% change in total net foreign currency exposure	\$ (1,351)	\$(1,519)	\$ 1,049	\$ 3,114	\$ (2,483)	\$ (272)	\$ 947	\$ (514)

At December 31, 2021	AUD	CAD	EUR	GBP	JPY	NZD	Other	Total
(in thousands, except for percentages)								
Net (liabilities) assets denominated in foreign currencies	\$92,683	\$59,000	\$(372,987)	\$(322,628)	\$ 4,053	\$ (20,167)	\$(74,000)	\$(634,046)
Net foreign currency derivatives notional amounts	(108,168)	(58,725)	369,335	327,339	(313)	19,760	56,052	605,280
Total net foreign currency exposure	<u>\$(15,485)</u>	<u>\$ 275</u>	<u>\$ (3,652)</u>	<u>\$ 4,711</u>	<u>\$ 3,740</u>	<u>\$ (407)</u>	<u>\$(17,948)</u>	<u>\$ (28,766)</u>
Net foreign currency exposure as a percentage of total shareholders' equity attributable to RenaissanceRe	(0.2)%	— %	(0.1)%	0.1 %	0.1 %	— %	(0.3)%	(0.4)%
Impact of a hypothetical 10% change in total net foreign currency exposure	\$ 1,549	\$ (28)	\$ 365	\$ (471)	\$ (374)	\$ 41	\$ 1,795	\$ 2,877

Credit Risk

Credit risk relates to the uncertainty of a counterparty's ability to make timely payments in accordance with contractual terms of the instrument or contract and market risk associated with changes in credit spreads. We are primarily exposed to direct credit risk within our portfolios of fixed maturity and short term

investments, and through customers and reinsurers in the form of premiums receivable and reinsurance recoverable, respectively, as discussed below.

Fixed Maturity Investments, Short Term Investments, Private Credit Funds and Term Loans

Credit risk related to our fixed maturity investments and short term investments, as well as our private credit funds and term loans which primarily invest in debt instruments, is the exposure to adverse changes in the creditworthiness of individual investment holdings, issuers, groups of issuers, industries and countries. We manage credit risk in our fixed maturity and short term investments through credit research performed by our investment management service providers, our evaluation of these investment managers' adherence to investment mandates provided to them, independent credit research and active monitoring of our credit exposure relative to broader economic fundamentals, valuations and technical measurements. The management of credit risk in the investment portfolio is integrated in our credit risk governance framework and the management of credit exposures and concentrations within the investment portfolio are carried out in accordance with our risk policies, limits and risk concentrations as overseen by the Investment and Risk Management Committee of our Board of Directors. In the investment portfolio, we review on a regular basis our asset concentration, credit quality and adherence to credit limit guidelines. In addition, we limit the amount of credit exposure to any one financial institution and, except for the securities of the U.S. Government and U.S. Government related entities, and money market securities, none of our fixed-maturity and short-term investments exceeded 10% of shareholders' equity at December 31, 2022.

At December 31, 2022, our fixed maturity investments and short term investment portfolio had a dollar-weighted average credit quality rating of AA (2021 - AA). The following table summarizes the ratings of our fixed maturity investments and short term investments and term loans (using ratings assigned by S&P and/or other rating agencies when S&P ratings were not available) as a percentage of the total of those investments as of the dates indicated:

<u>At December 31,</u>	<u>2022</u>	<u>2021</u>
AAA	31.1 %	37.7 %
AA	46.5 %	43.3 %
A	8.1 %	6.4 %
BBB	7.8 %	5.7 %
Non-investment grade	6.0 %	6.3 %
Not rated	0.5 %	0.6 %
Total	<u>100.0 %</u>	<u>100.0 %</u>

Private credit funds are not included in the table above. Our investments in private credit funds include limited partnership or similar interests that invest in certain private credit asset classes, including senior secured bank loan funds, U.S. direct lending, secondaries, mezzanine investments and distressed securities.

We consider the impact of credit spread movements on the fair value of our fixed maturity and short term investments portfolio, private credit funds and term loans. As credit spreads widen, the fair value of our fixed maturity, short term investments, private credit funds and term loans decreases, and vice versa.

The following tables summarize the aggregate hypothetical increase (decrease) in fair value in our fixed maturity investments and short term investments, private credit funds and term loans, from an immediate parallel shift in credit spreads, assuming the treasury yield curve remains constant, reflecting the use of an immediate time horizon since this presents the worst-case scenario:

At December 31, 2022 (in thousands, except percentages)	Credit Spread Shift in Basis Points				
	-100	-50	Base	50	100
Fair value of fixed income and short term investments			\$19,020,674		
Fair value of private credit			771,383		
Fair value of term loans			100,000		
Total fair value	\$20,173,383	\$20,041,143	\$19,892,057	\$19,720,191	\$19,548,324
Net increase (decrease) in fair value	\$ 281,326	\$ 149,086	\$ —	\$ (171,866)	\$ (343,733)
Percentage change in fair value	1.4 %	0.7 %	— %	(0.9)%	(1.7)%

At December 31, 2021 (in thousands, except percentages)	Credit Spread Shift in Basis Points				
	-100	-50	Base	50	100
Fair value of fixed income and short term investments			\$18,805,516		
Fair value of private credit			473,112		
Fair value of term loans			74,850		
Total fair value	\$19,546,182	\$19,467,319	\$19,353,478	\$19,206,525	\$19,059,573
Net increase (decrease) in fair value	\$ 192,704	\$ 113,841	\$ —	\$ (146,953)	\$ (293,905)
Percentage change in fair value	1.0 %	0.6 %	— %	(0.8)%	(1.5)%

We also employ credit derivatives in our investment portfolio to either assume credit risk or hedge our credit exposure. At December 31, 2022, we had outstanding credit derivatives of \$953.4 million in notional positions to hedge credit risk and \$13.1 million in notional positions to assume credit risk, denominated in U.S. dollars (2021 - \$Nil and \$218.5 million, respectively). Refer to “Note 18. Derivative Instruments” in our “Notes to the Consolidated Financial Statements” for additional information related to credit derivatives entered into by us. The aggregate hypothetical market value impact from an immediate tightening in credit spreads of 100 basis points would cause a decrease in the market value of our net position in these derivatives of approximately \$35.0 million at December 31, 2022. Conversely, the aggregate hypothetical market value impact from an immediate widening in credit spreads of 100 basis points would cause an increase in the market value of our net position in these derivatives of approximately \$35.0 million at December 31, 2022. For an immediate downward shift in credit spreads, we do not allow credit spreads to go negative in calculating the impact. The foregoing reflects the use of an immediate time horizon, since this presents the worst-case scenario.

Premiums Receivable and Reinsurance Recoverable

Premiums receivable from ceding companies and reinsurance recoverable from our reinsurers are subject to credit risk. To mitigate credit risk related to reinsurance premiums receivable, we have established standards for ceding companies and, in most cases, have a contractual right of offset allowing us to settle claims net of any reinsurance premiums receivable. To mitigate credit risk related to our reinsurance recoverable amounts, we consider the financial strength of our reinsurers when determining whether to purchase coverage from them. We generally obtain reinsurance coverage from companies rated “A-” or better by major rating agencies unless the obligations are collateralized. We routinely monitor the financial performance and rating status of all material reinsurers. Refer to “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Summary of Critical Accounting Estimates—Reinsurance Recoverable” for additional information with respect to reinsurance recoverable.

Equity Price Risk

Equity price risk is the potential loss arising from changes in the market value of equity investments. As detailed in the table below, we are directly exposed to this risk through our investment in equity investments, including certain positions in our strategic investment portfolio, which are traded on nationally recognized stock exchanges; and indirectly exposed to this risk through other investments such as our direct private equity investments, private equity funds and hedge funds, whose exit strategies and market values often depend on the wider equity markets. We may, from time to time, use equity derivatives in our investment portfolio to either assume equity risk or hedge our equity exposure. The following table summarizes a hypothetical 10% increase or decline in the market value of our equity investments, direct private equity investments, private equity funds and hedge funds, holding all other factors constant, at the dates indicated:

At December 31,	2022	2021
(in thousands, except for percentages)		
Equity investments	\$ 625,058	\$ 546,016
Direct private equity investments	66,780	88,373
Private equity funds	315,323	241,297
Hedge funds	—	11,394
Total carrying value of investments exposed to equity price risk	<u>\$ 1,007,161</u>	<u>\$ 887,080</u>
Impact of a hypothetical 10% increase in the carrying value of investments exposed to equity price risk	\$ 100,716	\$ 88,708
Impact of a hypothetical 10% decrease in the carrying value of investments exposed to equity price risk	\$ (100,716)	\$ (88,708)

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Reference is made to Item 15 of this Report for the Consolidated Financial Statements of RenaissanceRe and the Notes thereto, as well as the Schedules to the Consolidated Financial Statements.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(b) and 15d-15(b) of the Exchange Act, as of the end of the period covered by this report. Based upon that evaluation, our management, including our

Chief Executive Officer and Chief Financial Officer, concluded that, at December 31, 2022, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in Company reports filed or submitted under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining effective internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, as amended. Our internal control over financial reporting was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles and to reflect management's judgments and estimates concerning effects of events and transactions that are accounted for or disclosed.

Our 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 our transactions and the dispositions of our assets; (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 our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

There are inherent limitations to the effectiveness of any controls. Our Board of Directors and management, including our Chief Executive Officer and Chief Financial Officer, do not expect that our disclosure controls and procedures or internal control over financial reporting will prevent all errors and all fraud. Controls, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the controls are met. Further, we believe that the design of controls must reflect appropriate resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in controls, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within RenaissanceRe have been detected.

Management, with the participation of the Chief Executive Officer and Chief Financial Officer, assessed our internal control over financial reporting as of December 31, 2022 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013). Based on this assessment, management concluded that RenaissanceRe's internal control over financial reporting was effective as of December 31, 2022.

PricewaterhouseCoopers Ltd., the independent registered public accountants who audited our consolidated financial statements included in this Form 10-K, audited our internal control over financial reporting as of December 31, 2022 and their attestation report on our internal control over financial reporting is included herein.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2022, which were identified in connection with our evaluation required pursuant to Rules 13a-15 or 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

On February 6, 2023, RenaissanceRe Holdings Ltd. granted T. Rowe Price Associates, Inc. (“T. Rowe”) a limited waiver from the restrictions on the acquisition of share ownership set forth in Bye-law 46A of the Company’s Amended and Restated Bye-laws (the “Bye-laws”), up to a maximum amount of shares representing 15% of the shares of the Company outstanding at any time of measurement (the “Waiver”). The Waiver is revocable by the Company for any reason upon 30 days’ notice.

Bye-law 46A provides, among other things, that no Person (as defined in the Bye-Laws) shall be permitted to own or control shares in the Company to the extent that such ownership or control would result in such Person or any other Person being a Ten Percent Shareholder (as defined in the Bye-Laws) or cause the Company to become a “controlled foreign corporation” within the meaning of Section 957 of the U.S. Internal Revenue Code, subject to waiver by the Board of Directors of the Company in its sole discretion.

T. Rowe has agreed and acknowledged that, in accordance with the Bye-laws, the voting rights attributable to the Controlled Shares (as defined in the Bye-laws) owned or controlled by T. Rowe shall not exceed 9.9% of the voting rights attached to all of the issued and outstanding capital shares of the Company in respect of any vote at any general meeting of the Company for any purpose.

The foregoing summary does not purport to be a complete description of all of the provisions of the Waiver and is qualified in its entirety by reference to the full text of the Waiver, which is attached as Exhibit 10.20 to this Annual Report on Form 10-K.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item relating to our directors, executive officers and corporate governance is incorporated herein by reference to information found in our Proxy Statement for the Annual General Meeting of Shareholders to be held on May 9, 2023. We intend to file our Proxy Statement no later than 120 days after the close of the fiscal year.

We have adopted a Code of Ethics within the meaning of Item 406 of Regulation S-K of the Exchange Act that applies to all of our directors and employees, including our principal executive officer, principal financial officer, principal accounting officer, controller and other persons performing similar functions. The Code of Ethics is available free of charge on our website www.renre.com. We will also provide a printed version of the Code of Ethics to any shareholder who requests it. We intend to disclose any amendments to our Code of Ethics by posting such information on our website. Any waivers of our Code of Ethics applicable to our directors, principal executive officer, principal financial officer, principal accounting officer or controller and other persons who perform similar functions will be disclosed on our website or by filing a Form 8-K, as required.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item relating to executive compensation is incorporated herein by reference to information included in our Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED SHAREHOLDER MATTERS

The information required by this Item relating to security ownership of certain beneficial owners and management and securities authorized for issuance under equity compensation plans is incorporated herein by reference to information included in our Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item relating to certain relationships and related transactions and director independence is incorporated herein by reference to information included in our Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item relating to principal accountant fees and services is incorporated herein by reference to information included in our Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Financial Statements

The Consolidated Financial Statements of RenaissanceRe Holdings Ltd. and related Notes thereto are listed in the accompanying Index to Consolidated Financial Statements and are filed as part of this Form 10-K.

Financial Statement Schedules

The Schedules to the Consolidated Financial Statements of RenaissanceRe Holdings Ltd. are listed in the accompanying Index to Schedules to Consolidated Financial Statements and are filed as a part of this Form 10-K.

Exhibit Index

Exhibit Number	Description
3.1	Memorandum of Association, incorporated by reference to the Registration Statement on Form S-1 of RenaissanceRe Holdings Ltd. (Registration No. 33-70008) which was declared effective by the SEC on July 26, 1995. (P)
3.2	Amended and Restated Bye-Laws, incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2002, filed with the SEC on August 14, 2002.
3.3	Memorandum of Increase in Share Capital of RenaissanceRe Holdings Ltd., incorporated by reference to Exhibit 3.1 to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended March 31, 1998, filed with the SEC on May 14, 1998.
3.4	Specimen Common Share certificate, incorporated by reference to the Registration Statement on Form S-1 of RenaissanceRe Holdings Ltd. (Registration No. 33-70008) which was declared effective by the SEC on July 26, 1995. (P)
4.1	Certificate of Designation, Preferences and Rights of 5.750% Series F Preference Shares, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 19, 2018.
4.1(a)	Form of Stock Certificate Evidencing the 5.750% Series F Preference Shares, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 19, 2018.
4.1(b)	Deposit Agreement, dated June 18, 2018, among RenaissanceRe Holdings Ltd., Computershare, Inc. and Computershare Trust Company, N.A., incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 19, 2018.
4.1(c)	Form of Depositary Receipt, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 19, 2018.
4.2	Form of Share Certificate Evidencing the 4.20% Series G Preference Shares, incorporated by reference to the Registration Statement on Form 8-A of RenaissanceRe Holdings Ltd. dated July 12, 2021.
4.2(a)	Certificate of Designation, Preferences and Rights of 4.20% Series G Preference Shares, incorporated by reference to the Registration Statement on Form 8-A of RenaissanceRe Holdings Ltd. dated July 12, 2021.
4.2(b)	Deposit Agreement, dated July 12, 2021, among RenaissanceRe Holdings Ltd., Computershare, Inc. and Computershare Trust Company, N.A., incorporated by reference to the Registration Statement on Form 8-A of RenaissanceRe Holdings Ltd. dated July 12, 2021.
4.2(c)	Form of Depositary Receipt, incorporated by reference to the Registration Statement on Form 8-A of RenaissanceRe Holdings Ltd. dated July 12, 2021.
4.3	Senior Indenture, dated as of March 24, 2015, among RenaissanceRe Finance Inc., as issuer, RenaissanceRe Holdings Ltd., as guarantor, and Deutsche Bank Trust Company Americas, as trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 25, 2015.
4.3(a)	First Supplemental Indenture, dated as of March 24, 2015, among RenaissanceRe Finance Inc., as issuer, RenaissanceRe Holdings Ltd., as guarantor, and Deutsche Bank Trust Company Americas, as trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 25, 2015.

- 4.3(b) Senior Debt Securities Guarantee Agreement, dated as of March 24, 2015, between RenaissanceRe Holdings Ltd., as guarantor, and Deutsche Bank Trust Company Americas, as guarantee trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 25, 2015.
- 4.4 Senior Indenture, dated as of June 29, 2017, among RenaissanceRe Finance Inc., as issuer, RenaissanceRe Holdings Ltd., as guarantor, and Deutsche Bank Trust Company Americas, as trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 29, 2017.
- 4.4(a) First Supplemental Indenture, dated as of June 29, 2017, among RenaissanceRe Finance Inc., as issuer, RenaissanceRe Holdings Ltd., as guarantor, and Deutsche Bank Trust Company Americas, as trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 29, 2017.
- 4.4(b) Second Supplemental Indenture, March 25, 2019, by and among RenaissanceRe Finance Inc., as issuer, RenaissanceRe Holdings Ltd., as guarantor and Deutsche Bank Trust Company Americas, as trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 26, 2019.
- 4.4(c) Senior Debt Securities Guarantee Agreement, dated as of June 29, 2017, between RenaissanceRe Holdings Ltd., as guarantor, and Deutsche Bank Trust Company Americas, as guarantee trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 29, 2017.
- 4.5 Senior Indenture, dated as of April 2, 2019, by and between RenaissanceRe Holdings Ltd., as issuer, and Deutsche Bank Trust Company Americas, as trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on April 2, 2019.
- 4.5(a) First Supplemental Indenture, dated as of April 2, 2019, by and between RenaissanceRe Holdings Ltd., as issuer, and Deutsche Bank Trust Company Americas, as trustee, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on April 2, 2019.
- 4.6 Description of Securities, incorporated by reference to RenaissanceRe Holdings Ltd.'s Annual Report on Form 10-K, filed with the Commission on February 4, 2022.
- 10.1* Further Amended and Restated Employment Agreement, dated as of July 22, 2016, by and between RenaissanceRe Holdings Ltd. and Kevin J. O'Donnell, incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2016, filed with the SEC on July 27, 2016.
- 10.2* Legacy Form of Further Amended and Restated Employment Agreement for Named Executive Officers (other than our Chief Executive Officer), incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2016, filed with the SEC on July 27, 2016. **
- 10.3* Form of Employment Agreement for Named Executive Officers (other than our Chief Executive Officer), incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2016, filed with the SEC on July 27, 2016. ***

- 10.4* Letter agreement, dated July 6, 2016, between Ian Branagan and RenaissanceRe Holdings Ltd. regarding secondment to the U.K., incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2016, filed with the SEC on July 27, 2016.
- 10.5* Letter agreement, dated April 11, 2013, between Ian Branagan and RenaissanceRe Holdings Ltd. regarding secondment to the U.K., incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2016, filed with the SEC on July 27, 2016.
- 10.6* Separation, Consulting, and Release Agreement, dated December 3, 2020, between RenaissanceRe Holdings Ltd. and Stephen H. Weinstein, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on December 4, 2020.
- 10.7* Employment Agreement, dated as of April 27, 2017, by and between RenaissanceRe Services Ltd. and Sean Brosnan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended March 31, 2022, filed with the SEC on May 4, 2022.
- 10.8* RenaissanceRe Holdings Ltd. First Amended and Restated 2016 Long-Term Incentive Plan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Definitive Proxy Statement on Schedule 14A, filed with the SEC on March 28, 2022.
- 10.8(a)* Amendment Number One to the RenaissanceRe Holdings Ltd. First Amended and Restated 2016 Long-Term Incentive Plan.
- 10.8(b)* Form of Director Restricted Stock Agreement under the RenaissanceRe Holdings Ltd. 2016 Long-Term Incentive Plan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2016, filed with the SEC on July 27, 2016.
- 10.8(c)* Form of Restricted Stock Agreement under the RenaissanceRe Holdings Ltd. 2016 Long-Term Incentive Plan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2016, filed with the SEC on July 27, 2016.
- 10.8(d)* Form of Performance Share Agreement under the RenaissanceRe Holdings Ltd. 2016 Long-Term Incentive Plan (for awards made in May 2018 and March 2019), incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on May 16, 2018.
- 10.8(e) Form of Performance Share Agreement under the RenaissanceRe Holdings Ltd. 2016 Long-Term Incentive Plan (for awards made in March 2020 and later), incorporated by reference to RenaissanceRe Holdings Ltd.'s Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 7, 2020.
- 10.9* RenaissanceRe Holdings Ltd. Deferred Cash Award Plan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 13, 2017.
- 10.9(a)* Form of Deferred Cash Award Agreement pursuant to which Deferred Cash Awards are granted under the RenaissanceRe Holdings Ltd. Deferred Cash Award Plan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 13, 2017.
- 10.10* RenaissanceRe Holdings Ltd. 2016 Restricted Stock Unit Plan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on May 16, 2018.

- 10.10(a)* Form of Restricted Stock Unit Agreement pursuant to which restricted stock unit grants are made under the RenaissanceRe Holdings Ltd. 2016 Restricted Stock Unit Plan, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 10, 2016.
- 10.11* Form of Tax Reimbursement Waiver Letter with the Named Executive Officers, incorporated by reference to RenaissanceRe Holdings Ltd.'s Annual Report on Form 10-K for the year ended December 31, 2011, filed with the SEC on February 23, 2012.
- 10.12* Form of Agreement Regarding Use of Aircraft Interest by and between RenaissanceRe Holdings Ltd. and Certain Executive Officers of RenaissanceRe Holdings Ltd., incorporated by reference to RenaissanceRe Holdings Ltd.'s Annual Report on Form 10-K for the year ended December 31, 2012, filed with the SEC on February 22, 2013.
- 10.13* Form of Director Retention Agreement, dated as of November 8, 2002, entered into by each of the non-employee directors of RenaissanceRe Holdings Ltd., incorporated by reference to RenaissanceRe Holdings Ltd.'s Annual Report on Form 10-K for the year ended December 31, 2002, filed with the SEC on March 31, 2003 (SEC File Number 001-14428).
- 10.14 Amended and Restated Standby Letter of Credit Agreement, dated as of June 21, 2019, by and among Renaissance Reinsurance Ltd., RenaissanceRe Specialty U.S. Inc., DaVinci Reinsurance Ltd., RenaissanceRe Europe AG, RenaissanceRe Holdings Ltd., as Guarantor, and Wells Fargo Bank, National Association, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 24, 2019.
- 10.14(a) First Amendment to Amended and Restated Standby Letter of Credit Agreement, dated as of June 11, 2020, by and among Renaissance Reinsurance Ltd., RenaissanceRe Specialty U.S. Inc., DaVinci Reinsurance Ltd., RenaissanceRe Europe AG, RenaissanceRe Holdings Ltd., as Guarantor, and Wells Fargo Bank, National Association, Incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended June 30, 2020, filed with the SEC on July 29, 2020.
- 10.14(b) Second Amendment to Amended and Restated Standby Letter of Credit Agreement, dated as of May 5, 2022, by and among Renaissance Reinsurance Ltd., DaVinci Reinsurance Ltd., Renaissance Reinsurance U.S. Inc., RenaissanceRe Europe AG, RenaissanceRe Specialty U.S. Ltd., RenaissanceRe Holdings Ltd., as Guarantor, and Wells Fargo Bank, National Association, incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended September 30, 2022, filed with the SEC on November 2, 2022
- 10.15 Amended and Restated Letter of Credit Reimbursement Agreement, dated as of November 7, 2019, by and among Renaissance Reinsurance Ltd., as borrower, ING Bank N.V., London Branch, as agent and as lender, Bank of Montreal, London Branch, as a lender, and Citibank Europe plc, as a lender, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 12, 2019.
- 10.15(a) First Amendment to Amended and Restated Letter of Credit Reimbursement Agreement, dated October 30, 2020, by and among Renaissance Reinsurance Ltd., as borrower, ING Bank N.V., London Branch, as agent and as a lender, Bank of Montreal, London Branch, as a lender, and Citibank Europe plc, as a lender, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 3, 2020.

- 10.15(b) Second Amendment to Amended and Restated Letter of Credit Reimbursement Agreement, dated November 3, 2021, by and among Renaissance Reinsurance Ltd., as borrower, ING Bank N.V., London Branch, as agent and as a lender, Bank of Montreal, London Branch, as a lender, and Citibank Europe plc, as a lender, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 3, 2021.
- 10.15(c) Third Amendment to Amended and Restated Letter of Credit Reimbursement Agreement, dated November 1, 2022, by and among Renaissance Reinsurance Ltd., as borrower, ING Bank N.V., London Branch, as agent and as a lender, Bank of Montreal, London Branch, as a lender, and Citibank Europe plc, as a lender, incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q, filed with the SEC on November 2, 2022.
- 10.16 Third Amended and Restated Credit Agreement, dated November 18, 2022, among RenaissanceRe Holdings Ltd. Renaissance Reinsurance Ltd., RenaissanceRe Specialty U.S. Ltd., Renaissance Reinsurance U.S. Inc., RenaissanceRe Europe AG, the various lending financial institutions, Wells Fargo Bank, National Association, Barclays Bank PLC and Wells Fargo Securities, LLC, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 22, 2022.
- 10.16(a) Guaranty Agreement, dated November 18, 2022, among RenaissanceRe Finance Inc., the various lending financial institutions and Wells Fargo Bank, National Association, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 22, 2022.
- 10.17 Master Agreement for Issuance of Payment Instruments, dated March 22, 2019, between Renaissance Reinsurance Ltd., RenaissanceRe Specialty U.S. Ltd., Renaissance Reinsurance Inc., RenaissanceRe Europe AG and Citibank Europe plc., incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 25, 2019.
- 10.17(a) Facility Letter for Issuance of Payment Instruments, dated March 22, 2019, by and among Renaissance Reinsurance Ltd., RenaissanceRe Specialty U.S. Ltd., Renaissance Reinsurance U.S. Inc., RenaissanceRe Europe AG and Citibank Europe plc., incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 25, 2019.
- 10.17(b) Deed of Release, dated August 18, 2020, by and among Citibank Europe Plc, RenaissanceRe Holdings Ltd. and RenaissanceRe (UK) Ltd., incorporated by reference to RenaissanceRe Holdings Ltd.'s Quarterly Report on Form 10-Q for the period ended September 30, 2020, filed with the SEC on November 3, 2020.
- 10.18 Waiver, dated as of November 15, 2016, by and between RenaissanceRe Holdings Ltd. and BlackRock, Inc., incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on November 18, 2016.
- 10.19 Waiver, dated as of May 11, 2018, by and between RenaissanceRe Holdings Ltd. and The Vanguard Group, Inc., incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on May 16, 2018.
- 10.20 Waiver, dated as of February 6, 2023, by and between RenaissanceRe Holdings Ltd. and T. Rowe Price Associates, Inc.

10.21+	Reserve Development Agreement, dated as of March 22, 2019, by and between Tokio Millennium Re AG, and Tokio Millennium Re (UK) Limited and Tokio Marine & Nichido Fire Insurance Co., Ltd., incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 22, 2019.
10.22+	Retrocession Agreement, dated as of March 22, 2019, by and between Tokio Millennium Re AG and Tokio Marine & Nichido Fire Insurance Co., Ltd., Incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on March 22, 2019.
10.23	Amended and Restated Registration Rights Agreement, dated June 2, 2020, by and between RenaissanceRe Holdings Ltd. and State Farm Mutual Automobile Insurance, incorporated by reference to RenaissanceRe Holdings Ltd.'s Current Report on Form 8-K, filed with the SEC on June 5, 2020
21.1	List of Subsidiaries of the Registrant.
22.1	Issuers of Registered Guaranteed Debt Securities.
23.1	Consent of PricewaterhouseCoopers Ltd.
23.2	Consent of Ernst & Young Ltd.
31.1	Certification of Kevin J. O'Donnell, Chief Executive Officer of RenaissanceRe Holdings Ltd., pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2	Certification of Robert Qutub, Chief Financial Officer of RenaissanceRe Holdings Ltd., pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32.1	Certification of Kevin J. O'Donnell, Chief Executive Officer of RenaissanceRe Holdings Ltd., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Robert Qutub, Chief Financial Officer of RenaissanceRe Holdings Ltd., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

101.INS Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document

101.SCH Inline XBRL Taxonomy Extension Schema Document

101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document

101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document

101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document

101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document

104 Cover Page Interactive Data File (embedded within the Inline XBRL document and included in Exhibit 101)

* Represents management contract or compensatory plan or arrangement.

** Applicable to Stephen H. Weinstein and Ian D. Branagan.

*** Applicable to Ross A. Curtis and Robert Qutub.

+ Certain schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Company hereby undertakes to furnish supplemental copies of any of the omitted schedules upon request by the SEC.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: February 8, 2023

RENAISSANCERE HOLDINGS LTD.

/s/ Kevin J. O'Donnell

Kevin J. O'Donnell

Chief Executive Officer and President

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Kevin J. O'Donnell</u> Kevin J. O'Donnell	Chief Executive Officer, President and Director (Principal Executive Officer)	February 8, 2023
<u>/s/ Robert Qutub</u> Robert Qutub	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 8, 2023
<u>/s/ James C. Fraser</u> James C. Fraser	Senior Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 8, 2023
<u>/s/ James L. Gibbons</u> James L. Gibbons	Non-Executive Chair of the Board of Directors	February 8, 2023
<u>/s/ David C. Bushnell</u> David C. Bushnell	Director	February 8, 2023
<u>/s/ Shyam Gidumal</u> Shyam Gidumal	Director	February 8, 2023
<u>/s/ Brian G. J. Gray</u> Brian G. J. Gray	Director	February 8, 2023
<u>/s/ Duncan P. Hennes</u> Duncan P. Hennes	Director	February 8, 2023
<u>/s/ Henry Klehm, III</u> Henry Klehm, III	Director	February 8, 2023
<u>/s/ Valerie Rahmani</u> Valerie Rahmani	Director	February 8, 2023
<u>/s/ Carol P. Sanders</u> Carol P. Sanders	Director	February 8, 2023
<u>/s/ Anthony M. Santomero</u> Anthony M. Santomero	Director	February 8, 2023
<u>/s/ Cynthia Trudell</u> Cynthia Trudell	Director	February 8, 2023

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	Page
Reports of Independent Registered Public Accounting Firms (PCAOB ID: 1403, 1277)	F-2
Consolidated Balance Sheets at December 31, 2022 and 2021	F-6
Consolidated Statements of Operations for the Years Ended December 31, 2022, 2021 and 2020	F-7
Consolidated Statements of Comprehensive Income (Loss) for the Years Ended December 31, 2022, 2021 and 2020	F-8
Consolidated Statements of Changes in Shareholders' Equity for the Years Ended December 31, 2022, 2021 and 2020	F-9
Consolidated Statements of Cash Flows for the Years Ended December 31, 2022, 2021 and 2020	F-10
Notes to the Consolidated Financial Statements	F-11
Note 1. Organization	F-11
Note 2. Significant Accounting Policies	F-13
Note 3. Goodwill and Other Intangible Assets	F-20
Note 4. Investments	F-22
Note 5. Fair Value Measurements	F-27
Note 6. Reinsurance	F-37
Note 7. Reserve for Claims and Claim Expenses	F-39
Note 8. Debt and Credit Facilities	F-53
Note 9. Noncontrolling Interests	F-58
Note 10. Variable Interest Entities	F-62
Note 11. Shareholders' Equity	F-66
Note 12. Earnings per Share	F-68
Note 13. Related Party Transactions	F-68
Note 14. Taxation	F-69
Note 15. Segment Reporting	F-72
Note 16. Stock Incentive Compensation and Employee Benefit Plans	F-75
Note 17. Statutory Requirements	F-79
Note 18. Derivative Instruments	F-82
Note 19. Commitments and Contingencies and Other Items	F-87
Note 20. Sale of RenaissanceRe UK	F-87
Note 21. Subsequent Events	F-90

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheet of RenaissanceRe Holdings Ltd. and its subsidiaries (the "Company") as of December 31, 2022, and the related consolidated statements of operations, comprehensive income (loss), changes in shareholders' equity and cash flows for the year then ended, including the related notes, and the financial statement schedules listed in the index appearing on page S-1 (collectively referred to as the "consolidated financial statements"). We also have audited 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 (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. Also 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 COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Annual Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audit of the consolidated financial statements 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 audit 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. 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 opinions.

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 (i) pertain to the maintenance of records that,

in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

Critical Audit Matters

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 (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters 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.

Valuation of Reserve for claims and claim expenses

As described in Notes 2 and 7 to the consolidated financial statements, the Company's reserve for claims and claim expenses represents management's estimates, including actuarial and statistical projections at a given point in time, of the ultimate settlement and administration costs for unpaid claims and claim expenses arising from the insurance and reinsurance contracts the Company sells. The Company's reserve for claims and claim expenses was \$15,893 million at December 31, 2022. In determining management's estimate of the reserve for claims and claim expenses, management's analysis includes consideration of loss development patterns; historical ultimate loss ratios; and the presence of individual large losses. Management's analysis incorporates available information derived from claims information from certain customers and brokers, industry assessments of losses, proprietary models, and the terms and conditions of the Company's contracts. The estimate for the casualty and specialty segment is sensitive to the selection of actuarial methods, expected trends in claim severity and frequency, the time lag inherent in reporting information and industry or event trends. The estimate for the property segment is sensitive to the preliminary nature of the information available, the magnitude and relative infrequency of the events, the expected duration of the respective claims development period, inadequacies in the data provided to the relevant date by industry participants and the potential for further reporting lags or insufficiencies, and in certain instances, significant uncertainty as to the form of the claims and legal issues under the relevant terms of insurance and reinsurance contracts.

The principal considerations for our determination that performing procedures relating to the valuation of reserve for claims and claim expenses is a critical audit matter are (i) the significant judgement by management when developing their estimate; (ii) a high degree of auditor judgement, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to loss development patterns and historical ultimate loss ratios and the selection of significant actuarial methods; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Company's valuation of the reserve for claims and claim expenses, including controls over the development of significant actuarial methods and assumptions. These procedures also included, among others, the involvement of professionals with specialized skill and knowledge to assist in (i) developing an independent estimate for certain classes of business of the reserve for claims and claim expenses, and comparing this independent estimate to management's determined

reserve; and (ii) for certain classes of business, testing management's process for estimating the reserve for claims and claim expenses by evaluating the appropriateness of management's aforementioned significant actuarial methods and assumptions. Performing these procedures involved testing the completeness and accuracy of data provided by management on a sample basis.

/s/ PricewaterhouseCoopers Ltd.

Hamilton, Bermuda

February 8, 2023

We have served as the Company's auditor since 2022.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of RenaissanceRe Holdings Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of RenaissanceRe Holdings Ltd. and subsidiaries (the Company) as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income (loss), changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, 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, 2021, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 4, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young Ltd.

We served as the Company's auditor from 1993 to 2022.

