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, 2020

OR

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

Commission File Number 0-24000

ERIE INDEMNITY COMPANY

(Exact name of registrant as specified in its charter)

Pennsylvania	25-0466020
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)
100 Erie Insurance Place, Erie, Pennsylvania	16530
(Address of principal executive offices)	(Zip Code)

814 870-2000
(Registrant's telephone number, including area code)

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

Class A common stock, stated value $0.0292 per share	ERIE	NASDAQ Stock Market, LLC
(Title of each class)	(Trading Symbol)	(Name of each exchange on which registered)

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☒	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

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

Indicate by check mark whether the registrant 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 Exchange Act). Yes ☐ No ☒

Aggregate market value of voting and non-voting common stock held by non-affiliates as of the last business day of the registrant's most recently completed second fiscal quarter: $4.8 billion of Class A non-voting common stock as of June 30, 2020. There is no active market for the Class B voting common stock. The Class B common stock is closely held by few shareholders.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date:
46,189,068 shares of Class A common stock and 2,542 shares of Class B common stock outstanding on February 19, 2021.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Part III of this Form 10-K (Items 10, 11, 12, 13, and 14) are incorporated by reference to the information statement on Schedule 14C to be filed with the Securities and Exchange Commission no later than 120 days after December 31, 2020.

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PART I

ITEM 1. BUSINESS

General

Erie Indemnity Company ("Indemnity", "we", "us", "our") is a publicly held Pennsylvania business corporation that has since its incorporation in 1925 served as the attorney-in-fact for the subscribers (policyholders) at the Erie Insurance Exchange ("Exchange"). The Exchange, which also commenced business in 1925, is a Pennsylvania-domiciled reciprocal insurer that writes property and casualty insurance. The Exchange has wholly owned property and casualty subsidiaries including: Erie Insurance Company, Erie Insurance Company of New York, Erie Insurance Property & Casualty Company and Flagship City Insurance Company, and a wholly owned life insurance company, Erie Family Life Insurance Company ("EFL").

Our primary function as attorney-in-fact is to perform policy issuance and renewal services on behalf of the subscribers at the Exchange. We also act as attorney-in-fact on behalf of the Exchange with respect to all claims handling and investment management services, as well as the service provider for all claims handling, life insurance, and investment management services for its insurance subsidiaries, collectively referred to as "administrative services". Acting as attorney-in-fact in these two capacities is done in accordance with a subscriber's agreement (a limited power of attorney) executed individually by each subscriber (policyholder), which appoints us as their common attorney-in-fact to transact certain business on their behalf. Pursuant to the subscriber's agreement for acting as attorney-in-fact in these two capacities, we earn a management fee calculated as a percentage, not to exceed 25%, of the direct and affiliated assumed premiums written by the Exchange. The management fee rate is set at least annually by our Board of Directors. The process of setting the management fee rate includes the evaluation of current year operating results compared to both prior year and industry estimated results for both Indemnity and the Exchange, and consideration of several factors for both entities including: their relative financial strength and capital position; projected revenue, expense and earnings for the subsequent year; future capital needs; as well as competitive position.

Services

The policy issuance and renewal services we provide to the Exchange are related to the sales, underwriting and issuance of policies. The sales related services we provide include agent compensation and certain sales and advertising support services. Agent compensation includes scheduled commissions to agents based upon premiums written as well as additional commissions and bonuses to agents, which are earned by achieving targeted measures. Agent compensation comprised approximately 66% of our 2020 policy issuance and renewal expenses. The underwriting services we provide include underwriting and policy processing and comprised approximately 10% of our 2020 policy issuance and renewal expenses. The remaining services we provide include customer service and administrative support. We also provide information technology services that support all the functions listed above that comprised approximately 11% of our 2020 policy issuance and renewal expenses. Included in these expenses are allocations of costs for departments that support these policy issuance and renewal functions.

By virtue of its legal structure as a reciprocal insurer, the Exchange does not have any employees or officers. Therefore, it enters into contractual relationships by and through an attorney-in-fact. Indemnity serves as the attorney-in-fact on behalf of the Exchange with respect to its administrative services. The Exchange's insurance subsidiaries also utilize Indemnity for these services in accordance with the service agreements between each of the subsidiaries and Indemnity. Claims handling services include costs incurred in the claims process, including the adjustment, investigation, defense, recording and payment functions. Life insurance management services include costs incurred in the management and processing of life insurance business. Investment management services are related to investment trading activity, accounting and all other functions attributable to the investment of funds. Included in these expenses are allocations of costs for departments that support these administrative functions. The amounts incurred for these services are reimbursed to Indemnity at cost in accordance with the subscriber's agreement and the service agreements. State insurance regulations require that intercompany service agreements and any material amendments be approved in advance by the state insurance department.

Erie Insurance Exchange

As our primary purpose is to manage the affairs at the Exchange for the benefit of the subscribers (policyholders) through the policy issuance and renewal services and administrative services, the Exchange is our sole customer. Our earnings are largely generated from management fees based on the direct and affiliated assumed premiums written by the Exchange. We have no direct competition in providing these services to the Exchange.

The Exchange generates revenue by insuring preferred and standard risks, with personal lines comprising 71% of the 2020 direct and affiliated assumed written premiums and commercial lines comprising the remaining 29%. The principal personal lines products are private passenger automobile and homeowners. The principal commercial lines products are commercial multi-peril, commercial automobile and workers compensation. Historically, due to policy renewal and sales patterns, the

Exchange's direct and affiliated assumed written premiums are greater in the second and third quarters than in the first and fourth quarters of the calendar year.

The Exchange is represented by independent agencies that serve as its sole distribution channel. In addition to their principal role as salespersons, the independent agents play a significant role as underwriting and service providers and are an integral part of the Exchange's success.

Our results of operations are tied to the growth and financial condition of the Exchange. If any events occurred that impaired the Exchange's ability to grow or sustain its financial condition, including but not limited to reduced financial strength ratings, disruption in the independent agency relationships, significant catastrophe losses, or products not meeting customer demands, the Exchange could find it more difficult to retain its existing business and attract new business. A decline in the business of the Exchange almost certainly would have as a consequence a decline in the total premiums paid and a correspondingly adverse effect on the amount of the management fees we receive. We also have an exposure to a concentration of credit risk related to the unsecured receivables due from the Exchange for its management fee and cost reimbursements. See Part II, Item 8. "Financial Statements and Supplementary Data - Note 16, Concentrations of Credit Risk, of Notes to Financial Statements" contained within this report. See the risk factors related to our dependency on the growth and financial condition of the Exchange in Item 1A. "Risk Factors" contained within this report.