Hamilton, Bermuda
February 4, 2022

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Balance Sheets
At December 31, 2022 and 2021
(in thousands of United States Dollars, except share and per share amounts)

	December 31, 2022	December 31, 2021
Assets		
Fixed maturity investments trading, at fair value - amortized cost \$15,038,551 at December 31, 2022 (2021 - \$13,552,579) (Notes 4 and 5)	\$14,351,402	\$13,507,131
Short term investments, at fair value - amortized cost \$4,671,581 at December 31, 2022 (2021 - \$5,298,385) (Notes 4 and 5)	4,669,272	5,298,385
Equity investments, at fair value (Notes 4 and 5)	625,058	546,016
Other investments, at fair value (Notes 4 and 5)	2,494,954	1,993,059
Investments in other ventures, under equity method (Note 4)	79,750	98,068
Total investments	22,220,436	21,442,659
Cash and cash equivalents	1,194,339	1,859,019
Premiums receivable (Note 6)	5,139,471	3,781,542
Prepaid reinsurance premiums (Note 6)	1,021,412	854,722
Reinsurance recoverable (Notes 6 and 7)	4,710,925	4,268,669
Accrued investment income	121,501	55,740
Deferred acquisition costs	1,171,738	849,160
Receivable for investments sold	350,526	380,442
Other assets	384,702	224,053
Goodwill and other intangible assets (Note 3)	237,828	243,496
Total assets	\$36,552,878	\$33,959,502
Liabilities, Noncontrolling Interests and Shareholders' Equity		
Liabilities		
Reserve for claims and claim expenses (Note 7)	\$15,892,573	\$13,294,630
Unearned premiums	4,559,107	3,531,213
Debt (Note 8)	1,170,442	1,168,353
Reinsurance balances payable	3,928,281	3,860,963
Payable for investments purchased	493,776	1,170,568
Other liabilities	648,036	755,441
Total liabilities	26,692,215	23,781,168
Commitments and Contingencies (Note 19)		
Redeemable noncontrolling interests (Note 9)	4,535,389	3,554,053
Shareholders' Equity (Note 11)		
Preference shares: \$1.00 par value – 30,000 shares issued and outstanding at December 31, 2022 (2021 – 30,000)	750,000	750,000
Common shares: \$1.00 par value – 43,717,836 shares issued and outstanding at December 31, 2022 (2021 – 44,444,831)	43,718	44,445
Additional paid-in capital	475,647	608,121
Accumulated other comprehensive income (loss)	(15,462)	(10,909)
Retained earnings	4,071,371	5,232,624
Total shareholders' equity attributable to RenaissanceRe	5,325,274	6,624,281
Total liabilities, noncontrolling interests and shareholders' equity	\$36,552,878	\$33,959,502

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Operations
For the years ended December 31, 2022, 2021, and 2020
(in thousands of United States Dollars, except per share amounts)

	2022	2021	2020
Revenues			
Gross premiums written (Note 6)	\$ 9,213,540	\$ 7,833,798	\$ 5,806,165
Net premiums written (Note 6)	\$ 7,196,160	\$ 5,939,375	\$ 4,096,333
Increase in unearned premiums	(862,171)	(745,194)	(143,871)
Net premiums earned (Note 6)	6,333,989	5,194,181	3,952,462
Net investment income (Note 4)	559,932	319,479	354,038
Net foreign exchange gains (losses)	(56,909)	(41,006)	27,773
Equity in earnings of other ventures (Note 4)	11,249	12,309	17,194
Other income	12,636	10,880	213
Net realized and unrealized gains (losses) on investments (Note 4)	(1,800,485)	(218,134)	820,636
Total revenues	<u>5,060,412</u>	<u>5,277,709</u>	<u>5,172,316</u>
Expenses			
Net claims and claim expenses incurred (Notes 6 and 7)	4,338,840	3,876,087	2,924,609
Acquisition expenses	1,568,606	1,214,858	897,677
Operational expenses	276,691	212,184	206,687
Corporate expenses	46,775	41,152	96,970
Interest expense (Note 8)	48,335	47,536	50,453
Total expenses	<u>6,279,247</u>	<u>5,391,817</u>	<u>4,176,396</u>
Income (loss) before taxes	(1,218,835)	(114,108)	995,920
Income tax benefit (expense) (Note 14)	59,019	10,668	(2,862)
Net income (loss)	<u>(1,159,816)</u>	<u>(103,440)</u>	<u>993,058</u>
Net (income) loss attributable to redeemable noncontrolling interests (Note 9)	98,613	63,285	(230,653)
Net income (loss) attributable to RenaissanceRe	<u>(1,061,203)</u>	<u>(40,155)</u>	<u>762,405</u>
Dividends on preference shares (Note 11)	(35,375)	(33,266)	(30,923)
Net income (loss) available (attributable) to RenaissanceRe common shareholders	<u>\$ (1,096,578)</u>	<u>\$ (73,421)</u>	<u>\$ 731,482</u>
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – basic (Note 12)	<u>\$ (25.50)</u>	<u>\$ (1.57)</u>	<u>\$ 15.34</u>
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted (Note 12)	<u>\$ (25.50)</u>	<u>\$ (1.57)</u>	<u>\$ 15.31</u>

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Comprehensive Income (Loss)
For the years ended December 31, 2022, 2021 and 2020
(in thousands of United States Dollars)

	<u>2022</u>	<u>2021</u>	<u>2020</u>
Comprehensive income (loss)			
Net income (loss)	\$(1,159,816)	\$ (103,440)	\$ 993,058
Change in net unrealized gains (losses) on investments, net of tax	(4,923)	(2,492)	606
Foreign currency translation adjustments, net of tax	<u>370</u>	<u>4,225</u>	<u>(11,309)</u>
Comprehensive income (loss)	(1,164,369)	(101,707)	982,355
Net (income) loss attributable to redeemable noncontrolling interests	98,613	63,285	(230,653)
Comprehensive income (loss) attributable to redeemable noncontrolling interests	<u>98,613</u>	<u>63,285</u>	<u>(230,653)</u>
Comprehensive income (loss) attributable to RenaissanceRe	<u><u>\$(1,065,756)</u></u>	<u><u>\$ (38,422)</u></u>	<u><u>\$ 751,702</u></u>

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Changes in Shareholders' Equity
For the years ended December 31, 2022, 2021 and 2020
(in thousands of United States Dollars)

	2022	2021	2020
Preference shares			
Balance – January 1	\$ 750,000	\$ 525,000	\$ 650,000
Issuance of shares (Note 11)	—	500,000	—
Repurchase of shares (Note 11)	—	(275,000)	(125,000)
Balance – December 31	750,000	750,000	525,000
Common shares			
Balance – January 1	44,445	50,811	44,148
Issuance of shares (Note 11)	—	—	6,777
Repurchase of shares (Note 11)	(1,051)	(6,579)	(406)
Exercise of options and issuance of restricted stock awards (Notes 11 and 16)	324	213	292
Balance – December 31	43,718	44,445	50,811
Additional paid-in capital			
Balance – January 1	608,121	1,623,206	568,277
Issuance of shares (Note 11)	—	—	1,088,730
Repurchase of shares (Note 11)	(161,788)	(1,024,751)	(62,215)
Offering expenses (Note 11)	—	(11,347)	—
Change in redeemable noncontrolling interest	(5,549)	(6,994)	(334)
Exercise of options and issuance of restricted stock awards (Notes 11 and 16)	34,863	28,007	28,748
Balance – December 31	475,647	608,121	1,623,206
Accumulated other comprehensive income (loss)			
Balance – January 1	(10,909)	(12,642)	(1,939)
Change in net unrealized gains (loss) on investments, net of tax	(4,923)	(2,492)	606
Foreign currency translation adjustments, net of tax	370	4,225	(11,309)
Balance – December 31	(15,462)	(10,909)	(12,642)
Retained earnings			
Balance – January 1	5,232,624	5,373,873	4,710,881
Net income (loss)	(1,159,816)	(103,440)	993,058
Net (income) loss attributable to redeemable noncontrolling interests (Note 9)	98,613	63,285	(230,653)
Dividends on common shares (Note 11)	(64,675)	(67,828)	(68,490)
Dividends on preference shares (Note 11)	(35,375)	(33,266)	(30,923)
Balance – December 31	4,071,371	5,232,624	5,373,873
Total shareholders' equity	<u>\$ 5,325,274</u>	<u>\$ 6,624,281</u>	<u>\$ 7,560,248</u>

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Cash Flows
For the years ended December 31, 2022, 2021 and 2020
(in thousands of United States Dollars)

	2022	2021	2020
Cash flows provided by (used in) operating activities			
Net income (loss)	\$ (1,159,816)	\$ (103,440)	\$ 993,058
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities			
Amortization, accretion and depreciation	(26,950)	(20,989)	16,652
Equity in undistributed (earnings) losses of other ventures	10,723	13,200	1,561
Net realized and unrealized (gains) losses on investments	1,635,192	205,897	(820,636)
Loss on sale of RenaissanceRe UK	—	—	30,242
Change in:			
Premiums receivable	(1,357,929)	(886,911)	(293,581)
Prepaid reinsurance premiums	(166,690)	(31,140)	(55,801)
Reinsurance recoverable	(442,256)	(1,342,659)	(138,361)
Deferred acquisition costs	(322,578)	(215,639)	30,442
Reserve for claims and claim expenses	2,597,943	2,913,492	1,155,615
Unearned premiums	1,027,894	767,614	232,949
Reinsurance balances payable	67,318	372,611	662,281
Other	(259,168)	(437,221)	178,314
Net cash provided by (used in) operating activities	<u>1,603,683</u>	<u>1,234,815</u>	<u>1,992,735</u>
Cash flows provided by (used in) investing activities			
Proceeds from sales and maturities of fixed maturity investments trading	22,086,168	15,543,565	15,186,952
Purchases of fixed maturity investments trading	(24,923,131)	(15,680,351)	(16,836,538)
Net sales (purchases) of equity investments	(202,309)	206,595	829
Net sales (purchases) of short term investments	640,411	(252,833)	(581,473)
Net sales (purchases) of other investments	(618,790)	(617,782)	(216,760)
Net sales (purchases) of investments in other ventures	(773)	(23,835)	(3,698)
Return of investment from investment in other ventures	2,248	8,345	9,255
Net proceeds from sale of RenaissanceRe UK	—	—	136,744
Net cash provided by (used in) investing activities	<u>(3,016,176)</u>	<u>(816,296)</u>	<u>(2,304,689)</u>
Cash flows provided by (used in) financing activities			
Dividends paid – RenaissanceRe common shares	(64,675)	(67,828)	(68,490)
Dividends paid – preference shares	(35,396)	(32,889)	(30,923)
RenaissanceRe common share repurchases	(166,664)	(1,027,505)	(62,621)
RenaissanceRe common share issuance	—	—	1,095,507
Repayment of debt	—	—	(250,000)
Drawdown of Medici Revolving Credit Facility	—	30,000	—
Redemption of preference shares	—	(275,000)	(125,000)
Issuance of preference shares, net of expenses	—	488,653	—
Net third-party redeemable noncontrolling interest share transactions	1,002,988	594,279	119,071
Taxes paid on withholding shares	(10,911)	(12,171)	(12,330)
Net cash provided by (used in) financing activities	<u>725,342</u>	<u>(302,461)</u>	<u>665,214</u>
Effect of exchange rate changes on foreign currency cash	22,471	6,148	4,485
Net increase (decrease) in cash and cash equivalents	<u>(664,680)</u>	<u>122,206</u>	<u>357,745</u>
Cash and cash equivalents, beginning of year	1,859,019	1,736,813	1,379,068
Cash and cash equivalents, end of year	<u>\$ 1,194,339</u>	<u>\$ 1,859,019</u>	<u>\$ 1,736,813</u>
Supplemental disclosure of cash flow information			
Income taxes paid (refunded)	\$ 3,129	\$ (4,261)	\$ 5,668
Interest paid	\$ 46,247	\$ 21,172	\$ 48,805

See accompanying notes to the consolidated financial statements

RENAISSANCERE HOLDINGS LTD. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2022

(unless otherwise noted, amounts in tables expressed in thousands of United States ("U.S.") dollars, except per share amounts and percentages)

NOTE 1. ORGANIZATION

RenaissanceRe Holdings Ltd. ("RenaissanceRe" or the "Company") was formed under the laws of Bermuda on June 7, 1993. Together with its wholly owned and majority-owned subsidiaries, joint ventures and managed funds, the Company provides property, casualty and specialty reinsurance and certain insurance solutions to its customers.

- Renaissance Reinsurance Ltd. ("Renaissance Reinsurance"), a Bermuda-domiciled reinsurance company, is the Company's principal reinsurance subsidiary and provides property, casualty and specialty reinsurance coverages to insurers and reinsurers on a worldwide basis.
- Renaissance Reinsurance U.S. Inc. ("Renaissance Reinsurance U.S.") is a reinsurance company domiciled in the state of Maryland that provides property, casualty and specialty reinsurance coverages to insurers and reinsurers, primarily in the Americas.
- RenaissanceRe Syndicate 1458 ("Syndicate 1458") is the Company's Lloyd's syndicate. RenaissanceRe Corporate Capital (UK) Limited ("RenaissanceRe CCL"), a wholly owned subsidiary of RenaissanceRe, is Syndicate 1458's sole corporate member. RenaissanceRe Syndicate Management Ltd. ("RSML"), a wholly owned subsidiary of RenaissanceRe, is the managing agent for Syndicate 1458.
- RenaissanceRe Europe AG ("RREAG"), a Swiss-domiciled reinsurance company, which has branches in Australia, Bermuda, the U.K. and the U.S., provides property, casualty and specialty reinsurance coverages to insurers and reinsurers on a worldwide basis.
- RenaissanceRe Specialty U.S. Ltd. ("RenaissanceRe Specialty U.S."), a Bermuda-domiciled insurer, which operates subject to U.S. federal income tax.
- DaVinci Reinsurance Ltd. ("DaVinci Reinsurance"), a wholly-owned subsidiary of DaVinciRe Holdings Ltd. ("DaVinci"), is a managed joint venture formed by the Company to principally write property catastrophe reinsurance and certain casualty and specialty reinsurance lines of business on a global basis.
- Vermeer Reinsurance Ltd. ("Vermeer") is a managed joint venture formed by the Company to provide capacity focused on risk remote layers in the U.S. property catastrophe market. [The Company maintains a majority voting control of Vermeer, while Stichting Pensioenfonds Zorg en Welzijn ("PFZW"), a pension fund represented by PGGM Vermogensbeheer B.V., a Dutch pension fund manager, retains economic benefits.]
- Fontana Holdings L.P. and its subsidiaries (collectively, "Fontana") are a managed joint venture formed by the Company to assume casualty and specialty risks in line with the Company's book of business. Fontana launched effective April 1, 2022.
- Top Layer Reinsurance Ltd. ("Top Layer") is a managed joint venture formed by the Company to write high excess non-U.S. property catastrophe reinsurance.
- RenaissanceRe Underwriting Managers U.S. LLC, is licensed as a reinsurance intermediary broker in the State of Connecticut and underwrites specialty treaty reinsurance solutions on both a quota share and excess of loss basis on behalf of affiliates.
- Renaissance Underwriting Managers, Ltd. ("RUM"), a wholly owned subsidiary of RenaissanceRe, is the exclusive underwriting manager for certain of our joint ventures or managed funds in return for a management fee, performance fee, or both.
- RenaissanceRe Fund Management Ltd. ("RFM") is a wholly-owned Bermuda exempted company and is the exclusive investment fund manager for several of the Company's joint ventures or managed funds, in return for a management fee, a performance based incentive fee, or both. RFM is registered

as an Exempt Reporting Adviser with the Securities and Exchange Commission and serves as the investment adviser to third-party investors in the various private investment partnerships and insurance-related investment products offered by the Company.

- RenaissanceRe Medici Fund Ltd. (“Medici”) is an exempted company, incorporated in Bermuda and registered as an institutional fund. Medici invests, primarily on behalf of third-party investors, in various instruments that have returns primarily tied to property catastrophe risk.
- Upsilon RFO Re Ltd. (“Upsilon RFO”), an exempted company incorporated in Bermuda and registered as a segregated accounts company and as a collateralized insurer, is a managed fund formed by the Company principally to provide additional capacity to the worldwide aggregate and per-occurrence primary and retrocessional property catastrophe excess of loss market.
- RenaissanceRe Upsilon Fund Ltd., an exempted company incorporated in Bermuda and registered as a segregated accounts company and a Class A Professional Fund, provides a fund structure through which third-party investors can invest in reinsurance risk managed by the Company.
- Mona Lisa Re Ltd. (“Mona Lisa Re”), a Bermuda domiciled special purpose insurer (“SPI”), provides reinsurance capacity to subsidiaries of RenaissanceRe through reinsurance agreements which are collateralized and funded by Mona Lisa Re through the issuance of one or more series of principal-at-risk variable rate notes.
- Fibonacci Reinsurance Ltd. (“Fibonacci Re”), an exempted company incorporated in Bermuda and registered as a SPI, was formed to provide collateralized capacity to Renaissance Reinsurance and its affiliates. Fibonacci Re raises capital from third-party investors and the Company, via private placements of participating notes which are listed on the Bermuda Stock Exchange.
- The Company and Reinsurance Group of America, Incorporated formed an initiative (“Langhorne”) to source third-party capital to support reinsurers targeting large in-force life and annuity blocks. Langhorne Holdings LLC (“Langhorne Holdings”) was incorporated to own and manage certain reinsurance entities within Langhorne. Langhorne Partners LLC (“Langhorne Partners”) is the general partner for Langhorne and manages the third-parties investing in Langhorne Holdings. Langhorne’s capital commitment period expired at the end of December 2022 and the Langhorne entities have initiated steps for a wind down.
- Following the acquisition of Tokio Millennium Re AG and certain associated entities and subsidiaries (collectively, “TMR”) on March 22, 2019, the Company managed Shima Reinsurance Ltd. (“Shima Re”), Norwood Re Ltd. (“Norwood Re”) and Blizzard Re Ltd. (“Blizzard,” together with Shima Re and Norwood Re, the “TMR managed third-party capital vehicles”), which provided third-party investors with access to reinsurance risk. The TMR managed third-party capital vehicles no longer write new business. The Company ceased providing management services to Blizzard effective November 1, 2020, and to Shima Re and Norwood Re effective December 1, 2020.

NOTE 2. SIGNIFICANT ACCOUNTING POLICIES

BASIS OF PRESENTATION

These consolidated financial statements have been prepared on the basis of accounting principles generally accepted in the United States ("GAAP"). All significant intercompany accounts and transactions have been eliminated from these statements.

Certain comparative information has been reclassified to conform to the current presentation.

USE OF ESTIMATES IN FINANCIAL STATEMENTS

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported and disclosed amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates. The major estimates reflected in the Company's consolidated financial statements include, but are not limited to, the reserve for claims and claim expenses; reinsurance recoverable and premiums receivable, including provisions for reinsurance recoverable and premiums receivable to reflect expected credit losses; estimates of written and earned premiums; fair value, including the fair value of investments, financial instruments and derivatives; impairment charges, and the Company's deferred tax valuation allowance.

PREMIUMS AND RELATED EXPENSES

Premiums are recognized as income, net of any applicable reinsurance or retrocessional coverage purchased, over the terms of the related contracts and policies. Premiums written are based on contract and policy terms and include estimates based on information received from both insureds and ceding companies. Subsequent revisions to premium estimates are recorded in the period in which they are determined. Unearned premiums represent the portion of premiums written that relate to the unexpired terms of contracts and policies in force. Amounts are computed by pro rata methods based on statistical data or reports received from ceding companies. Reinstatement premiums are estimated after the occurrence of a significant loss and are recorded in accordance with the contract terms based upon paid losses and case reserves. Reinstatement premiums are earned when written.

Acquisition costs are incurred when a contract or policy is issued and only the costs directly related to the successful acquisition of new and renewal contract or policies are deferred and amortized over the same period in which the related premiums are earned. Acquisition costs consist principally of commissions, brokerage and premium tax expenses and are shown net of commissions earned on ceded reinsurance. Certain of our assumed contracts contain profit sharing provisions or adjustable commissions that are estimated based on the expected loss and loss adjustment expense on those contracts. Acquisition costs include accruals for such estimates of commissions. Certain of our ceded contracts contain profit sharing provisions which accrue to the benefit of the company. Acquisition costs are shown net of such commissions and profit commissions earned on ceded reinsurance. In addition, certain of our ceded contracts contain override and management fees which offset against operating expenses. Deferred policy acquisition costs are limited to their estimated realizable value based on the related unearned premiums. Anticipated claims and claim expenses, based on historical and current experience, and anticipated investment income related to those premiums are considered in determining the recoverability of deferred acquisition costs.

CLAIMS AND CLAIM EXPENSES

The reserve for claims and claim expenses includes estimates for unpaid claims and claim expenses on reported losses as well as an estimate of losses incurred but not reported. The reserve is based on individual claims, case reserves and other reserve estimates reported by insureds and ceding companies as well as management estimates of ultimate losses. Inherent in the estimates of ultimate losses are expected trends in claim severity and frequency and other factors which could vary significantly as claims are settled. In addition, the Company does not have the benefit of a significant amount of its own historical experience in certain casualty and specialty and insurance lines of business. Accordingly, the reserving for incurred losses in these lines of business could be subject to greater variability.

Ultimate losses may vary materially from the amounts provided in the consolidated financial statements. These estimates are reviewed regularly and, as experience develops and new information becomes known, the reserves are adjusted as necessary. Such adjustments, if any, are reflected in the consolidated statements of operations in the period in which they become known and are accounted for as changes in estimates.

REINSURANCE

Amounts recoverable from reinsurers are estimated in a manner consistent with the claim liability associated with the reinsured policies. For multi-year retrospectively rated contracts, the Company accrues amounts (either assets or liabilities) that are due to or from assuming companies based on estimated contract experience. If the Company determines that adjustments to earlier estimates are appropriate, such adjustments are recorded in the period in which they are determined. Reinsurance recoverable on dual trigger reinsurance contracts require the Company to estimate its ultimate losses applicable to these contracts as well as estimate the ultimate amount of insured industry losses that will be reported by the applicable statistical reporting agency, as per the contract terms. Amounts recoverable from reinsurers are recorded net of a provision for current expected credit losses to reflect expected credit losses.

Assumed and ceded reinsurance contracts that lack significant transfer of risk are treated as deposits.

Certain assumed and ceded reinsurance contracts that do not meet all of the criteria to be accounted for as reinsurance in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic *Financial Services - Insurance* have been accounted for at fair value under the fair value option in accordance with FASB ASC Topic *Financial Instruments*.

INVESTMENTS

Fixed Maturity Investments

Investments in fixed maturities are classified as trading and are reported at fair value. Investment transactions are recorded on the trade date with balances pending settlement reflected in the balance sheet as a receivable for investments sold or a payable for investments purchased. Net investment income includes interest and dividend income together with amortization of market premiums and discounts and is net of investment management and custody fees. The amortization of premium and accretion of discount for fixed maturity securities is computed using the effective yield method. For mortgage-backed securities and other holdings for which there is prepayment risk, prepayment assumptions are evaluated quarterly and revised as necessary. Any adjustments required due to the change in effective yields and maturities are recognized on a prospective basis through yield adjustments. Fair values of investments are based on quoted market prices, or when such prices are not available, by reference to broker or underwriter bid indications and/or internal pricing valuation techniques. The net unrealized appreciation or depreciation on fixed maturity investments trading is included in net realized and unrealized gains (losses) on investments in the consolidated statements of operations. Realized gains or losses on the sale of investments are determined on the basis of the first in first out cost method.

Short Term Investments

Short term investments have a maturity of one year or less when purchased and are carried at fair value. The net unrealized appreciation or depreciation on short term investments is included in net realized and unrealized gains (losses) on investments in the consolidated statements of operations.

Equity Investments

Equity investments are accounted for at fair value in accordance with FASB ASC Topic *Financial Instruments*. Fair values are primarily priced by pricing services, reflecting the closing price quoted for the final trading day of the period. Dividend income is included in net investment income and net realized and unrealized appreciation or depreciation on equity investments is included in net realized and unrealized gains (losses) on investments in the consolidated statements of operations.

Other Investments

The Company accounts for its other investments at fair value in accordance with FASB ASC Topic *Financial Instruments* with interest and dividend income included in net investment income. Realized and unrealized gains and losses on other investments are included in net realized and unrealized gains (losses) on investments. The fair value of the Company's fund investments, which include private equity funds, private credit funds and hedge funds, is generally established on the basis of the net asset value ("NAV") per share (or its equivalent) established by each respective fund investments manager, if applicable. The net asset value established by the respective fund investments manager is determined in accordance with the governing documents of such fund investments. The Company applies the practical expedient provided by the FASB ASC Topic *Financial Instruments* relating to investments in certain entities that calculate NAV per share (or its equivalent) and therefore measure the fair value of the fund investments based on that NAV per share, or its equivalent. Fund investments are recorded on the consolidated balance sheet in other investments. Fund investments which are valued using NAV per share as a practical expedient are not categorized within the fair value hierarchy.

Certain of the Company's fund investments managers, or their fund administrators, are unable to provide final fund valuations as of the Company's current reporting date. The Company typically experiences a reporting lag to receive a final net asset value report of one month for hedge funds and three months for both private equity funds and private credit funds, although the Company has occasionally experienced delays of up to six months, particularly at year end.

In circumstances where there is a reporting lag between the current period end reporting date and the reporting date of the latest fund valuation, the Company estimates the fair value of these funds by starting with the prior month or quarter-end fund valuations, adjusting these valuations for actual capital calls, redemptions or distributions, as well as the impact of changes in foreign currency exchange rates, and then estimating the return for the current period. In circumstances in which the Company estimates the return for the current period, all information available to the Company is utilized. This principally includes using preliminary estimates reported to the Company by its fund managers, where available, and estimating returns based on the performance of broad market indices or other valuation methods. Actual final fund valuations may differ, perhaps materially so, from the Company's estimates and these differences are recorded in the Company's statement of operations in the period in which they are reported to the Company as a change in estimate.

The Company's other investments also include investments in catastrophe bonds, direct private equity investments and term loans which are recorded at fair value. The fair value of catastrophe bonds is based on broker or underwriter bid indications. The fair value of direct private equity investments is based on the use of internal valuation models and the fair value of term loans are based on discounted cash flow valuation models.

Investments in Other Ventures, Under Equity Method

Investments in which the Company has significant influence over the operating and financial policies of the investee are classified as investments in other ventures, under equity method, and are accounted for under the equity method of accounting. Under this method, the Company records its proportionate share of income or loss from such investments in its results for the period. Additionally, the Company records its portion of any changes to the accumulated other comprehensive income of the investee in the Company's comprehensive income. If the Company's proportionate share of loss from such investment is in excess of the carrying value of such investment, the company suspends the application of the equity method when the carrying value of the investment is reduced to zero, unless the Company has committed to provide further financial support to the investee. If the investee subsequently reports net income, the Company resumes applying the equity method only after its proportionate share of net income equals the proportionate share of net losses not recognized during the period the equity method was suspended. Any decline in value of investments in other ventures, under equity method considered by management to be other-than-temporary is charged to income in the period in which it is determined.

CASH AND CASH EQUIVALENTS

Cash equivalents include money market instruments with a maturity of ninety days or less when purchased.

STOCK INCENTIVE COMPENSATION

The Company is authorized to issue restricted stock awards and units, performance shares, stock options and other equity-based awards to its employees and directors. The fair value of the compensation cost is measured at the grant date and expensed over the period for which the employee or director is required to provide services in exchange for the award.

In addition, the Company is authorized to issue cash settled restricted stock units ("CSRSU") to its employees. The fair value of CSRSUs is determined using the fair market value of RenaissanceRe common shares at the end of each reporting period and is expensed over the period for which the employee is required to provide service in exchange for the award. The fair value of these awards is recorded on the Company's consolidated balance sheet as a liability as it is expensed until the point payment is made to the employee.

The Company has elected to recognize forfeitures as they occur rather than estimating service-based forfeitures over the requisite service period.

DERIVATIVES

From time to time, the Company enters into derivative instruments such as futures, options, swaps, forward contracts and other derivative contracts primarily to manage its foreign currency exposure, obtain exposure to a particular financial market, for trading and to assume risk. The Company accounts for its derivatives in accordance with FASB ASC Topic *Derivatives and Hedging*, which requires all derivatives to be recorded at fair value on the Company's balance sheet as either assets or liabilities, depending on their rights or obligations, with changes in fair value reflected in current earnings. The Company has adopted hedge accounting for certain of its derivative instruments used as hedges of a net investment in a foreign operation, as discussed below. The fair value of the Company's derivatives is estimated by reference to quoted prices or broker quotes, where available, or in the absence of quoted prices or broker quotes, the use of industry or internal valuation models.

Hedges of a Net Investment in a Foreign Operation

Changes in the fair value of derivative instruments used to hedge the net investment in a foreign operation, to the extent effective as a hedge, are recorded as a component of accumulated other comprehensive income (loss) in foreign currency translation adjustments, net of tax. Cumulative changes in fair value recorded in accumulated other comprehensive income (loss) are reclassified into earnings upon the sale, or complete or substantially complete liquidation, of the foreign operation. Any hedge ineffectiveness is recorded immediately in current period earnings as net foreign exchange gains (losses).

Hedge Documentation and Effectiveness Testing

To qualify for hedge accounting treatment, a derivative must be highly effective in mitigating the designated changes in value or cash flow of the hedged item. At the inception of a hedge, the Company formally documents relationships between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking each hedge transaction. The documentation process includes linking derivatives that are designated as net investment hedges to specific assets or liabilities on the consolidated balance sheet. The Company also formally assesses, both at the hedge's inception and on an ongoing basis, whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in the net investment in a foreign operation. The Company will discontinue hedge accounting prospectively if it determines that the derivative is no longer highly effective in offsetting changes in the net investment in a foreign operation, the derivative is no longer designated as a hedging instrument, or the derivative expires or is sold, terminated or exercised. If hedge accounting is discontinued, the derivative continues to be carried at fair value on the consolidated balance sheet with changes in its fair value recognized in current period earnings through net realized and unrealized gains (losses) on investments.

FAIR VALUE OPTION

The Company has elected to account for certain of its assets and liabilities at fair value in accordance with FASB ASC Topic *Fair Value Measurements and Disclosures*. The Company recognizes the change in unrealized gains and losses arising from changes in fair value in its statements of operations.

BUSINESS COMBINATIONS, GOODWILL AND OTHER INTANGIBLE ASSETS

The Company accounts for business combinations in accordance with FASB ASC Topic *Business Combinations*, and goodwill and other intangible assets that arise from business combinations in accordance with FASB ASC Topic *Intangibles – Goodwill and Other*. A purchase price that is in excess of the fair value of the net assets acquired arising from a business combination is recorded as goodwill, and is not amortized. Other intangible assets with a finite life are amortized over the estimated useful life of the asset. Other intangible assets with an indefinite useful life are not amortized.

Goodwill and other indefinite life intangible assets are tested for impairment on an annual basis or more frequently if events or changes in circumstances indicate that the carrying amount may not be recoverable. Finite life intangible assets are reviewed for indicators of impairment on an annual basis or more frequently if events or changes in circumstances indicate that the carrying amount may not be recoverable, and tested for impairment if appropriate. For purposes of the annual impairment evaluation, goodwill is assigned to the applicable reporting unit of the acquired entities giving rise to the goodwill. Goodwill and other intangible assets recorded in connection with investments accounted for under the equity method, are recorded as “Investments in other ventures, under equity method” on the Company’s consolidated balance sheets.

The Company has established the third and fourth quarters of the year as the period for performing its annual impairment tests. The Company may determine to perform additional impairment testing at other times in the year if it is deemed necessary. The Company has elected to use the option to first assess qualitative factors to determine whether it is necessary to perform the quantitative goodwill impairment test. Under this option, the Company is not required to calculate the fair value of a reporting unit unless the Company determines, based on its qualitative assessment, that it is more likely than not that a reporting unit’s fair value is less than its carrying amount. If goodwill or other intangible assets are impaired, they are written down to their estimated fair value with a corresponding expense reflected in the Company’s consolidated statements of operations.

NONCONTROLLING INTERESTS

The Company accounts for redeemable noncontrolling interests in the mezzanine section of the Company’s consolidated balance sheet in accordance with United States Securities and Exchange Commission (“SEC”) guidance which is applicable to SEC registrants. The share classes related to the redeemable noncontrolling interest portion of the issuer are accounted for in accordance with SEC guidance, which requires that shares not required to be accounted for in accordance with FASB ASC Topic *Distinguishing Liabilities from Equity*, and having redemption features that are not solely within the control of the issuer, to be classified outside of permanent equity in the mezzanine section of the balance sheet. The SEC guidance does not impact the accounting for redeemable noncontrolling interest on the consolidated statements of operations; therefore, the provisions of FASB ASC Topic *Consolidation* with respect to the consolidated statements of operations still apply, and net income attributable to redeemable noncontrolling interests is presented separately in the Company’s consolidated statements of operations.

VARIABLE INTEREST ENTITIES

The Company accounts for variable interest entities (“VIEs”) in accordance with FASB ASC Topic *Consolidation*, which requires the consolidation of all VIEs by the primary beneficiary, that being the investor that has the power to direct the activities of the VIE and that will absorb a portion of the VIE’s expected losses or residual returns that could potentially be significant to the VIE. When the Company determines it has a variable interest in a VIE, it determines whether it is the primary beneficiary of that VIE by performing an analysis that principally considers: (i) the VIE’s purpose and design, including the risks the VIE was designed to create and pass through to its variable interest holders; (ii) the VIE’s capital structure; (iii) the terms between the VIE and its variable interest holders and other parties involved with the VIE; (iv) which variable interest holders have the power to direct the activities of the VIE that most significantly impact the VIE’s economic performance; (v) which variable interest holders have the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE; and (vi) related party relationships. The Company reassesses its determination of whether the Company is the primary beneficiary of a VIE upon changes in facts and circumstances that could potentially alter the Company’s assessment.

EARNINGS PER SHARE

The Company calculates earnings per share in accordance with FASB ASC Topic *Earnings per Share*. Basic earnings per share are based on weighted average common shares and exclude any dilutive effects of options and restricted stock. Diluted earnings per share assumes the exercise of all dilutive stock options and restricted stock grants.

The two-class method is used to determine earnings per share based on dividends declared on common shares and participating securities (i.e., distributed earnings) and participation rights of participating securities in any undistributed earnings. Each unvested restricted share granted by the Company is considered a participating security and the Company uses the two-class method to calculate its net income available to RenaissanceRe common shareholders per common share – basic and diluted.

FOREIGN EXCHANGE

Monetary assets and liabilities denominated in a currency other than the functional currency of the Company's subsidiaries in which those monetary assets and liabilities reside are revalued into such subsidiary's functional currency at the prevailing exchange rate on the balance sheet date. Revenues and expenses denominated in a currency other than the functional currency of the Company's subsidiaries, are valued at the exchange rate on the date on which the underlying revenue or expense transaction occurred. The net effect of these revaluation adjustments are recognized in the Company's consolidated statement of operations as part of net foreign exchange gains (losses).

The Company's functional currency is the U.S. dollar. One of the Company's subsidiaries has a functional currency other than the U.S. dollar. Assets and liabilities of the foreign operation whose functional currency is not the U.S. dollar are translated into the Company's U.S. dollar reporting currency at prevailing balance sheet-date exchange rates, while revenue and expenses of such foreign operation are translated into the Company's U.S. dollar functional currency at monthly average exchange rates during the year. The net effect of these translation adjustments, as well as any gains or losses on intercompany balances for which settlement is not planned or anticipated in the foreseeable future, net of applicable deferred income taxes, is included in the Company's consolidated balance sheet as currency translation adjustments and reflected within accumulated other comprehensive income (loss).

TAXATION

Income taxes have been provided for in accordance with the provisions of FASB ASC Topic *Income Taxes*. Deferred tax assets and liabilities result from temporary differences between the amounts recorded in the consolidated financial statements and the tax basis of the Company's assets and liabilities. Such temporary differences are primarily due to net operating loss and interest expense carryforwards and GAAP versus tax basis accounting differences relating to underwriting results, accrued expenses and investments. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance against net deferred tax assets is recorded if it is more likely than not that all, or some portion, of the benefits related to net deferred tax assets will not be realized.

Uncertain tax positions are also accounted for in accordance with FASB ASC Topic *Income Taxes*. Uncertain tax positions must meet a more likely than not recognition threshold to be recognized.

RECENTLY ADOPTED ACCOUNTING PRONOUNCEMENTS

Simplifying the Accounting for Income Taxes

In December 2019, the FASB issued ASU No. 2019-12, Simplifying the Accounting for Income Taxes ("ASU 2019-12"). Among other things, ASU 2019-12 eliminates certain exceptions for recognizing deferred taxes for investments, performing intraperiod tax allocation and calculating income taxes in interim periods. ASU 2019-12 also clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill. ASU 2019-12 is effective for public business entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. Accordingly, the Company adopted ASU 2019-12 effective January 1, 2021. The adoption of ASU 2019-12 did not have a material impact on the Company's consolidated statements of operations and financial position.

Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued ASU No. 2016-13, Measurement of Credit Losses on Financial Instruments ("ASU 2016-13"). ASU 2016-13 modifies the recognition of credit losses by replacing the incurred loss impairment methodology with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is applicable to financial assets such as loans, debt securities, trade receivables, off-balance sheet credit exposures, reinsurance receivables, and other financial assets that have the contractual right to receive cash. The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. The Company's invested assets are measured at fair value through net income, and therefore those invested assets were not impacted by the adoption of ASU 2016-13. The Company has other financial assets, such as premiums receivable and reinsurance recoverable, that were not materially impacted by the adoption of ASU 2016-13. ASU 2016-13 became effective for public business entities that are SEC filers for annual and interim periods beginning after December 15, 2019. Accordingly, the Company adopted ASU 2016-13 effective January 1, 2020. The adoption of ASU 2016-13 did not have a material impact on the Company's consolidated statements of operations and financial position, and as a result, there was no cumulative effect adjustment to opening retained earnings as of January 1, 2020.

Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement

In August 2018, the FASB issued ASU No. 2018-13, Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement ("ASU 2018-13"). The ASU 2018-13 modifies the disclosure requirements of fair value measurements as part of the disclosure framework project with the objective to improve the effectiveness of disclosures in the notes to the financial statements. ASU 2018-13 allows for removal of the amount and reasons for transfer between Level 1 and Level 2 of the fair value hierarchy; the policy for transfers between levels; and the valuation processes for Level 3 fair value measurements. ASU 2018-13 became effective for all entities for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years. Accordingly, the Company adopted ASU 2018-13 effective January 1, 2020. Since ASU 2018-13 is disclosure-related only, it did not have an impact on the Company's consolidated statements of operations and financial position.

Simplifying the Test for Goodwill Impairment

In January 2017, the FASB issued ASU No. 2017-04, Simplifying the Test for Goodwill Impairment ("ASU 2017-04"). Among other things, ASU 2017-04 requires the following: (1) the elimination of step two of the goodwill impairment test; entities will no longer utilize the implied fair value of their assets and liabilities for purposes of testing goodwill for impairment, (2) the quantitative portion of the goodwill impairment test will be performed by comparing the fair value of a reporting unit with its carrying amount; an impairment charge is to be recognized for the excess of carrying amount over fair value, but only to the extent of the amount of goodwill allocated to that reporting unit, and (3) foreign currency translation adjustments are not to be allocated to a reporting unit from an entity's accumulated other comprehensive income (loss); the reporting unit's carrying amount should include only the currently translated balances of the assets and liabilities assigned to the reporting unit. ASU 2017-04 became effective for public business entities that are SEC filers for annual periods, or any interim goodwill impairment tests in annual periods, beginning after December 15, 2019. Accordingly, the Company adopted ASU 2017-04 effective January 1, 2020. The adoption of ASU 2017-04 did not have a material impact on the Company's consolidated statements of operations and financial position.

NOTE 3. GOODWILL AND OTHER INTANGIBLE ASSETS

The following tables show an analysis of goodwill and other intangible assets, net of foreign currency translation adjustments, included in goodwill and other intangible assets on the Company's consolidated balance sheets:

<u>At December 31,</u>	Goodwill and Other Intangible Assets	
	2022	2021
Goodwill, net	\$ 210,894	\$ 210,920
Other intangible assets, net	26,934	32,576
Total goodwill and other intangible assets	<u>\$ 237,828</u>	<u>\$ 243,496</u>

Included in goodwill and other intangible assets on the Company's consolidated balance sheet at December 31, 2022 was gross goodwill of \$213.2 million (2021 - \$213.2 million, 2020 - \$213.3 million). Included in goodwill, net at December 31, 2022 was accumulated impairment losses of \$2.3 million (2021 - \$2.3 million).

In addition, the Company has also recorded goodwill and other intangible assets included in investments in other ventures, under equity method on the Company's consolidated balance sheets:

<u>At December 31,</u>	Goodwill and Other Intangible Assets Included in Investments in Other Ventures, Under Equity Method	
	2022	2021
Goodwill, net	\$ 9,903	\$ 9,903
Other intangible assets, net	7,866	8,716
Total goodwill and other intangible assets	<u>\$ 17,769</u>	<u>\$ 18,619</u>

Included in investments in other ventures, under equity method on the Company's consolidated balance sheet at December 31, 2022 was gross goodwill of \$14.4 million (2021 - \$14.4 million, 2020 - \$15.1 million). Included in goodwill, net at December 31, 2022, was accumulated impairment losses of \$4.5 million (2021 - \$4.5 million).

The following table shows a roll forward of goodwill included in goodwill and other intangible assets and goodwill included in investments in other ventures, under equity method on the Company's consolidated balance sheets:

	Goodwill	
	Goodwill and Other Intangible Assets	Goodwill and Other Intangible Assets Included in Investments in Other Ventures, Under Equity Method
Balance at December 31, 2020, net	\$ 211,013	\$ 10,598
Acquired	—	(695)
Foreign currency translation	(93)	—
Balance at December 31, 2021, net	210,920	9,903
Foreign currency translation	(26)	—
Balance at December 31, 2022, net	<u>\$ 210,894</u>	<u>\$ 9,903</u>

The gross carrying value, accumulated amortization and accumulated impairment losses by major category of other intangible assets included in goodwill and other intangible assets and investments in other ventures, under equity method on the Company's consolidated balance sheets are shown below:

	Other Intangible Assets			
	Gross Carrying Value	Accumulated Amortization	Accumulated Impairment Losses	Net
At December 31, 2022				
Customer relationships and customer lists	\$ 108,704	\$ (89,736)	\$ (1,403)	\$ 17,565
Licenses ⁽¹⁾	23,779	—	(6,800)	16,979
Value of business acquired	20,200	(20,200)	—	—
Software	12,230	(12,230)	—	—
Patents and intellectual property	4,500	(1,875)	(2,625)	—
Covenants not-to-compete	4,030	(4,030)	—	—
Trademarks and trade names	1,710	(1,454)	—	256
	<u>\$ 175,153</u>	<u>\$ (129,525)</u>	<u>\$ (10,828)</u>	<u>\$ 34,800</u>

(1) Licenses is comprised of \$17.0 million of indefinite lived other intangible assets, included in other intangible assets, net, as of December 31, 2022

	Other Intangible Assets			
	Gross Carrying Value	Accumulated Amortization	Accumulated Impairment Losses	Net
At December 31, 2021				
Customer relationships and customer lists	\$ 108,742	\$ (83,307)	\$ (1,403)	\$ 24,032
Licenses ⁽¹⁾	23,779	—	(6,800)	16,979
Value of business acquired	20,200	(20,200)	—	—
Software	12,230	(12,230)	—	—
Patents and intellectual property	4,500	(1,875)	(2,625)	—
Covenants not-to-compete	4,030	(4,030)	—	—
Trademarks and trade names	1,710	(1,429)	—	281
	<u>\$ 175,191</u>	<u>\$ (123,071)</u>	<u>\$ (10,828)</u>	<u>\$ 41,292</u>

(1) Licenses is comprised of \$17.0 million of indefinite lived other intangible assets, included in other intangible assets, net, as of December 31, 2021

During 2022, the Company recorded amortization expense of \$6.5 million and an impairment loss of \$Nil related to other intangible assets (2021 - \$7.2 million and \$Nil, respectively).

In performing the impairment assessment, the Company first assessed qualitative factors to determine whether it was necessary to perform a quantitative impairment test. Based on its qualitative assessment, the Company determined it was not more likely than not that the fair value of the goodwill and other intangible assets in question were less than their respective carrying amounts. The qualitative assessment included the following factors which the Company determined had not significantly deteriorated given specific facts and circumstances: macroeconomic conditions; industry and market conditions; costs factors; and overall financial performance. Other than normal course amortization of intangible assets, in accordance with the Company's established accounting policy, there were no adjustments to carried goodwill and other intangible assets during the year ended December 31, 2022.

In accordance with the Company's established accounting policy, the Company performed goodwill and other intangible assets impairment tests during the second half of the year. During 2020, the Company elected to renew certain reinsurance contracts, that had previously been written on one of the acquired TMR balance sheets, on other balance sheets within the consolidated group and placed the TMR entity into run-off. Accordingly and in connection with the Company's impairment assessment performed during the fourth quarter of 2020, it was determined that the license associated with this acquired TMR entity, which

was initially reflected as an indefinite lived intangible asset of \$6.8 million at the time of the acquisition of TMR, should be written down to \$Nil.

The remaining useful life of intangible assets with finite lives ranges from 0.3 to 11.2 years, with a weighted-average amortization period of 4.8 years. Expected amortization of the other intangible assets, including other intangible assets recorded in investments in other ventures, under equity method, is shown below:

	Other Intangibles Assets	Other Intangible Assets Included in Investments in Other Ventures, Under Equity Method	Total
2023	\$ 5,173	\$ 754	\$ 5,927
2024	4,716	194	4,910
2025	1,976	24	2,000
2026	1,378	24	1,402
2027	1,312	24	1,336
2028 and thereafter	2,115	134	2,249
Total remaining amortization expense	16,670	1,154	17,824
Indefinite lived	10,264	6,712	16,976
Total	<u>\$ 26,934</u>	<u>\$ 7,866</u>	<u>\$ 34,800</u>

NOTE 4. INVESTMENTS

Fixed Maturity Investments Trading

The following table summarizes the fair value of fixed maturity investments trading:

<u>At December 31.</u>	<u>2022</u>	<u>2021</u>
U.S. treasuries	\$ 7,180,129	\$ 6,247,779
Corporate ⁽¹⁾	4,390,568	3,689,286
Agencies	395,149	361,684
Non-U.S. government	383,838	549,613
Residential mortgage-backed	710,429	955,301
Commercial mortgage-backed	213,987	634,925
Asset-backed	1,077,302	1,068,543
Total fixed maturity investments trading	<u>\$14,351,402</u>	<u>\$13,507,131</u>

(1) Corporate fixed maturity investments include non-U.S. government-backed corporate fixed maturity investments.

Contractual maturities of fixed maturity investments trading are described in the following table. Expected maturities will differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

<u>At December 31, 2022</u>	<u>Amortized Cost</u>	<u>Fair Value</u>
Due in less than one year	\$ 364,501	\$ 356,770
Due after one through five years	8,117,971	7,875,771
Due after five through ten years	4,072,142	3,805,287
Due after ten years	356,268	311,856
Mortgage-backed	1,009,205	924,416
Asset-backed	1,118,464	1,077,302
Total	<u>\$15,038,551</u>	<u>\$14,351,402</u>

Equity Investments

The following table summarizes the fair value of equity investments:

<u>At December 31.</u>	<u>2022</u>	<u>2021</u>
Fixed income exchange traded funds	\$ 295,481	\$ 90,422
Financials	103,250	146,615
Equity exchange traded funds	90,510	114,919
Communications and technology	48,687	82,444
Consumer	33,447	51,083
Industrial, utilities and energy	25,326	26,645
Healthcare	24,617	28,796
Basic materials	3,740	5,092
Total	<u>\$ 625,058</u>	<u>\$ 546,016</u>

Pledged Investments

At December 31, 2022, \$7.9 billion (2021 - \$8.7 billion) of cash and investments at fair value were on deposit with, or in trust accounts for the benefit of, various counterparties, including with respect to the Company's letter of credit facilities. Of this amount, \$1.2 billion (2021 - \$1.8 billion) is on deposit with, or in trust accounts for the benefit of, U.S. state regulatory authorities. The reduction in pledged assets relates to the release of excess regulatory collateral.

Reverse Repurchase Agreements

At December 31, 2022, the Company held \$38.5 million (2021 - \$5.1 million) of reverse repurchase agreements. These loans are fully collateralized, are generally outstanding for a short period of time and are presented on a gross basis as part of short term investments on the Company's consolidated balance sheets. The required collateral for these loans typically includes high-quality, readily marketable instruments at a minimum amount of 102% of the loan principal. Upon maturity, the Company receives principal and interest income.

Net Investment Income

The components of net investment income are as follows:

Year ended December 31,	2022	2021	2020
Fixed maturity investments	\$ 382,165	\$ 234,911	\$ 278,215
Short term investments	41,042	2,333	20,799
Equity investments	20,864	9,017	6,404
Other investments			
Catastrophe bonds	94,784	64,860	54,784
Other	37,497	28,811	9,417
Cash and cash equivalents	5,197	297	2,974
	581,549	340,229	372,593
Investment expenses	(21,617)	(20,750)	(18,555)
Net investment income	<u>\$ 559,932</u>	<u>\$ 319,479</u>	<u>\$ 354,038</u>

Net Realized and Unrealized Gains (Losses) on Investments

Net realized and unrealized gains (losses) on investments are as follows:

Year ended December 31,	2022	2021	2020
Net realized gains (losses) on fixed maturity investments trading	\$ (732,561)	\$ 79,588	\$ 276,901
Net unrealized gains (losses) on fixed maturity investments trading	(636,762)	(389,376)	216,859
Net realized and unrealized gains (losses) on fixed maturity investments trading	(1,369,323)	(309,788)	493,760
Net realized and unrealized gains (losses) on investments-related derivatives ⁽¹⁾	(165,293)	(12,237)	68,608
Net realized gains (losses) on equity investments	43,035	335,491	3,532
Net unrealized gains (losses) on equity investments	(166,823)	(285,882)	262,064
Net realized and unrealized gains (losses) on equity investments	(123,788)	49,609	265,596
Net realized and unrealized gains (losses) on other investments - catastrophe bonds	(130,335)	(35,033)	(7,031)
Net realized and unrealized gains (losses) on other investments - other	(11,746)	89,315	(297)
Net realized and unrealized gains (losses) on investments	<u>\$(1,800,485)</u>	<u>\$ (218,134)</u>	<u>\$ 820,636</u>

- (1) Net realized and unrealized gains (losses) on investment-related derivatives includes fixed maturity investments related derivatives (interest rate futures, interest rate swaps, credit default swaps and total return swaps), and equity investments related derivatives (equity futures). See "Note 18. Derivative Instruments" for additional information.

Other Investments

The table below shows the fair value of the Company's portfolio of other investments:

<u>At December 31,</u>	<u>2022</u>	<u>2021</u>
Catastrophe bonds	\$ 1,241,468	\$ 1,104,034
Fund investments	1,086,706	725,802
Direct private equity investments	66,780	88,373
Term loans	100,000	74,850
Total other investments	<u>\$ 2,494,954</u>	<u>\$ 1,993,059</u>

During 2022, the Company recorded income of \$19.8 million (2021 - \$7.0 million, 2020 - loss of \$2.4 million), representing the change between the Company's fair value estimate for funds as at the prior year end, and the final reported net asset values provided by the Company's fund investment managers, as discussed in "Note 2. Significant Accounting Policies." This income was included between net investment income and net realized and unrealized gains (losses) on investments for the year ended December 31, 2022.

The Company has committed capital to direct private equity investments, fund investments, term loans and investments in other ventures of \$2.9 billion, of which \$1.7 billion has been contributed at December 31, 2022 (2021 - \$2.7 billion and \$1.3 billion, respectively). The Company's remaining commitments to these investments at December 31, 2022 totaled \$1.2 billion (2021 - \$1.4 billion). In the future, the Company may enter into additional commitments in respect of direct private equity investments, term loans or fund investment opportunities.

Catastrophe bonds

Catastrophe bonds are non-investment grade bonds generally issued by unrelated third parties that generally mature within one to five years.

Direct private equity investments

Direct private equity investments are the Company's direct equity investments in companies that are not traded on any nationally recognized equity markets.

Fund investments

Fund investments are limited partnership or similar interests in private equity funds, private credit funds and hedge funds managed by unrelated third parties.

Term loans

Term loans represent the Company's participation interest in a senior secured term loan facility. The Company has committed to a loan participation interest of \$100 million and, as of December 31, 2022, had fully funded its commitment (2021 - \$74.9 million). This facility pays interest, has a 5-year maturity and is fully secured by a diversified pool of primarily private equity assets.

Investments in Other Ventures, under Equity Method

The table below shows the Company's portfolio of investments in other ventures, under equity method:

<u>At December 31,</u>	<u>2022</u>		<u>2021</u>	
	<u>Ownership %</u>	<u>Carrying Value</u>	<u>Ownership %</u>	<u>Carrying Value</u>
Tower Hill Companies ⁽¹⁾	2.0% - 25.0%	10,897	2.0% - 25.0%	25,575
Top Layer	50.0%	23,562	50.0%	25,903
Other	22.8%	45,291	22.4%	46,590
Total investments in other ventures, under equity method		<u>\$ 79,750</u>		<u>\$ 98,068</u>

(1) The Company has equity interests in Bluegrass Insurance Management, LLC, Tower Hill Claims Service, LLC, Tower Hill Holdings, Inc., Tower Hill Insurance Group, LLC, Tower Hill Insurance Managers, LLC, Tower Hill Re Holdings, Inc., Tower Hill Signature Insurance Holdings, Inc., Tower Hill Risk Management LLC and Tomoka Re Holdings, Inc. (collectively, the "Tower Hill Companies").

The table below shows the Company's equity in earnings of other ventures, under equity method:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>
Top Layer	\$ 6,347	\$ 8,286	\$ 9,595
Tower Hill Companies	(921)	(2,073)	3,104
Other	5,823	6,096	4,495
Total equity in earnings of other ventures, under equity method	<u>\$ 11,249</u>	<u>\$ 12,309</u>	<u>\$ 17,194</u>

During 2022, the Company received \$24.2 million of distributions from its investments in other ventures, under equity method (2021 – \$33.9 million, 2020 – \$30.0 million). Except for Top Layer, which is recorded on a current quarter basis, the equity in earnings of the Company's investments in other ventures are reported one quarter in arrears.

Net Sales (Purchases) of Investments

The table below shows the Company's cash flows in respect of gross and net purchases and sales of equity investments, short term investments, other investments and investments in other ventures for the year ended December 31, 2022.

<u>Year ended December 31, 2022</u>	<u>Gross Purchases</u>	<u>Gross Sales</u>	<u>Net</u>
Equity investments	\$ (861,508)	659,199	\$ (202,309)
Short term investments	\$(25,972,174)	26,612,585	\$ 640,411
Other investments	\$ (1,027,734)	408,944	\$ (618,790)
Investments in other ventures	\$ (4,318)	3,545	\$ (773)

NOTE 5. FAIR VALUE MEASUREMENTS

The use of fair value to measure certain assets and liabilities with resulting unrealized gains or losses is pervasive within the Company's consolidated financial statements. Fair value is defined under accounting guidance currently applicable to the Company as the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between open market participants at the measurement date. The Company recognizes the change in unrealized gains or losses arising from changes in fair value in its consolidated statements of operations.

FASB ASC Topic *Fair Value Measurements and Disclosures* prescribes a fair value hierarchy that prioritizes the inputs to the respective valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to valuation techniques that use at least one significant input that is unobservable (Level 3). The three levels of the fair value hierarchy are described below:

- Fair values determined by Level 1 inputs utilize unadjusted quoted prices obtained from active markets for identical assets or liabilities for which the Company has access at the measurement date. The fair value is determined by multiplying the quoted price by the quantity held by the Company;
- Fair values determined by Level 2 inputs utilize inputs (other than quoted prices included in Level 1) that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include quoted prices for similar assets and liabilities in active markets, and inputs other than quoted prices that are observable for the asset or liability, such as interest rates and yield curves that are observable at commonly quoted intervals, broker quotes and certain pricing indices; and
- Level 3 inputs are based all or in part on significant unobservable inputs for the asset or liability, and include situations where there is little, if any, market activity for the asset or liability. In these cases, significant management assumptions can be used to establish management's best estimate of the assumptions used by other market participants in determining the fair value of the asset or liability.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the level in the fair value hierarchy within which the fair value measurement in its entirety falls has been determined based on the lowest level input that is significant to the fair value measurement of the asset or liability. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment, and the Company considers factors specific to the asset or liability.

In order to determine if a market is active or inactive for a security, the Company considers a number of factors, including, but not limited to, the spread between what a seller is asking for a security and what a buyer is bidding for the same security, the volume of trading activity for the security in question, the price of the security compared to its par value (for fixed maturity investments), and other factors that may be indicative of market activity.

There have been no material changes in the Company's valuation techniques, nor have there been any transfers between Level 1 and Level 2, or Level 2 and Level 3 during the period represented by these consolidated financial statements.

Below is a summary of the assets and liabilities that are measured at fair value on a recurring basis and also represents the carrying amount on the Company's consolidated balance sheets:

At December 31, 2022	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Fixed maturity investments				
U.S. treasuries	\$ 7,180,129	\$ 7,180,129	\$ —	\$ —
Corporate ⁽¹⁾	4,390,568	—	4,390,568	—
Agencies	395,149	—	395,149	—
Non-U.S. government	383,838	—	383,838	—
Residential mortgage-backed	710,429	—	710,429	—
Commercial mortgage-backed	213,987	—	213,987	—
Asset-backed	1,077,302	—	1,077,302	—
Total fixed maturity investments	14,351,402	7,180,129	7,171,273	—
Short term investments	4,669,272	—	4,669,272	—
Equity investments	625,058	625,058	—	—
Other investments				
Catastrophe bonds	1,241,468	—	1,241,468	—
Term loans	100,000	—	—	100,000
Direct private equity investments	66,780	—	—	66,780
	1,408,248	—	1,241,468	166,780
Fund investments ⁽²⁾	1,086,706	—	—	—
Total other investments	2,494,954	—	1,241,468	166,780
Other assets and (liabilities)				
Assumed and ceded (re)insurance contracts ⁽³⁾	(1,832)	—	—	(1,832)
Derivative assets ⁽⁴⁾	44,400	387	44,013	—
Derivatives liabilities ⁽⁴⁾	(7,560)	(2,008)	(5,552)	—
Total other assets and (liabilities)	35,008	(1,621)	38,461	(1,832)
	<u>\$22,175,694</u>	<u>\$ 7,803,566</u>	<u>\$13,120,474</u>	<u>\$ 164,948</u>

(1) Corporate fixed maturity investments include non-U.S. government-backed corporate fixed maturity investments.

(2) Fund investments, which are comprised of private equity funds, private credit funds, and hedge funds are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient and have not been classified in the fair value hierarchy. The fair value presented in this table is provided to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

(3) Included in assumed and ceded (re)insurance contracts at December 31, 2022 was \$3.5 million of other assets and \$5.3 million of other liabilities.

(4) Refer to "Note 18. Derivative Instruments" for additional information related to the fair value, by type of contract, of derivatives entered into by the Company.

At December 31, 2021	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Fixed maturity investments				
U.S. treasuries	\$ 6,247,779	\$ 6,247,779	\$ —	\$ —
Corporate ⁽¹⁾	3,689,286	—	3,689,286	—
Agencies	361,684	—	361,684	—
Non-U.S. government	549,613	—	549,613	—
Residential mortgage-backed	955,301	—	955,301	—
Commercial mortgage-backed	634,925	—	634,925	—
Asset-backed	1,068,543	—	1,068,543	—
Total fixed maturity investments	13,507,131	6,247,779	7,259,352	—
Short term investments	5,298,385	—	5,298,385	—
Equity investments	546,016	546,016	—	—
Other investments				
Catastrophe bonds	1,104,034	—	1,104,034	—
Direct private equity investments	88,373	—	—	88,373
Term loans	74,850	—	—	74,850
	1,267,257	—	1,104,034	163,223
Fund investments ⁽²⁾	725,802	—	—	—
Total other investments	1,993,059	—	1,104,034	163,223
Other assets and (liabilities)				
Assumed and ceded (re)insurance contracts ⁽³⁾	(4,727)	—	—	(4,727)
Derivative assets ⁽⁴⁾	17,889	1,067	16,822	—
Derivative liabilities ⁽⁴⁾	(16,954)	(1,598)	(15,356)	—
Total other assets and (liabilities)	(3,792)	(531)	1,466	(4,727)
	<u>\$21,340,799</u>	<u>\$ 6,793,264</u>	<u>\$13,663,237</u>	<u>\$ 158,496</u>

(1) Corporate fixed maturity investments include non-U.S. government-backed corporate fixed maturity investments.

(2) Fund investments, which are comprised of private equity funds, private credit funds, and hedge funds are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient and have not been classified in the fair value hierarchy. The fair value presented in this table is provided to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

(3) Included in assumed and ceded (re)insurance contracts at December 31, 2021 was \$6.1 million of other assets and \$10.8 million of other liabilities.

(4) Refer to "Note 18. Derivative Instruments" for additional information related to the fair value, by type of contract, of derivatives entered into by the Company.

Level 1 and Level 2 Assets and Liabilities Measured at Fair Value

Fixed Maturity Investments

Fixed maturity investments included in Level 1 consist of the Company's investments in U.S. treasuries. Fixed maturity investments included in Level 2 are agencies, corporate (including non-U.S. government-backed corporate), non-U.S. government, residential mortgage-backed, commercial mortgage-backed and asset-backed.

The Company's fixed maturity investments are primarily priced using pricing services, such as index providers and pricing vendors, as well as broker quotations. In general, the pricing vendors provide pricing

for a high volume of liquid securities that are actively traded. For securities that do not trade on an exchange, the pricing services generally utilize market data and other observable inputs in matrix pricing models to determine month end prices. Observable inputs include benchmark yields, reported trades, broker-dealer quotes, issuer spreads, bids, offers, reference data and industry and economic events. Index pricing generally relies on market traders as the primary source for pricing; however, models are also utilized to provide prices for all index eligible securities. The models use a variety of observable inputs such as benchmark yields, transactional data, dealer runs, broker-dealer quotes and corporate actions. Prices are generally verified using third-party data. Securities which are priced by an index provider are generally included in the index.

In general, broker-dealers value securities through their trading desks based on observable inputs. The methodologies include mapping securities based on trade data, bids or offers, observed spreads, and performance on newly issued securities. Broker-dealers also determine valuations by observing secondary trading of similar securities. Prices obtained from broker quotations are considered non-binding, however they are based on observable inputs and by observing secondary trading of similar securities obtained from active and non-distressed markets.

The Company considers these broker quotations to be Level 2 inputs as they are corroborated with other market observable inputs. The techniques generally used to determine the fair value of the Company's fixed maturity investments are detailed below by asset class.

U.S. Treasuries

Level 1 - At December 31, 2022, the Company's U.S. treasuries fixed maturity investments were primarily priced by pricing services and had a weighted average yield to maturity of 4.3% and a weighted average credit quality of AA (2021 - 1.1% and AA, respectively). When pricing these securities, the pricing services utilize daily data from many real time market sources, including active broker-dealers. Certain data sources are regularly reviewed for accuracy to attempt to ensure the most reliable price source is used for each issue and maturity date.

Corporate

Level 2 - At December 31, 2022, the Company's corporate fixed maturity investments principally consisted of U.S. and international corporations and non-U.S. government-backed corporations and had a weighted average yield to maturity of 6.3% and a weighted average credit quality of BBB (2021 - 2.6% and BBB, respectively).

The Company's corporate fixed maturity investments, other than non-U.S. government-backed corporations, are primarily priced by pricing services. When evaluating these securities, the pricing services gather information from market sources regarding the issuer of the security and obtain credit data, as well as other observations, from markets and sector news. Evaluations are updated by obtaining broker-dealer quotes and other market information including actual trade volumes, when available. The pricing services also consider the specific terms and conditions of the securities, including any specific features which may influence risk. In certain instances, securities are individually evaluated using a spread which is added to the U.S. treasury curve or a security specific swap curve as appropriate.

Non-U.S. government-backed corporate fixed maturity investments are primarily priced by pricing services that employ proprietary discounted cash flow models to value the securities. Key quantitative inputs for these models are daily observed benchmark curves for treasury, swap and high quality credits. The pricing services then apply a credit spread to the respective curve for each security which is developed by in-depth and real time market analysis. For securities in which trade volume is low, the pricing services utilize data from more frequently traded securities with similar attributes. These models may also be supplemented by daily market and credit research for international markets.

Agencies

Level 2 - At December 31, 2022, the Company's agency fixed maturity investments had a weighted average yield to maturity of 4.6% and a weighted average credit quality of AA (2021 - 1.2% and AA, respectively). The issuers of the Company's agency fixed maturity investments primarily consist of the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation and other agencies. Fixed maturity

investments included in agencies are primarily priced by pricing services. When evaluating these securities, the pricing services gather information from market sources and integrate other observations from markets and sector news. Evaluations are updated by obtaining broker-dealer quotes and other market information including actual trade volumes, when available. The fair value of each security is individually computed using analytical models which incorporate option adjusted spreads and other daily interest rate data.

Non-U.S. Government

Level 2 - At December 31, 2022, the Company's non-U.S. government fixed maturity investments had a weighted average yield to maturity of 4.7% and a weighted average credit quality of AA (2021 - 1.2% and AA, respectively). The issuers of securities in this sector are non-U.S. governments and their respective agencies as well as supranational organizations. Securities held in these sectors are primarily priced by pricing services that employ proprietary discounted cash flow models to value the securities. Key quantitative inputs for these models are daily observed benchmark curves for treasury, swap and high issuance credits. The pricing services then apply a credit spread for each security which is developed by in-depth and real time market analysis. For securities in which trade volume is low, the pricing services utilize data from more frequently traded securities with similar attributes. These models may also be supplemented by daily market and credit research for international markets.

Residential Mortgage-backed

Level 2 - At December 31, 2022, the Company's residential mortgage-backed fixed maturity investments had a weighted average yield of maturity of 5.4%, a weighted average credit quality of A, and a weighted average life of 8.6 years (2021 - 2.2%, A and 5.6 years, respectively). Residential mortgage-backed securities include both agency and non-agency mortgage-backed securities. The Company's agency mortgage-backed fixed maturity investments are primarily priced by pricing services using a mortgage pool specific model which utilizes daily inputs from the active to-be-announced market which is very liquid, as well as the U.S. treasury market. The model also utilizes additional information, such as the weighted average maturity, weighted average coupon and other available pool level data which is provided by the sponsoring agency. Valuations are also corroborated with active market quotes.

Non-agency mortgage-based securities are primarily priced by pricing services using an option adjusted spread model or other relevant models, which principally utilize inputs including benchmark yields, available trade information or broker quotes, and issuer spreads. The pricing services also review collateral prepayment speeds, loss severity and delinquencies among other collateral performance indicators for the securities valuation, when applicable.

Commercial Mortgage-backed

Level 2 - At December 31, 2022, the Company's commercial mortgage-backed fixed maturity investments had a weighted average yield to maturity of 7.4%, a weighted average credit quality of AA, and a weighted average life of 3.2 years (2021 - 1.9%, AA and 4.1 years, respectively). Securities held in these sectors are primarily priced by pricing services. The pricing services apply dealer quotes and other available trade information such as bids and offers, prepayment speeds which may be adjusted for the underlying collateral or current price data, the U.S. treasury curve and swap curve as well as cash settlement. The pricing services discount the expected cash flows for each security held in this sector using a spread adjusted benchmark yield based on the characteristics of the security.

Asset-backed

Level 2 - At December 31, 2022, the Company's asset-backed fixed maturity investments had a weighted average yield to maturity of 7.4%, a weighted average credit quality of AA and a weighted average life of 5.2 years (2021 - 1.8%, AA and 5.4 years, respectively). The underlying collateral for the Company's asset-backed fixed maturity investments primarily consists of collateralized loan obligations and other receivables. Securities held in these sectors are primarily priced by pricing services. The pricing services apply dealer quotes and other available trade information such as bids and offers, prepayment speeds which may be adjusted for the underlying collateral or current price data, the U.S. treasury curve and swap curve as well as cash settlement. The pricing services determine the expected cash flows for each security held in this sector using historical prepayment and default projections for the underlying collateral and current market data. In addition, a spread is applied to the relevant benchmark and used to discount the cash flows noted above to determine the fair value of the securities held in this sector.

Short Term Investments

Level 2 - At December 31, 2022, the Company's short term investments had a weighted average yield to maturity of 4.1% and a weighted average credit quality of AAA (2021 - 0.1% and AAA, respectively). Amortized cost approximates fair value for the majority of the Company's short term investments portfolio and, in certain cases, fair value is determined in a manner similar to the Company's fixed maturity investments noted above.

Equity Investments

Level 1 - The fair value of the Company's portfolio of equity investments, classified as trading is primarily priced by pricing services, reflecting the closing price quoted for the final trading day of the period. When pricing these securities, the pricing services utilize daily data from many real time market sources, including applicable securities exchanges. All data sources are regularly reviewed for accuracy to attempt to ensure the most reliable price source was used for each security.

Other Investments

Catastrophe Bonds

Level 2 - The Company's other investments include investments in catastrophe bonds which are recorded at fair value based on broker or underwriter bid indications.

Other Assets and Liabilities

Derivatives

Level 1 and Level 2 - Other assets and liabilities include certain derivatives entered into by the Company. The fair value of these transactions includes certain exchange traded futures contracts which are considered Level 1, and foreign currency contracts and certain credit derivatives, determined using standard industry valuation models and considered Level 2, as the inputs to the valuation model are based on observable market inputs. For credit derivatives, these inputs include credit spreads, credit ratings of the underlying referenced security, the risk free rate and the contract term. For foreign currency contracts, these inputs include spot rates and interest rate curves.

Level 3 Assets and Liabilities Measured at Fair Value

Below is a summary of quantitative information regarding the significant unobservable inputs (Level 3) used in determining the fair value of assets and liabilities measured at fair value on a recurring basis:

<u>At December 31, 2022</u>	<u>Fair Value (Level 3)</u>	<u>Valuation Technique</u>	<u>Unobservable Inputs</u>	<u>Low</u>	<u>High</u>	<u>Weighted Average or Actual</u>
Other investments						
Direct private equity investments	\$ 66,780	Internal valuation model	Discount rate	n/a	n/a	7.5 %
			Liquidity discount	n/a	n/a	15.0 %
Term loans	100,000	Discounted cash flow	Credit spread adjustment	n/a	n/a	0.2 %
			Risk premium	n/a	n/a	2.6 %
Total other investments	<u>166,780</u>					
Other assets and (liabilities)						
Assumed and ceded (re)insurance contracts	(1,832)	Internal valuation model	Net undiscounted cash flows	n/a	n/a	\$ 14,734
			Expected loss ratio	n/a	n/a	5.8 %
			Discount rate	n/a	n/a	4.0 %
Total other assets and (liabilities)	<u>(1,832)</u>					
Total other assets and (liabilities) measured at fair value on a recurring basis using Level 3 inputs	<u>\$ 164,948</u>					

<u>At December 31, 2021</u>	<u>Fair Value (Level 3)</u>	<u>Valuation Technique</u>	<u>Unobservable Inputs</u>	<u>Low</u>	<u>High</u>	<u>Weighted Average or Actual</u>
Other investments						
Direct private equity investments	\$ 88,373	Internal valuation model	Discount rate	n/a	n/a	7.5 %
			Liquidity discount	n/a	n/a	15.0 %
Term loans	74,850	Discounted cash flow	Credit spread adjustment	n/a	n/a	0.2 %
			Risk premium	n/a	n/a	2.6 %
Total other investments	<u>163,223</u>					
Other assets and (liabilities)						
Assumed and ceded (re)insurance contracts	(4,727)	Internal valuation model	Net undiscounted cash flows	n/a	n/a	\$ 14,920
			Expected loss ratio	n/a	n/a	14.7 %
			Discount rate	n/a	n/a	1.3 %
Total other assets and (liabilities)	<u>(4,727)</u>					
Total other assets and (liabilities) measured at fair value on a recurring basis using Level 3 inputs	<u>\$ 158,496</u>					

Below is a reconciliation of the beginning and ending balances, for the periods shown, of assets and liabilities measured at fair value on a recurring basis using Level 3 inputs.

	Other Investments		Other Assets and (Liabilities)	Total
	Direct private equity investments	Term loans		
Balance - January 1, 2022	\$ 88,373	\$ 74,850	\$ (4,727)	\$ 158,496
Included in net investment income	188	605	—	793
Included in net realized and unrealized gains (losses) on investments	(26,893)	—	—	(26,893)
Included in other income	—	—	2,682	2,682
Total foreign exchange gains	(11)	—	—	(11)
Purchases	5,123	25,000	213	30,336
Settlements	—	(455)	—	(455)
Balance - December 31, 2022	<u>\$ 66,780</u>	<u>\$ 100,000</u>	<u>\$ (1,832)</u>	<u>\$ 164,948</u>

	Other Investments		Other Assets and (Liabilities)	Total
	Direct private equity investments	Term loans		
Balance - January 1, 2021	\$ 79,807	\$ —	\$ (6,211)	\$ 73,596
Included in net realized and unrealized gains (losses) on investments	(159)	—	—	(159)
Included in other income	—	—	2,624	2,624
Total foreign exchange gains	(3)	—	—	(3)
Purchases	9,676	74,850	(1,140)	83,386
Sales	(948)	—	—	(948)
Balance - December 31, 2021	<u>\$ 88,373</u>	<u>\$ 74,850</u>	<u>\$ (4,727)</u>	<u>\$ 158,496</u>

Other Investments

Direct private equity investments

Level 3 - At December 31, 2022, the Company's other investments included \$66.8 million (2021 - \$88.4 million) of direct private equity investments which are recorded at fair value, with the fair value obtained through the use of internal valuation models. The Company measured the fair value of these investments using multiples of net tangible book value of the underlying entities. The significant unobservable inputs used in the fair value measurement of these investments are liquidity discount rates applied to each of the net tangible book value multiples used in the internal valuation models, and discount rates applied to the expected cash flows of the underlying entities in various scenarios. These unobservable inputs in isolation can cause significant increases or decreases in fair value. Generally, an increase in the liquidity discount rate or discount rates would result in a decrease in the fair value of these private equity investments.

Term loans

Level 3 - At December 31, 2021, the Company's other investments included a \$100.0 million (2021 - \$74.9 million) investment in a term loan which is recorded at fair value, with the fair value obtained through the use of a discounted cash flow model. The significant unobservable inputs used in the discounted cash flow model are the cash flow projection of the associated term loan, and the discount rate. The discount rate used is based on the Secured Overnight Financing Rate, or SOFR, which is then adjusted for credit risk and a risk premium. These adjustments may be impacted by market movements implied by transactions of

similar or related assets, loan-to-value, tenor, liquidity, credit risk adjustment or other risk factors. Assumptions used in the valuation process may significantly impact the resulting fair value.