Competition
Our primary function as attorney-in-fact is to perform policy issuance and renewal services on behalf of the subscribers at the Exchange. We also act as attorney-in-fact on behalf of the Exchange, as well as the service provider for its insurance subsidiaries, with respect to all administrative services. There are a limited number of companies that provide services under a reciprocal insurance exchange structure. We do not directly compete against other such companies, given we are appointed by the subscribers at the Exchange to provide these services.

The direct and affiliated assumed premiums written by the Exchange drive our management fee which is our primary source of revenue. The property and casualty insurance industry is highly competitive. Property and casualty insurers generally compete on the basis of customer service, price, consumer recognition, coverages offered, claims handling, financial stability and geographic coverage. Vigorous competition, particularly in the personal lines automobile and homeowners lines of business, is provided by large, well-capitalized national companies, some of which have broad distribution networks of employed or captive agents, by smaller regional insurers, and by large companies who market and sell personal lines products directly to consumers. Innovations by competitors or other market participants may also increase the level of competition in the industry. In addition, because the insurance products of the Exchange are marketed exclusively through independent insurance agents, the Exchange faces competition within its appointed agencies based upon ease of doing business, product, price, and service relationships.

Market competition bears directly on the price charged for insurance products and services subject to regulatory limitations. Industry capital levels can also significantly affect prices charged for coverage. Growth is driven by a company's ability to provide insurance services and competitive prices while maintaining target profit margins. Growth is a product of a company's ability to retain existing customers and to attract new customers, as well as movement in the average premium per policy.

The Exchange's business model is designed to provide the advantages of localized marketing and claims servicing with the economies of scale and low cost of operations from centralized support services. The Exchange also carefully selects the independent agencies that represent it and seeks to be the lead insurer with its agents in order to enhance the agency relationship and the likelihood of receiving the most desirable underwriting opportunities from its agents.

The Exchange’s strategic focus as a reciprocal insurer is to employ a disciplined underwriting philosophy and to leverage its strong surplus position to generate higher risk adjusted investment returns. The goal is to produce acceptable returns, on a long-term basis, through careful risk selection, rational pricing and superior investment returns. This focus allows the Exchange to accomplish its mission of providing as near perfect protection, as near perfect service as is humanly possible at the lowest possible costs.

See the risk factors related to our dependency on the growth and financial condition of the Exchange in Item 1A. "Risk Factors" contained within this report for further discussion on competition in the insurance industry.

Human Capital Management
Our success is largely dependent upon our ability to attract, retain, and develop diverse talent while maintaining our service-based culture. We strive to create a value proposition for our employees through trust and collaboration while providing competitive compensation, benefits, and other reward programs. Our low turnover and high tenure are reflective of our culture and the mutual commitment that exists between employees and the company.

Our human capital management strategy, including initiatives to shape our workforce and workplace, is designed to ensure we are well positioned for the future. Areas of focus include talent acquisition, performance management, succession planning, learning and development, and diversity and inclusion. Our investments in human capital include programs aimed at preparing our employees for internal advancement. We hold a shared responsibility view of retirement planning whereby the company provides tools and resources that employees are expected to use to achieve their retirement goals. We set ourselves apart by offering both a 401(k) plan and a noncontributory defined benefit pension plan.

We use the following human capital metrics as part of managing our business:

	Years ended December 31,		
	2020	2019	2018
Workforce size			
Full-time (1)	5,849	5,772	5,544
Part-time	31	41	54
Temporary (2)	34	32	41
Turnover (3)	5.3 %	5.6 %	6.0 %
Average tenure (4)	12.5	12.3	12.5

(1) Includes 50% of employees who provide claims and life insurance management services exclusively for the Exchange and its subsidiaries. The Exchange and its subsidiaries reimburse us monthly for the cost of these services.

(2) Temporary employees are hired for short-term work and paid directly by us.

(3) The percentage of employees who left voluntarily or involuntarily, including retirements. Calculated using the number of employees who exited, divided by the average headcount of the period.

(4) The average number of years employees have been employed with the organization. Total number of years divided by average headcount of full-time and part-time employees for the period.

As we recognize the importance of employee engagement on the outcomes we achieve as an organization, we also work with independent external partners to administer confidential surveys to collect feedback on the employee experience. We have partnered with the Great Place to Work® ("GPTW") Institute since 2012 but did not apply for Top 100 Companies ranking until 2020 (outcome yet unknown). Eighty-seven percent of employees participated in the 2020 survey, which is a strong indicator of engagement. We received the highest possible honors outside of ranking for our prior three surveys: Great Place to Work-Certified™ in 2020 and 2017, and Great-rated in 2014. Our overall GPTW score has trended upwards over the last three surveys and is favorable compared to the benchmark of the companies ranked on the Great Place to Work® Top 100 Companies List.

Government Regulation
Most states have enacted legislation that regulates insurance holding company systems, defined as two or more affiliated persons, one or more of which is an insurer. Indemnity and the Exchange, and its wholly owned subsidiaries, meet the definition of an insurance holding company system.

Each insurance company in the holding company system is required to register with the insurance supervisory authority of its state of domicile and furnish information regarding the operations of companies within the holding company system that may materially affect the operations, management, or financial condition of the insurers within the system. Pursuant to these laws, the respective insurance departments may examine us and the Exchange and its wholly owned subsidiaries at any time, and may require disclosure and/or prior approval of certain transactions with the insurers and us, as an insurance holding company.

All transactions within a holding company system affecting the member insurers of the holding company system must be fair and reasonable and any charges or fees for services performed must be reasonable. Approval by the applicable insurance commissioner is required prior to the consummation of transactions affecting the members within a holding company system.

Website Access
Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports are available free of charge on our website at www.erieinsurance.com as soon as reasonably practicable after such material is filed electronically with the Securities and Exchange Commission. Additionally, copies of our annual report on Form 10-K are available free of charge, upon written request, by contacting Investor Relations, Erie Indemnity Company, 100 Erie Insurance Place, Erie, PA 16530, or calling (800) 458-0811.

ITEM 1A. RISK FACTORS

Our business involves various risks and uncertainties, including, but not limited to those discussed in this section. The risks and uncertainties described in the risk factors below, or any additional risk outside of those discussed below, could have a material adverse effect on our business, financial condition, operating results, cash flows, or liquidity if they were to develop into actual events. This information should be considered carefully together with the other information contained in this report and in other reports and materials we file periodically with the Securities and Exchange Commission.

Our risks have been divided into the following categories:

Risks related to Erie Insurance Exchange – risks related to our dependence on our relationship with the Exchange associated with management fees, premium growth, and financial condition, as the Exchange is our sole customer and principal source of revenue

Operating risks – risks stemming from events or circumstances that directly or indirectly affect our operations, including our operations as attorney-in-fact for the Exchange

Market, Capital, and Liquidity risks – risks that may impact the values or results or our investment portfolio, ability to meet financial obligations or covenants, or obtain capital as necessary

Although we have organized risks generally according to these categories in the discussion below, risks may have impacts in more than one category and are included where the impact is most significant.

Risks related to Erie Insurance Exchange

If the management fee rate paid by the Exchange is reduced or if there is a significant decrease in the amount of direct and affiliated assumed premiums written by the Exchange, revenues and profitability could be materially adversely affected.

We are dependent upon management fees paid by the Exchange, which represent our principal source of revenue. Pursuant to the subscriber's agreement with the subscribers at the Exchange, we may retain up to 25% of all direct and affiliated assumed premiums written by the Exchange. Therefore, management fee revenue from the Exchange is calculated by multiplying the management fee rate by the direct and affiliated assumed premiums written by the Exchange. Accordingly, any reduction in direct and affiliated assumed premiums written by the Exchange and/or the management fee rate would have a negative effect on our revenues and net income.

The management fee rate is determined by our Board of Directors and may not exceed 25% of the direct and affiliated assumed premiums written by the Exchange. The Board of Directors sets the management fee rate each December for the following year. At their discretion, the rate can be changed at any time. The process of setting the management fee rate includes the evaluation of current year operating results compared to both prior year and industry estimated results for both Indemnity and the Exchange, and consideration of several factors for both entities including: their relative financial strength and capital position; projected revenue, expense and earnings for the subsequent year; future capital needs; as well as competitive position. The evaluation of these factors could result in a reduction to the management fee rate and our revenues and profitability could be materially adversely affected.

Serving as the attorney-in-fact in the reciprocal insurance exchange structure results in the Exchange being our sole customer. We have an interest in the growth of the Exchange as our earnings are largely generated from management fees based on the direct and affiliated assumed premiums written by the Exchange. If the Exchange's ability to grow or renew policies were adversely impacted, the premium revenue of the Exchange would be adversely affected which would reduce our management fee revenue. The circumstances or events that might impair the Exchange's ability to grow include, but are not limited to, the items discussed below.

Unfavorable changes in macroeconomic conditions, including declining consumer confidence, inflation, high unemployment, and the threat of recession, among others, may lead the Exchange's customers to modify coverage, not renew policies, or even cancel policies, which could adversely affect the premium revenue of the Exchange, and consequently our management fee.

The Exchange faces significant competition from other regional and national insurance companies. The property and casualty insurance industry is highly competitive on the basis of product, price and service. If the Exchange's competitors offer property and casualty products with more coverage or offer lower rates, and the Exchange is unable to implement product improvements quickly enough to keep pace, its ability to grow and renew its business may be adversely impacted. In addition, due to the Exchange's premium concentration in the automobile and homeowners insurance markets, it may be more sensitive to trends that could affect auto and home insurance coverages and rates over time, for example changing vehicle usage, usage-based methods of determining premiums, ownership and driving patterns such as ride sharing, advancements in vehicle or home technology or safety features such as accident and loss prevention technologies, the development of autonomous vehicles, or residential occupancy patterns, among other factors. Innovations by competitors or other market participants may increase the level of competition in the industry. If we fail to respond to those innovations on a timely basis, our competitive position and results may be materially adversely affected.

The Exchange markets and sells its insurance products through independent, non-exclusive insurance agencies. These agencies are not obligated to sell only the Exchange's insurance products, and generally also sell products of the Exchange's competitors. If agencies do not maintain their current levels of marketing efforts, bind the Exchange to unacceptable risks, place business with competing insurers, or the Exchange is unsuccessful in attracting or retaining agencies in its distribution system as well as maintaining its relationships with those agencies, the Exchange's ability to grow and renew its business may be adversely impacted. Additionally, consumer preferences may cause the insurance industry as a whole to migrate to a delivery system other than independent agencies.

The Exchange maintains a brand recognized for customer service. The perceived performance, actions, conduct and behaviors of employees, independent insurance agency representatives, and third-party service partners may result in reputational harm to the Exchange's brand. Specific incidents which may cause harm include but are not limited to disputes, long customer wait times, errors in processing a claim, failure to protect sensitive customer data, and negative or inaccurate social media or traditional media communications. Likewise, an inability to match or exceed the service provided by competitors, which is increasingly relying on digital delivery and enhanced distribution technology, may impede the Exchange's ability to maintain and/or grow its customer base. If third-party service providers fail to perform as anticipated, the Exchange may experience operational difficulties, increased costs and reputational damage. If an extreme catastrophic event were to occur in a heavily concentrated geographic area of subscribers/policyholders, an extraordinarily high number of claims could have the potential to strain claims processing and affect the Exchange's ability to satisfy its customers. Any reputational harm to the Exchange could have the potential to impair its ability to grow and renew its business.

We have an interest in the financial condition of the Exchange based on serving as the attorney-in-fact in the reciprocal insurance exchange structure and the Exchange being our sole customer. If the Exchange were to fail to maintain acceptable financial strength ratings, its competitive position in the insurance industry would be adversely affected. If a rating downgrade led to customers not renewing or canceling policies, or impacted the Exchange's ability to attract new customers, the premium revenue of the Exchange would be adversely affected which would reduce our management fee revenue. The circumstances or events that might impair the Exchange's financial condition include, but are not limited to, the items discussed below.

Financial strength ratings are an important factor in establishing the competitive position of insurance companies such as the Exchange. Higher ratings generally indicate greater financial stability and a stronger ability to meet ongoing obligations to policyholders. The Exchange's A.M. Best rating is currently A+ ("Superior"). Rating agencies periodically review insurers' ratings and change their rating criteria; therefore, the Exchange's current rating may not be maintained in the future. A significant downgrade in this or other ratings could reduce the competitive position of the Exchange, making it more difficult to attract profitable business in the highly competitive property and casualty insurance market and potentially result in reduced sales of its products and lower premium revenue.

The performance of the Exchange's investment portfolio is subject to a variety of investment risks. The Exchange's investment portfolio is comprised principally of fixed income securities, equity securities and limited partnerships. The fixed income portfolio is subject to a number of risks including, but not limited to, interest rate risk, investment credit risk, sector/concentration risk and liquidity risk. The Exchange's common stock and preferred equity securities have exposure to price risk, the risk of potential loss in estimated fair value resulting from an adverse change in prices. Limited partnerships are significantly less liquid and generally involve higher degrees of price risk than publicly traded securities. Limited partnerships, like publicly traded securities, have exposure to market volatility; but unlike fixed income securities, cash flows and return expectations are less predictable. If any investments in the Exchange's investment portfolio were to suffer a substantial decrease in value, the Exchange's financial position could be materially adversely affected through increased unrealized losses or impairments. A significant decrease in the Exchange's portfolio could also put it, or its subsidiaries, at risk of failing to satisfy regulatory or rating agency minimum capital requirements.