Other Assets and Liabilities

Assumed and Ceded (Re)insurance Contracts

Level 3 - At December 31, 2022, the Company had a \$1.8 million net liability (2021 - \$4.7 million net liability) related to assumed and ceded (re)insurance contracts accounted for at fair value, with the fair value obtained through the use of an internal valuation model. The inputs to the internal valuation model are principally based on proprietary data as observable market inputs are generally not available. The most significant unobservable inputs include the assumed and ceded expected net cash flows related to the contracts, including the expected premium, acquisition expenses and losses; the expected loss ratio and the relevant discount rate used to present value the net cash flows. The contract period and acquisition expense ratio are considered an observable input as each is defined in the contract. Generally, an increase in the net expected cash flows and expected term of the contract and a decrease in the discount rate, expected loss ratio or acquisition expense ratio, would result in an increase in the expected profit and ultimate fair value of these assumed and ceded (re)insurance contracts.

Financial Instruments Disclosed, But Not Carried, at Fair Value

The Company uses various financial instruments in the normal course of its business. The Company's (re)insurance contracts are excluded from the fair value of financial instruments accounting guidance, unless the Company elects the fair value option, and therefore, are not included in the amounts discussed herein. The carrying values of cash and cash equivalents, accrued investment income, receivables for investments sold, certain other assets, payables for investments purchased, certain other liabilities, and other financial instruments not included herein approximated their fair values.

Debt

Included on the Company's consolidated balance sheet at December 31, 2022 were debt obligations of \$1.2 billion (2021 - \$1.2 billion). At December 31, 2022, the fair value of the Company's debt obligations was \$1.1 billion (2021 - \$1.3 billion).

The fair value of the Company's debt obligations is determined using indicative market pricing obtained from third-party service providers, which the Company considers Level 2 in the fair value hierarchy. There have been no changes during the period in the Company's valuation technique used to determine the fair value of the Company's debt obligations. Refer to "Note 8. Debt and Credit Facilities" for additional information related to the Company's debt obligations.

The Fair Value Option for Financial Assets and Financial Liabilities

The Company has elected to account for certain financial assets and financial liabilities at fair value using the guidance under FASB ASC Topic *Financial Instruments* as the Company believes it represents the most meaningful measurement basis for these assets and liabilities. Below is a summary of the balances the Company has elected to account for at fair value:

At December 31,	2022	2021
Other investments	\$ 2,494,954	\$ 1,993,059
Other assets	\$ 3,499	\$ 6,100
Other liabilities	\$ 5,331	\$ 10,827

The change in fair value of other investments resulted in net unrealized losses on investments in 2022 of \$181.3 million (2021 - gains of \$41.7 million, 2020 - losses of \$4.7 million).

Measuring the Fair Value of Other Investments Using Net Asset Valuations

The table below shows the Company's portfolio of other investments measured using net asset valuations as a practical expedient:

<u>At December 31, 2022</u>	<u>Fair Value</u>	<u>Unfunded Commitments</u>	<u>Redemption Frequency</u>	<u>Redemption Notice Period (Minimum Days)</u>	<u>Redemption Notice Period (Maximum Days)</u>
Private credit funds	\$ 771,383	\$ 714,302	See below	See below	See below
Private equity funds	\$ 315,323	\$ 493,155	See below	See below	See below
Total other investments measured using net asset valuations	<u>\$ 1,086,706</u>	<u>\$ 1,207,457</u>			

<u>At December 31, 2021</u>	<u>Fair Value</u>	<u>Unfunded Commitments</u>	<u>Redemption Frequency</u>	<u>Redemption Notice Period (Minimum Days)</u>	<u>Redemption Notice Period (Maximum Days)</u>
Private credit funds	\$ 473,112	\$ 868,571	See below	See below	See below
Private equity funds	\$ 241,297	\$ 458,566	See below	See below	See below
Hedge funds	11,394	—	See below	See below	See below
Total other investments measured using net asset valuations	<u>\$ 725,803</u>	<u>\$ 1,327,137</u>			

Private Credit Funds

The Company's investments in private credit funds include limited partnership or similar interests that invest in certain private credit asset classes, including U.S. direct lending funds, secondaries, mezzanine investments, distressed securities and senior secured bank loan funds. The Company generally has no right to redeem its interest in any of these private credit funds in advance of dissolution of the applicable limited partnerships. Instead, distributions are received by the Company in connection with the liquidation or maturity of the underlying private credit assets of the fund. It is estimated that the majority of the underlying assets of the limited partnerships would liquidate over 5 to 10 years from inception of the limited partnership.

Private Equity Funds

The Company's investments in private equity funds include limited partnership or similar interests that invest in certain private equity asset classes including U.S. and global leveraged buyouts. The Company generally has no right to redeem its interest in any of these private equity funds in advance of dissolution of the applicable limited partnerships. Instead, distributions are received by the Company in connection with the exit from the underlying private equity investments of the fund. It is estimated that the majority of the underlying assets of the limited partnerships would liquidate over 5 to 10 years from inception of the limited partnership.

Hedge Funds

At December 31, 2022, the Company had an investment in a hedge fund of \$Nil (2021 - \$11.4 million). The hedge fund was primarily focused on global credit opportunities which were generally redeemable at the option of the limited partnership interest holder. During the first quarter of 2022, the Company fully redeemed its investment in the hedge fund.

Limited partnerships entities

The Company's fund investments represent variable interests in limited partnerships entities with unaffiliated fund managers in the normal course of business. The Company determined that certain of these limited partnership interests represent investments in the VIEs and that it is not required to consolidate these investments because it is not the primary beneficiary of these VIEs. The Company's maximum

exposure to loss with respect to these VIEs is limited to the carrying amounts reported in the Company's consolidated balance sheet and any unfunded commitment.

The following table summarizes the aggregate carrying amount of the unconsolidated fund investments in VIEs, as well as our maximum exposure to loss associated with these VIEs:

	Maximum Exposure to Loss		
	Carrying amount	Unfunded Commitments	Total
At December 31, 2022			
Other investments	\$ 916,248	\$ 1,148,630	\$ 2,064,878
At December 31, 2021			
Other investments	\$ 539,866	\$ 1,282,451	\$ 1,822,317

NOTE 6. REINSURANCE

The Company purchases reinsurance and other protection to manage its risk portfolio and to reduce its exposure to large losses. The Company currently has in place contracts that provide for recovery of a portion of certain claims and claim expenses, generally in excess of various retentions or on a proportional basis. In addition to loss recoveries, certain of the Company's ceded reinsurance contracts provide for payments of additional premiums, for reinstatement premiums and for lost no-claims bonuses, which are incurred when losses are ceded to the respective reinsurance contracts. The Company remains liable to the extent that any reinsurer fails to meet its obligations.

The following table sets forth the effect of reinsurance and retrocessional activity on premiums written and earned and on net claims and claim expenses incurred:

Year ended December 31,	2022	2021	2020
Premiums Written			
Direct	\$ 1,264,410	\$ 994,286	\$ 612,172
Assumed	7,949,130	6,839,512	5,193,993
Ceded	(2,017,380)	(1,894,423)	(1,709,832)
Net premiums written	<u>\$ 7,196,160</u>	<u>\$ 5,939,375</u>	<u>\$ 4,096,333</u>
Premiums Earned			
Direct	\$ 1,105,164	\$ 799,717	\$ 536,595
Assumed	7,079,632	6,257,814	5,078,682
Ceded	(1,850,807)	(1,863,350)	(1,662,815)
Net premiums earned	<u>\$ 6,333,989</u>	<u>\$ 5,194,181</u>	<u>\$ 3,952,462</u>
Claims and Claim Expenses			
Gross claims and claim expenses incurred	\$ 5,851,140	\$ 5,905,616	\$ 3,893,204
Claims and claim expenses recovered	(1,512,300)	(2,029,529)	(968,595)
Net claims and claim expenses incurred	<u>\$ 4,338,840</u>	<u>\$ 3,876,087</u>	<u>\$ 2,924,609</u>

In assessing an allowance for reinsurance assets, which includes premiums receivable and reinsurance recoverable, the Company considers historical information, financial strength of reinsurers, collateralization amounts, and counterparty credit ratings to determine the appropriateness of the allowance. In assessing future default for reinsurance assets, the Company evaluates the provision for current expected credit losses under the probability of default and loss given default method. The Company utilizes its internal capital and risk models, which use counterparty ratings from major rating agencies, and assesses the current market conditions for the likelihood of default. The Company updates its internal capital and risk models for counterparty credit ratings and current market conditions on a periodic basis. Historically, the Company has not experienced material credit losses from reinsurance assets.

Premiums receivable reflect premiums written based on contract and policy terms and include estimates based on information received from both insureds and ceding companies, supplemented by our own judgment, including our estimates of premiums that are written but not reported. Due to the nature of reinsurance, ceding companies routinely report and remit premiums to us subsequent to the contract coverage period, although the time lag involved in the process of reporting and collecting premiums is typically shorter than the lag in reporting losses.

At December 31, 2022, the Company's premiums receivable balance was \$5.1 billion (2021 - \$3.8 billion). Of the Company's premiums receivable balance as of December 31, 2022, the majority are receivable from highly rated counterparties. The provision for current expected credit losses on the Company's premiums receivable was \$4.6 million at December 31, 2022 (2021 - \$2.8 million). The following table provides a roll forward of the provision for current expected credit losses of the Company's premiums receivable:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
Beginning balance	\$ 2,776	\$ 5,961
Provision for allowance	1,830	(3,185)
Ending balance	<u>\$ 4,606</u>	<u>\$ 2,776</u>

Reinsurance recoverable reflects amounts due from reinsurers based on the claim liabilities associated with the reinsurance policy. The Company accrues amounts that are due from reinsurers based on estimated ultimate losses applicable to the contracts.

At December 31, 2022, the Company's reinsurance recoverable balance was \$4.7 billion (2021 - \$4.3 billion). Of the Company's reinsurance recoverable balance at December 31, 2022, 47.2% is fully collateralized by our reinsurers, 52.0% is recoverable from reinsurers rated A- or higher by major rating agencies and 0.8% is recoverable from reinsurers rated lower than A- by major rating agencies (2021 - 46.9%, 52.1% and 1.0%, respectively). The reinsurers with the three largest balances accounted for 20.8%, 7.0% and 5.4%, respectively, of the Company's reinsurance recoverable balance at December 31, 2022 (2021 - 19.9%, 8.4% and 4.3%, respectively). The provision for current expected credit losses was \$12.2 million at December 31, 2022 (2021 - \$8.3 million). The three largest company-specific components of the provision for current expected credit losses represented 14.3%, 9.1% and 8.0%, respectively, of the Company's total provision for current expected credit losses at December 31, 2022 (2021 - 18.0%, 13.9% and 11.2%, respectively). The following table provides a roll forward of the provision for current expected credit losses of the Company's reinsurance recoverable:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
Beginning balance	\$ 8,344	\$ 6,334
Provision for allowance	3,825	2,010
Ending balance	<u>\$ 12,169</u>	<u>\$ 8,344</u>

NOTE 7. RESERVE FOR CLAIMS AND CLAIM EXPENSES

The Company believes the most significant accounting judgment made by management is its estimate of claims and claim expense reserves. Claims and claim expense reserves represent estimates, including actuarial and statistical projections at a given point in time, of the ultimate settlement and administration costs for unpaid claims and claim expenses arising from the insurance and reinsurance contracts the Company sells. The Company's reserve for claims and claim expenses are a combination of case reserves, additional case reserves ("ACR") and incurred but not reported losses and incurred but not enough reported losses (collectively referred to as "IBNR"). Case reserves are losses reported to the Company by insureds and ceding companies, but which have not yet been paid. If deemed necessary and in certain situations, the Company establishes ACR which represents the Company's estimate for claims related to specific contracts which the Company believes may not be adequately estimated by the client as of that date or within the IBNR. The Company establishes IBNR using actuarial techniques and expert judgement to represent the anticipated cost of claims which have not been reported to the Company yet, or where the Company anticipates increased reporting. The Company's reserving committee, which includes members of the Company's senior management, reviews, discusses, and assesses the reasonableness and adequacy of the reserving estimates included in our audited consolidated financial statements.

The following table summarizes the Company's reserve for claims and claim expenses by segment, allocated between case reserves, additional case reserves and IBNR:

<u>At December 31, 2022</u>	<u>Case Reserves</u>	<u>Additional Case Reserves</u>	<u>IBNR</u>	<u>Total</u>
Property	\$ 1,956,688	\$ 2,008,891	\$ 3,570,253	\$ 7,535,832
Casualty and Specialty	1,864,365	167,993	6,324,383	8,356,741
Total	<u>\$ 3,821,053</u>	<u>\$ 2,176,884</u>	<u>\$ 9,894,636</u>	<u>\$ 15,892,573</u>
<u>At December 31, 2021</u>				
Property	\$ 1,555,210	\$ 1,996,760	\$ 2,825,718	\$ 6,377,688
Casualty and Specialty	1,784,334	128,065	5,004,543	6,916,942
Total	<u>\$ 3,339,544</u>	<u>\$ 2,124,825</u>	<u>\$ 7,830,261</u>	<u>\$ 13,294,630</u>

Activity in the liability for unpaid claims and claim expenses is summarized as follows:

Year ended December 31,	2022	2021	2020
Reserve for claims and claim expenses, net of reinsurance recoverable, as of beginning of period	\$ 9,025,961	\$ 7,455,128	\$ 6,593,052
Net incurred related to:			
Current year	4,586,422	4,125,557	3,108,421
Prior years	(247,582)	(249,470)	(183,812)
Total net incurred	4,338,840	3,876,087	2,924,609
Net paid related to:			
Current year	105,885	574,230	412,172
Prior years	1,924,271	1,649,872	1,592,456
Total net paid	2,030,156	2,224,102	2,004,628
Foreign exchange ⁽¹⁾	(152,997)	(81,152)	97,273
Amounts disposed ⁽²⁾	—	—	(155,178)
Reserve for claims and claim expenses, net of reinsurance recoverable, as of end of period	11,181,648	9,025,961	7,455,128
Reinsurance recoverable as of end of period	4,710,925	4,268,669	2,926,010
Reserve for claims and claim expenses as of end of period	<u>\$15,892,573</u>	<u>\$13,294,630</u>	<u>\$10,381,138</u>

(1) Reflects the impact of the foreign exchange revaluation of the reserve for claims and claim expenses, net of reinsurance recoverable, denominated in non-U.S. dollars as at the balance sheet date.

(2) Represents the fair value of RenaissanceRe UK's reserve for claims and claim expenses, net of reinsurance recoverable, disposed of on August 18, 2020.

The Company's reserving methodology for each line of business uses a loss reserving process that calculates a point estimate for its ultimate settlement and administration costs for claims and claim expenses. The Company does not calculate a range of estimates and does not discount any of its reserves for claims and claim expenses. The Company uses this point estimate, along with paid claims and case reserves, to record its best estimate of additional case reserves and IBNR in its consolidated financial statements. Under GAAP, the Company is not permitted to establish estimates for catastrophe claims and claim expense reserves until an event occurs that gives rise to a loss.

Reserving involves other uncertainties, such as the dependence on information from ceding companies, the time lag inherent in reporting information from the primary insurer to the Company or to the Company's ceding companies, and differing reserving practices among ceding companies. The information received from ceding companies is typically in the form of bordereaux, broker notifications of loss and/or discussions with ceding companies or their brokers. This information may be received on a monthly, quarterly or transactional basis and normally includes paid claims and estimates of case reserves. The Company sometimes also receives an estimate or provision for IBNR. This information is updated and adjusted periodically during the loss settlement period as new data or facts in respect of initial claims, client accounts, industry or event trends may be reported or emerge in addition to changes in applicable statutory and case laws.

The Company's estimates of large losses are based on factors including currently available information derived from claims information from certain customers and brokers, industry assessments of losses, proprietary models, and the terms and conditions of the Company's contracts. The uncertainty of the Company's estimates for large losses is also impacted by the preliminary nature of the information available, the magnitude and relative infrequency of the events, the expected duration of the respective claims development period, inadequacies in the data provided to the relevant date by industry participants and the potential for further reporting lags or insufficiencies; and in certain large losses, significant uncertainty as to the form of the claims and legal issues, under the relevant terms of insurance and reinsurance contracts. In addition, a significant portion of the net claims and claim expenses associated with certain large losses can be concentrated with a few large clients and therefore the loss estimates for these large losses may vary significantly based on the claims experience of those clients. The contingent nature

of business interruption and other exposures will also impact losses in a meaningful way, which may give rise to significant complexity in respect of claims handling, claims adjustment and other coverage issues, over time. Given the magnitude of certain events, there can be meaningful uncertainty regarding total covered losses for the insurance industry and, accordingly, several of the key assumptions underlying the Company's loss estimates. Loss reserve estimation in respect of the Company's retrocessional contracts poses further challenges compared to directly assumed reinsurance. In addition, the Company's actual net losses from these events may increase if the Company's reinsurers or other obligors fail to meet their obligations.

The Company reevaluates its actuarial reserving assumptions on a periodic basis. Typically, the quarterly review procedures include reviewing paid and reported claims in the most recent reporting period, reviewing the development of paid and reported claims from prior periods, and reviewing the Company's overall experience by underwriting year and in the aggregate. The Company monitors its expected ultimate claims and claim expense ratios and expected claims reporting assumptions on a quarterly basis and compares them to its actual experience. These actuarial assumptions are generally reviewed annually, based on input from the Company's actuaries, underwriters, claims personnel and finance professionals, although adjustments may be made more frequently if needed. Assumption changes are made to adjust for changes in the terms of coverage the Company provides, changes in industry results for similar business, as well as its actual experience to the extent the Company has enough data to rely on its own experience. If the Company determines that adjustments to an earlier estimate are appropriate, such adjustments are recorded in the period in which they are identified.

Because of the inherent uncertainties discussed above, the Company has developed a reserving philosophy that attempts to incorporate prudent assumptions and estimates, and the Company has generally experienced favorable development on prior accident years net claims and claim expenses in the last several years. However, there is no assurance that this favorable development on prior accident years net claims and claim expenses will occur in future periods.

The Company establishes a provision for unallocated loss adjustment expenses ("ULAE") when the related reserve for claims and claim expenses is established. ULAE are expenses that cannot be associated with a specific claim but are related to claims paid or in the process of settlement, such as internal costs of the claims function, and are included in the reserve for claims and claim expenses. The determination of the ULAE provision is subject to judgment.

Incurred and Paid Claims Development and Reserving Methodology

The information provided herein about incurred and paid accident year claims development for the years ended prior to December 31, 2022 on a consolidated basis and by segment is presented as supplementary information. The Company has applied a retrospective approach with respect to its acquisitions, presenting all relevant historical information for all periods presented. In addition, included in the incurred claims and claim expenses and cumulated paid claims and claim expenses tables below are reconciling items that represent the unamortized balance of fair value adjustments recorded in connection with the acquisition of TMR to reflect an increase in net claims and claim expenses due to the addition of a market based risk margin that represented the cost of capital required by a market participant to assume the net claims and claim expenses of TMR, partially offset by a decrease from discounting in connection with the acquisition of TMR, to reflect the time value of money.

For incurred and paid accident year claims denominated in currencies other than USD, the Company used the current year-end balance sheet foreign exchange rate for all periods provided, thereby eliminating the effects of changes in foreign currency translation rates from the incurred and paid accident year claims development information included in the tables below.

The following table details the Company's consolidated incurred claims and claim expenses and cumulative paid claims and claim expenses as of December 31, 2022, net of reinsurance, as well as IBNR plus additional case reserve ("ACR") included within the net incurred claims amounts.

Incurred Claims and Claim Expenses, Net of Reinsurance											At December 31, 2022
Accident Year	For the year ended December 31,										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)		
2013	\$ 903,034	\$ 876,941	\$ 827,241	\$ 781,045	\$ 757,635	\$ 739,511	\$ 717,825	\$ 711,873	\$ 718,135	\$ 711,633	\$ 4,996
2014	—	994,500	965,877	957,841	932,798	913,892	924,440	889,626	881,189	884,065	42,639
2015	—	—	1,129,940	1,132,288	1,152,632	1,122,299	1,097,864	1,108,163	1,103,648	1,124,518	56,655
2016	—	—	—	1,393,017	1,442,182	1,425,411	1,400,055	1,346,808	1,346,215	1,359,555	42,890
2017	—	—	—	—	2,924,152	2,716,502	2,632,327	2,568,377	2,537,065	2,501,011	221,993
2018	—	—	—	—	—	2,157,010	2,283,444	2,240,099	2,127,150	2,178,040	268,457
2019	—	—	—	—	—	—	2,196,489	2,162,945	2,109,650	2,015,326	501,127
2020	—	—	—	—	—	—	—	3,059,761	3,039,476	2,907,003	1,145,327
2021	—	—	—	—	—	—	—	—	4,029,033	3,953,965	1,724,991
2022	—	—	—	—	—	—	—	—	—	4,530,377	4,123,292
Total										<u>\$22,165,493</u>	<u>\$ 8,132,367</u>
Cumulative Paid Claims and Claim Expenses, Net of Reinsurance											
Accident Year	For the year ended December 31,										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)		
2013	\$ 131,091	\$ 337,936	\$ 429,055	\$ 491,161	\$ 550,250	\$ 583,994	\$ 611,595	\$ 627,754	\$ 642,756	\$ 651,985	
2014	—	229,821	428,961	549,733	625,448	686,611	733,700	760,084	780,684	797,241	
2015	—	—	261,448	493,973	656,916	772,676	868,042	930,193	978,680	1,015,837	
2016	—	—	—	287,552	621,352	823,696	963,518	1,076,348	1,170,769	1,228,187	
2017	—	—	—	—	744,317	1,064,009	1,356,305	1,717,490	1,889,722	2,044,269	
2018	—	—	—	—	—	583,810	771,391	1,134,867	1,407,248	1,587,773	
2019	—	—	—	—	—	—	282,350	673,323	961,303	1,213,002	
2020	—	—	—	—	—	—	—	404,800	1,008,293	1,348,636	
2021	—	—	—	—	—	—	—	—	569,000	1,328,040	
2022	—	—	—	—	—	—	—	—	—	99,612	
Total										\$11,314,582	
										Outstanding liabilities from accident year 2012 and prior, net of reinsurance	326,927
										Adjustment for unallocated loss adjustment expenses	74,613
										Unamortized fair value adjustments recorded in connection with acquisitions	(70,803)
										Liability for claims and claim expenses, net of reinsurance	<u>\$11,181,648</u>

Property Segment

Within the Property segment, the Company writes property catastrophe excess of loss reinsurance contracts to insure insurance and reinsurance companies against natural and man-made catastrophes. Under these contracts, the Company indemnifies an insurer or reinsurer when its aggregate paid claims and claim expenses from a single occurrence of a covered peril exceeds the attachment point specified in the contract, up to an amount per loss specified in the contract. Generally, the Company's most significant exposure is to losses from hurricanes, earthquakes and other windstorms, although the Company is also exposed to claims arising from other man-made and natural catastrophes, such as tsunamis, winter storms, freezes, floods, fires, tornadoes, explosions and acts of terrorism. The Company's predominant exposure under such coverage is to property damage. However, other risks, including business interruption and other non-property losses, may also be covered under the Company's catastrophe contracts when arising from a covered peril. The Company's coverages are offered on either a worldwide basis or are limited to selected geographic areas.

Coverage can also vary from "all property" perils to limited coverage on selected perils, such as "earthquake only" coverage. The Company also enters into retrocessional contracts that provide property catastrophe

coverage to other reinsurers or retrocedants. This coverage is generally in the form of excess of loss retrocessional contracts and may cover all perils and exposures on a worldwide basis or be limited in scope to selected geographic areas, perils and/or exposures. The exposures the Company assumes from retrocessional business can change within a contract term as the underwriters of a retrocedant may alter their book of business after the retrocessional coverage has been bound. The Company also offers dual trigger reinsurance contracts which require the Company to pay claims based on claims incurred by insurers and reinsurers in addition to the estimate of insured industry losses as reported by referenced statistical reporting agencies.

Also included in the Property segment is property per risk, property (re)insurance, delegated authority arrangements and regional U.S. multi-line reinsurance. The Company's predominant exposure under such coverage is to property damage. However, other risks, including business interruption and other non-property losses, may also be covered when arising from a covered peril. The Company's coverages are offered on either a worldwide basis or are limited to selected geographic areas. Principally all of the business is reinsurance, although the Company also writes insurance business primarily through delegated authority arrangements. The Company offers these products principally through proportional reinsurance coverage or in the form of delegated authority arrangements. In a proportional reinsurance arrangement (also referred to as quota share reinsurance or pro rata reinsurance), the reinsurer shares a proportional part of the original premiums and losses of the reinsured.

Claims and claim expenses in the Company's Property segment are generally characterized by losses of low frequency and high severity. Initial reporting of paid and incurred claims in general, tends to be relatively prompt, particularly for less complex losses. The Company considers this business "short-tail" as compared to the reporting of claims for "long-tail" products, which tends to be slower. However, the timing of claims payment and reporting also varies depending on various factors, including: whether the claims arise under reinsurance of primary insurance companies or reinsurance of other reinsurance companies; the nature of the events (e.g., hurricanes, earthquakes or terrorism); the geographic area involved; post-event inflation which may cause the cost to repair damaged property to increase significantly from current estimates, or for property claims to remain open for a longer period of time, due to limitations on the supply of building materials, labor and other resources; complex policy coverage and other legal issues; and the quality of each client's claims management and reserving practices. Management's judgments regarding these factors are reflected in the Company's reserve for claims and claim expenses.

Reserving for most of the Company's Property segment, in particular catastrophe exposure, generally does not involve the use of traditional actuarial techniques. Rather, claims and claim expense reserves are estimated by management by completing an in-depth analysis of the individual contracts which may potentially be impacted by the loss. The in-depth analysis generally involves: 1) estimating the size of insured industry losses; 2) reviewing reinsurance contract portfolios to identify contracts which are exposed; 3) reviewing information reported or otherwise provided by customers and brokers; 4) discussing the loss with customers and brokers; and 5) estimating the ultimate expected cost to settle all claims and administrative costs arising from the loss on a contract-by-contract basis and in aggregate for the event. Once a loss has occurred, during the then current reporting period, the Company records its best estimate of the ultimate expected cost to settle all claims arising from the loss. The Company's estimate of claims and claim expense reserves is then determined by deducting cumulative paid losses from its estimate of the ultimate expected loss. The Company's estimate of IBNR is determined by deducting cumulative paid losses, case reserves and additional case reserves from its estimate of the ultimate expected loss. Once the Company receives a valid notice of loss or payment request under a catastrophe reinsurance contract, it is generally able to process and pay such claims promptly.

Because losses from which claims arise under policies written within the Property segment are typically prominent, public events such as hurricanes and earthquakes, the Company is often able to use independent reports as part of its loss reserve estimation process. The Company also reviews catastrophe bulletins published by various statistical reporting agencies to assist in determining the size of the industry loss, although these reports may not be available for some time after an event. For smaller events including localized severe weather events such as windstorms, hail, ice, snow, flooding, freezing and tornadoes, which are not necessarily prominent, public occurrences, the Company initially places greater reliance on catastrophe bulletins published by statistical reporting agencies to assist in determining what events occurred during the reporting period than the Company does for large events. This includes reviewing catastrophe bulletins published by Property Claim Services for U.S. catastrophes. The Company sets its

initial estimates of reserves for claims and claim expenses for these smaller events based on a combination of its historical market share for these types of losses and the estimate of the total insured industry property losses as reported by statistical reporting agencies, although management may make significant adjustments based on the Company's current exposure to the geographic region involved as well as the size of the loss and the peril involved. This approach supplements the Company's approach for estimating losses for larger catastrophes, which as discussed above, includes discussions with brokers and ceding companies and reviewing individual contracts impacted by the event. For these small events, generally on the one year anniversary of when the event occurred, the Company will typically estimate IBNR for these events by using the reported Bornhuetter-Ferguson actuarial method. The loss development factors for the reported Bornhuetter-Ferguson actuarial method are selected based on a review of the Company's historical experience. The reported loss development factors were reviewed in 2022, although the impact was minimal.

In general, reserves for the Company's more recent large losses are subject to greater uncertainty and, therefore, greater potential variability, and are likely to experience material changes from one period to the next. This is due to the uncertainty as to the size of the industry losses, uncertainty as to which contracts have been exposed, uncertainty due to complex legal and coverage issues that can arise out of large or complex losses, and uncertainty as to the magnitude of claims incurred by the Company's customers. As the Company's claims age, more information becomes available and the Company believes its estimates become more certain.

The following table details the Company's Property segment incurred claims and claim expenses and cumulative paid claims and claim expenses as of December 31, 2022, net of reinsurance, as well as IBNR plus ACR included within the net incurred claims amounts.

Incurred Claims and Claim Expenses, Net of Reinsurance											
Accident Year	For the year ended December 31,										At December 31, 2022
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	IBNR and ACR
	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	
2013	\$ 312,792	\$ 288,846	\$ 267,276	\$ 245,077	\$ 233,993	\$ 230,368	\$ 230,603	\$ 233,668	\$ 236,185	\$ 234,533	\$ 539
2014	—	299,256	276,253	263,337	258,384	257,237	254,897	248,847	245,956	247,101	36
2015	—	—	368,476	352,454	331,342	320,695	309,509	303,110	292,867	300,028	801
2016	—	—	—	447,077	460,729	445,119	427,918	409,221	399,222	408,757	11,163
2017	—	—	—	—	1,639,389	1,453,773	1,342,224	1,319,428	1,273,721	1,207,671	145,713
2018	—	—	—	—	—	918,764	985,180	941,093	818,156	820,098	88,814
2019	—	—	—	—	—	—	955,220	928,613	875,408	779,852	111,737
2020	—	—	—	—	—	—	—	1,568,157	1,583,694	1,565,564	488,732
2021	—	—	—	—	—	—	—	—	2,338,470	2,311,045	481,114
2022	—	—	—	—	—	—	—	—	—	2,232,896	1,988,816
Total										<u>\$10,107,545</u>	<u>\$ 3,317,465</u>
Cumulative Paid Claims and Claim Expenses, Net of Reinsurance											
Accident Year	For the year ended December 31,										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	(unaudited)	
2013	\$ 79,522	\$ 153,703	\$ 188,435	\$ 203,835	\$ 211,559	\$ 214,947	\$ 218,378	\$ 223,101	\$ 223,421	\$ 224,606	
2014	—	105,908	181,531	219,496	231,129	238,112	242,011	241,253	244,060	243,707	
2015	—	—	126,687	224,744	258,368	277,529	288,011	291,092	293,757	296,801	
2016	—	—	—	120,269	257,672	324,364	348,414	370,911	380,274	382,740	
2017	—	—	—	—	533,895	659,712	813,588	939,317	968,331	1,010,174	
2018	—	—	—	—	—	430,417	417,023	582,372	604,687	637,022	
2019	—	—	—	—	—	—	159,227	352,980	511,358	578,025	
2020	—	—	—	—	—	—	—	254,552	669,836	846,833	
2021	—	—	—	—	—	—	—	—	498,191	1,095,782	
2022	—	—	—	—	—	—	—	—	—	28,061	
Total										\$ 5,343,751	
											Outstanding liabilities from accident year 2012 and prior, net of reinsurance
											46,592
											Adjustment for unallocated loss adjustment expenses
											14,638
											Unamortized fair value adjustments recorded in connection with acquisitions
											(10,593)
											Liability for claims and claim expenses, net of reinsurance
											<u>\$ 4,814,431</u>

Casualty and Specialty Segment

The Company offers its casualty and specialty reinsurance products principally on a proportional basis, and it also provides excess of loss coverage. The Company offers casualty and specialty reinsurance products to insurance and reinsurance companies and provides coverage for specific geographic regions or on a worldwide basis. Principally all of the business is reinsurance, although the Company also writes insurance business.

As with the Company's Property segment, its Casualty and Specialty segment reinsurance contracts can include coverage for relatively large limits or exposures. As a result, the Company's casualty and specialty reinsurance business can be subject to significant claims volatility. In periods of low claims frequency or severity, the Company's results will generally be favorably impacted while in periods of high claims frequency or severity the Company's results will generally be negatively impacted.

The Company's processes and methodologies in respect of loss estimation for the coverages offered through its Casualty and Specialty segment differ from those used for its Property segment. For example, the Company's casualty and specialty coverages are more likely to be impacted by factors such as long-term inflation and changes in the social and legal environment, which the Company believes gives rise to

greater uncertainty in its reserves for claims and claim expenses. Moreover, in many lines of business the Company does not have the benefit of a significant amount of its own historical experience and may have little or no related corporate reserving history in many of its newer or growing lines of business. The Company believes this makes its Casualty and Specialty segment reserving subject to greater uncertainty than its Property segment.

The Company calculates multiple point estimates for claims and claim expense reserves using a variety of actuarial reserving techniques for many, but not all, of its classes of business for each underwriting year within the Casualty and Specialty segment. The Company does not believe that these multiple point estimates are, or should be considered, a range. Rather, the Company considers each class of business and determines the most appropriate point estimate for each underwriting year based on the characteristics of the particular class including: (1) loss development patterns derived from historical data; (2) the credibility of the selected loss development pattern; (3) the stability of the loss development patterns; (4) how developed the underwriting year is; and (5) the observed loss development of other underwriting years for the same class. The Company also considers other relevant factors, including: (1) historical ultimate loss ratios; (2) the presence of individual large losses; and (3) known occurrences that have not yet resulted in reported losses. The Company makes determinations of the most appropriate point estimate of loss for each class based on an evaluation of relevant information and does not ascribe any particular portion of the estimate to a particular factor or consideration. In addition, the Company believes that a review of individual contract information improves the loss estimates for some classes of business.

When developing claims and claims expense reserves for its Casualty and Specialty segment, the Company considers several actuarial techniques such as the expected loss ratio method, the Bornhuetter-Ferguson actuarial method and the paid and reported chain ladder actuarial method.

For classes of business and underwriting years where the Company has limited historical claims experience, estimates of ultimate losses are generally initially determined based on the loss ratio method applied to each underwriting year and to each class of business. Unless the Company has credible claims experience or unfavorable development, it generally selects an ultimate loss based on its initial expected loss ratio. The selected ultimate losses are determined by multiplying the initial expected loss ratio by the earned premium. The initial expected loss ratios are key inputs that involve management judgment and are based on a variety of factors, including: (1) contract by contract expected loss ratios developed during the Company's pricing process; (2) historical loss ratios and combined ratios adjusted for rate change and trend; and (3) industry benchmarks for similar business. These judgments take into account management's view of past, current and future factors that may influence ultimate losses, including: (1) market conditions; (2) changes in the business underwritten; (3) changes in timing of the emergence of claims; and (4) other factors that may influence ultimate loss ratios and losses.

The determination of when reported losses are sufficient and credible to warrant selection of an ultimate loss ratio different from the initial expected loss ratio also requires judgment. The Company generally makes adjustments for reported loss experience indicating unfavorable variances from initial expected loss ratios sooner than reported loss experience indicating favorable variances. This is because the reporting of losses in excess of expectations tends to have greater credibility than an absence or lower than expected level of reported losses. Over time, as a greater number of claims are reported and the credibility of reported losses improves, actuarial estimates of IBNR are typically based on the Bornhuetter-Ferguson actuarial method or the reported chain ladder actuarial method.

The Bornhuetter-Ferguson actuarial method allows for greater weight to be applied to expected results in periods where little or no actual experience is available, and, hence, is less susceptible to the potential pitfall of being excessively swayed by experience of actual paid and/or reported loss data, compared to the chain ladder actuarial method. The Bornhuetter-Ferguson actuarial method uses the initial expected loss ratio to estimate IBNR, and it assumes that past experience is not fully representative of the future. As the Company's reserves for claims and claim expenses age, and actual claims experience becomes available, this method places less weight on expected experience and places more weight on actual experience. This experience, which represents the difference between expected reported claims and actual reported claims, is reflected in the respective reporting period as a change in estimate. The utilization of the Bornhuetter-Ferguson actuarial method requires the Company to estimate an expected ultimate claims and claim expense ratio and select an expected loss reporting pattern. The Company selects its estimates of the expected ultimate claims and claim expense ratios as described above and selects its expected loss

reporting patterns by utilizing actuarial analysis, including management's judgment, and historical patterns of paid losses and reporting of case reserves to the Company, as well as industry loss development patterns. The estimated expected claims and claim expense ratio may be modified to the extent that reported losses at a given point in time differ from what would be expected based on the selected loss reporting pattern.