Property and casualty insurers are subject to extensive regulatory supervision in the states in which they do business. This regulatory oversight includes, by way of example, matters relating to licensing, examination, rate setting, market conduct, policy forms, limitations on the nature and amount of certain investments, claims practices, mandated participation in involuntary markets and guaranty funds, reserve adequacy, insurer solvency, restrictions on underwriting standards, accounting standards, and transactions between affiliates. Such regulation and supervision are primarily for the benefit and protection of policyholders. Changes in applicable insurance laws, tax statutes, regulations, or changes in the way regulators administer those laws, tax statutes, or regulations could adversely impact the Exchange's business, cash flows, results of operations, financial condition, or operating environment and increase its exposure to loss or put it at a competitive disadvantage, which could result in reduced sales of its products and lower premium revenue.

Property and casualty insurers face a significant risk of litigation and regulatory investigations and actions in the ordinary course of operating their businesses including the risk of class action lawsuits and claims regarding the infringement of the intellectual property of others. Plaintiffs in class action and other lawsuits against the Exchange may seek large or indeterminate amounts of damages, including punitive and treble damages, which may remain unknown for substantial periods of time. The Exchange is also subject to various regulatory inquiries, such as information requests, subpoenas, and books and record examinations from state and federal regulators and authorities.

As insurance industry practices and legal, judicial, social and other environmental conditions change, unexpected and unintended issues related to claims and coverage may emerge. In some instances, these emerging issues may not become apparent for some time after the Exchange has issued the affected insurance policies. As a result, the full extent of liability under the Exchange's insurance policies may not be known for many years after the policies are issued. These issues may adversely affect the Exchange's business by either extending coverage beyond its underwriting intent or by increasing the number or size of claims.

The Exchange's insurance operations are exposed to claims arising out of catastrophes. Common natural catastrophic events include hurricanes, earthquakes, tornadoes, hail storms, and severe winter weather. The frequency and severity of these catastrophes is inherently unpredictable. Changing climate conditions have added to the unpredictability, frequency and severity of natural disasters and have created additional uncertainty as to future trends and exposures. A single catastrophic occurrence or aggregation of multiple smaller occurrences within its geographical region of the Exchange or its assumed property reinsurance portfolio could adversely affect the financial condition of the Exchange. Man-made disasters such as terrorist attacks and riots could also cause losses from insurance claims related to the property and casualty insurance operations, which could adversely affect its financial condition.

If the impacts of the COVID-19 pandemic impair the Exchange’s ability to grow or its financial condition, it could have a material adverse effect on our business, financial condition, results of operations, or cash flows.

On March 11, 2020, the World Health Organization declared the outbreak of COVID-19 a global pandemic. The significant economic disruption and uncertainty resulting from the COVID-19 pandemic that began in 2020 continues to evolve and the pandemic’s ultimate impact and duration remain highly uncertain at this time. If future waves of the virus occur or effective medical treatments are not administered, future restrictions, including business closures and stay at home orders, and a prolonged recession remain a possibility. The resulting effects, including a decline in consumer activity, lower demand for certain services, high unemployment, payroll declines, and reduced personal income may cause customers to modify coverages, not renew or cancel policies, which may have a negative impact on the Exchange's written premiums, and therefore our management fees. Accordingly, the extent and duration of the effects on future customer demand and buying practices remains uncertain. A specific action taken by the Exchange both in response to changes in exposure as less driving occurs and to provide financial relief to the policyholders has resulted in a certain reduction to the Exchange's written premiums. In 2020, the Exchange and its subsidiaries announced an estimated $200 million in personal and commercial auto rate reductions effective beginning July 1, 2020 at the time of new policy issuance or policy renewal. Estimated remaining rate reductions related to this event of $110 million in premiums and a corresponding decrease of $28 million in management fee revenue will impact both the Exchanges' written premium and our management fee revenue in 2021. Longer term, there could be sustained changes in driving patterns if working remotely becomes more common and accepted, potentially having a negative impact on premium revenues. Further declines in economic conditions, potential regulatory actions, or competitive pressure could also impact the Exchange's rates and written premium, and therefore our management fees.

The Exchange is represented by independent agencies that serve as its sole distribution channel. The economic impact of the pandemic on independent agents' business operations or systems capabilities could make it difficult for independent agents to write new business and retain existing business and/or constrain the ability to recruit new agents, thereby impeding premium growth. While independent agents have been able to work remotely or safely in their offices, future waves of the virus could adversely impact their operations and their ability to write new business and provide service to existing policyholders. More broadly, independent agents may face challenges sustaining their own business operations and financial conditions that could result in the sale or closure of their businesses, thereby reducing the agency force of the Exchange. Further, the COVID-19 pandemic could be an accelerant to shifting consumer behaviors toward increased digital interactions.

The unknown risks related to the COVID-19 pandemic may cause additional uncertainty in the process of estimating loss and loss adjustment expense reserves. For example, the behavior of claimants and policyholders may change in unexpected ways, the disruption to the court system may impact the timing and amounts of claims settlements, and the actions taken by governmental bodies, both legislative and regulatory, in reaction to COVID-19 and their related impacts are hard to predict. As a result, the Exchange's estimated level of loss and loss adjustment expense reserves may change.

The Exchange's financial condition could be impacted by defaults or delays in collecting premiums from customers due to economic hardships. Regulatory actions including temporary suspension of policy cancellations for the nonpayment of premiums and relaxing due dates for premium payments could also have a negative impact to the Exchange. If there were legislative action to retroactively mandate coverage irrespective of terms, exclusions or other conditions included in business interruption policies that would otherwise preclude coverage, this could have a material impact on the financial condition, results of operations and cash flows of the Exchange.

The Exchange and its subsidiaries have been named as defendants in a number of pandemic-related lawsuits and, therefore, are subject to the risks and uncertainties of such litigation. There is also a risk that the Exchange could suffer reputational harm if any actions taken are not viewed as sufficient responses to the pandemic by customers or consumer organizations.

While the Exchange's investment portfolio was negatively impacted by the significant disruption to financial markets in the first quarter of 2020 as a result of the COVID-19 pandemic, market conditions substantially recovered through the remainder of the year. The value of the Exchange's invested assets could be adversely impacted and there is potential for further impairments on its investment portfolio as long as market conditions remain volatile in response to the developments of this pandemic and the related economic impacts.

The duration and extent of the impact on the Exchange's business, strategy, financial condition, results of operations and cash flows cannot be estimated with a high degree of certainty at this time given the ongoing developments of this pandemic and the related impacts on the economy and financial markets.

Operating risks

If the costs of providing services to the Exchange are not controlled, our profitability could be materially adversely affected.

Pursuant to the subscriber's agreement, we perform policy issuance and renewal services for the subscribers at the Exchange and we serve as the attorney-in-fact on behalf of the Exchange with respect to its administrative services. The most significant costs we incur in providing policy issuance and renewal services are commissions, employee costs, and technology costs.

Commissions to independent agents are our largest expense. Commissions include scheduled commissions to agents based upon premiums written as well as additional commissions and bonuses to agents, which are earned by achieving certain targeted measures. Changes to commission rates or bonus programs may result in increased future costs and lower profitability. Our second largest expense is employee costs, including salaries, healthcare, pension, and other benefit costs. Regulatory developments, provider relationships, and demographic and economic factors that are beyond our control indicate that employee healthcare costs could continue to increase which could reduce our profitability. The defined benefit pension plan we offer to our employees is affected by variable factors such as the interest rate used to discount pension liabilities, asset performance and changes in retirement patterns, which are beyond our control and any related future costs increases would reduce our profitability.

Technological development is necessary to facilitate ease of doing business for employees, agents and customers. Insurance company technological developments are focused on simplifying and improving the customer experience, increasing efficiencies, redesigning products and addressing other potentially disruptive changes in the insurance industry. As we continue to develop technology initiatives in order to remain competitive, our profitability could be negatively impacted as we invest in system development.

If we are unable to attract, develop, and retain talented executives, key managers, and employees our financial conditions and results of operations could be adversely affected.

Our success is largely dependent upon our ability to attract and retain talented executives and other key management. Talent is defined as people with the right skills, knowledge, abilities, character, and motivation. The loss of the services and leadership of certain key officers and the failure to attract and develop talented new executives and managers could prevent us from successfully communicating, implementing, and executing business strategies.

Our success also depends on our ability to attract, develop, and retain a talented employee base. The inability to staff all functions of our business with employees possessing the appropriate talent, failure to recognize and respond to changing trends and other circumstances that affect our employees, or failure to instill appropriate cultural expectations and behavioral norms within our employees could have an adverse effect on our business performance. Staffing appropriately talented employees for the handling of claims and servicing of customers, rendering of disciplined underwriting, and effective sales and marketing are critical to the core functions of our business. In addition, talented employees in the actuarial, finance, human resources, law, and information technology areas are also essential to support our core functions.

If we are unable to ensure system availability or effectively manage technology initiatives, we may experience adverse financial consequences and/or may be unable to compete effectively.

Our business is highly dependent upon the effectiveness of our technology and information systems which support key functions of our core business operations including processing applications and premium payments, providing customer support, performing actuarial and financial analysis, and maintaining key data. Additionally, the Exchange relies heavily on technology systems for processing claims. In order to support our business processes and strategic initiatives in a cost and resource efficient manner, we must maintain the effectiveness of existing technology systems and continue to both develop new, and enhance existing, technology systems. As we invest in the development of our systems, costs and completion times could exceed original estimates, and/or the project may not deliver the anticipated benefit or perform as expected. If we do not effectively and efficiently manage and upgrade our technology systems, our ability to serve our customers and implement our strategic initiatives could be adversely impacted.

Additionally, we depend on a large amount of data to price policies appropriately, track exposures, perform financial analysis, report to regulatory bodies, and ultimately make business decisions. Should this data be inaccurate or insufficient, risk exposure may be underestimated and/or poor business decisions may be made. This may in turn lead to adverse operational or financial performance and adverse customer or investor confidence.

If we experience difficulties with technology, data and network security, including as a result of cyber attacks, third-party relationships or cloud-based relationships, our ability to conduct our business could be adversely impacted.

In the normal course of business, we collect, use, store and where appropriate, disclose data concerning individuals and businesses. We also conduct business using third-party vendors who may provide software, data storage, cloud-based computing and other technology services. We have on occasion experienced, and will continue to experience, cyber threats to our data and systems. Cyber threats can create significant risks such as destruction of systems or data, denial or interruption of service, disruption of transaction execution, loss or exposure of customer data, theft or exposure of our intellectual property, theft of funds or disruption of other important business functions. The business we conduct with our third-party vendors may expose us to increased risk related to data security, service disruptions or effectiveness of our control system.

In addition, we are subject to numerous federal and state data privacy laws relating to the privacy of the nonpublic personal information of our customers, employees and others. The improper access, disclosure, or misuse or mishandling of information sent to or received from a customer, employee or third party could result in legal liability, regulatory action and reputational damage. Third parties on whom we rely for certain business processing functions are also subject to these risks, and their failure to adhere to these laws and regulations could negatively impact us.

We employ a company-wide cybersecurity program of technical, administrative, physical and disclosure controls intended to reduce the risk of cyber threats and protect our information, as well as to communicate potential material threats and incidents. Our cybersecurity philosophy and approach align to the National Institute of Standards and Technology Cybersecurity Framework and its core elements to identify, protect, detect, respond and recover from the various forms of cyber threats. Our practices include, but are not limited to, cybersecurity protocols and controls, system monitoring and detection, communication of incidents to appropriate management, vendor risk management, and ongoing privacy and cybersecurity training for employees and contractors concerning cyber risk. We periodically assess the effectiveness of our cybersecurity efforts including independent validation and verification and security assessments conducted by independent third parties. The number, complexity and sophistication of cyber threats continue to increase over time. The controls we have implemented, and continue to develop, may not be sufficient to prevent events like unauthorized physical or electronic access, denial of service, cyber attacks, or other security breaches to our computer systems or those of third parties with whom we do business. In some cases, such events may not be immediately detected and/or the impact of such events immediately determined.

Our Board of Directors oversees our activities with respect to managing cyber risk through its Risk Committee. Management periodically reports on our cybersecurity risk management program including our risk evaluation and the results of independent third-party security assessments, and our efforts to mitigate cyber related risks.

To date, we are not aware of any material cybersecurity breach with respect to our systems or data. Any cyber incident or other security breach could cause disruption in our business operations and may result in other negative consequences including significant remediation costs, loss of revenue, additional regulatory scrutiny, fines, litigation, monetary damages and reputational harm. While we maintain cyber liability insurance to mitigate the financial risk around cyber incidents, such insurance may not cover all costs associated with the consequences of information or systems being compromised. As a result, in the event of a material cybersecurity breach, our business, cash flows, financial condition or results of operations could be materially, adversely affected.

If events occurred causing interruption of our operations, facilities, systems or business functions, it could have a material adverse effect on our operations and financial results.