The reported chain ladder actuarial method utilizes actual reported losses and a loss development pattern to determine an estimate of ultimate losses that is independent of the initial expected ultimate loss ratio and earned premium. The Company believes this technique is most appropriate when there are a large number of reported losses with significant statistical credibility and a relatively stable loss development pattern. Information that may cause future loss development patterns to differ from historical loss development patterns is considered and reflected in the Company's selected loss development patterns as appropriate. For certain reinsurance contracts, historical loss development patterns may be developed from ceding company data or other sources.

In addition, certain specialty coverages may be impacted by natural and man-made catastrophes. The Company estimates reserves for claim and claim expenses for these losses, following a process that is similar to its Property segment described above.

The following table details the Company's Casualty and Specialty segment incurred claims and claim expenses and cumulative paid claims and claim expenses as of December 31, 2022, net of reinsurance, as well as IBNR plus ACR included within the net incurred claims amounts.

Incurred Claims and Claim Expenses, Net of Reinsurance											At December 31, 2022
Accident Year	For the year ended December 31,										IBNR and ACR
	2013 (unaudited)	2014 (unaudited)	2015 (unaudited)	2016 (unaudited)	2017 (unaudited)	2018 (unaudited)	2019 (unaudited)	2020 (unaudited)	2021 (unaudited)	2022	
2013	\$ 590,242	\$ 588,095	\$ 559,965	\$ 535,968	\$ 523,642	\$ 509,143	\$ 487,222	\$ 478,205	\$ 481,950	\$ 477,100	\$ 4,457
2014	—	695,244	689,624	694,504	674,414	656,655	669,543	640,779	635,233	636,964	42,603
2015	—	—	761,464	779,834	821,290	801,604	788,355	805,053	810,781	824,490	55,854
2016	—	—	—	945,940	981,453	980,292	972,137	937,587	946,993	950,798	31,727
2017	—	—	—	—	1,284,763	1,262,729	1,290,103	1,248,949	1,263,344	1,293,340	76,280
2018	—	—	—	—	—	1,238,246	1,298,264	1,299,006	1,308,994	1,357,942	179,643
2019	—	—	—	—	—	—	1,241,269	1,234,332	1,234,242	1,235,474	389,390
2020	—	—	—	—	—	—	—	1,491,604	1,455,782	1,341,439	656,595
2021	—	—	—	—	—	—	—	—	1,690,563	1,642,920	1,243,877
2022	—	—	—	—	—	—	—	—	—	2,297,481	2,134,476
Total										<u>\$12,057,948</u>	<u>\$ 4,814,902</u>
Cumulative Paid Claims and Claim Expenses, Net of Reinsurance											
Accident Year	For the year ended December 31,										
	2013 (unaudited)	2014 (unaudited)	2015 (unaudited)	2016 (unaudited)	2017 (unaudited)	2018 (unaudited)	2019 (unaudited)	2020 (unaudited)	2021 (unaudited)	2022	
2013	\$ 51,569	\$ 184,233	\$ 240,620	\$ 287,326	\$ 338,691	\$ 369,047	\$ 393,217	\$ 404,653	\$ 419,335	\$ 427,379	
2014	—	123,913	247,430	330,237	394,319	448,499	491,689	518,831	536,624	553,534	
2015	—	—	134,761	269,229	398,548	495,147	580,031	639,101	684,923	719,036	
2016	—	—	—	167,283	363,680	499,332	615,104	705,437	790,495	845,447	
2017	—	—	—	—	210,422	404,297	542,717	778,173	921,391	1,034,095	
2018	—	—	—	—	—	153,393	354,368	552,495	802,561	950,751	
2019	—	—	—	—	—	—	123,123	320,343	449,945	634,977	
2020	—	—	—	—	—	—	—	150,248	338,457	501,803	
2021	—	—	—	—	—	—	—	—	70,809	232,258	
2022	—	—	—	—	—	—	—	—	—	71,551	
Total										\$ 5,970,831	
Outstanding liabilities from accident year 2012 and prior, net of reinsurance										280,335	
Adjustment for unallocated loss adjustment expenses										59,975	
Unamortized fair value adjustments recorded in connection with acquisitions										(60,210)	
Liability for claims and claim expenses, net of reinsurance										<u>\$ 6,367,217</u>	

Prior Year Development of the Reserve for Net Claims and Claim Expenses

The Company's estimates of claims and claim expense reserves are not precise in that, among other things, they are based on predictions of future developments and estimates of future trends and other variable factors. Some, but not all, of the Company's reserves are further subject to the uncertainty inherent in actuarial methodologies and estimates. Because a reserve estimate is simply an insurer's estimate at a point in time of its ultimate liability, and because there are numerous factors that affect reserves and claims payments that cannot be determined with certainty in advance, the Company's ultimate payments will vary, perhaps materially, from its estimates of reserves. If the Company determines in a subsequent period that adjustments to its previously established reserves are appropriate, such adjustments are recorded in the period in which they are identified. On a net basis, the Company's cumulative favorable or unfavorable development is generally reduced by offsetting changes in its reinsurance recoverable, as well as changes to loss related premiums such as reinstatement premiums and redeemable noncontrolling interest, all of which generally move in the opposite direction to changes in the Company's ultimate claims and claim expenses.

The following table details the Company's prior year net development by segment of its liability for net unpaid claims and claim expenses:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>
	(Favorable) adverse development	(Favorable) adverse development	(Favorable) adverse development
Property	\$ (205,741)	\$ (233,373)	\$ (157,049)
Casualty and Specialty	(41,841)	(16,097)	(26,763)
Total net (favorable) adverse development of prior accident years net claims and claim expenses	<u>\$ (247,582)</u>	<u>\$ (249,470)</u>	<u>\$ (183,812)</u>

Changes to prior year estimated net claims reserves increased net income by \$247.6 million during 2022 (2021 - increased net income by \$249.5 million, 2020 - increased net income by \$183.8 million), excluding the consideration of changes in reinstatement, adjustment or other premium changes, profit commissions, redeemable noncontrolling interest - DaVinci and Vermeer and income tax.

Property Segment

The following tables detail the development of the Company's liability for net unpaid claims and claim expenses for its Property segment, allocated between large and small catastrophe net claims and claim expenses and attritional net claims and claim expenses, included in the other line item:

<u>Year ended December 31,</u>	<u>2022</u>
	(Favorable) adverse development
Catastrophe net claims and claim expenses	
<i>Large catastrophe events</i>	
2021 Weather-Related Large Loss Events ⁽¹⁾	\$ (12,387)
2020 Weather-Related Large Loss Events ⁽²⁾	(24,589)
2019 Large Loss Events ⁽³⁾	(97,034)
2018 Large Loss Events ⁽⁴⁾	(20,318)
2017 Large Loss Events ⁽⁵⁾	(39,481)
Other	(4,755)
<i>Total large catastrophe events</i>	<u>(198,564)</u>
<i>Small catastrophe events and attritional loss movements</i>	
Other small catastrophe events and attritional loss movements	(31,024)
<i>Total small catastrophe events and attritional loss movements</i>	<u>(31,024)</u>
Total catastrophe and attritional net claims and claim expenses	(229,588)
Actuarial assumption changes	23,847
Total net (favorable) adverse development of prior accident years net claims and claim expenses	<u>\$ (205,741)</u>

(1) "2021 Weather-Related Large Loss Events" includes Winter Storm Uri, the European Floods, Hurricane Ida, the hail storm in Europe in late June 2021, the wildfires in California during the third quarter of 2021, the tornadoes in the Central and Midwest U.S. in December 2021, the Midwest Derecho in December 2021, and losses associated with aggregate loss contracts.

(2) "2020 Weather-Related Large Loss Events" includes Hurricanes Laura, Sally, Isaias, Delta, Zeta and Eta, the California, Oregon and Washington wildfires, Typhoon Maysak, the August 2020 Derecho, and losses associated with aggregate loss contracts.

(3) "2019 Large Loss Events" includes Hurricane Dorian and Typhoons Faxai and Hagibis and certain losses associated with aggregate loss contracts.

(4) "2018 Large Loss Events" includes Typhoons Jebi, Mangkhut and Trami, Hurricane Florence, the wildfires in California during the third and fourth quarters of 2018, Hurricane Michael and certain losses associated with aggregate loss contracts.

(5) "2017 Large Loss Events" includes Hurricanes Harvey, Irma and Maria, the Mexico City Earthquake, the wildfires in California during the fourth quarter of 2017 and certain losses associated with aggregate loss contracts.

The net favorable development of prior accident years net claims and claim expenses was driven by better than expected loss emergence.

The net favorable development on other small catastrophe events and attritional loss movements was related to lines of business where the Company principally estimates net claims and claim expenses using traditional actuarial methods. Partially offsetting these net favorable developments was net adverse development related to actuarial assumption changes.

<u>Year ended December 31,</u>	<u>2021</u>
	(Favorable) adverse development
Catastrophe net claims and claim expenses	
<i>Large catastrophe events</i>	
2020 Weather-Related Large Loss Events	\$ 17,140
2019 Large Loss Events	(61,634)
2018 Large Loss Events	(101,096)
2017 Large Loss Events	(49,090)
Other	(9,392)
<i>Total large catastrophe events</i>	<u>(204,072)</u>
<i>Small catastrophe events and attritional loss movements</i>	
Other small catastrophe events and attritional loss movements	(34,751)
<i>Total small catastrophe events and attritional loss movements</i>	<u>(34,751)</u>
Total catastrophe and attritional net claims and claim expenses	(238,823)
Actuarial assumption changes	5,450
Total net (favorable) adverse development of prior accident years net claims and claim expenses	<u>\$ (233,373)</u>

The net favorable development of prior accident years net claims and claim expenses was largely driven by better than expected loss emergence.

The net favorable development on other small catastrophe events and attritional loss movements was related to lines of business where the Company principally estimates net claims and claim expenses using traditional actuarial methods.

<u>Year ended December 31,</u>	<u>2020</u>
	(Favorable) adverse development
Catastrophe net claims and claim expenses	
<i>Large catastrophe events</i>	
2019 Large Loss Events	\$ (44,389)
2018 Large Loss Events	(43,991)
2017 Large Loss Events	(32,649)
Other	124
<i>Total large catastrophe events</i>	<u>(120,905)</u>
<i>Small catastrophe events and attritional loss movements</i>	
Other small catastrophe events and attritional loss movements	(41,589)
<i>Total small catastrophe events and attritional loss movements</i>	<u>(41,589)</u>
Total catastrophe and attritional net claims and claim expenses	(162,494)
Actuarial assumption changes	5,445
Total net (favorable) adverse development of prior accident years net claims and claim expenses	<u>\$ (157,049)</u>

The net favorable development of prior accident years net claims and claim expenses was largely driven by better than expected loss emergence.

The net favorable development on other small catastrophe events and attritional loss movements was related to lines of business where the Company principally estimates net claims and claim expenses using traditional actuarial methods.

Casualty and Specialty Segment

The following table details the development of the Company's liability for unpaid claims and claim expenses for its Casualty and Specialty segment:

<u>Year ended December 31,</u>	2022	2021	2020
	(Favorable) adverse development	(Favorable) adverse development	(Favorable) adverse development
Actuarial methods - actual reported claims less than expected claims	\$ (63,353)	\$ (19,078)	\$ (29,280)
Actuarial assumption changes	21,512	2,981	2,517
Total net (favorable) adverse development of prior accident years net claims and claim expenses	<u>\$ (41,841)</u>	<u>\$ (16,097)</u>	<u>\$ (26,763)</u>

The net favorable development of prior accident years net claims and claim expenses within the Company's Casualty and Specialty segment in 2022, 2021, and 2020 was due to reported losses generally coming in lower than expected on attritional net claims and claim expenses across a number of lines of business, partially offset by net adverse development associated with certain actuarial assumption changes.

Reconciliation of the Disclosure of Incurred and Paid Claims Development to the Reserve for Claims and Claim Expenses

The reconciliation of the net incurred and paid claims development tables to the reserve for claims and claim expenses in the consolidated balance sheet is as follows:

<u>At December 31, 2022</u>	
Net Reserve for Claims and Claim Expenses	
Property	\$ 4,814,431
Casualty and Specialty	6,367,217
Total net reserve for claims and claim expenses	<u>11,181,648</u>
Reinsurance Recoverable	
Property	\$ 2,721,401
Casualty and Specialty	1,989,524
Total reinsurance recoverable	<u>4,710,925</u>
Total reserve for claims and claim expenses	<u>\$15,892,573</u>

Historical Claims Duration

The following is unaudited supplementary information about average historical claims duration by segment:

<u>At December 31, 2022</u>	Average Annual Percentage Payout of Incurred Claims by Age, Net of Reinsurance (Number of Years)									
	1	2	3	4	5	6	7	8	9	10
Property	23.1 %	21.6 %	14.9 %	7.1 %	3.4 %	2.6 %	0.7 %	1.4 %	— %	0.5 %
Casualty and Specialty	10.4 %	15.7 %	12.7 %	14.7 %	10.3 %	7.9 %	5.3 %	3.3 %	2.8 %	1.7 %

Claims Frequency

Each of the Company's reportable segments are broadly considered to be assumed reinsurance, where multiple claims are often aggregated, perhaps multiple times through retrocessional reinsurance, before ultimately being ceded to the Company. In addition, the nature, size, terms and conditions of contracts entered into by the Company changes from one accident year to the next and the quantum of contractual or policy limits, and accordingly the potential amount of claims and claim expenses associated with a reported claim, can range from nominal, to significant. These factors can impact the amount and timing of the claims and claim expenses to be recorded and accordingly, developing claim frequency information is highly subjective and is not prepared or utilized for internal purposes. In addition, the Company does not have direct access to claim frequency information underlying certain of its proportional contracts given the nature of that business. As a result, the Company does not believe providing claim frequency information is practicable as it relates to its proportional contracts.

Notwithstanding the factors noted above, the Company has developed claims frequency information associated with its excess of loss reinsurance contracts. As each accident year develops, the Company would expect the cumulative number of reported claims to increase in certain of its excess of loss reinsurance contracts, most notably in its Casualty and Specialty segment. In determining claims frequency for its excess of loss reinsurance contracts, the Company has made the following assumptions:

- Claims below the insured layer of a contract are excluded;
- If an insured loss event results in claims associated with a number of layers of a contract, the Company would consider this to be a single claim; and
- If an insured loss event results in claims associated with a number of the Company's operating subsidiaries, the Company considers each operating subsidiary to have a reported claim.

The following table details the Company's cumulative number of reported claims for its excess of loss reinsurance contracts allocated by segment:

Accident Year	At December 31, 2022	
	Cumulative Number of Reported Claims	
	Property	Casualty and Specialty
2013	812	3,115
2014	763	4,043
2015	786	4,593
2016	1,210	5,591
2017	2,642	5,342
2018	2,570	4,765
2019	1,822	4,741
2020	2,641	3,146
2021	2,183	2,501
2022	1,217	1,384

Assumed Reinsurance Contracts Classified As Deposit Contracts

Net claims and claim expenses incurred were reduced by \$0.2 million during 2022 (2021 – \$0.2 million, 2020 – \$0.4 million) related to income earned on assumed reinsurance contracts that were classified as deposit contracts with underwriting risk only. Other income was increased by \$Nil during 2022 (2021 – \$Nil, 2020 – \$1.0 million) related to premiums and losses incurred on assumed reinsurance contracts that were classified as deposit contracts with timing risk only. Deposit liabilities of \$4.0 million are included in reinsurance balances payable at December 31, 2022 (2021 – \$4.2 million).

NOTE 8. DEBT AND CREDIT FACILITIES

The agreements governing the Company's debt obligations and credit facilities contain certain customary representations, warranties and covenants. At December 31, 2022, the Company was not in violation of any of its debt covenants.

Debt Obligations

A summary of the Company's debt obligations on its consolidated balance sheets is set forth below:

	December 31, 2022		December 31, 2021	
	Fair Value	Carrying Value	Fair Value	Carrying Value
3.600% Senior Notes due 2029	\$ 362,644	\$ 394,221	\$ 432,316	\$ 393,305
3.450% Senior Notes due 2027	280,506	297,775	321,204	297,281
3.700% Senior Notes due 2025	290,874	299,168	318,852	298,798
4.750% Senior Notes due 2025 (DaVinci) ⁽¹⁾	146,625	149,278	166,071	148,969
Total senior notes	1,080,649	1,140,442	1,238,443	1,138,353
Medici Revolving Credit Facility ⁽²⁾	30,000	30,000	30,000	30,000
Total debt	<u>\$ 1,110,649</u>	<u>\$ 1,170,442</u>	<u>\$ 1,268,443</u>	<u>\$ 1,168,353</u>

- (1) RenaissanceRe owns a noncontrolling economic interest in its joint venture DaVinci. Because RenaissanceRe controls a majority of DaVinci's issued voting shares, the consolidated financial statements of DaVinci are included in the consolidated financial statements of RenaissanceRe. However, RenaissanceRe does not guarantee or provide credit support for DaVinci and RenaissanceRe's financial exposure to DaVinci is limited to its investment in DaVinci's shares and counterparty credit risk arising from reinsurance transactions.
- (2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici's outstanding issued voting shares, the financial statements of Medici are included in RenaissanceRe's consolidated financial statements. However, RenaissanceRe does not guarantee or provide credit support for Medici and RenaissanceRe's financial exposure to Medici is limited to its investment in Medici's shares and counterparty credit risk arising from reinsurance transactions.

3.600% Senior Notes Due 2029

On April 2, 2019, RenaissanceRe issued \$400.0 million principal amount of its 3.600% Senior Notes due April 15, 2029, with interest on the notes payable on April 15 and October 15 of each year, commencing on October 15, 2019. The notes are redeemable at the applicable redemption price, subject to the terms described in the indenture for the notes. However, the notes may not be redeemed at any time prior to their maturity if enhanced capital requirements, as established by the Bermuda Monetary Authority (the "BMA"), would be breached immediately before or after giving effect to the redemption of such notes, unless, in each case, RenaissanceRe replaces the capital represented by the notes to be redeemed with capital having equal or better capital treatment as the notes under applicable BMA rules. The notes contain various covenants including limitations on mergers and consolidations, and restrictions as to the disposition of, and the placing of liens on, the stock of designated subsidiaries. The net proceeds from this offering were used to repay, in full, the \$200.0 million outstanding under the Company's revolving credit facility at March 31, 2019, which the Company used to partially fund the purchase price for the TMR Stock Purchase, and the remainder of the net proceeds was used for general corporate purposes.

3.450% Senior Notes due 2027 of RenaissanceRe Finance Inc.

On June 29, 2017, RenaissanceRe Finance Inc. ("RenaissanceRe Finance") issued \$300.0 million principal amount of its 3.450% Senior Notes due July 1, 2027, with interest on the notes payable on July 1 and January 1 of each year. The notes are fully and unconditionally guaranteed by RenaissanceRe and may be redeemed by RenaissanceRe Finance prior to maturity, subject to the payment of a "make-whole" premium if the notes are redeemed prior to April 1, 2027. The notes contain various covenants, including limitations on mergers and consolidations, and restrictions as to the disposition of, and the placing of liens on, stock of designated subsidiaries.

3.700% Senior Notes due 2025 of RenaissanceRe Finance

On March 24, 2015, RenaissanceRe Finance issued \$300.0 million principal amount of its 3.700% Senior Notes due April 1, 2025, with interest on the notes payable on April 1 and October 1 of each year. The notes are fully and unconditionally guaranteed by RenaissanceRe and may be redeemed by RenaissanceRe Finance prior to maturity, subject to the payment of a “make-whole” premium if the notes are redeemed prior to January 1, 2025. The notes contain various covenants, including limitations on mergers and consolidations, and restrictions as to the disposition of, and the placing of liens on, stock of designated subsidiaries.

The net proceeds from the offering of the notes (together with cash on hand) were applied by RenaissanceRe to repay in full a \$300.0 million bridge loan that Barclays Bank PLC provided to RenaissanceRe on February 25, 2015 in order to finance a portion of the cash consideration paid by RenaissanceRe in connection with the acquisition of Platinum.

DaVinci Senior Notes

On May 4, 2015, DaVinci issued \$150.0 million principal amount of its 4.750% Senior Notes due May 1, 2025, with interest on the notes payable on May 1 and November 1, commencing with November 1, 2015 (the “DaVinci Senior Notes”). The DaVinci Senior Notes, which are senior obligations, may be redeemed prior to maturity, subject to the payment of a “make-whole” premium if the notes are redeemed before February 1, 2025. The DaVinci Senior Notes contain various covenants including restrictions as to the disposition of, and the placing of liens on, the stock of designated subsidiaries, limitations on mergers, amalgamations and consolidations, limitations on third-party investor redemptions, a leverage covenant and a covenant to maintain certain ratings. The net proceeds from this offering were used to repay, in full, \$100.0 million outstanding under the loan agreement, dated as of March 30, 2011, between DaVinci and RenaissanceRe, and the remainder of the net proceeds were used for general corporate purposes.

Scheduled Debt Maturity

The following table sets forth the scheduled maturity of the Company’s aggregate amount of its debt obligation reflected on its consolidated balance sheet at December 31, 2022:

2023	\$ 30,000
2024	—
2025	450,000
2026	—
2027	300,000
After 2027	400,000
Unamortized fair value adjustments	—
Unamortized discount and debt issuance expenses	(9,558)
	<u>\$ 1,170,442</u>

Credit Facilities

The outstanding amounts issued or drawn under each of the Company's significant credit facilities is set forth below:

<u>At December 31, 2022</u>	<u>Issued or Drawn</u>
Revolving Credit Facility ⁽¹⁾	\$ —
Medici Revolving Credit Facility ⁽²⁾	30,000
Bilateral Letter of Credit Facilities	
Secured	447,384
Unsecured	625,750
Funds at Lloyd's Letter of Credit Facility	275,000
	<u>\$ 1,378,134</u>

(1) At December 31, 2022, no amounts were issued or drawn under this facility.

(2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici's outstanding voting rights, the financial statements of Medici are included in RenaissanceRe's consolidated financial statements. The drawn amount of the Medici revolving credit facility is included on the Company's consolidated balance sheets under debt.

RenaissanceRe Revolving Credit Facility

RenaissanceRe, Renaissance Reinsurance, RenaissanceRe Specialty U.S., Renaissance Reinsurance U.S. and RREAG are parties to a third amended and restated credit agreement dated November 18, 2022 the "Revolving Credit Agreement") with various banks, financial institutions and Wells Fargo Bank, National Association ("Wells Fargo") as administrative agent, which amended and restated a previous credit agreement. The Revolving Credit Agreement provides for a revolving commitment to RenaissanceRe of \$500.0 million, with a right, subject to satisfying certain conditions, to increase the size of the facility to \$700.0 million. Amounts borrowed under the Revolving Credit Agreement bear interest at a rate selected by RenaissanceRe equal to the Base Rate or Term SOFR (each as defined in the Revolving Credit Agreement) plus a margin. In addition to revolving loans, the Revolving Credit Agreement provides that the entire facility will also be available for the issuance of standby letters of credit, subject to the terms and conditions set forth therein, and swingline loans, which are capped at \$50.0 million for each of the swingline lenders. At December 31, 2022, RenaissanceRe had \$Nil outstanding under the Revolving Credit Agreement.

The Revolving Credit Agreement contains representations, warranties and covenants customary for bank loan facilities of this type, including limits on the ability of RenaissanceRe and its subsidiaries to merge, consolidate, sell a substantial amount of assets, incur liens and declare or pay dividends under certain circumstances. The Revolving Credit Agreement also contains certain financial covenants which generally provide that the ratio of consolidated debt to capital shall not exceed 0.35:1 and that the consolidated net worth of RenaissanceRe shall equal or exceed approximately \$4.0 billion, subject to an annual adjustment.

If certain events of default occur, in some circumstances the lenders' obligations to make loans may be terminated and the outstanding obligations of RenaissanceRe under the Revolving Credit Agreement may be accelerated. The scheduled commitment maturity date of the Revolving Credit Agreement is November 18, 2027.

RenaissanceRe Finance guarantees RenaissanceRe's obligations under the Revolving Credit Agreement. Subject to certain exceptions, additional subsidiaries of RenaissanceRe are required to become guarantors if such subsidiaries issue or incur certain types of indebtedness.

Bilateral Letter of Credit Facilities

Uncommitted, Secured Standby Letter of Credit Facility with Wells Fargo

RenaissanceRe and certain of its subsidiaries and affiliates, including Renaissance Reinsurance, DaVinci Reinsurance, Renaissance Reinsurance U.S. and RREAG are parties to an Amended and Restated Standby Letter of Credit Agreement dated June 21, 2019, as amended, with Wells Fargo, which provides for a secured, uncommitted facility under which letters of credit may be issued from time to time for the

respective accounts of the subsidiaries. Pursuant to the agreement, the applicants may request secured letter of credit issuances, and also have an option to request the issuance of up to \$100.0 million of unsecured letters of credit (outstanding on such request date). RenaissanceRe has unconditionally guaranteed the payment obligations of the applicants other than DaVinci Reinsurance.

The agreement contains representations, warranties and covenants that are customary for facilities of this type. Under the agreement, each applicant is required to pledge eligible collateral having a value sufficient to cover all of its obligations under the agreement with respect to secured letters of credit issued for its account. In the case of an event of default under the agreement, Wells Fargo may exercise certain remedies, including conversion of collateral of a defaulting applicant into cash.

At December 31, 2022, there were \$118.2 million of secured letters of credit outstanding and \$Nil of unsecured letters of credit outstanding under this agreement.

Secured Letter of Credit Facility with Citibank Europe

Certain subsidiaries and affiliates of RenaissanceRe, including Renaissance Reinsurance, DaVinci Reinsurance, Renaissance Reinsurance of Europe Unlimited Company and RenaissanceRe Specialty U.S., are parties to a facility letter, dated December 19, 2022 with Citibank Europe plc ("Citibank Europe"), which replaced the facility letter dated September 17, 2010, and pursuant to which Citibank Europe has established a letter of credit facility under which Citibank Europe provides a commitment to issue letters of credit for the accounts of the participants in multiple currencies. From the effective date of the facility until January 15, 2023, the aggregate committed amount was \$230.0 million. With effect on and from January 16, 2023, the aggregate committed amount of the facility was reduced to \$160.0 million, with a right, subject to satisfying certain conditions, to increase the size of the facility to \$260.0 million. On January 26, 2023, the aggregate committed amount of the facility was increased by \$20.0 million to \$180.0 million.

The letter of credit facility is scheduled to expire on December 31, 2024. At all times during which it is a party to the facility, each participant is obligated to pledge to Citibank Europe securities with a value that equals or exceeds the aggregate face amount of its then-outstanding letters of credit. In the case of an event of default under the facility with respect to a participant, Citibank Europe may exercise certain remedies, including terminating its commitment to such participant and taking certain actions with respect to the collateral pledged by such participant (including the sale thereof). In the facility letter, each participant makes representations and warranties that are customary for facilities of this type and agrees that it will comply with certain informational and other undertakings.

At December 31, 2022, \$204.7 million aggregate face amount of letters of credit was outstanding and \$25.3 million remained unused and available to the participants under this facility.

Uncommitted, Unsecured Letter of Credit Facility with Citibank Europe

Renaissance Reinsurance, RenaissanceRe Specialty U.S., Renaissance Reinsurance U.S. and RREAG are parties to a Master Agreement for Issuance of Payment Instruments and a Facility Letter for Issuance of Payment Instruments with Citibank Europe dated March 22, 2019, as amended, which established an uncommitted, unsecured letter of credit facility pursuant to which Citibank Europe or one of its correspondents may issue standby letters of credit or similar instruments in multiple currencies for the account of one or more of the applicants. The obligations of the applicants under this facility are guaranteed by RenaissanceRe.

Pursuant to the master agreement, each applicant makes representations and warranties that are customary for facilities of this type and agrees that it will comply with certain informational and other customary undertakings. The master agreement contains events of default customary for facilities of this type. In the case of an event of default under the facility, Citibank Europe may exercise certain remedies, including requiring that the relevant applicant pledge cash collateral in an amount equal to the maximum actual and contingent liability of the issuing bank under the letters of credit and similar instruments issued for such applicant under the facility, and taking certain actions with respect to the collateral pledged by such applicant (including the sale thereof). In addition, Citibank Europe may require that the relevant applicant pledge cash collateral if certain minimum ratings are not satisfied.

At December 31, 2022, the aggregate face amount of the payment instruments issued and outstanding under this facility was \$326.8 million.

Unsecured Letter of Credit Facility with Credit Suisse

RREAG, Renaissance Reinsurance and RenaissanceRe are parties to a letter of credit facility agreement with Credit Suisse (Switzerland) Ltd. ("Credit Suisse") dated December 16, 2021, as amended, and which provides for a \$200.0 million committed, unsecured letter of credit facility pursuant to which Credit Suisse (or any other fronting bank acting on behalf of Credit Suisse) may issue letters of credit or similar instruments in multiple currencies for the account of RREAG or Renaissance Reinsurance. The obligations of RREAG and Renaissance Reinsurance under the agreement are guaranteed by RenaissanceRe. The facility is scheduled to expire on December 31, 2024.

In the agreement, RREAG, Renaissance Reinsurance and RenaissanceRe make representations, warranties and covenants that are customary for facilities of this type, and agree to comply with certain informational and other customary undertakings. The agreement also contains certain financial covenants applicable to the RenaissanceRe, including the requirement to maintain the ratio of consolidated debt to capital of not more than 0.35:1, to maintain a minimum consolidated net worth initially of approximately \$4.0 billion, subject to an annual adjustment, and to maintain RenaissanceRe's credit rating with S&P and A.M. Best of at least A-.

The agreement contains events of default customary for facilities of this type. At any time on or after the occurrence of an event of default, Credit Suisse may exercise remedies, including canceling the commitment, requiring that RREAG or Renaissance Reinsurance pledge cash collateral in an amount equal to the maximum liability of the issuing bank under the letters of credit and similar instruments issued under the agreement, and demanding that RREAG or Renaissance Reinsurance procure the release by the beneficiaries of the letters of credit and similar instruments issued under the agreement.

At December 31, 2022, letters of credit issued by Credit Suisse under the agreement were outstanding in the face amount of \$148.9 million.

Uncommitted Letter of Credit Facility with Société Générale

Renaissance Reinsurance is party to a letter of credit reimbursement agreement with Société Générale, New York Branch ("SocGen"), dated September 8, 2022, which provides for a \$250.0 million uncommitted letter of credit facility under which Renaissance Reinsurance may request either secured or unsecured letters of credit in multiple currencies for the account of Renaissance Reinsurance, subject to secured letters of credit comprising at least 40% of the maximum aggregate amount.

In the agreement, Renaissance Reinsurance makes representations, warranties and covenants that are customary for facilities of this type, and agrees to comply with certain informational and other customary undertakings. The agreement also contains certain financial covenants applicable to the Renaissance Reinsurance customary for facilities of this type.

The agreement contains events of default customary for facilities of this type. At any time on or after the occurrence of an event of default, SocGen may exercise remedies, including requiring that Renaissance Reinsurance pledge cash collateral in an amount equal to the maximum liability of the issuing bank under the unsecured letters of credit and similar instruments issued under the agreement, and taking certain actions with respect to the collateral pledged by such applicant (including the sale thereof).

At December 31, 2022, letters of credit issued by SocGen under the agreement were outstanding in the face amount of \$250.0 million.

Vermeer Letter of Credit Facility with Citibank Europe

Vermeer is party to an uncommitted, secured letter of credit facility pursuant to which Citibank Europe or one of its correspondents may issue standby letters of credit or similar instruments in multiple currencies for the account of the applicant. The obligations of Vermeer under this facility are not guaranteed by RenaissanceRe. At December 31, 2022, the aggregate face amount of letters of credit outstanding under this facility was \$24.5 million.

Funds at Lloyd's Letter of Credit Facility

Renaissance Reinsurance is party to an Amended and Restated Letter of Credit Reimbursement Agreement dated November 7, 2019, as amended, with Bank of Montreal, Citibank Europe and ING Bank

N.V., which provides a facility under which letters of credit may be issued from time to time to support business written by Renaissance Reinsurance's Lloyd's syndicate, Syndicate 1458. The stated amount of the outstanding Funds at Lloyd's letter of credit is \$275.0 million. Renaissance Reinsurance may request that the outstanding letter of credit be amended to increase the stated amount or that a new letter of credit denominated in U.S. dollars be issued, in an aggregate amount for all such increases or issuances not to exceed \$140.0 million. The facility terminates four years from the date of notice from the lenders to the beneficiary of the letter of credit, unless extended.

Generally, Renaissance Reinsurance is not required to post any collateral for letters of credit issued pursuant to this facility. However, following the occurrence of a partial collateralization event or a full collateralization event, as provided in the agreement, Renaissance Reinsurance is required to pledge eligible securities with a collateral value of at least 60% or 100%, respectively, of the aggregate amount of its then-outstanding letters of credit. The latest date upon which Renaissance Reinsurance will become obligated to collateralize the facility at 100% is December 31, 2023.

In the agreement, Renaissance Reinsurance makes representations and warranties that are customary for facilities of this type and agrees that it will comply with certain informational undertakings and other covenants, including maintaining a minimum net worth. In the case of an event of default under the FAL facility, the lenders may exercise certain remedies, including declaring all outstanding obligations of Renaissance Reinsurance under the agreement and related credit documents due and payable and taking certain actions with respect to the collateral pledged by Renaissance Reinsurance (including the sale thereof).

At December 31, 2022, the face amount of the outstanding letter of credit issued under the FAL facility was \$275.0 million.

Medici

RenaissanceRe Medici Fund Limited and RenaissanceRe Fund Management Limited are parties to a revolving credit facility pursuant to which National Australia Bank Limited provides for a revolving commitment to RenaissanceRe Medici Fund Limited of \$40.0 million. The obligations of RenaissanceRe Medici Fund Limited and Renaissance Re Fund Management Limited under this facility are not guaranteed by RenaissanceRe.

Top Layer

Renaissance Reinsurance is party to a collateralized letter of credit and reimbursement agreement in the amount of \$37.5 million that supports the Company's Top Layer joint venture. Renaissance Reinsurance is obligated to make a mandatory capital contribution of up to \$50.0 million in the event that a loss reduces Top Layer's capital below a specified level.

NOTE 9. NONCONTROLLING INTERESTS

A summary of the Company's redeemable noncontrolling interests on its consolidated balance sheets is set forth below:

At December 31,	2022	2021
Redeemable noncontrolling interest - DaVinci	\$ 1,740,300	\$ 1,499,451
Redeemable noncontrolling interest - Medici	1,036,218	856,820
Redeemable noncontrolling interest - Vermeer	1,490,840	1,197,782
Redeemable noncontrolling interest - Fontana	268,031	—
Redeemable noncontrolling interests	<u>\$ 4,535,389</u>	<u>\$ 3,554,053</u>

A summary of the Company's redeemable noncontrolling interests on its consolidated statements of operations is set forth below:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>
Redeemable noncontrolling interest - DaVinci	\$ (65,514)	\$ (102,932)	\$ 113,671
Redeemable noncontrolling interest - Medici	(70,504)	1,492	55,970
Redeemable noncontrolling interest - Vermeer	43,058	38,155	61,012
Redeemable noncontrolling interest - Fontana	(5,653)	—	—
Net income (loss) attributable to redeemable noncontrolling interests	<u>\$ (98,613)</u>	<u>\$ (63,285)</u>	<u>\$ 230,653</u>

Redeemable Noncontrolling Interest – DaVinci

RenaissanceRe owns a noncontrolling economic interest in DaVinci; however, because RenaissanceRe controls a majority of DaVinci's outstanding voting rights, the Company consolidates DaVinci and all significant intercompany transactions have been eliminated. The portion of DaVinci's earnings owned by third parties is recorded in the consolidated statements of operations as net income (loss) attributable to redeemable noncontrolling interests. The Company's noncontrolling economic ownership in DaVinci was 30.9% at December 31, 2022 (2021 - 28.7%).