We have an established business continuity plan to ensure the continuation of core business operations in the event that normal business operations could not be performed due to a catastrophic or other event. While we continue to test and assess our business continuity plan to validate it meets the needs of our core business operations and addresses multiple business interruption events, there is no assurance that core business operations could be performed upon the occurrence of such an event. Employee absence, physical premises damage, systems failures or outages could compromise our ability to perform our business functions in a timely manner, which could harm our ability to conduct business and hurt our relationships with our business partners and customers. Our business continuity is also dependent on third-party personnel, infrastructure and systems on which we rely. Our operations and those of our third-party vendors may become vulnerable to damage or disruption due to circumstances beyond our or their control, such as from catastrophic events, power anomalies or outages, natural disasters, network failures, and cyber attacks. Disruption of our operations for any reason could result in a material adverse effect on our business, cash flows, financial condition, or results of operations.

We are subject to applicable insurance laws, tax statutes, and regulations, as well as claims and legal proceedings, which, if determined unfavorably, could have a material adverse effect on our business, results of operations, or financial condition.

We face a significant risk of litigation and regulatory investigations and actions in the ordinary course of operating our businesses including the risk of class action lawsuits. We are, have been, or may become subject to class actions and individual suits alleging breach of fiduciary or other duties, including our obligations to indemnify directors and officers in connection with certain legal matters. We are also subject to litigation arising out of our general business activities such as contractual and employment relationships and claims regarding the infringement of the intellectual property of others. Plaintiffs in class action and other lawsuits against us may seek large or indeterminate amounts of damages, including punitive and treble damages, which may remain unknown for substantial periods of time. We are also subject to various regulatory inquiries, such as information requests, subpoenas, and books and record examinations from state and federal regulators and authorities. In addition, changes in the way regulators administer applicable laws, tax statutes, or regulations could adversely impact our business, cash flows, results of operations, or financial condition.

The effect of the COVID-19 pandemic on our operations, the business operations of our customers and/or independent agents, or our third-party vendor operations, could have a material adverse effect on our business, financial condition, results of operations, or cash flows.

If the COVID-19 pandemic results in conditions that constrain the Exchange’s ability to grow its written premiums, our management fee revenue could be negatively impacted. Certain expenses within our cost of operations could increase as a result of the pandemic, including but not limited to agent compensation, technology costs, and potentially healthcare costs, among others. Our agent incentive bonuses include a profitability component. If claims frequency and loss expenses continue to decline, the profitability component of our agent incentive bonuses will continue to improve, increasing our agent compensation costs. Technology costs may continue to increase as a result of supporting remote work capabilities for our employees. If a significant number of our employees and/or their dependents were to become infected, there is a potential for increased healthcare costs for treatments on COVID-19 as well as the potential for increased use of third-party services to maintain service. Also, future pension costs could increase as a result of a lower discount rate or investment returns related to the adverse market conditions caused by the COVID-19 pandemic.

Our business continuity plans were implemented upon the outbreak of this pandemic, including transitioning the vast majority of our employees and third-party contractors to remote work capabilities. We have had no significant interruption to our core business processes or systems to date. We have processes in place with our critical third-party vendors to understand impacts on their business and their business continuity plans. We have had no significant interruption to any third-party vendor relationships, business processes or systems to date. No significant challenges have been identified in our, or our third-party vendor’s ongoing business continuity plans, however if future challenges were to arise, this could result in an adverse effect on our business, financial condition, results of operations or cash flows. Also, while we have not experienced any delays in internal initiatives to date, future challenges could arise that impact the timing and execution of certain initiatives. Having shifted to remote working arrangements, we also face a heightened risk of cybersecurity attacks or data security incidents. While cyber threats have remained at a constant level, new cybersecurity tactics, techniques, and practices continue to evolve. Additionally, we are more dependent on internet and telecommunications access and capabilities. If we experience difficulties with technology, data and network security, telecommunications access, outsourcing relationships or cloud-based technology, our ability to conduct our business could be negatively impacted.

Indemnity’s workforce is largely concentrated in Erie, Pennsylvania. If a significant outbreak affects the labor force in this area, or if a significant operating function had a high level of infections at one time, it could impact the policy acquisition, underwriting, claims and/or support services provided to the policyholders of the Exchange and/or our independent agents.

With the increasing number of COVID-19 related disputes, there is a risk that Indemnity could become subject to pandemic related litigation. It is also possible that changes in economic conditions and steps taken by federal, state and local governments in response to COVID-19 could require an increase in taxes at the federal, state and local levels, which would adversely impact our results of operations.

While Indemnity’s investment portfolio was negatively impacted by the significant disruption to financial markets in the first quarter of 2020 as a result of the COVID-19 pandemic, market conditions substantially recovered through the remainder of the year. The value of our invested assets could be adversely impacted and there is potential for further impairments in our investment portfolio as long as market conditions remain volatile in response to the developments of this pandemic and the related economic impacts.

The duration and extent of the impact on our business, strategy, financial condition, results of operations and cash flows cannot be estimated with a high degree of certainty at this time given the ongoing developments of this pandemic and the related impacts on the economy and financial markets.

Market, Capital, and Liquidity risks

The performance of our investment portfolio is subject to a variety of investment risks, which may in turn have a material adverse effect on our results of operations or financial condition.

At December 31, 2020, our investment portfolio consisted of approximately 84% fixed maturity securities, with the remaining 16% invested in equity securities and other investments.

General economic conditions and other factors beyond our control can adversely affect the value of our investments and the realization of net investment income, or result in realized investment losses. In addition, downward economic trends also may have an adverse effect on our investment results by negatively impacting the business conditions and impairing credit for the issuers of securities held in our respective investment portfolios. This could reduce fair values of investments and generate significant unrealized losses or impairment charges which may adversely affect our financial results.

The performance of the fixed income portfolio is subject to a number of risks including, but not limited to:

- Interest rate risk - the risk of adverse changes in the value of fixed income securities as a result of increases in market interest rates.

- Investment credit risk - the risk that the value of certain investments may decrease due to the deterioration in financial condition of, or the liquidity available to, one or more issuers of those securities or, in the case of structured securities, due to the deterioration of the loans or other assets that underlie the securities, which, in each case, also includes the risk of permanent loss.

- Sector/Concentration risk - the risk that the portfolio may be too heavily concentrated in the securities of one or more issuers, sectors, or industries. Events or developments that have a negative impact on any particular industry, group of related industries, or geographic region may have a greater adverse effect on our investment portfolio to the extent that the portfolio is concentrated within those issuers, sectors, or industries.

- Liquidity risk - the risk that we will not be able to convert investment securities into cash on favorable terms and on a timely basis, or that we will not be able to sell them at all, when desired. Disruptions in the financial markets or a lack of buyers for the specific securities that we are trying to sell, could prevent us from liquidating securities or cause a reduction in prices to levels that are not acceptable to us.