DaVinci shareholders are party to a shareholders agreement which provides DaVinci shareholders, excluding RenaissanceRe, with certain redemption rights that enable each shareholder to notify DaVinci of such shareholder's desire for DaVinci to repurchase up to half of such shareholder's initial aggregate number of shares held, subject to certain limitations, such as limiting the aggregate of all share repurchase requests to 25% of DaVinci's capital in any given year and satisfying all applicable regulatory requirements. If total shareholder requests exceed 25% of DaVinci's capital, the number of shares repurchased will be reduced among the requesting shareholders pro-rata, based on the amounts desired to be repurchased. Shareholders desiring to have DaVinci repurchase their shares must notify DaVinci before March 1 of each year. The repurchase price will be based on GAAP book value as of the end of the year in which the shareholder notice is given, and the repurchase will be effective as of December 31 of that year. The repurchase price can be subject to a holdback and true-up for potential development on outstanding loss reserves. Similarly, when shares are issued by DaVinci and sold to DaVinci shareholders, the sale price is based on GAAP book value as of the end of the period preceding the sale and can be subject to a true-up for potential development on outstanding loss reserves.

2022

During 2022, DaVinci completed an equity capital raise of \$500.0 million, comprised of \$284.8 million from third-party investors and \$215.2 million from RenaissanceRe. In addition, RenaissanceRe sold an aggregate of \$177.9 million of its shares in DaVinci to third-party investors and purchased an aggregate of \$161.6 million of shares from third-party investors. The Company's noncontrolling economic ownership in DaVinci subsequent to these transactions was 30.9%.

Refer to "Note 21. Subsequent Events" for additional information related to the Company's noncontrolling economic ownership in DaVinci subsequent to December 31, 2022.

The timing of cash flows associated with equity capital transactions can vary from one period to the next. During 2022, RenaissanceRe received \$452.2 million from subscriptions of shares in DaVinci by third-party investors, and paid \$160.6 million as a result of redemptions of shares from third-party investors.

2021

During 2021, DaVinci completed an equity capital raise of \$250.0 million, comprised of \$150.9 million from third-party investors and \$99.1 million from RenaissanceRe. In addition, RenaissanceRe sold an aggregate of \$40.0 million of its shares in DaVinci to third-party investors and purchased an aggregate of \$156.7

million of shares from third-party investors. The Company's noncontrolling economic ownership in DaVinci subsequent to these transactions was 28.7%.

The Company expects its noncontrolling economic ownership in DaVinci to fluctuate over time.

The activity in redeemable noncontrolling interest – DaVinci is detailed in the table below:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
Beginning balance	\$ 1,499,451	\$ 1,560,693
Redemption of shares from redeemable noncontrolling interests, net of adjustments	(161,570)	(157,864)
Sale of shares to redeemable noncontrolling interests	467,933	199,554
Net income (loss) attributable to redeemable noncontrolling interests	(65,514)	(102,932)
Ending balance	<u>\$ 1,740,300</u>	<u>\$ 1,499,451</u>

Redeemable Noncontrolling Interest - Medici

RenaissanceRe owns a noncontrolling economic interest in Medici; however, because RenaissanceRe controls all of Medici's outstanding voting shares, the Company consolidates Medici and all significant intercompany transactions have been eliminated. The portion of Medici's earnings owned by third parties is recorded in the consolidated statements of operations as net income (loss) attributable to redeemable noncontrolling interests. Any shareholder may redeem all or any portion of its shares as of the last day of any calendar month, upon at least 30 calendar days' prior irrevocable written notice to Medici.

2022

During 2022, third-party investors subscribed for \$350.1 million and redeemed \$100.2 million of the participating, non-voting common shares of Medici. As a result of these net subscriptions, the Company's noncontrolling economic ownership in Medici was 12.8% at December 31, 2022.

Refer to "Note 21. Subsequent Events" for additional information related to the Company's noncontrolling economic ownership in Medici subsequent to December 31, 2022.

The timing of cash flows associated with equity capital transactions can vary from one period to the next. During 2022, RenaissanceRe received \$302.1 million from subscriptions of shares in Medici by third-party investors, and paid \$103.6 million as a result of redemptions of shares from third-party investors.

2021

During 2021, third-party investors subscribed for \$201.5 million and redeemed \$64.2 million of the participating, non-voting common shares of Medici. As a result of these net subscriptions, the Company's noncontrolling economic ownership in Medici was 14.7%, at December 31, 2021.

The Company expects its noncontrolling economic ownership in Medici to fluctuate over time.

The activity in redeemable noncontrolling interest – Medici is detailed in the table below:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
Beginning balance	\$ 856,820	\$ 717,999
Redemption of shares from redeemable noncontrolling interests, net of adjustments	(100,234)	(64,191)
Sale of shares to redeemable noncontrolling interests	350,136	201,520
Net income (loss) attributable to redeemable noncontrolling interests	(70,504)	1,492
Ending balance	<u>\$ 1,036,218</u>	<u>\$ 856,820</u>

Redeemable Noncontrolling Interest – Vermeer

RenaissanceRe owns 100% of the voting non-participating shares of Vermeer, while the sole third-party investor, Stichting Pensioenfonds Zorg en Welzijn (“PFZW”), a pension fund represented by PGGM Vermogensbeheer B.V., a Dutch pension fund manager, owns 100% of the non-voting participating shares of Vermeer and retains all of the economic benefits. Vermeer is managed by RUM in return for a management fee. The Company has concluded that Vermeer is a VIE as it has voting rights that are not proportional to its participating rights, and the Company is the primary beneficiary of Vermeer. As a result, the Company consolidates Vermeer and all significant inter-company transactions have been eliminated. As PFZW owns all of the economics of Vermeer, all of Vermeer’s earnings are allocated to PFZW in the consolidated statement of operations as net income (loss) attributable to redeemable noncontrolling interests. The Company has not provided any financial or other support to Vermeer that it was not contractually required to provide.

2022

During 2022, PFZW subscribed for \$250.0 million of the participating, non-voting common shares of Vermeer, which was received in full prior to December 31, 2022. There were no redemptions of shares in Vermeer during 2022.

2021

During 2021, PFZW subscribed for \$50.0 million of the participating, non-voting common shares of Vermeer.

The Company does not expect its noncontrolling economic ownership in Vermeer to fluctuate over time.

The activity in redeemable noncontrolling interest – Vermeer is detailed in the table below:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>
Beginning balance	\$ 1,197,782	\$ 1,109,627
Sale of shares to redeemable noncontrolling interest	250,000	50,000
Net income (loss) attributable to redeemable noncontrolling interest	43,058	38,155
Ending balance	<u>\$ 1,490,840</u>	<u>\$ 1,197,782</u>

Redeemable Noncontrolling Interest – Fontana

RenaissanceRe owns a noncontrolling economic interest in Fontana and controls a majority of Fontana's issued voting shares. The Company concluded that Fontana meets the definition of a VIE as the voting rights are not proportional with the obligations to absorb losses and rights to receive residual returns. The Company evaluated its relationship with Fontana and concluded it is the primary beneficiary of Fontana, as it has power over the activities that most significantly impact the economic performance of Fontana. As a result, the Company consolidates Fontana and all significant inter-company transactions have been eliminated. The portion of Fontana's earnings owned by third parties is recorded in the consolidated statements of operations as net income (loss) attributable to redeemable noncontrolling interests. The Company may be obligated to repurchase all or a portion of the shares held by shareholders of Fontana upon request, subject to certain restrictions. The Company has not provided any financial or other support to Fontana that it was not contractually required to provide.

2022

During 2022, the Company launched Fontana with capital commitments of \$475.0 million, of which \$400 million was funded on April 1, 2022. Of this amount, \$273.7 million was funded by third-party investors and was received in full prior to December 31, 2022. There were no redemptions of shares in Fontana during 2022. As a result of these subscriptions, the Company's noncontrolling economic ownership in Fontana was 31.6% at December 31, 2022.

The Company's investment in Fontana may fluctuate, perhaps materially, in future quarters.

The activity in redeemable noncontrolling interest – Fontana is detailed in the table below:

Year ended December 31,	2022	2021
Beginning balance	\$ —	\$ —
Sale of shares to redeemable noncontrolling interest	273,684	—
Net income (loss) attributable to redeemable noncontrolling interest	(5,653)	—
Ending balance	<u>\$ 268,031</u>	<u>\$ —</u>

NOTE 10. VARIABLE INTEREST ENTITIES

Upsilon RFO

RenaissanceRe indirectly owns a portion of the participating non-voting preference shares of Upsilon RFO and all of Upsilon RFO's voting Class A shares. The shareholders (other than the voting Class A shareholder) participate in all of the profits or losses of Upsilon RFO while their shares remain outstanding. The shareholders (other than the voting Class A shareholder) indemnify Upsilon RFO against losses relating to insurance risk and therefore these shares have been accounted for as prospective reinsurance under FASB ASC Topic *Financial Services - Insurance*.

Upsilon RFO is considered a VIE as it has insufficient equity capital to finance its activities without additional financial support. The Company is the primary beneficiary of Upsilon RFO as it has the power over the activities that most significantly impact the economic performance of Upsilon RFO and has the obligation to absorb expected losses and the right to receive expected benefits that could be significant to Upsilon RFO, in accordance with the accounting guidance. As a result, the Company consolidates Upsilon RFO and all significant inter-company transactions have been eliminated. Other than its equity investment in Upsilon RFO, the Company has not provided financial or other support to Upsilon RFO that it was not contractually required to provide.

2022

During 2022, \$89.0 million of Upsilon RFO non-voting preference shares were issued to existing investors, including \$10.0 million to the Company. Also during 2022 and following the release of collateral that was previously held by cedants associated with prior years' contracts, Upsilon RFO returned \$508.9 million of

capital to its investors, including \$83.1 million to the Company. At December 31, 2022, the Company's participation in the risks assumed by Upsilon RFO was 12.7%.

At December 31, 2022, the Company's consolidated balance sheet included total assets and total liabilities of Upsilon RFO of \$3.7 billion and \$3.7 billion, respectively. Of the total assets and liabilities, a net amount of \$165.3 million is attributable to the Company, and \$1.2 billion is attributable to third-party investors.

2021

During 2021, \$544.6 million of Upsilon RFO non-voting preference shares were issued to existing investors, including \$32.3 million to the Company. In addition, during 2021 and following the release of collateral that was previously held by cedants associated with prior years' contracts, Upsilon RFO returned \$571.9 million of capital to its investors, including \$45.0 million to the Company. At December 31, 2021, the Company's participation in the risks assumed by Upsilon RFO was 13.7%.

At December 31, 2021, the Company's consolidated balance sheet included total assets and total liabilities of Upsilon RFO of \$3.9 billion and \$3.9 billion, respectively. Of the total assets and liabilities, a net amount of \$238.0 million is attributable to the Company, and \$1.5 billion is attributable to third-party investors.

Vermeer

Vermeer provides capacity focused on risk remote layers in the U.S. property catastrophe market. Refer to "Note 9. Noncontrolling Interests" for additional information regarding Vermeer.

At December 31, 2022, the Company's consolidated balance sheet included total assets and total liabilities of Vermeer of \$1.6 billion and \$144.9 million, respectively (2021 - \$1.3 billion and \$69.9 million, respectively). In addition, the Company's consolidated balance sheet included redeemable noncontrolling interests associated with Vermeer of \$1.5 billion at December 31, 2022 (2021 - \$1.2 billion).

Fontana

Fontana provides reinsurance capacity focused on business written within the Company's Casualty and Specialty segment. Refer to "Note 9. Noncontrolling Interests" for additional information regarding Fontana.

At December 31, 2022, the Company's consolidated balance sheet included total assets and total liabilities of Fontana of \$711.0 million and \$319.2 million, respectively. In addition, the Company's consolidated balance sheet included redeemable noncontrolling interests associated with Fontana of \$268.0 million at December 31, 2022.

Mona Lisa Re Ltd.

Mona Lisa Re provides reinsurance capacity to subsidiaries of RenaissanceRe through reinsurance agreements which are collateralized and funded by Mona Lisa Re through the issuance of one or more series of principal-at-risk variable rate notes to third-party investors.

Upon issuance of a series of notes by Mona Lisa Re, all of the proceeds from the issuance are deposited into collateral accounts, separated by series, to fund any potential obligation under the reinsurance agreements entered into with Renaissance Reinsurance and/or DaVinci Reinsurance underlying such series of notes. The outstanding principal amount of each series of notes generally will be returned to holders of such notes upon the expiration of the risk period underlying such notes, unless an event occurs which causes a loss under the applicable series of notes, in which case the amount returned will be reduced by such noteholder's pro rata share of such loss, as specified in the applicable governing documents of such notes. In addition, holders of such notes are generally entitled to interest payments, payable quarterly, as determined by the applicable governing documents of each series of notes.

The Company concluded that Mona Lisa Re meets the definition of a VIE as it does not have sufficient equity capital to finance its activities. The Company evaluated its relationship with Mona Lisa Re and concluded it not the primary beneficiary of Mona Lisa Re as it does not have the power over the activities that most significantly impact the economic performance of Mona Lisa Re, in accordance with the accounting guidance. As a result, the financial position and results of operations of Mona Lisa Re are not consolidated by the Company.

The only transactions related to Mona Lisa Re that are recorded in the Company's consolidated financial statements are the ceded reinsurance agreements entered into by Renaissance Reinsurance and DaVinci Reinsurance which are accounted for as prospective reinsurance under FASB ASC Topic *Financial Services - Insurance*, and the fair value of the principal-at-risk variable rate notes owned by the Company. Other than its investment in the principal-at-risk variable rate notes of Mona Lisa Re, the Company has not provided financial or other support to Mona Lisa Re that it was not contractually required to provide.

Renaissance Reinsurance and DaVinci Reinsurance have together entered into ceded reinsurance contracts with Mona Lisa Re with ceded premiums written of \$39.6 million and \$9.9 million, respectively, during 2022 (2021 - \$39.5 million and \$9.9 million, respectively, 2020 - \$24.3 million and \$6.7 million, respectively). In addition, Renaissance Reinsurance and DaVinci Reinsurance recognized ceded premiums earned related to the ceded reinsurance contracts with Mona Lisa Re of \$39.4 million and \$9.8 million, respectively, during 2022 (2021 - \$32.5 million and \$8.1 million, respectively, 2020 - \$24.3 million and \$6.7 million, respectively).

Effective June 29, 2021, Mona Lisa Re issued a series of principal-at-risk variable rate notes to investors for a total principal amount of \$250.0 million. Effective January 10, 2020, Mona Lisa Re issued two series of principal-at-risk variable rate notes to investors for principal amounts of \$250.0 million and \$150.0 million. At December 31, 2022, the total assets and total liabilities of Mona Lisa Re were \$654.8 million and \$654.8 million, respectively (2021 - \$650.5 million and \$650.5 million, respectively).

The fair value of the Company's investment in the principal-at-risk variable rate notes of Mona Lisa Re is included in other investments. Net of third-party investors, the fair value of the Company's investment in Mona Lisa Re was \$5.7 million at December 31, 2022 (2021 - \$6.5 million).

See "Note 21. Subsequent Events" for additional information related to Mona Lisa subsequent to December 31, 2022.

Fibonacci Re

Fibonacci Re provides collateralized capacity to Renaissance Reinsurance and its affiliates.

The Company concluded that Fibonacci Re meets the definition of a VIE as it does not have sufficient equity capital to finance its activities. The Company evaluated its relationship with Fibonacci Re and concluded it is not the primary beneficiary of Fibonacci Re as it does not have power over the activities that most significantly impact the economic performance of Fibonacci Re. As a result, the Company does not consolidate the financial position or results of operations of Fibonacci Re. The Company has not provided financial or other support to Fibonacci Re that it was not contractually required to provide.

Renaissance Reinsurance had no outstanding balances with Fibonacci Re as of December 31, 2022 and 2021, and there was no material impact on the Company's consolidated statements of operations for the years ended December 31, 2022, 2021 and 2020.

Langhorne

The Company and Reinsurance Group of America, Incorporated formed Langhorne, an initiative to source third-party capital to support reinsurers targeting large in-force life and annuity blocks. In connection with Langhorne, as of December 31, 2022 the Company has invested \$2.6 million in Langhorne Holdings (2021 - \$2.3 million), a company that owns and manages certain reinsurance entities within Langhorne. In addition, as of December 31, 2022 the Company has invested \$0.1 million in Langhorne Partners (2021 - \$0.1 million), the general partner for Langhorne and the entity which manages the third-party investors investing into Langhorne Holdings.

The Company concluded that Langhorne Holdings meets the definition of a VIE as the voting rights are not proportional with the obligations to absorb losses and rights to receive residual returns. The Company evaluated its relationship with Langhorne Holdings and concluded it is not the primary beneficiary of Langhorne Holdings, as it does not have power over the activities that most significantly impact the economic performance of Langhorne Holdings. As a result, the Company does not consolidate the financial position or results of operations of Langhorne Holdings. The Company separately evaluated Langhorne Partners and concluded that it was not a VIE. The Company accounts for its investments in Langhorne Holdings and Langhorne Partners under the equity method of accounting, one quarter in arrears.

Langhorne's capital commitment period expired at the end of December 2022 and the Langhorne entities have initiated steps for a wind down.

The Company expects its absolute and relative ownership in Langhorne Partners to remain stable until the wind down concludes. Other than its current equity investment in Langhorne, the Company has not provided financial or other support to Langhorne that it was not contractually required to provide.

Shima Re

Shima Re was acquired on March 22, 2019 in connection with the acquisition of TMR. Shima Re is a Bermuda domiciled Class 3 insurer. Shima Re is registered as a segregated accounts company and provides third-party investors with access to reinsurance risk. The maximum remaining exposure of each segregated account is fully collateralized and is funded by cash or investments as prescribed by the participant thereto. Shima Re no longer writes new business and the last in-force contract written by Shima Re expired on December 31, 2019. The Company ceased providing management services to Shima Re effective December 1, 2020.

Shima Re is considered a VIE as it has voting rights that are not proportional to its participating rights. The Company evaluated its relationship with Shima Re and concluded it is not the primary beneficiary of any segregated account, as it does not have power over the activities that most significantly impact the economic performance of any segregated account. As a result, the Company does not consolidate the financial position or results of operations of Shima Re or its segregated accounts. The Company has not provided any financial or other support to any segregated account of Shima Re that it was not contractually required to provide.

Norwood Re

Until December 1, 2020, Norwood Re was managed by a subsidiary of RREAG that the Company acquired in the acquisition of TMR. Norwood Re is a Bermuda domiciled SPI registered as a segregated accounts company formed to provide solutions for reinsurance-linked asset investors. Norwood Re is wholly owned by the Norwood Re Purpose Trust. Risks assumed by the segregated accounts of Norwood Re were fronted by, or ceded from, only one cedant - RREAG and/or its insurance affiliates. The obligations of each segregated account are funded through the issuance of non-voting preference shares to third-party investors. The maximum exposure of each segregated account is fully collateralized and is funded by cash and term deposits or investments as prescribed by the participant thereto. Norwood Re no longer writes new business, and the last in-force contract written by Norwood Re expired on June 30, 2020. The Company ceased providing management services to Norwood Re effective December 1, 2020.

Norwood Re is considered a VIE as it has voting rights that are not proportional to its participating rights. The Company evaluated its relationship with Norwood Re and concluded it is not the primary beneficiary of Norwood Re and its segregated accounts, as it does not have power over the activities that most significantly impact the economic performance of Norwood Re and its segregated accounts. As a result, the Company does not consolidate the financial position or results of operations of Norwood Re and its segregated accounts. The Company has not provided any financial or other support to Norwood Re that it was not contractually required to provide.

Fund Investments

The Company's fund investments represent variable interests in limited partnerships entities with unaffiliated fund managers in the normal course of business. Refer to "Note 5. Fair Value Measurements" for additional information.

NOTE 11. SHAREHOLDERS' EQUITY

Authorized Capital

The aggregate authorized capital of RenaissanceRe is 325 million shares consisting of 225 million common shares and 100 million preference shares. The following table is a summary of changes in common shares issued and outstanding:

<u>Year ended December 31,</u> (thousands of shares)	<u>2022</u>	<u>2021</u>	<u>2020</u>
Beginning balance	44,445	50,811	44,148
Issuance of shares	—	—	6,777
Repurchase of shares	(1,051)	(6,579)	(406)
Exercise of options and issuance of restricted stock awards	324	213	292
Ending balance	<u>43,718</u>	<u>44,445</u>	<u>50,811</u>

Common Shares

On June 5, 2020, the Company issued 6,325,000 of its common shares in an underwritten public offering at a public offering price of \$166.00 per share. Concurrently with the public offering, the Company raised \$75.0 million through the issuance of 451,807 of its common shares at a price of \$166.00 per share to State Farm Mutual Automobile Insurance Company ("State Farm"), one of the Company's existing stockholders, in a private placement. The total net proceeds from the offerings were \$1.1 billion.

Preference Shares

Series F Preference Shares

In June 2018, RenaissanceRe raised \$250.0 million through the issuance of 10,000 shares of its 5.75% Series F Preference Shares, \$1.00 par value and liquidation preference \$25,000 per share (equivalent to 10,000,000 Depositary Shares, each of which represents a 1/1,000th interest in a 5.75% Series F Preference Share). The 5.75% Series F Preference Shares may be redeemed at a redemption price of \$25,000 per share (equivalent to \$25.00 per Depositary Share), plus declared and unpaid dividends, at RenaissanceRe's option on or after June 30, 2023, provided that no redemption may occur prior to June 30, 2028 unless certain redemption requirements are met.

Series G Preference Shares

In July 2021, RenaissanceRe raised \$500.0 million through the issuance of 20,000 shares of its 4.20% Series G Preference Shares, \$1.00 par value and liquidation preference \$25,000 per share (equivalent to 20,000,000 Depositary Shares, each of which represents a 1/1,000th interest in a 4.20% Series G Preference Share). The 4.20% Series G Preference Shares have no stated maturity date and may be redeemed at a redemption price of \$25,000 per share (equivalent to \$25.00 per Depositary Share), plus declared and unpaid dividends, at RenaissanceRe's option on or after July 15, 2026, provided that no redemption may occur prior to July 15, 2026 unless certain redemption requirements are met.

Series C 6.08% Preference Shares Redemption

In March 2004, RenaissanceRe raised \$250.0 million through the issuance of 10 million Series C Preference Shares at \$25 per share. On June 27, 2013, RenaissanceRe redeemed 5 million Series C Preference Shares for \$125.0 million plus accrued and unpaid dividends thereon. The remaining Series C 6.08% Preference Shares were redeemed on March 26, 2020 for \$125.0 million plus accrued and unpaid dividends thereon. Following the redemption, no Series C 6.08% Preference Shares remain outstanding.

Series E 5.375% Preference Shares Redemption

May 2013, RenaissanceRe raised \$275.0 million through the issuance of 11 million Series E Preference Shares at \$25 per share. The Series E 5.375% Preference Shares were redeemed on August 11, 2021 for

\$275.0 million plus accrued and unpaid dividends thereon. Following the redemption, no Series E 5.375% Preference Shares remain outstanding.

The preference shares have no stated maturity and are not convertible into any other securities of RenaissanceRe. Generally, the preference shares have no voting rights. Whenever dividends payable on the preference shares are in arrears (whether or not such dividends have been earned or declared) in an amount equivalent to dividends for six full dividend periods (whether or not consecutive), the holders of the preference shares, voting as a single class regardless of class or series, will have the right to elect two directors to the Board of Directors of RenaissanceRe.

Dividends

The Board of Directors of RenaissanceRe declared dividends of \$0.37 per common share, payable to common shareholders of record on March 13, 2022, June 15, 2022, September 15, 2022 and December 15, 2022, and the Company paid the dividends on March 31, 2022, June 30, 2022, September 30, 2022, and December 31, 2022, respectively.

The Board of Directors approved the payment of quarterly dividends on each of the series of RenaissanceRe's several series of preference shares to preference shareholders of record in the amounts and on the quarterly record dates and dividend payment dates set forth in the prospectus supplement and Certificate of Designation for the applicable series of preference shares, unless and until further action is taken by the Board of Directors. The dividend payment dates for the preference shares will be the first day of March, June, September and December of each year (or if this date is not a business day, on the business day immediately following this date). The record dates for the preference share dividends are one day prior to the dividend payment dates.

The amount of the dividend on the 5.750% Series F Preference Shares is an amount per share equal to 5.750% of the liquidation preference per annum (the equivalent to \$1,437.50 per 5.750% Series F Preference Share per annum, or \$359.375 per 5.750% Series F Preference Share per quarter, or \$1.4375 per Depositary Share per annum, or \$0.359375 per Depositary Share per quarter). The amount of the dividend on the 4.20% Series G Preference Shares is an amount per share equal to 4.20% of the liquidation preference per annum (the equivalent to \$1,050 per 4.20% Series G Preference Share per annum, or \$262.50 per 4.20% Series G Preference Share per quarter, or \$1.05 per Depositary Share per annum, or \$0.2625 per quarter).

The amount of the dividend on the Series C 6.08% Preference Shares was an amount per share equal to 6.08% of the liquidation preference per annum (the equivalent to \$1.52 per share per annum, or \$0.38 per share per quarter), and was paid prior to the redemption in full of the Series C 6.08% shares on March 26, 2020. The amount of the dividend on the Series E 5.375% Preference Shares was an amount per share equal to 5.375% of the liquidation preference per annum (the equivalent to \$1.34375 per share per annum, or \$0.3359375 per share per quarter), and was paid prior to the redemption in full of the Series E 5.375% Preference Shares on August 11, 2021.

During 2022, the Company paid \$35.4 million in preference share dividends (2021 - \$33.3 million, 2020 - \$30.9 million) and \$64.7 million in common share dividends (2021 - \$67.8 million, 2020 - \$68.5 million).

Share Repurchases

The Company's share repurchase program may be effected from time to time, depending on market conditions and other factors, through open market purchases and privately negotiated transactions. On August 2, 2022, RenaissanceRe's Board of Directors approved a renewal of its authorized share repurchase program for an aggregate amount of up to \$500.0 million. Unless terminated earlier by RenaissanceRe's Board of Directors, the program will expire when the Company has repurchased the full value of the common shares authorized. During 2022, pursuant to the publicly announced share repurchase program, the Company repurchased 1.1 million common shares at an aggregate cost of \$162.8 million and an average price of \$155.00 per common share. At December 31, 2022, \$500.0 million remained available for repurchase under the share repurchase program. In the future, the Company may authorize additional purchase activities under the currently authorized share repurchase program, increase the amount authorized under the share repurchase program, or adopt additional trading plans. The Company's decision

to repurchase common shares will depend on, among other matters, the market price of the common shares and the capital requirements of the Company.

NOTE 12. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per common share:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>
(common shares in thousands)			
Numerator:			
Net income (loss) available (attributable) to RenaissanceRe common shareholders	\$(1,096,578)	\$ (73,421)	\$ 731,482
Amount allocated to participating common shareholders ⁽¹⁾	(1,079)	(727)	(8,968)
Net income (loss) allocated to RenaissanceRe common shareholders	<u>\$(1,097,657)</u>	<u>\$ (74,148)</u>	<u>\$ 722,514</u>
Denominator:			
Denominator for basic income (loss) per RenaissanceRe common share - weighted average common shares	43,040	47,171	47,103
Per common share equivalents of non-vested shares ⁽²⁾	—	—	75
Denominator for diluted income (loss) per RenaissanceRe common share - adjusted weighted average common shares and assumed conversions	<u>43,040</u>	<u>47,171</u>	<u>47,178</u>
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – basic	\$ (25.50)	\$ (1.57)	\$ 15.34
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted	\$ (25.50)	\$ (1.57)	\$ 15.31

(1) Represents earnings and dividends attributable to holders of unvested shares issued pursuant to the Company's stock compensation plans.

(2) In periods for which the Company has net loss allocated to RenaissanceRe common shareholders, the denominator used in calculating net loss attributable to RenaissanceRe common shareholders per common share - basic is also used in calculating net loss attributable to RenaissanceRe common shareholders per common share - diluted. For the twelve months ended December 31, 2022, per common share equivalents of non-vested shares of 90 thousand could potentially be dilutive in future periods if the Company reports net income allocated to RenaissanceRe common shareholders.

NOTE 13. RELATED PARTY TRANSACTIONS AND MAJOR CUSTOMERS

Tower Hill

The Company has entered into reinsurance and other arrangements with certain subsidiaries and affiliates of Tower Hill and has also entered into reinsurance arrangements with respect to business produced by the Tower Hill Companies.

During 2022, the Company recorded \$82.0 million (2021 - \$69.8 million, 2020 - \$55.5 million) of gross premiums written assumed from the Tower Hill Companies and its subsidiaries and affiliates. Gross premiums earned totaled \$80.0 million (2021 - \$63.0 million, 2020 - \$51.4 million) and expenses incurred were \$15.8 million (2021 - \$11.3 million, 2020 - \$7.9 million) for 2022. The Company had a net related outstanding receivable balance of \$19.1 million as of December 31, 2022 (2021 - receivable of \$21.7 million). During 2022, the Company assumed net claims and claim expenses of \$68.6 million (2021 - assumed net claims and claim expenses of \$28.5 million, 2020 - assumed net claims and claim expenses of \$13.2 million) and, as of December 31, 2022, had a net reserve for claims and claim expenses of \$89.8 million (2021 - \$68.0 million).

In addition, the Company received distributions of \$10.5 million from the Tower Hill Companies during 2022 (2021 - \$15.0 million, 2020 - \$9.5 million).

Top Layer

During 2022, the Company received distributions from Top Layer of \$8.7 million (2021 - \$9.3 million, 2020 - \$18.0 million), and recorded a management fee of \$2.4 million (2021 - \$2.5 million, 2020 - \$2.4 million). The management fee reimburses the Company for services it provides to Top Layer.

Broker Concentration

During 2022, the Company received 82.2% of its gross premiums written (2021 - 78.0%, 2020 - 79.6%) from three brokers. Subsidiaries and affiliates of Aon plc, Marsh & McLennan Companies, Inc. and Arthur J. Gallagher accounted for 35.4%, 33.3% and 13.5%, respectively, of gross premiums written in 2022.

On December 1, 2021, Arthur J. Gallagher completed its acquisition of Willis Re, a subsidiary of Willis Towers Watson Public Limited Company. The percentage of gross premiums written for Arthur J. Gallagher in 2021 includes gross premiums written which were generated through Willis Re, a subsidiary of Willis Towers Watson Public Limited Company. Subsidiaries and affiliates of Aon plc, Marsh & McLennan Companies, Inc. and Willis Towers Watson Public Limited Company accounted for 35.8%, 30.0% and 12.2%, respectively, of gross premiums written in 2021 and 42.8%, 24.5% and 12.3%, respectively, of gross premiums written in 2020.

NOTE 14. TAXATION

Under current Bermuda law, RenaissanceRe and its Bermuda subsidiaries are not subject to any income or capital gains taxes. In the event that such taxes are imposed, RenaissanceRe and its Bermuda subsidiaries would be exempted from any such tax until March 2035 pursuant to the Bermuda Exempted Undertakings Tax Protection Act 1966, and Amended Acts of 1987 and 2011, respectively.

RenaissanceRe Finance and its subsidiaries are subject to income taxes imposed by U.S. federal and state authorities and file a consolidated U.S. federal income tax return. Should the U.S. subsidiaries pay a dividend to RenaissanceRe, withholding taxes would apply to the extent of current year or accumulated earnings and profits at an expected tax rate of 5.0%. The Company has not accrued withholding taxes on the unremitted earnings of RenaissanceRe Finance to date as there is no intention to remit such earnings. The cumulative amount that would be subject to withholding tax, if distributed, is not practicable to compute. The Company also has operations in Ireland, the U.K., Singapore, Switzerland and Australia which are subject to income taxes imposed by the respective jurisdictions in which they operate. Withholding taxes would not be expected to apply to dividends paid to RenaissanceRe from its operations in Ireland, the U.K., Singapore, Switzerland and Australia.

The following is a summary of the Company's income (loss) before taxes allocated between domestic and foreign operations:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>
Domestic			
Bermuda	\$ (672,950)	\$ 156,031	\$ 1,122,261
Foreign			
Singapore	112	4,420	16,416
Ireland	6	101	1,315
U.S.	(367,799)	(92,335)	286
Australia	(29,214)	7,148	(1,689)
Switzerland	(72,773)	(106,249)	(40,502)
U.K.	(76,217)	(83,224)	(102,167)
Income (loss) before taxes	<u><u>\$(1,218,835)</u></u>	<u><u>\$ (114,108)</u></u>	<u><u>\$ 995,920</u></u>

Income tax (expense) benefit is comprised as follows:

<u>Year ended December 31, 2022</u>	<u>Current</u>	<u>Deferred</u>	<u>Total</u>
Total income tax (expense) benefit	\$ (3,078)	\$ 62,097	\$ 59,019
<u>Year ended December 31, 2021</u>			
Total income tax (expense) benefit	\$ (992)	\$ 11,660	\$ 10,668
<u>Year ended December 31, 2020</u>			
Total income tax (expense) benefit	\$ (6,313)	\$ 3,451	\$ (2,862)

The Company's expected income tax provision computed on pre-tax income (loss) at the weighted average tax rate has been calculated as the sum of the pre-tax income (loss) in each jurisdiction multiplied by that jurisdiction's applicable statutory tax rate. Statutory tax rates of 0.0% in Bermuda, 21.0% in the U.S., 12.5% in Ireland, 19.0% in the U.K., 17.0% in Singapore, 19.7% in Switzerland and 30.0% in Australia have been used.

The Company's effective income tax rate, which it calculates as income tax expense divided by net income before taxes, may fluctuate significantly from period to period depending on the geographic distribution of pre-tax net income (loss) in any given period between different jurisdictions with comparatively higher tax rates and those with comparatively lower tax rates. The geographic distribution of pre-tax net income (loss) can vary significantly between periods due to, but not limited to, the following factors: the business mix of net premiums written and earned; the geographic location, the size and the nature of net claims and claim expenses incurred; the amount and geographic location of operating expenses, net investment income, net realized and unrealized gains (losses) on investments; outstanding debt and related interest expense; and the amount of specific adjustments to determine the income tax basis in each of the Company's operating jurisdictions. In addition, a significant portion of the Company's gross and net premiums are currently written and earned in Bermuda, which does not have a corporate income tax, including the majority of the Company's catastrophe business, which can result in significant volatility to its pre-tax net income in any given period.

A reconciliation of the difference between the provision for income taxes and the expected tax provision at the weighted average tax rate is as follows:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>
Expected income tax benefit (expense)	\$ 114,721	\$ 53,093	\$ 25,489
Nondeductible expenses	(508)	(334)	5,074
Reinsurance adjustment	(1,265)	(4,604)	—
Income tax audit adjustment	—	—	3,424
Effect of change in tax rate	7,461	14,904	3,055
Transfer pricing	—	224	206
GAAP to statutory accounting difference	(6,019)	—	—
U.S. base erosion and anti-abuse tax	—	(1,725)	(36)
Withholding tax	(2,154)	(1,013)	(1,822)
Non-taxable loss on sale of RenaissanceRe UK	—	—	(6,091)
Change in valuation allowance	(62,133)	(42,819)	(13,003)
Foreign branch adjustments	11,656	(5,491)	(17,821)
Other	(2,740)	(1,567)	(1,337)
Income tax benefit (expense)	\$ 59,019	\$ 10,668	\$ (2,862)

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities are presented below:

<u>At December 31,</u>	<u>2022</u>	<u>2021</u>
Deferred tax assets		
Tax loss and credit carryforwards	\$ 185,741	\$ 149,739
Unearned premiums	46,579	36,962
Reserve for claims and claim expenses	39,536	22,611
Deferred finance charges	19,309	17,962
Deferred underwriting results	10,481	12,483
Accrued expenses	2,233	1,788
Investments	71,747	—
Amortization and depreciation	11,533	6,969
	<u>387,159</u>	<u>248,514</u>
Deferred tax liabilities		
Investments	—	(2,180)
Deferred acquisition expenses	(66,536)	(49,661)
Intangible assets	(3,830)	(4,242)
	<u>(70,366)</u>	<u>(56,083)</u>
Net deferred tax asset (liability) before valuation allowance	316,793	192,431
Valuation allowance	(193,640)	(131,507)
Net deferred tax asset (liability)	<u>\$ 123,153</u>	<u>\$ 60,924</u>

The Company's net deferred tax asset is included in other assets on its consolidated balance sheets.

During 2022, the Company recorded a net increase to the valuation allowance of \$62.1 million (2021 – increase of \$42.8 million, 2020 – increase of \$13.0 million). The Company's net deferred tax asset primarily relates to net operating loss carryforwards, unrealized losses in the U.S. investment portfolio and GAAP versus tax basis accounting differences relating to unearned premiums, reserves for claims and claim expenses, deferred finance charges, deferred underwriting results, accrued expenses, investments, deferred acquisition expenses and amortization and depreciation. The Company's valuation allowance assessment is based on all available information including projections of future GAAP taxable income from each tax-paying component in each tax jurisdiction.