- Reinvestment risk - the possibility that the cash flows produced by an investment will have to be reinvested at a reduced rate of return. Approximately 38% of our fixed maturity portfolio is expected to mature over the next three years.

Our equity securities have exposure to price risk. Equity markets, sectors, industries, and individual securities may also be subject to some of the same risks that affect our fixed income portfolio, as discussed above.

All of our fixed income and equity securities are subject to market volatility. To the extent that future market volatility negatively impacts our investments, our financial condition will be negatively impacted. We review the fixed income portfolio on a continuous basis to evaluate positions that are in an unrealized loss position to determine whether impairments are a result of credit loss or other factors. Inherent in management's evaluation of a security are assumptions and estimates about the operations of the issuer and its future earnings potential. The primary factors considered in our review of investment valuation include the extent to which fair value is less than cost, historical operating performance and financial condition of the issuer, short- and long-term prospects of the issuer and its industry, specific events that occurred affecting the issuer, including rating downgrades, and, depending on the type of security, our intent to sell or our ability and intent to retain the investment for a period of time sufficient to allow for a recovery in value. As the process for determining impairments is highly subjective, changes in our assessments may have a material effect on our operating results and financial condition. See also Part II, Item 7A. "Quantitative and Qualitative Disclosures about Market Risk".

In July 2017, the United Kingdom’s Financial Conduct Authority ("FCA"), which regulates the London Interbank Offered Rate (“LIBOR”), announced that it intends to phase out LIBOR by the end of 2021. After this date, the FCA will no longer require banks to make LIBOR submissions. Following discussions with the FCA and other official sector bodies, the Intercontinental Exchange Benchmark Administration announced in November 2020 that it is considering the publication of certain USD LIBOR settings through June 30, 2023. Approximately 23% of our investment portfolio includes securities with LIBOR exposure where the stated final maturity date extends beyond June 30, 2023. For securities without adequate fallback provisions already in place, there are ongoing efforts to establish an alternative reference rate. The transition of our investments to an alternative reference rate may result in adverse changes to the value and return on those investments. Due to uncertainty surrounding alternative rates, we are unable to predict the overall impact of this change at this time.

Deteriorating capital and credit market conditions or a failure to accurately estimate capital needs may significantly affect our ability to meet liquidity needs and access capital.

Sufficient liquidity and capital levels are required to pay operating expenses, income taxes, and to provide the necessary resources to fund future growth opportunities, satisfy certain financial covenants, pay dividends on common stock, and repurchase common stock. Management estimates the appropriate level of capital necessary based upon current and projected results, which includes evaluating potential risks. Failure to accurately estimate our capital needs may have a material adverse effect on our financial condition until additional sources of capital can be obtained. Further, a deteriorating financial condition may create a negative perception of us by third parties, including investors, and financial institutions, which could impact our ability to access additional capital in the debt or equity markets.

Our primary sources of liquidity are management fee revenue and cash flows generated from our investment portfolio. In the event our current sources do not satisfy our liquidity needs, we have the ability to access our $100 million bank revolving line of credit, from which there were no borrowings as of December 31, 2020, or liquidate assets in our investment portfolio. Volatility in the financial markets could limit our ability to sell certain of our fixed income securities or cause such investments to sell at deep discounts.

In the event these traditional sources of liquidity are not available, we may have to seek additional financing. Our access to funds will depend upon a number of factors including current market conditions, the availability of credit, market liquidity, and the timing of obtaining credit ratings. In deteriorating market conditions, there can be no assurance that we will obtain additional financing, or, if available, that the cost of financing will not substantially increase and affect our overall profitability.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Indemnity and the Exchange share a corporate home office complex in Erie, Pennsylvania, which comprises approximately 996,000 square feet. Our square footage increased as the construction of the new office building was completed in the fourth quarter of 2020. Additionally, we lease two office buildings and one warehouse facility from third parties. We are charged rent for the related square footage we occupy.

Indemnity and the Exchange also operate 25 field offices in 12 states to perform primarily claims-related activities. The Exchange owns seven field offices, Indemnity owns property, a portion of which houses one field office, and leases the remaining field offices from third parties. Commitments for properties leased from other parties expire periodically through 2027. We expect that most leases will be renewed or replaced upon expiration. Rental costs of shared facilities are allocated based upon usage or square footage occupied.

Due to the uncertainty of the COVID-19 pandemic, approximately 90% of our workforce has been working remote since March 2020. We expect to return to our offices when conditions are feasible and safe.

ITEM 3. LEGAL PROCEEDINGS

State Court Lawsuit Against Erie Indemnity Company
Erie Indemnity Company ("Indemnity") was named as a defendant in a complaint filed on August 1, 2012 by alleged subscribers of the Erie Insurance Exchange (the "Exchange") in the Court of Common Pleas Civil Division of Fayette County, Pennsylvania captioned Erie Insurance Exchange, an unincorporated association, by Joseph S. Sullivan and Anita Sullivan, Patricia R. Beltz, and Jenna L. DeBord, trustees ad litem v. Erie Indemnity Co. (the "Sullivan" lawsuit).

As subsequently amended, the complaint alleges that, beginning on September 1, 1997, Indemnity retained "Service Charges" (installment fees) and "Added Service Charges" (late fees and policy reinstatement charges) on policies written by Exchange and its insurance subsidiaries, which allegedly should have been paid to Exchange, in the amount of approximately $308 million. In addition to their claim for monetary relief on behalf of Exchange, Plaintiffs seek an accounting of all so-called intercompany transactions between Indemnity and Exchange from 1996 to date. Plaintiffs allege that Indemnity breached its contractual, fiduciary, and equitable duties by retaining Service Charges and Added Service Charges that should have been retained by Exchange. Plaintiffs bring these same claims under three separate derivative-type theories. First, Plaintiffs purport to bring suit as members of Exchange on behalf of Exchange. Second, Plaintiffs purport to bring suit as trustees ad litem on behalf of Exchange. Third, Plaintiffs purport to bring suit on behalf of Exchange pursuant to Rule 1506 of the Pennsylvania Rules of Civil Procedure, which allows shareholders to bring suit derivatively on behalf of a corporation or similar entity.

Indemnity filed a motion in the state court in November 2012 seeking dismissal of the lawsuit. On December 19, 2013, the court granted Indemnity's motion in part, holding that the Pennsylvania Insurance Holding Company Act "provides the [Pennsylvania Insurance] Department with special competence to address the subject matter of plaintiff's claims" and referring "all issues" in the Sullivan lawsuit to the Pennsylvania Insurance Department (the "Department") for "its views and any determination." The court stayed all further proceedings and reserved decision on all other grounds for dismissal raised by Indemnity. Plaintiffs sought reconsideration of the court's order, and on January 13, 2014, the court entered a revised order affirming its prior order and clarifying that the Department "shall decide any and all issues within its jurisdiction." On January 30, 2014, Plaintiffs asked the court to certify its order to permit an immediate appeal to the Superior Court of Pennsylvania and to stay any proceedings in the Department pending completion of any appeal. On February 18, 2014, the court issued an order denying Plaintiffs' motion. On March 20, 2014, Plaintiffs filed a petition for review with the Superior Court, which was denied by the Superior Court on May 5, 2014.