A valuation allowance has been provided against deferred tax assets in the U.S., Ireland, the U.K., Singapore and Switzerland. These deferred tax assets relate primarily to net operating loss carryforwards and unrealized losses in the U.S. investment portfolio.

In the U.S. and Switzerland, the Company has net operating loss carryforwards of \$310.4 million and \$527.2 million respectively. Under applicable law, the U.S. and Swiss net operating loss carryforwards will begin to expire in 2037 and 2023 respectively. The Company has net operating loss carryforwards of \$263.9 million in the U.K., \$18.7 million in Singapore, \$7.7 million in Ireland and \$7.5 million in Australia. Under applicable law, the U.K., Singapore, Irish and Australia net operating losses can be carried forward for an indefinite period. The Company has unrealized losses in the US investment portfolio of \$320.9 million. These unrealized investment losses do not expire. However, if realized, these losses may only offset realized capital gains and would expire, if unused, at the end of the fifth taxable year following their realization.

The Company made net payments for U.S. federal, Irish, U.K., Singapore, Switzerland and Australia income taxes of \$3.1 million for the year ended 2022 (2021 – net refunds of \$4.3 million, 2020 – net payments of \$5.7 million).

The Company had no unrecognized tax benefits at December 31, 2022 and December 31, 2021. Interest and penalties related to unrecognized tax benefits would be recognized in income tax expense. At December 31, 2022 and December 31, 2021, there was no interest or penalties accrued on unrecognized tax benefits. The following filed income tax returns are open for examination with the applicable tax

authorities: tax years 2017 through 2021 with the U.S.; 2018 through 2021 with Ireland; 2020 through 2021 with the U.K.; 2018 through 2021 with Singapore; 2020 and 2021 with Switzerland; and 2018 through 2021 with Australia. The Company does not expect the resolution of these open years to have a significant impact on its consolidated statements of operations and financial condition.

NOTE 15. SEGMENT REPORTING

The Company's reportable segments are defined as follows: (1) Property, which is comprised of catastrophe and other property (re)insurance written on behalf of the Company's consolidated operating subsidiaries, joint ventures and managed funds, and (2) Casualty and Specialty, which is comprised of casualty and specialty (re)insurance written on behalf of the Company's consolidated operating subsidiaries, joint ventures and managed funds. In addition to its reportable segments, the Company has an Other category, which primarily includes its investments unit, strategic investments, corporate expenses, capital servicing costs, noncontrolling interests and certain expenses related to acquisitions and dispositions.

The Company does not manage its assets by segment; accordingly, net investment income and total assets are not allocated to the segments.

A summary of the significant components of the Company's revenues and expenses by segment is as follows:

Year ended December 31, 2022	Property	Casualty and Specialty	Other	Total
Gross premiums written	\$ 3,734,241	\$ 5,479,299	\$ —	\$ 9,213,540
Net premiums written	\$ 2,847,659	\$ 4,348,501	\$ —	\$ 7,196,160
Net premiums earned	\$ 2,770,227	\$ 3,563,762	\$ —	\$ 6,333,989
Net claims and claim expenses incurred	2,044,771	2,294,069	—	4,338,840
Acquisition expenses	547,210	1,021,396	—	1,568,606
Operational expenses	194,355	82,336	—	276,691
Underwriting income (loss)	\$ (16,109)	\$ 165,961	\$ —	149,852
Net investment income			559,932	559,932
Net foreign exchange gains (losses)			(56,909)	(56,909)
Equity in earnings of other ventures			11,249	11,249
Other income (loss)			12,636	12,636
Net realized and unrealized gains (losses) on investments			(1,800,485)	(1,800,485)
Corporate expenses			(46,775)	(46,775)
Interest expense			(48,335)	(48,335)
Income (loss) before taxes and redeemable noncontrolling interests				(1,218,835)
Income tax (expense) benefit			59,019	59,019
Net (income) loss attributable to redeemable noncontrolling interests			98,613	98,613
Dividends on preference shares			(35,375)	(35,375)
Net income (loss) available (attributable) to RenaissanceRe common shareholders				<u><u>\$ (1,096,578)</u></u>
Net claims and claim expenses incurred – current accident year	\$ 2,250,512	\$ 2,335,910	\$ —	\$ 4,586,422
Net claims and claim expenses incurred – prior accident years	(205,741)	(41,841)	—	(247,582)
Net claims and claim expenses incurred – total	<u><u>\$ 2,044,771</u></u>	<u><u>\$ 2,294,069</u></u>	<u><u>\$ —</u></u>	<u><u>\$ 4,338,840</u></u>
Net claims and claim expense ratio – current accident year	81.2 %	65.5 %		72.4 %
Net claims and claim expense ratio – prior accident years	(7.4)%	(1.1)%		(3.9)%
Net claims and claim expense ratio – calendar year	73.8 %	64.4 %		68.5 %
Underwriting expense ratio	26.8 %	30.9 %		29.2 %
Combined ratio	<u><u>100.6 %</u></u>	<u><u>95.3 %</u></u>		<u><u>97.7 %</u></u>

Year ended December 31, 2021	Property	Casualty and Specialty	Other	Total
Gross premiums written	\$ 3,958,724	\$ 3,875,074	\$ —	\$ 7,833,798
Net premiums written	\$ 2,868,002	\$ 3,071,373	\$ —	\$ 5,939,375
Net premiums earned	\$ 2,608,298	\$ 2,585,883	\$ —	\$ 5,194,181
Net claims and claim expenses incurred	2,163,016	1,713,071	—	3,876,087
Acquisition expenses	487,178	727,680	—	1,214,858
Operational expenses	143,608	68,576	—	212,184
Underwriting income (loss)	\$ (185,504)	\$ 76,556	\$ —	(108,948)
Net investment income			319,479	319,479
Net foreign exchange gains (losses)			(41,006)	(41,006)
Equity in earnings of other ventures			12,309	12,309
Other income (loss)			10,880	10,880
Net realized and unrealized gains (losses) on investments			(218,134)	(218,134)
Corporate expenses			(41,152)	(41,152)
Interest expense			(47,536)	(47,536)
Income (loss) before taxes and redeemable noncontrolling interests				(114,108)
Income tax (expense) benefit			10,668	10,668
Net (income) loss attributable to redeemable noncontrolling interests			63,285	63,285
Dividends on preference shares			(33,266)	(33,266)
Net income (loss) available (attributable) to RenaissanceRe common shareholders				\$ (73,421)
Net claims and claim expenses incurred – current accident year	\$ 2,396,389	\$ 1,729,168	\$ —	\$ 4,125,557
Net claims and claim expenses incurred – prior accident years	(233,373)	(16,097)	—	(249,470)
Net claims and claim expenses incurred – total	\$ 2,163,016	\$ 1,713,071	\$ —	\$ 3,876,087
Net claims and claim expense ratio – current accident year	91.9 %	66.9 %		79.4 %
Net claims and claim expense ratio – prior accident years	(9.0)%	(0.7)%		(4.8)%
Net claims and claim expense ratio – calendar year	82.9 %	66.2 %		74.6 %
Underwriting expense ratio	24.2 %	30.8 %		27.5 %
Combined ratio	107.1 %	97.0 %		102.1 %

Year ended December 31, 2020	Property	Casualty and Specialty	Other	Total
Gross premiums written	\$ 2,999,142	\$ 2,807,023	\$ —	\$ 5,806,165
Net premiums written	\$ 2,037,200	\$ 2,059,133	\$ —	\$ 4,096,333
Net premiums earned	\$ 1,936,215	\$ 2,016,247	\$ —	\$ 3,952,462
Net claims and claim expenses incurred	1,435,947	1,488,662	—	2,924,609
Acquisition expenses	353,700	543,977	—	897,677
Operational expenses	135,547	71,140	—	206,687
Underwriting income (loss)	\$ 11,021	\$ (87,532)	\$ —	(76,511)
Net investment income			354,038	354,038
Net foreign exchange gains (losses)			27,773	27,773
Equity in earnings of other ventures			17,194	17,194
Other income (loss)			213	213
Net realized and unrealized gains (losses) on investments			820,636	820,636
Corporate expenses			(96,970)	(96,970)
Interest expense			(50,453)	(50,453)
Income (loss) before taxes and redeemable noncontrolling interests				995,920
Income tax (expense) benefit			(2,862)	(2,862)
Net (income) loss attributable to redeemable noncontrolling interests			(230,653)	(230,653)
Dividends on preference shares			(30,923)	(30,923)
Net income (loss) available (attributable) to RenaissanceRe common shareholders				\$ 731,482
Net claims and claim expenses incurred – current accident year	\$ 1,592,996	\$ 1,515,425	\$ —	\$ 3,108,421
Net claims and claim expenses incurred – prior accident years	(157,049)	(26,763)	—	(183,812)
Net claims and claim expenses incurred – total	\$ 1,435,947	\$ 1,488,662	\$ —	\$ 2,924,609
Net claims and claim expense ratio – current accident year	82.3 %	75.2 %		78.6 %
Net claims and claim expense ratio – prior accident years	(8.1)%	(1.4)%		(4.6)%
Net claims and claim expense ratio – calendar year	74.2 %	73.8 %		74.0 %
Underwriting expense ratio	25.2 %	30.5 %		27.9 %
Combined ratio	99.4 %	104.3 %		101.9 %

The following is a summary of the Company's gross premiums written allocated to the territory of coverage exposure:

<u>Year ended December 31,</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>
<i>Property</i>			
U.S. and Caribbean	\$ 2,343,830	\$ 2,257,088	\$ 1,683,538
Worldwide	1,053,369	1,188,737	889,917
Europe	62,998	253,678	189,587
Japan	104,767	114,981	102,228
Worldwide (excluding U.S.) ⁽¹⁾	37,436	34,742	62,058
Australia and New Zealand	86,080	69,188	40,243
Other	45,761	40,310	31,571
Total Property	3,734,241	3,958,724	2,999,142
<i>Casualty and Specialty</i>			
Worldwide	2,328,030	1,746,450	1,315,386
U.S. and Caribbean	2,556,466	1,721,663	1,248,981
Europe	327,831	217,721	121,369
Worldwide (excluding U.S.) ⁽¹⁾	177,746	108,376	56,225
Australia and New Zealand	35,973	29,001	12,429
Other	53,253	51,863	52,633
Total Casualty and Specialty	5,479,299	3,875,074	2,807,023
Total gross premiums written	<u>\$ 9,213,540</u>	<u>\$ 7,833,798</u>	<u>\$ 5,806,165</u>

(1) The category "Worldwide (excluding U.S.)" consists of contracts that cover more than one geographic region (other than the U.S.).

NOTE 16. STOCK INCENTIVE COMPENSATION AND EMPLOYEE BENEFIT PLANS

Stock Incentive Compensation Plans and Awards

The Company is authorized to issue restricted stock awards, restricted stock units, performance share awards, stock options and other share-based awards to its employees and directors pursuant to various stock incentive compensation plans.

On May 16, 2022, the Company's shareholders approved the Company's First Amended and Restated 2016 Long-Term Incentive Plan, which amended and restated the plan initially approved by the shareholders in May 2016 (as amended from time to time, the "2016 Long-Term Incentive Plan"). The Company is authorized to issue up to 3,060,092 common shares pursuant to the 2016 Long-Term Incentive Plan. The 2016 Long-Term Incentive Plan permits the grant of restricted stock awards, restricted stock units, performance share awards (including cash-based performance awards), stock options and other share-based awards to employees, officers, non-employee directors and consultants or advisors of the Company and its affiliates.

The Company's 2001 Stock Incentive Plan, which permitted the grant of stock options, restricted stock awards and other share-based awards to employees of RenaissanceRe and its subsidiaries, expired in accordance with its terms on February 6, 2016. The terms and conditions of awards made under this plan were not impacted by the expiration, but no additional awards may be made under this plan. All awards made under the 2001 Stock Incentive Plan vested no later than March 1, 2020.

In 2010, the Company instituted a cash settled restricted stock unit ("CSRSU") plan, the 2010 Restricted Stock Unit Plan, which allowed for the issuance of equity awards in the form of CSRSUs. In November 2016, the 2010 Restricted Stock Unit Plan was terminated and replaced with a new CSRSU plan, the 2016 Restricted Stock Unit Plan. The terms and conditions of CSRSU awards outstanding under the 2010 Restricted Stock Unit Plan at the time of termination were not affected, but no additional awards will be made under the 2010 Restricted Stock Unit Plan. All outstanding awards made under the 2010 Restricted

Stock Unit Plan vested no later than March 1, 2020. Further, all outstanding awards made under the 2016 Restricted Stock Unit Plan vested no later than March 1, 2021.

Restricted Stock Awards

Restricted stock awards granted to employees under the 2016 Long-Term Incentive Plan generally vest ratably over a four-year period. Restricted stock awards granted to non-employee directors generally vest ratably over a three-year period.

Performance Share Awards

Performance share awards granted to certain of the Company's executive officers pursuant to the 2016 Long-Term Incentive Plan are subject to vesting conditions based on both continued service and the attainment of pre-established performance goals. If performance goals are achieved, the performance share awards will vest up to a maximum of 200% of target. Performance share awards generally cliff vest at the end of a three-year vesting period based on the attainment of performance goals over the three-year performance period.

Performance Share Awards Granted in March 2019

Performance share awards granted in March 2019 have a performance condition, which is the percentage change in the Company's tangible book value per common share plus change in accumulated dividends, or, in the event of a change in control, a market condition, which is the Company's total shareholder return relative to its peer group.

Performance Share Awards Granted Beginning in March 2020

Beginning with awards granted in March 2020, performance share awards have performance conditions, which are the average percentage change in the Company's book value per common share plus change in accumulated dividends over three years and the three-year average underwriting expense ratio rank compared to peers, or, in the event of a change in control, a market condition, which is the Company's total shareholder return relative to its peer group. The performance conditions are calculated in accordance with the terms of the applicable award agreement.

Cash Settled Restricted Stock Units

CSRSUs are liability awards with fair value measurement based on the fair market value of the Company's common shares at the end of each reporting period. CSRSUs granted periodically pursuant to the 2016 Restricted Stock Unit Plan generally vest ratably over 4 years.

Valuation Assumptions

Performance Share Awards Granted in March 2019

For performance share awards granted in March 2019, the performance metric relates to the percentage change in tangible book value per share plus change in accumulated dividends which is classified as a performance condition under FASB ASC Topic *Compensation - Stock Compensation*. As a result, the fair value of the performance share awards is determined based on the fair market value of RenaissanceRe's common shares on the grant date. The estimated fair value of performance share awards is amortized as an expense over the requisite service period.

Performance Share Awards Granted Beginning in March 2020

For performance share awards granted beginning in March 2020, the performance metrics relate to (i) the percentage change in book value per share plus change in accumulated dividends and (ii) average underwriting expense ratio rank compared to peers, both of which are classified as performance conditions under FASB ASC Topic *Compensation - Stock Compensation*. As a result, the fair value of the performance share awards is determined based on the fair market value of RenaissanceRe's common shares on the

grant date. The estimated fair value of performance share awards is amortized as an expense over the requisite service period.

Restricted Stock Awards

The fair value of restricted stock awards is determined based on the fair market value of RenaissanceRe's common shares on the grant date. The estimated fair value of restricted stock awards is amortized as an expense over the requisite service period. The Company has elected to recognize forfeitures as they occurred rather than estimating service-based forfeitures over the requisite service period.

Cash Settled Restricted Stock Units

CSRSUs are revalued at the end of each quarterly reporting period based on the then fair market value of RenaissanceRe's common shares. The total cost is adjusted each quarter for unvested CSRSUs to reflect the current share price, and this total cost is amortized as an expense over the requisite service period. The Company has elected to recognize forfeitures as they occurred rather than estimating service-based forfeitures over the requisite service period.

Summary of Stock Compensation Activity

Cash Settled Restricted Stock Units

	Number of Shares
Nonvested at December 31, 2019	63,744
Awards granted	—
Awards vested	(44,734)
Awards forfeited	(529)
Nonvested at December 31, 2020	18,481
Awards granted	—
Awards vested	(18,481)
Awards forfeited	—
Nonvested at December 31, 2021	—

Performance Share Awards

	Number of Shares (1)	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2019	144,847	\$ 94.70
Awards granted	65,840	170.40
Awards vested	(48,997)	61.48
Awards forfeited	(9,976)	—
Nonvested at December 31, 2020	151,714	\$ 140.96
Awards granted	55,876	162.61
Awards vested	(49,792)	130.73
Awards forfeited	(16,730)	—
Nonvested at December 31, 2021	141,068	\$ 163.98
Awards granted	69,548	145.49
Awards vested	—	—
Awards forfeited	(19,352)	—
Nonvested at December 31, 2022	<u>191,264</u>	<u>\$ 159.07</u>

- (1) For performance share awards, the number of shares is stated at the maximum number that can be attained if the performance conditions are fully met. Forfeitures represent shares forfeited due to vesting below the maximum attainable as a result of the Company not fully meeting the performance conditions.

Restricted Stock Awards

	Employee Restricted Stock Awards		Non-Employee Director Restricted Stock Awards		Total Restricted Stock Awards	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Shares	Weighted Average Grant Date Fair Value	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2019	510,860	\$ 139.91	21,006	\$ 140.79	531,866	\$ 139.94
Awards granted	309,892	145.03	9,970	170.40	319,862	145.82
Awards vested	(213,488)	138.35	(10,316)	141.12	(223,804)	138.47
Awards forfeited	(14,517)	140.11	—	—	(14,517)	140.11
Nonvested at December 31, 2020	592,747	\$ 143.14	20,660	\$ 155.03	613,407	\$ 143.54
Awards granted	252,625	167.92	10,452	162.61	263,077	167.71
Awards vested	(207,264)	142.52	(10,511)	147.72	(217,775)	142.77
Awards forfeited	(14,776)	158.97	—	—	(14,776)	158.97
Nonvested at December 31, 2021	623,332	\$ 153.02	20,601	\$ 162.60	643,933	\$ 153.32
Awards granted	354,887	143.86	12,721	145.77	367,608	143.92
Awards vested	(242,628)	148.30	(12,307)	159.20	(254,935)	148.83
Awards forfeited	(22,795)	149.01	—	—	(22,795)	149.01
Nonvested at December 31, 2022	<u>712,796</u>	<u>\$ 150.19</u>	<u>21,015</u>	<u>\$ 154.40</u>	<u>733,811</u>	<u>\$ 150.31</u>

There were 1.4 million shares available for issuance under the 2016 Long-Term Incentive Plan at December 31, 2022.

The aggregate fair value of restricted stock awards, performance share awards and CSRSUs vested during 2022 was \$38.8 million (2021 – \$46.3 million, 2020 – \$54.7 million). In connection with share vestings, there

was a \$0.1 million excess windfall tax benefit realized by the Company in 2022 (2021 – \$0.2 million, 2020 – \$0.3 million).

The total stock compensation expense recognized in the Company's consolidated statements of operations during 2022 was \$45.2 million (2021 – \$40.0 million, 2020 – \$43.7 million). As of December 31, 2022, there was \$75.2 million of total unrecognized compensation cost related to restricted stock awards and \$4.9 million related to performance share awards, which will be recognized on a weighted average basis during the next 1.7 and 1.7 years, respectively.

All of the Company's employees are eligible for defined contribution pension plans. Contributions are primarily based upon a percentage of eligible compensation. The Company contributed \$6.7 million to its defined contribution pension plans in 2022 (2021 – \$7.5 million, 2020 – \$6.7 million).

NOTE 17. STATUTORY REQUIREMENTS

The Company's (re)insurance operations are subject to insurance laws and regulations in the jurisdictions in which they operate, the most significant of which currently include Bermuda, Switzerland, the U.K. and the U.S. These regulations include certain restrictions on the amount of dividends or other distributions, such as loans or cash advances, available to shareholders without prior approval of the respective regulatory authorities.

The statutory capital and surplus and required minimum statutory capital and surplus of the Company's regulated insurance operations in its most significant regulatory jurisdictions are detailed below:

At December 31,	Bermuda (1)		Switzerland (2)		U.K. (3)		U.S. (4)	
	2022	2021	2022	2021	2022	2021	2022	2021
Statutory capital and surplus	\$8,275,191	\$7,462,710	\$1,086,800	\$ 874,665	\$1,012,639	\$ 983,449	\$1,078,042	\$ 819,811
Required statutory capital and surplus	2,028,879	1,753,078	798,900	780,000	1,012,639	983,449	858,282	716,118

- (1) Includes Renaissance Reinsurance, DaVinci Reinsurance, RenaissanceRe Specialty U.S., Vermeer and Fontana. The Company's Bermuda-domiciled insurance subsidiaries' capital and surplus is based on the relevant insurer's statutory financial statements and required statutory capital and surplus is based on the minimum solvency margin.
- (2) Includes RREAG and its branches in Australia, Bermuda, the U.K. and the U.S. RREAG's statutory capital and surplus and required statutory capital and surplus incorporate a full year of statutory net loss and risk capital, respectively.
- (3) Includes Syndicate 1458. With respect to statutory capital and surplus and required statutory capital and surplus, and as described below, underwriting capacity of a member of Lloyd's must be supported by providing a deposit in the form of cash, securities or letters of credit, which are referred to as Funds at Lloyd's ("FAL"). FAL is determined by Lloyd's and is based on Syndicate 1458's solvency and capital requirements as calculated through its internal model. Syndicate 1458 is capitalized by its FAL, with the related assets not held on its balance sheet.
- (4) Includes Renaissance Reinsurance U.S.

Statutory net income (loss) of the Company's regulated insurance operations in its most significant regulatory jurisdictions are detailed below:

	Statutory Net Income (Loss)			
	Bermuda (1)	Switzerland (2)	U.K. (3)	U.S. (4)
Year ended December 31, 2022	\$ (700,666)	\$ (237,003)	\$ (24,573)	\$ 35,344
Year ended December 31, 2021	(89,267)	80,500	(46,352)	10,465
Year ended December 31, 2020	836,707	71,829	(37,427)	17,403

- (1) Includes Renaissance Reinsurance, DaVinci Reinsurance, RenaissanceRe Specialty U.S., Vermeer and Fontana.
- (2) Includes RREAG and its branches in Australia, Bermuda, the U.K. and the U.S.
- (3) Includes Syndicate 1458.
- (4) Includes Renaissance Reinsurance U.S.

The difference between statutory financial statements and statements prepared in accordance with GAAP varies by jurisdiction; however, the primary difference is that for the Company's regulated entities the statutory financial statements generally do not reflect goodwill and intangible assets. Also, in the U.S., fixed maturity investments are generally recorded at amortized cost and deferred income tax is charged directly

to equity. In the U.S. and Bermuda, deferred acquisition costs are generally not reflected in the statutory financial statements. In Switzerland, currency translation adjustment losses are directly charged to net income or loss, while translation gains are not admissible and reflected as translation reserve on the statutory balance sheet. In addition, fixed maturity investments are carried at the lower of amortized cost and market value and recognition of equalization reserves is allowed. The prudence principle standard also allows for valuating certain assets below their nominal value. None of the Company's insurance subsidiaries used permitted practices that prevented the trigger of a regulatory event during the years ended December 31, 2022, 2021 and 2020.

Dividend Restrictions of RenaissanceRe

As a Bermuda-domiciled holding company, RenaissanceRe has limited operations of its own. Its assets consist primarily of investments in subsidiaries and cash and securities. As a result, the Company relies primarily on dividends and distributions (and other statutorily permissible payments) from its subsidiaries, investment income and fee income to meet its liquidity requirements, which primarily include making principal and interest payments on its debt, and dividend payments to its preference and common shareholders.

The payment of dividends by the Company's subsidiaries is, under certain circumstances, limited by the applicable laws and regulations in the various jurisdictions in which the subsidiaries operate, including Bermuda, the U.S., the U.K., Switzerland, Australia, Singapore and Ireland. In addition, insurance laws require our insurance subsidiaries to maintain certain measures of solvency and liquidity.

Bermuda

RenaissanceRe Specialty U.S. and Vermeer are registered as Class 3B general business insurers, Fontana Reinsurance Ltd. and Fontana Reinsurance U.S. Ltd. are registered as Class 3A general business insurers, and Renaissance Reinsurance and DaVinci Reinsurance are registered as Class 4 general business insurers under the Insurance Act 1978, amendments thereto and related regulations of Bermuda (collectively, the "Insurance Act"). Class 3A, Class 3B and Class 4 insurers are required to maintain available statutory economic capital and surplus at a level at least equal to their enhanced capital requirement ("ECR") and may be adjusted if the BMA concludes that the insurer's risk profile deviates significantly from the assumptions underlying its ECR or the insurer's assessment of its risk management policies and practices used to calculate the ECR. The BMA has established a target capital level which is set at 120% of the ECR. Unlike other (re)insurers, special purpose insurers and collateralized insurers are fully funded to meet their (re)insurance obligations.

Class 3, Class 3A, Class 3B and Class 4 insurers are prohibited from declaring or paying any dividends if in breach of the required minimum solvency margin or minimum liquidity ratio, or if the declaration or payment of such dividend would cause the insurer to fail to meet the required minimum solvency margin or minimum liquidity ratio. Further, certain categories of insurers are prohibited to declare or pay dividends over certain thresholds without the BMA's approval. These restrictions on declaring or paying dividends and distributions under the Insurance Act are in addition to the solvency requirements under the Companies Act 1981 which apply to all Bermuda companies.

Switzerland

The minimum capital requirement for a Swiss reinsurance company under the Insurance Supervisory Act for reinsurance license class C1 is CHF 10 million. Being a Swiss domiciled reinsurance company, RREAG must further maintain adequate solvency and provide for sufficient free and unencumbered capital in relation to its entire activities in accordance with the Swiss Solvency Test. The solvency requirement is met if the available risk-bearing capital exceeds the required target capital. It is then assessed whether the identified available capital can meet the SST requirements and is sufficient to cover the company's obligations in less favorable scenarios. RREAG maintains branch operations in Australia, Bermuda, the U.K. and the U.S., each in accordance with applicable local regulations, which may include statutory capital requirements.

RREAG may only distribute dividends out of its retained earnings or distributable reserves based on the audited annual accounts of the company. Any distribution of dividends remains subject to the approval of FINMA (as a change of the regulatory business plan) if they have a bearing on the solvency of the reinsurer and/or the interests of the insured. The solvency and capital requirements must still be met following any

distribution. At December 31, 2022, we believe RREAG exceeded the minimum solvency and capital requirements required to be maintained under Swiss law. RREAG was required to prepare an FCR for the year ended December 31, 2021, which is available on our website.

U.K.

The underwriting capacity of a member of Lloyd's must be supported by providing a deposit, referred to as "Funds at Lloyd's" or "FAL," in the form of cash, securities or letters of credit in an amount determined under the capital adequacy regime of the PRA. The amount of such deposit is calculated for each member through the completion of an annual capital adequacy exercise. Under these requirements, Lloyd's must demonstrate that each member has sufficient assets to meet its underwriting liabilities plus a required solvency margin. The amount of FAL for Syndicate 1458 is determined by Lloyd's and is based on Syndicate 1458's solvency and capital requirement as calculated through its internal model.

Dividends from a Lloyd's managing agent and a Lloyd's corporate member can be declared and paid provided the relevant company has sufficient profits available for distribution.

U.S.

Renaissance Reinsurance U.S. is required to meet certain minimum statutory capital and surplus requirements under Maryland law. Renaissance Reinsurance U.S. is also subject to risk-based capital ("RBC") requirements under Maryland law, and must file an annual report of its RBC levels. If the report shows Renaissance Reinsurance U.S.'s statutory capital and surplus or total adjusted capital is below certain levels, Renaissance Reinsurance U.S. may be required to take certain corrective action or the Maryland Insurance Administration ("MIA") may be permitted or required to take certain regulatory action.

Maryland law places limitations on the amounts of dividends or distributions payable by Renaissance Reinsurance U.S. At December 31, 2022, Renaissance Reinsurance U.S. had an ordinary dividend capacity of \$108.7 million which can be paid in 2022. Payment of ordinary dividends by Renaissance Reinsurance U.S. requires notice to the MIA. Declaration of an extraordinary dividend, which must be paid out of earned surplus, generally requires thirty days' prior notice to and approval or non-disapproval of the MIA. An extraordinary dividend includes any dividend whose fair market value together with that of other dividends or distributions made within the preceding twelve months exceeds the lesser of (1) ten percent of the insurer's surplus as regards policyholders as of December 31 of the preceding year or (2) the insurer's net investment income, excluding realized capital gains (as determined under statutory accounting principles), for the twelve month period ending December 31 of the preceding year and pro rata distributions of any class of the insurer's own securities, plus any amounts of net investment income (subject to the foregoing exclusions), in the three calendar years prior to the preceding year which have not been distributed.

Multi-Beneficiary Reinsurance Trusts

Each of Renaissance Reinsurance and DaVinci Reinsurance was approved as a Trusteed Reinsurer in the state of New York and established a multi-beneficiary reinsurance trust ("MBRT") to collateralize its (re)insurance liabilities associated with U.S. domiciled cedants. The MBRTs are subject to the rules and regulations of the state of New York and the respective deed of trust, including but not limited to certain minimum capital funding requirements, investment guidelines, capital distribution restrictions and regulatory reporting requirements. Assets held under trust at December 31, 2022 with respect to the MBRTs totaled \$0.6 billion and \$255.6 million for Renaissance Reinsurance and DaVinci Reinsurance, respectively (2021 – \$1.2 billion and \$272.0 million, respectively), compared to the minimum amount required under U.S. state regulations of \$511.4 million and \$200.1 million, respectively (2021 – \$531.8 million and \$182.3 million, respectively).

Multi-Beneficiary Reduced Collateral Reinsurance Trusts

Each of Renaissance Reinsurance, RREAG and DaVinci Reinsurance has been approved as a "certified reinsurer" eligible for collateral reduction in certain states, and are authorized to provide reduced collateral equal to 20%, 20% and 50%, respectively, of their net outstanding insurance liabilities to insurers domiciled in each of those states. Each of Renaissance Reinsurance, RREAG and DaVinci Reinsurance has established a multi-beneficiary reduced collateral reinsurance trust to collateralize its (re)insurance liabilities associated with cedants domiciled in those states. Because these reduced collateral reinsurance trusts

were established in New York, they are subject to the rules and regulations of the state of New York including but not limited to certain minimum capital funding requirements, investment guidelines, capital distribution restrictions and regulatory reporting requirements. Assets held under trust at December 31, 2022 with respect to such reduced collateral reinsurance trusts totaled \$172.7 million, \$211.0 million, and \$106.5 million for Renaissance Reinsurance, DaVinci Reinsurance and RREAG respectively (2021 - \$136.3 million, \$168.1 million and \$86.6 million respectively), compared to the minimum amount required under U.S. state regulations of \$146.1 million, \$174.7 million and \$98.3 million, respectively (2021 - \$128.1 million, \$164.5 million and \$75.8 million respectively).

NOTE 18. DERIVATIVE INSTRUMENTS

From time to time, the Company may enter into derivative instruments such as futures, options, swaps, forward contracts and other derivative contracts primarily to manage its foreign currency exposure, obtain exposure to a particular financial market, for yield enhancement, or for trading and to assume risk. The Company's derivative instruments can be exchange traded or over-the-counter, with over-the-counter derivatives generally traded under International Swaps and Derivatives Association master agreements, which establish the terms of the transactions entered into with the Company's derivative counterparties. In the event a party becomes insolvent or otherwise defaults on its obligations, a master agreement generally permits the non-defaulting party to accelerate and terminate all outstanding transactions and net the transactions' marked-to-market values so that a single sum in a single currency will be owed by, or owed to, the non-defaulting party. Effectively, this contractual close-out netting reduces credit exposure from gross to net exposure. Where the Company has entered into master netting agreements with counterparties, or the Company has the legal and contractual right to offset positions, the derivative positions are generally netted by counterparty and are reported accordingly in other assets and other liabilities.

The Company is not aware of the existence of any credit-risk related contingent features that it believes would be triggered in its derivative instruments that are in a net liability position at December 31, 2022.

The tables below show the gross and net amounts of recognized derivative assets and liabilities at fair value, including the location on the consolidated balance sheets of the Company's principal derivative instruments:

At December 31, 2022	Derivative Assets					
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Balance Sheet	Net Amounts of Assets Presented in the Balance Sheet	Balance Sheet Location	Collateral	Net Amount
Derivative Instruments Not Designated as Hedges						
Interest rate futures	\$ 387	\$ —	\$ 387	Other assets	\$ —	\$ 387
Foreign currency forward contracts ⁽¹⁾	31,755	—	31,755	Other assets	—	31,755
Foreign currency forward contracts ⁽²⁾	11,866	—	11,866	Other assets	—	11,866
Credit default swaps	413	—	413	Other assets	—	413
Total derivative instruments not designated as hedges	44,421	—	44,421		—	44,421
Total	<u>\$ 44,421</u>	<u>\$ —</u>	<u>\$ 44,421</u>		<u>\$ —</u>	<u>\$ 44,421</u>

At December 31, 2022	Derivative Liabilities					
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Balance Sheet	Net Amounts of Liabilities Presented in the Balance Sheet	Balance Sheet Location	Collateral Pledged	Net Amount
Derivative Instruments Not Designated as Hedges						
Interest rate futures	\$ 1,685	\$ —	\$ 1,685	Other liabilities	\$ 209	\$ 1,476
Foreign currency forward contracts ⁽¹⁾	1,160	—	1,160	Other liabilities	—	1,160
Foreign currency forward contracts ⁽²⁾	2,165	—	2,165	Other liabilities	—	2,165
Credit default swaps	1,055	—	1,055	Other assets	100	955
Equity futures	323	—	323	Other liabilities	—	323
Total derivative instruments not designated as hedges	6,388	—	6,388		309	6,079
Derivative Instruments Designated as Hedges						
Foreign currency forward contracts ⁽³⁾	1,193	—	1,193	Other liabilities	—	1,193
Total	<u>\$ 7,581</u>	<u>\$ —</u>	<u>\$ 7,581</u>		<u>\$ 309</u>	<u>\$ 7,272</u>

(1) Contracts used to manage foreign currency risks in underwriting and non-investment operations.

(2) Contracts used to manage foreign currency risks in investment operations.

(3) Contracts designated as hedges of net investments in a foreign operation.

	Derivative Assets					
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Balance Sheet	Net Amounts of Assets Presented in the Balance Sheet	Balance Sheet Location	Collateral	Net Amount
At December 31, 2021						
Derivative Instruments Not Designated as Hedges						
Interest rate futures	\$ 1,068	\$ —	\$ 1,068	Other assets	\$ —	\$ 1,068
Foreign currency forward contracts ⁽¹⁾	13,730	—	13,730	Other assets	—	13,730
Foreign currency forward contracts ⁽²⁾	1,247	—	1,247	Other assets	—	1,247
Credit default swaps	478	—	478	Other assets	—	478
Total derivative instruments not designated as hedges	16,523	—	16,523		—	16,523
Derivative Instruments Designated as Hedges						
Foreign currency forward contracts ⁽³⁾	1,366	—	1,366	Other assets	—	1,366
Total	<u>\$ 17,889</u>	<u>\$ —</u>	<u>\$ 17,889</u>		<u>\$ —</u>	<u>\$ 17,889</u>

	Derivative Liabilities					
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Balance Sheet	Net Amounts of Liabilities Presented in the Balance Sheet	Balance Sheet Location	Collateral Pledged	Net Amount
At December 31, 2021						
Derivative Instruments Not Designated as Hedges						
Interest rate futures	\$ 1,426	\$ —	\$ 1,426	Other liabilities	\$ 1,426	\$ —
Foreign currency forward contracts ⁽¹⁾	7,880	—	7,880	Other liabilities	—	7,880
Foreign currency forward contracts ⁽²⁾	3,412	—	3,412	Other liabilities	—	3,412
Equity futures	173	—	173	Other liabilities	173	—
Total derivative instruments not designated as hedges	12,891	—	12,891		1,599	11,292
Derivative Instruments Designated as Hedges						
Foreign currency forward contracts ⁽³⁾	4,063	—	4,063	Other liabilities	—	4,063
Total	<u>\$ 16,954</u>	<u>\$ —</u>	<u>\$ 16,954</u>		<u>\$ 1,599</u>	<u>\$ 15,355</u>

(1) Contracts used to manage foreign currency risks in underwriting and non-investment operations.

(2) Contracts used to manage foreign currency risks in investment operations.

(3) Contracts designated as hedges of net investments in foreign operations.

Refer to “Note 4. Investments” for information on reverse repurchase agreements.

The location and amount of the gain (loss) recognized in the Company's consolidated statements of operations related to its principal derivative instruments are shown in the following table:

Year ended December 31,	Location of gain (loss) recognized on derivatives	Amount of gain (loss) recognized on derivatives		
		2022	2021	2020
Derivative Instruments Not Designated as Hedges				
Interest rate futures ⁽⁴⁾	Net realized and unrealized gains (losses) on investments	\$ (86,863)	\$ (15,846)	\$ 103,102
Interest rate swaps ⁽⁴⁾	Net realized and unrealized gains (losses) on investments	—	(1,184)	2,334
Foreign currency forward contracts ⁽¹⁾	Net foreign exchange gains (losses)	(51,401)	(19,151)	24,309
Foreign currency forward contracts ⁽²⁾	Net foreign exchange gains (losses)	21,689	(1,521)	(4,450)
Credit default swaps ⁽⁴⁾	Net realized and unrealized gains (losses) on investments	(9,084)	3,479	(1,304)
Total return swaps ⁽⁴⁾	Net realized and unrealized gains (losses) on investments	(6)	1,314	(5,479)
Equity futures ⁽⁵⁾	Net realized and unrealized gains (losses) on investments	(69,972)	—	(30,045)
Warrants	Net realized and unrealized losses on investments	632	—	—
Total derivative instruments not designated as hedges		(195,005)	(32,909)	88,467
Derivative instruments designated as hedges				
Foreign currency forward contracts ⁽³⁾	Accumulated other comprehensive income (loss)	6,466	(4,535)	11,685
Total derivative instruments designated as hedges		6,466	(4,535)	11,685
Total		\$ (188,539)	\$ (37,444)	\$ 100,152

(1) Contracts used to manage foreign currency risks in underwriting and non-investment operations.

(2) Contracts used to manage foreign currency risks in investment operations.

(3) Contracts designated as hedges of net investments in foreign operations.

(4) Fixed income related derivatives included in net realized and unrealized gains (losses) on investment-related derivatives. See "Note 4. Investments" for additional information.

(5) Equity related derivatives included in net realized and unrealized gains (losses) on investment-related derivatives. See "Note 4. Investments" for additional information.

The Company is not aware of the existence of any credit-risk related contingent features that it believes would be triggered in its derivative instruments that are in a net liability position at December 31, 2022.

Derivative Instruments Not Designated as Hedges

Interest Rate Derivatives

The Company uses interest rate futures and swaps within its portfolio of fixed maturity investments to manage its exposure to interest rate risk, which may result in increasing or decreasing its exposure to this risk.

Interest Rate Futures

The fair value of interest rate futures is determined using exchange traded prices. At December 31, 2022, the Company had \$2.4 billion of notional long positions and \$0.5 billion of notional short positions of primarily U.S. treasury futures contracts (2021 – \$2.2 billion and \$0.5 billion of primarily Eurodollar and U.S. treasury futures contracts, respectively).

Interest Rate Swaps

The fair value of interest rate swaps is determined using the relevant exchange traded price where available or a discounted cash flow model based on the terms of the contract and inputs, including, where applicable, observable yield curves. At December 31, 2022 and 2021, the Company held no interest rate swaps.

Foreign Currency Derivatives

The Company's functional currency is the U.S. dollar. The Company writes a portion of its business in currencies other than U.S. dollars and may, from time to time, experience foreign exchange gains and losses in the Company's consolidated financial statements. The impact of changes in exchange rates on the Company's assets and liabilities denominated in currencies other than the U.S. dollar, excluding non-monetary assets and liabilities, are recognized in the Company's consolidated statements of operations.

Underwriting and Non-investments Operations Related Foreign Currency Contracts

The Company's foreign currency policy with regard to its underwriting operations is generally to enter into foreign currency forward and option contracts for notional values that approximate the foreign currency liabilities, including claims and claim expense reserves and reinsurance balances payable, net of any cash, investments and receivables held in the respective foreign currency. The Company's use of foreign currency forward and option contracts is intended to minimize the effect of fluctuating foreign currencies on the value of non-U.S. dollar denominated assets and liabilities associated with its underwriting operations. The Company may determine not to match a portion of its projected underwriting related assets or liabilities with underlying foreign currency exposure with investments in the same currencies, which would increase its exposure to foreign currency fluctuations and potentially increase the impact and volatility of foreign exchange gains and losses on its results of operations. The fair value of the Company's underwriting operations related foreign currency contracts is determined using indicative pricing obtained from counterparties or broker quotes. At December 31, 2022, the Company had outstanding underwriting related foreign currency contracts of \$861.7 million in notional long positions and \$172.4 million in notional short positions, denominated in U.S. dollars (2021 – \$915.0 million and \$329.3 million, respectively).

Investment Portfolio Related Foreign Currency Forward Contracts

The Company's investment operations are exposed to currency fluctuations through its investments in non-U.S. dollar fixed maturity investments, short term investments and other investments. From time to time, the Company may employ foreign currency forward contracts in its investment portfolio to either assume foreign currency risk or to economically hedge its exposure to currency fluctuations from these investments. The fair value of the Company's investment portfolio related foreign currency forward contracts is determined using an interpolated rate based on closing forward market rates. At December 31, 2022, the Company had outstanding investment portfolio related foreign currency contracts of \$225.6 million in notional long positions and \$86.3 million in notional short positions, denominated in U.S. dollars (2021 – \$245.8 million and \$131.0 million, respectively).

Credit Derivatives

The Company's exposure to credit risk is primarily due to its fixed maturity investments, short term investments, premiums receivable and reinsurance recoverable. From time to time, the Company may purchase credit derivatives to manage its exposures in the insurance industry, and to assist in managing the credit risk associated with ceded reinsurance. The Company also employs credit derivatives in its investment portfolio to either assume credit risk or manage its credit exposure.

Credit Default Swaps

The fair value of the Company credit default swaps is determined using industry valuation models, broker bid indications or internal pricing valuation techniques. The fair value of these credit default swaps can change based on a variety of factors including changes in credit spreads, default rates and recovery rates, the correlation of credit risk between the referenced credit and the counterparty, and market rate inputs such as interest rates. At December 31, 2022, the Company had outstanding credit default swaps of \$953.4 million in notional positions to hedge credit risk and \$13.1 million in notional positions to assume credit risk, denominated in U.S. dollars (2021 – \$Nil and \$218.5 million, respectively).

Total Return Swaps

From time to time, the Company uses total return swaps as a means to manage spread duration and credit exposure in its investment portfolio. The fair value of the Company's total return swaps is determined using broker-dealer bid quotations, market-based prices from pricing vendors or valuation models. At December 31, 2022 and December 31, 2021, the Company had no outstanding total return swaps, respectively.

Equity Derivatives

Equity Futures

From time to time, the Company uses equity derivatives in its investment portfolio to either assume equity risk or hedge its equity exposure. The fair value of the Company's equity futures is determined using market-based prices from pricing vendors. At December 31, 2022, the Company had a \$116.0 million notional long position of equity futures, denominated in U.S. dollars (2021 - \$74.3 million).

Derivative Instruments Designated as Hedges of Net Investments in Foreign Operations

Foreign Currency Derivatives

Hedges of Net Investments in Foreign Operations

Certain of the Company's subsidiaries currently use, or have used in the past, non-U.S. dollar functional currencies. The Company, from time to time, enters into foreign exchange forwards to hedge currencies, which, as of December 31, 2022, includes the Australian dollar net investment in a foreign operation (December 31, 2021 - Australian dollar and Euro net investment in foreign operations), on an after-tax basis, from changes in the exchange rate between the U.S. dollar and these currencies.

The Company utilizes foreign exchange forward contracts to hedge the fair value of its net investments in foreign operations. The Company has entered into foreign exchange forward contracts that were formally designated as hedges of its investment in subsidiaries with non-U.S. dollar functional currencies. There was no ineffectiveness in these transactions.

The table below provides a summary of derivative instruments designated as hedges of net investments in foreign operations, including the weighted average U.S. dollar equivalent of foreign denominated net (liabilities) assets that were hedged and the resulting derivative gain that are recorded in foreign currency translation adjustments, net of tax, within accumulated other comprehensive loss on the Company's consolidated statements of changes in shareholders' equity:

Year ended December 31,	2022	2021
Weighted average of U.S. dollar equivalent of foreign denominated net assets (liabilities)	\$ 73,472	\$ (66,438)
Derivative gains (losses) ⁽¹⁾	\$ 6,466	\$ (4,535)

(1) Derivative gains (losses) from derivative instruments designated as hedges of the net investment in foreign operations are recorded in foreign currency translation adjustments, net of tax, within accumulated other comprehensive income (loss) on the Company's consolidated statements of changes in shareholders' equity.

NOTE 19. COMMITMENTS, CONTINGENCIES AND OTHER ITEMS

Concentration of Credit Risk

Instruments which potentially subject the Company to concentration of credit risk consist principally of investments, including the Company's equity method investments, cash, premiums receivable and reinsurance balances. The Company limits the amount of credit exposure to any one financial institution and, except for the securities of the U.S. Government and U.S. Government related entities, and money market securities, none of the Company's fixed-maturity and short-term investments exceeded 10% of shareholders' equity at December 31, 2022. Refer to "Note 6. Reinsurance," for information with respect to reinsurance recoverable.

Employment Agreements

The Board of Directors has authorized the execution of employment agreements between the Company and certain officers. These agreements provide for, among other things, severance payments under certain circumstances, as well as accelerated vesting of options and certain restricted stock grants, upon a change in control, as defined in the employment agreements and the Company's stock incentive plan.

Letters of Credit and Other Commitments

At December 31, 2022, the Company's banks have issued secured and unsecured letters of credit totaling \$1.4 billion in favor of certain ceding companies. In connection with the Company's Top Layer joint venture, Renaissance Reinsurance has committed \$37.5 million of collateral to support a letter of credit and is obligated to make a mandatory capital contribution of up to \$50.0 million in the event that a loss reduces Top Layer's capital and surplus below a specified level.

Refer to "Note 8. Debt and Credit Facilities" for additional information related to the Company's debt and credit facilities.

Investment Commitments

The Company has committed capital to direct private equity investments, fund investments, term loans and investments in other ventures of \$2.9 billion, of which \$1.7 billion has been contributed at December 31, 2022. The Company's remaining commitments to these investments at December 31, 2022 totaled \$1.2 billion. These commitments do not have a defined contractual commitment date.

Indemnifications and Warranties

In the ordinary course of its business, the Company may enter into contracts or agreements that contain indemnifications or warranties. Future events could occur that lead to the execution of these provisions against the Company. Based on past experience, management currently believes that the likelihood of such an event is remote.

Leases

The Company's operating leases primarily relate to office space for its global underwriting platforms principally in Bermuda, Australia, Ireland, Singapore, Switzerland, the U.K. and the U.S. These leases expire at various dates through 2038 with a weighted average lease term of 7.1 years. Included in other assets and other liabilities at December 31, 2022 is a right-to-use asset of \$66.6 million and a lease liability of \$67.1 million, respectively, associated with the Company's operating leases (2021 - \$22.9 million and \$23.1 million, respectively). During 2022, the Company recorded an operating lease expense of \$8.8 million included in operating expenses (2021 - \$8.4 million).

The Company's financing leases primarily relate to office space in Bermuda with an initial lease term of 20 years, ending in 2028, and a bargain renewal option for an additional 30 years. Included in other assets and other liabilities at December 31, 2022 is a right-to-use asset of \$17.1 million and a lease liability of \$22.0 million, respectively, associated with the Company's finance leases (2021 - \$28.0 million and \$22.5 million, respectively). During 2022, the Company recorded interest expense of \$2.2 million associated with its finance leases (2021 - \$2.3 million) included in other income and amortization of its finance leases right-to-use asset of \$0.5 million included in operating expenses (2021 - \$0.5 million).

Future minimum lease payments under existing operating and finance leases are detailed below, excluding the bargain renewal option on the finance lease related to office space in Bermuda:

	Future Minimum Lease Payments	
	Operating Leases	Finance Leases
2023	\$ 7,097	\$ 2,661
2024	8,842	2,661
2025	8,381	2,661
2026	7,791	2,661
2027	7,663	2,661
After 2027	53,430	2,146
Future minimum lease payments under existing leases	<u>\$ 93,204</u>	<u>\$ 15,451</u>

Legal Proceedings

The Company and its subsidiaries are subject to lawsuits and regulatory actions in the normal course of business that do not arise from or directly relate to claims on reinsurance treaties or contracts or direct surplus lines insurance policies. In the Company's industry, business litigation may involve allegations of underwriting or claims-handling errors or misconduct, disputes relating to the scope of, or compliance with, the terms of delegated underwriting agreements, employment claims, regulatory actions or disputes arising from the Company's business ventures. The Company's operating subsidiaries are subject to claims litigation involving, among other things, disputed interpretations of policy coverages. Generally, the Company's direct surplus lines insurance operations are subject to greater frequency and diversity of claims and claims-related litigation than its reinsurance operations and, in some jurisdictions, may be subject to direct actions by allegedly injured persons or entities seeking damages from policyholders. These lawsuits, involving or arising out of claims on policies issued by the Company's subsidiaries which are typical to the insurance industry in general and in the normal course of business, are considered in its loss and loss expense reserves. In addition, the Company may from time to time engage in litigation or arbitration related to its claims for payment in respect of ceded reinsurance, including disputes that challenge the Company's ability to enforce its underwriting intent. Such matters could result, directly or indirectly, in providers of protection not meeting their obligations to the Company or not doing so on a timely basis. The Company may also be subject to other disputes from time to time, relating to operational or other matters distinct from insurance or reinsurance claims. Any litigation or arbitration, or regulatory process, contains an element of uncertainty, and the value of an exposure or a gain contingency related to a dispute is difficult to estimate. The Company believes that no individual litigation or arbitration to which it is presently a party is likely to have a material adverse effect on its financial condition, business or operations.

NOTE 20. SALE OF RENAISSANCERE UK

On February 4, 2020, RenaissanceRe Specialty Holdings (UK) Limited entered into an agreement to sell its wholly owned subsidiary, RenaissanceRe (UK) Limited ("RenaissanceRe UK"), a U.K. run-off company, to an investment vehicle managed by AXA Liabilities Managers, an affiliate of AXA XL. The sale received regulatory approval on July 17, 2020 and closed on August 18, 2020. The Company recognized a pre-tax loss on the sale of RenaissanceRe UK of \$30.2 million, which is included in corporate expenses in the Company's consolidated statements of operations for 2020. The loss on sale includes amounts related to prior purchase GAAP adjustments and cumulative currency translation adjustments recorded since the acquisition of RenaissanceRe UK. The financial results of RenaissanceRe UK for the period from January 1, 2020 through August 18, 2020, are recorded in the Company's consolidated statements of operations as part of net income available to RenaissanceRe common shareholders for 2020. Prior to the sale, the underwriting activities of RenaissanceRe UK were principally all within the Company's Casualty and Specialty segment.

NOTE 21. SUBSEQUENT EVENTS

Effective January 1, 2023, DaVinci completed an equity capital raise of \$250.0 million, comprised of \$102.2 million from third-party investors and \$147.8 million from RenaissanceRe. In addition, RenaissanceRe sold an aggregate of \$275.0 million of its shares in DaVinci to third-party investors and purchased an aggregate of \$50.2 million of shares from third-party investors. At December 31, 2022, \$377.2 million, representing the net amount received from investors other than the Company prior to December 31, 2022, is included in other liabilities on the Company's consolidated balance sheet, and also included in cash flows provided by financing activities on the Company's consolidated statements of cash flows for the year ended December 31, 2022. The Company's noncontrolling economic ownership in DaVinci subsequent to these transactions was 25.4%, effective January 1, 2023.

Effective in January and February 2023, Medici issued \$109.2 million of non-voting preference shares to investors, including \$Nil to the Company, and redeemed \$17.6 million of non-voting preference shares to investors, including \$Nil to the Company. At December 31, 2022, \$25.7 million, representing the amount received from investors other than the Company prior to December 31, 2022, is included in other liabilities on the Company's consolidated balance sheet, and also included in cash flows provided by financing activities on the Company's consolidated statements of cash flows for the year ended December 31, 2022. The Company's noncontrolling economic ownership in Medici subsequent to these transactions was 11.8%, effective February 1, 2023.

Effective January 10, 2023, Mona Lisa Re issued two series of principal-at-risk variable rate notes to investors for principal amounts of \$85.0 million and \$100.0 million.

On February 6, 2023, a powerful earthquake struck Turkey and the surrounding region. Due to the recent occurrence, meaningful uncertainty regarding the estimates and the nature and extent of the losses remains.

RENAISSANCERE HOLDINGS LTD. AND SUBSIDIARIES
INDEX TO SCHEDULES TO CONSOLIDATED FINANCIAL STATEMENTS

	<u>Page</u>
Report of Independent Registered Public Accounting Firm on Schedules	S-2
I Summary of Investments other than Investments in Related Parties at December 31, 2022 ..	S-3
II Condensed Financial Information of Registrant at December 31, 2022 and 2021, and for the years ended December 31, 2022, 2021 and 2020	S-4
III Supplementary Insurance Information at and for the years ended December 31, 2022, 2021, and 2020	S-7
IV Supplemental Schedule of Reinsurance Premiums for the years ended December 31, 2022, 2021, and 2020	S-8
VI Supplementary Insurance Information Concerning Property-Casualty Insurance Operations for the years ended December 31, 2022, 2021 and 2020	S-8
Schedules other than those listed above are omitted for the reason that they are not applicable.	

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of RenaissanceRe Holdings Ltd.

We have audited the consolidated financial statements of RenaissanceRe Holdings Ltd. and subsidiaries (the Company) as of December 31, 2021 and 2020, for each of the three years in the period ended December 31, 2021, and have issued our report thereon dated February 4, 2022 included elsewhere in this Form 10-K. Our audits of the consolidated financial statements included the financial statement schedules listed in Item 15 of this Form 10-K (the schedules). These schedules are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's schedules, based on our audits.

In our opinion, the schedules present fairly, in all material respects, the information set forth therein when considered in conjunction with the consolidated financial statements.

/s/ Ernst & Young Ltd.

Hamilton, Bermuda

February 4, 2022

SCHEDULE I
RENAISSANCERE HOLDINGS LTD. AND SUBSIDIARIES
SUMMARY OF INVESTMENTS
OTHER THAN INVESTMENTS IN RELATED PARTIES
(THOUSANDS OF UNITED STATES DOLLARS)

	December 31, 2022		
	Amortized Cost or Cost	Fair Value	Amount at Which Shown in the Balance Sheet
Type of investment:			
Fixed maturity investments			
U.S. treasuries	\$ 7,366,580	\$ 7,180,129	\$ 7,180,129
Corporate	4,722,029	4,390,568	4,390,568
Agencies	419,997	395,149	395,149
Non-U.S. government	402,276	383,838	383,838
Residential mortgage-backed	776,859	710,429	710,429
Commercial mortgage-backed	232,346	213,987	213,987
Asset-backed	1,118,464	1,077,302	1,077,302
Total fixed maturity investments	\$15,038,551	14,351,402	14,351,402
Short term investments	4,671,581	4,669,272	4,669,272
Equity investments		625,058	625,058
Other investments			
Catastrophe bonds		1,241,468	1,241,468
Fund investments		1,086,706	1,086,706
Term loans		100,000	100,000
Direct private equity investments		66,780	66,780
Total other investments		2,494,954	2,494,954
Investments in other ventures, under equity method		79,750	79,750
Total investments		<u>\$22,220,436</u>	<u>\$22,220,436</u>

SCHEDULE II
RENAISSANCERE HOLDINGS LTD.
CONDENSED FINANCIAL INFORMATION OF REGISTRANT
RENAISSANCERE HOLDINGS LTD.
BALANCE SHEETS
AT DECEMBER 31, 2022 AND 2021
(PARENT COMPANY)
(THOUSANDS OF UNITED STATES DOLLARS)

	At December 31,	
	2022	2021
Assets		
Fixed maturity investments trading, at fair value - amortized cost \$176,084 at December 31, 2022 (2021 - \$—)	\$ 175,842	\$ —
Short term investments, at fair value - amortized cost \$61,747 at December 31, 2022 (2021 - \$46,503)	\$ 61,747	\$ 46,503
Total investments	237,589	46,503
Cash and cash equivalents	7,048	35,834
Investments in subsidiaries	4,477,418	6,137,229
Due from subsidiaries	6,575	9,468
Dividends due from subsidiaries	—	—
Accrued investment income	874	6
Receivable for investments sold	80,327	3
Other assets	898,553	859,176
Goodwill and other intangible assets	104,718	108,261
Total assets	\$ 5,813,102	\$ 7,196,480
Liabilities and Shareholders' Equity		
Liabilities		
Notes and bank loans payable	\$ 394,221	\$ 393,306
Due to subsidiaries	9,413	156,353
Payable for investments purchased	74,428	—
Other liabilities	9,766	22,540
Total liabilities	487,828	572,199
Shareholders' Equity		
Preference shares: \$1.00 par value – 30,000 shares issued and outstanding at December 31, 2022 (2021 – 30,000)	750,000	750,000
Common shares: \$1.00 par value – 43,717,836 shares issued and outstanding at December 31, 2022 (2021 – 44,444,831)	43,718	44,445
Additional paid-in capital	475,647	608,121
Accumulated other comprehensive income (loss)	(15,462)	(10,909)
Retained earnings	4,071,371	5,232,624
Total shareholders' equity	5,325,274	6,624,281
Total liabilities and shareholders' equity	\$ 5,813,102	\$ 7,196,480

SCHEDULE II
RENAISSANCERE HOLDINGS LTD.
CONDENSED FINANCIAL INFORMATION OF REGISTRANT – CONTINUED

RENAISSANCERE HOLDINGS LTD.
STATEMENTS OF OPERATIONS
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(PARENT COMPANY)
(THOUSANDS OF UNITED STATES DOLLARS)

	Year ended December 31,		
	2022	2021	2020
Revenues			
Net investment income	\$ 46,966	\$ 38,347	\$ 40,502
Net foreign exchange gains (losses)	(46,796)	(10,740)	10,729
Net realized and unrealized gains (losses) on investments	(3,017)	6,212	(4,556)
Total revenues	<u>(2,847)</u>	<u>33,819</u>	<u>46,675</u>
Expenses			
Interest expense	15,315	15,315	15,583
Operational expenses	14,818	12,043	8,016
Corporate expenses	39,614	35,946	47,223
Total expenses	<u>69,747</u>	<u>63,304</u>	<u>70,822</u>
Income (loss) before equity in net income of subsidiaries	(72,594)	(29,485)	(24,147)
Equity in net income (loss) of subsidiaries	(988,610)	(10,670)	786,552
Net income (loss)	<u>(1,061,204)</u>	<u>(40,155)</u>	<u>762,405</u>
Dividends on preference shares	(35,375)	(33,266)	(30,923)
Net income (loss) available (attributable) to RenaissanceRe common shareholders	<u><u>\$(1,096,579)</u></u>	<u><u>\$ (73,421)</u></u>	<u><u>\$ 731,482</u></u>

RENAISSANCERE HOLDINGS LTD.
STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(PARENT COMPANY)
(THOUSANDS OF UNITED STATES DOLLARS)

	Year ended December 31,		
	2022	2021	2020
Comprehensive income (loss)			
Net income (loss)	\$(1,061,204)	\$ (40,155)	\$ 762,405
Change in net unrealized gains (losses) on investments, net of tax	(4,923)	(2,492)	606
Foreign currency translation adjustments, net of tax	370	4,225	(11,309)
Comprehensive income (loss) attributable to RenaissanceRe	<u><u>\$(1,065,757)</u></u>	<u><u>\$ (38,422)</u></u>	<u><u>\$ 751,702</u></u>

SCHEDULE II
RENAISSANCERE HOLDINGS LTD.
CONDENSED FINANCIAL INFORMATION OF REGISTRANT – CONTINUED

RENAISSANCERE HOLDINGS LTD.
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(PARENT COMPANY)
(THOUSANDS OF UNITED STATES DOLLARS)

	Year ended December 31,		
	2022	2021	2020
<i>Cash flows provided by (used in) operating activities:</i>			
Net income (loss)	\$(1,061,204)	\$ (40,155)	\$ 762,405
Less: equity in net income of subsidiaries	988,610	10,670	(786,552)
	(72,594)	(29,485)	(24,147)
<i>Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities</i>			
Net realized and unrealized (gains) losses on investments	2,051	4,898	4,556
Other	36,601	59,873	37,782
<i>Net cash provided by (used in) operating activities</i>	(33,942)	35,286	18,191
<i>Cash flows provided by (used in) investing activities:</i>			
Proceeds from maturities and sales of fixed maturity investments trading	198,341	436,122	370,905
Purchases of fixed maturity investments trading	(375,804)	(421,323)	(384,415)
Net sales (purchases) of short term investments	(21,037)	78,904	64,209
Dividends and return of capital from subsidiaries	1,009,108	1,104,831	827,626
Contributions to subsidiaries	(349,336)	(351,548)	(1,623,708)
Due (to) from subsidiary	(178,470)	50,472	(65,438)
<i>Net cash provided by (used in) investing activities</i>	282,802	897,458	(810,821)
<i>Cash flows provided by (used in) financing activities:</i>			
Dividends paid – RenaissanceRe common shares	(64,675)	(67,828)	(68,490)
Dividends paid – preference shares	(35,396)	(32,889)	(30,923)
Issuance of debt, net of expenses	—	—	—
RenaissanceRe common share repurchases	(166,664)	(1,027,505)	(62,621)
RenaissanceRe common share issuance	—	—	1,095,507
Redemption of preference shares	—	(275,000)	(125,000)
Issuance of preference shares, net of expenses	—	488,653	—
Taxes paid on withholding shares	(10,911)	(12,171)	(12,330)
<i>Net cash provided by (used in) financing activities</i>	(277,646)	(926,740)	796,143
Effect of exchange rate changes on foreign currency cash	—	—	(143)
<i>Net increase (decrease) in cash and cash equivalents</i>	(28,786)	6,004	3,370
<i>Cash and cash equivalents, beginning of year</i>	35,834	29,830	26,460
<i>Cash and cash equivalents, end of year</i>	\$ 7,048	\$ 35,834	\$ 29,830

SCHEDULE III
RENAISSANCERE HOLDINGS LTD. AND SUBSIDIARIES
SUPPLEMENTARY INSURANCE INFORMATION
(THOUSANDS OF UNITED STATES DOLLARS)

	December 31, 2022			Year ended December 31, 2022					
	Deferred Policy Acquisition Costs	Future Policy Benefits, Losses, Claims and Loss Expenses	Unearned Premiums	Premium Revenue	Net Investment Income	Benefits, Claims, Losses and Settlement Expenses	Amortization of Deferred Policy Acquisition Costs	Other Operating Expenses	Net Written Premiums
Property	\$ 202,999	\$ 7,535,832	\$1,002,149	\$2,770,227	\$ —	\$ 2,044,771	\$ 547,210	\$ 194,355	\$2,847,659
Casualty and Specialty	968,739	8,356,741	3,556,958	3,563,762	—	2,294,069	1,021,396	82,336	4,348,501
Other	—	—	—	—	559,932	—	—	—	—
Total	<u>\$ 1,171,738</u>	<u>\$ 15,892,573</u>	<u>\$4,559,107</u>	<u>\$6,333,989</u>	<u>\$ 559,932</u>	<u>\$ 4,338,840</u>	<u>\$ 1,568,606</u>	<u>\$ 276,691</u>	<u>\$7,196,160</u>

	December 31, 2021			Year ended December 31, 2021					
	Deferred Policy Acquisition Costs	Future Policy Benefits, Losses, Claims and Loss Expenses	Unearned Premiums	Premium Revenue	Net Investment Income	Benefits, Claims, Losses and Settlement Expenses	Amortization of Deferred Policy Acquisition Costs	Other Operating Expenses	Net Written Premiums
Property	\$ 195,423	\$ 6,377,688	\$ 931,938	\$2,608,298	\$ —	\$ 2,163,016	\$ 487,178	\$ 143,608	\$2,868,002
Casualty and Specialty	653,737	6,916,942	2,599,275	2,585,883	—	1,713,071	727,680	68,576	3,071,373
Other	—	—	—	—	319,479	—	—	—	—
Total	<u>\$ 849,160</u>	<u>\$13,294,630</u>	<u>\$3,531,213</u>	<u>\$5,194,181</u>	<u>\$ 319,479</u>	<u>\$ 3,876,087</u>	<u>\$ 1,214,858</u>	<u>\$ 212,184</u>	<u>\$5,939,375</u>

	December 31, 2020			Year ended December 31, 2020					
	Deferred Policy Acquisition Costs	Future Policy Benefits, Losses, Claims and Loss Expenses	Unearned Premiums	Premium Revenue	Net Investment Income	Benefits, Claims, Losses and Settlement Expenses	Amortization of Deferred Policy Acquisition Costs	Other Operating Expenses	Net Written Premiums
Property	\$ 118,327	\$ 4,372,453	\$ 659,236	\$1,936,215	\$ —	\$ 1,435,947	\$ 353,700	\$ 135,547	\$2,037,200
Casualty and Specialty	515,194	6,008,685	2,104,363	2,016,247	—	1,488,662	543,977	71,140	2,059,133
Other	—	—	—	—	354,038	—	—	—	—
Total	<u>\$ 633,521</u>	<u>\$10,381,138</u>	<u>\$2,763,599</u>	<u>\$3,952,462</u>	<u>\$ 354,038</u>	<u>\$ 2,924,609</u>	<u>\$ 897,677</u>	<u>\$ 206,687</u>	<u>\$4,096,333</u>

SCHEDULE IV
RENAISSANCERE HOLDINGS LTD. AND SUBSIDIARIES
SUPPLEMENTAL SCHEDULE OF REINSURANCE PREMIUMS
(THOUSANDS OF UNITED STATES DOLLARS)

	<u>Gross Amounts</u>	<u>Ceded to Other Companies</u>	<u>Assumed From Other Companies</u>	<u>Net Amount</u>	<u>Percentage of Amount Assumed to Net</u>
Year ended December 31, 2022					
Property and liability premiums earned	<u>\$1,105,164</u>	<u>\$1,850,807</u>	<u>\$ 7,079,632</u>	<u>\$6,333,989</u>	<u>112 %</u>
Year ended December 31, 2021					
Property and liability premiums earned	<u>\$ 799,717</u>	<u>\$1,863,350</u>	<u>\$ 6,257,814</u>	<u>\$5,194,181</u>	<u>120 %</u>
Year ended December 31, 2020					
Property and liability premiums earned	<u>\$ 536,595</u>	<u>\$1,662,815</u>	<u>\$ 5,078,682</u>	<u>\$3,952,462</u>	<u>128 %</u>

SCHEDULE VI
RENAISSANCERE HOLDINGS LTD. AND SUBSIDIARIES
SUPPLEMENTARY INSURANCE INFORMATION CONCERNING
PROPERTY-CASUALTY INSURANCE OPERATIONS
(THOUSANDS OF UNITED STATES DOLLARS)

Affiliation with Registrant	<u>Deferred Policy Acquisition Costs</u>	<u>Reserves for Unpaid Claims and Claim Adjustment Expenses</u>	<u>Discount, if any, Deducted</u>	<u>Unearned Premiums</u>	<u>Earned Premiums</u>	<u>Net Investment Income</u>
Consolidated Subsidiaries						
Year ended December 31, 2022	<u>\$1,171,738</u>	<u>\$15,892,573</u>	<u>\$ —</u>	<u>\$4,559,107</u>	<u>\$6,333,989</u>	<u>\$ 559,932</u>
Year ended December 31, 2021	<u>\$ 849,160</u>	<u>\$13,294,630</u>	<u>\$ —</u>	<u>\$3,531,213</u>	<u>\$5,194,181</u>	<u>\$ 319,479</u>
Year ended December 31, 2020	<u>\$ 633,521</u>	<u>\$10,381,138</u>	<u>\$ —</u>	<u>\$2,763,599</u>	<u>\$3,952,462</u>	<u>\$ 354,038</u>

Affiliation with Registrant	<u>Claims and Claim Adjustment Expenses Incurred Related to</u>		<u>Amortization of Deferred Policy Acquisition Costs</u>	<u>Paid Claims and Claim Adjustment Expenses</u>	<u>Net Premiums Written</u>
Consolidated Subsidiaries	<u>Current Year</u>	<u>Prior Year</u>			
Year ended December 31, 2022	<u>\$4,586,422</u>	<u>\$ (247,582)</u>	<u>\$ 1,568,606</u>	<u>\$2,030,156</u>	<u>\$7,196,160</u>
Year ended December 31, 2021	<u>\$4,125,557</u>	<u>\$ (249,470)</u>	<u>\$ 1,214,858</u>	<u>\$2,224,102</u>	<u>\$5,939,375</u>
Year ended December 31, 2020	<u>\$3,108,421</u>	<u>\$ (183,812)</u>	<u>\$ 897,677</u>	<u>\$2,004,628</u>	<u>\$4,096,333</u>

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Board of Directors

James L. Gibbons

Non-Executive Chair
RenaissanceRe Holdings Ltd.

Kevin J. O'Donnell

President and Chief Executive Officer
RenaissanceRe Holdings Ltd.

David C. Bushnell

Retired Chief Administrative Officer
Citigroup Inc.

Shyam Gidumal

Former President and Chief Operating Officer
WeWork, Inc.

Brian G. J. Gray

Former Group Chief Underwriting Officer
Swiss Reinsurance Company Ltd.

Duncan P. Hennes

Managing Member and Co-Founder
Atrevida Partners, LLC

Torsten Jeworrek*

Former Member of the Board of Management
Munich Reinsurance AG

Henry Klehm III

Partner
Jones Day

Valerie Rahmani

Former Chief Executive Officer
Damballa, Inc.

Carol P. Sanders

Former Chief Financial Officer
Sentry Insurance a Mutual Company

Anthony M. Santomero*

Former President and Chief Executive Officer
Federal Reserve Bank of Philadelphia

Cynthia Trudell

Former Chief Human Resources Officer
PepsiCo, Inc.

Leadership Team

Kevin J. O'Donnell

President and Chief Executive Officer
RenaissanceRe Holdings Ltd.

Robert Qutub

Executive Vice President and Chief Financial Officer
RenaissanceRe Holdings Ltd.

Shannon L. Bender

Executive Vice President, Group General Counsel and
Corporate Secretary
RenaissanceRe Holdings Ltd.

Ian D. Branagan

Executive Vice President and Group Chief Risk Officer
RenaissanceRe Holdings Ltd.

Ross A. Curtis

Executive Vice President and Chief Portfolio Officer
RenaissanceRe Holdings Ltd.

David E. Marra

Executive Vice President and Group Chief Underwriting Officer
RenaissanceRe Holdings Ltd.
CEO Renaissance Reinsurance U.S. Inc.

Sean G. Brosnan

Senior Vice President and Chief Investment Officer
RenaissanceRe Holdings Ltd.

James C. Fraser

Senior Vice President and Chief Accounting Officer
RenaissanceRe Holdings Ltd.

* Mr. Santomero will retire from the Board at the end of his term at the Company's Annual General Meeting of Shareholders in May 2023 and Dr. Jeworrek has been nominated to fill the vacancy that will be created by his retirement.

Office Locations

Headquarters

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Financial and Investor Information

General Information About the Company

For the Company's Annual Report, press releases, Forms 10-K and 10-Q or other filings, please visit our website: www.renre.com

Or Contact:

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Investor Inquiries Should be Directed to:

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Tel: +1 441 295 4513 E-mail: investorrelations@renre.com

Additional Requests Can be Directed to:

The Corporate Secretary, RenaissanceRe Holdings Ltd.
Tel: +1 441 295 4513 E-mail: secretary@renre.com

Stock Information

The Company's common shares are listed on The New York Stock Exchange under the symbol 'RNR'.

Independent Registered Public Accounting Firm

PricewaterhouseCoopers Ltd., Hamilton, Bermuda

Certifications

The Chief Executive Officer and Chief Financial Officer have certified in writing to the Securities and Exchange Commission (the "SEC") as to the integrity of the Company's financial statements included in this Annual Report and in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 filed with the SEC and as to the effectiveness of the Company's disclosure controls and procedures and internal control over financial reporting. The certifications are filed as Exhibits 31.1, 31.2, 32.1 and 32.2 to our Form 10-K.

Our Chief Executive Officer has certified to the New York Stock Exchange in 2022 that he was not aware of any violation by the Company of the New York Stock Exchange corporate governance listing standards.

Registrar and Transfer Agent

Computershare
Tel: +1 866 245 5019
Shareholder website
www.computershare.com/investor

Shareholder online inquiries
www-us.computershare.com/investor/Contact

Shareholder correspondence should be mailed to:
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PO Box 43006
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