The Sullivan matter was assigned to an Administrative Judge within the Department for determination. The parties agreed that an evidentiary hearing was not required, entered into a stipulated record, and submitted briefing to the Department. Oral argument was held before the Administrative Judge on January 6, 2015. On April 29, 2015, the Department issued a declaratory opinion and order: (1) finding that the transactions between Exchange and Indemnity in which Indemnity retained or received revenue from installment and other service charges from Exchange subscribers complied with applicable insurance laws and regulations and that Indemnity properly retained charges paid by Exchange policyholders for certain installment premium payment plans, dishonored payments, policy cancellations, and policy reinstatements; and (2) returning jurisdiction over the matter to the Fayette County Court of Common Pleas.

On May 26, 2015, Plaintiffs appealed the Department's decision to the Pennsylvania Commonwealth Court. Oral argument was held before the Commonwealth Court en banc on December 9, 2015. On January 27, 2016, the Commonwealth Court issued an opinion vacating the Department's ruling and directing the Department to return the case to the Court of Common Pleas, essentially holding that the primary jurisdiction referral of the trial court was improper at this time because the allegations of the complaint do not implicate the special competency of the Department.

On February 26, 2016, Indemnity filed a petition for allowance of appeal to the Pennsylvania Supreme Court seeking further review of the Commonwealth Court opinion. On March 14, 2016, Plaintiffs filed an answer opposing Indemnity's petition for allowance of appeal; and, on March 28, 2016, Indemnity sought permission to file a reply brief in further support of its petition for allowance of appeal. On August 10, 2016, the Pennsylvania Supreme Court denied Indemnity's petition for allowance of appeal; and the Sullivan lawsuit returned to the Court of Common Pleas of Fayette County.

On September 12, 2016, Plaintiffs filed a motion to stay the Sullivan lawsuit pending the outcome of the Federal Court Lawsuit they filed against Indemnity and former and current Directors of Indemnity on July 8, 2016. (See below.) Indemnity filed an opposition to Plaintiff's motion to stay on September 19, 2016; and filed amended preliminary objections seeking dismissal of the Sullivan lawsuit on September 20, 2016. The motion to stay and the amended preliminary objections remain pending. On June 27, 2018, Plaintiffs filed a motion for a status conference in the Sullivan lawsuit.

On July 30, 2018, the Court held a status conference and thereafter lifted the stay of proceedings. On September 28, 2018, Indemnity filed a Motion to Enforce the Federal Judgment in the Beltz II lawsuit, seeking dismissal of the Sullivan lawsuit with prejudice. On October 26, 2018, Plaintiffs filed an opposition to that Motion; and Indemnity filed a reply in further support on November 5, 2018. Oral argument was held on Indemnity's Motion on November 20, 2018 and on July 30, 2019.

On December 2, 2020, the Court entered an order in the Sullivan lawsuit granting Indemnity's request for relief and dismissing Plaintiff's Second Amended Complaint with prejudice.

Federal Court Lawsuit Against Erie Indemnity Company and Directors

On February 6, 2013, a lawsuit was filed in the United States District Court for the Western District of Pennsylvania, captioned Erie Insurance Exchange, an unincorporated association, by members Patricia R. Beltz, Joseph S. Sullivan and Anita Sullivan, and Patricia R. Beltz, on behalf of herself and others similarly situate v. Richard L. Stover; J. Ralph Borneman, Jr.; Terrence W. Cavanaugh; Jonathan Hirt Hagen; Susan Hirt Hagen; Thomas B. Hagen; C. Scott Hartz; Claude C. Lilly, III; Lucian L. Morrison; Thomas W. Palmer; Martin P. Sheffield; Elizabeth H. Vorsheck; and Robert C. Wilburn (the "Beltz" lawsuit), by alleged policyholders of Exchange who are also the plaintiffs in the Sullivan lawsuit. The individuals named as defendants in the Beltz lawsuit were the then-current Directors of Indemnity.

As subsequently amended, the Beltz lawsuit asserts many of the same allegations and claims for monetary relief as in the Sullivan lawsuit. Plaintiffs purport to sue on behalf of all policyholders of Exchange, or, alternatively, on behalf of Exchange itself. Indemnity filed a motion to intervene as a Party Defendant in the Beltz lawsuit in July 2013, and the Directors filed a motion to dismiss the lawsuit in August 2013. On February 10, 2014, the court entered an order granting Indemnity's motion to intervene and permitting Indemnity to join the Directors' motion to dismiss; granting in part the Directors' motion to dismiss; referring the matter to the Department to decide any and all issues within its jurisdiction; denying all other relief sought in the Directors' motion as moot; and dismissing the case without prejudice. To avoid duplicative proceedings and expedite the Department's review, the Parties stipulated that only the Sullivan action would proceed before the Department and any final and non-appealable determinations made by the Department in the Sullivan action will be applied to the Beltz action.

On March 7, 2014, Plaintiffs filed a notice of appeal to the United States Court of Appeals for the Third Circuit. Indemnity filed a motion to dismiss the appeal on March 26, 2014. On November 17, 2014, the Third Circuit deferred ruling on Indemnity's motion to dismiss the appeal and instructed the parties to address that motion, as well as the merits of Plaintiffs' appeal, in the parties' briefing. Briefing was completed on April 2, 2015. In light of the Department's April 29, 2015 decision in Sullivan, the Parties then jointly requested that the Beltz appeal be voluntarily dismissed as moot on June 5, 2015. The Third Circuit did not rule on the Parties' request for dismissal and instead held oral argument as scheduled on June 8, 2015. On July 16, 2015, the Third Circuit issued an opinion and judgment dismissing the appeal. The Third Circuit found that it lacked appellate jurisdiction over the appeal, because the District Court's February 10, 2014 order referring the matter to the Department was not a final, appealable order.

On July 8, 2016, the Beltz plaintiffs filed a new action labeled as a "Verified Derivative And Class Action Complaint" in the United States District Court for the Western District of Pennsylvania. The action is captioned Patricia R. Beltz, Joseph S. Sullivan, and Anita Sullivan, individually and on behalf of all others similarly situated, and derivatively on behalf of Nominal Defendant Erie Insurance Exchange v. Erie Indemnity Company; Kaj Ahlmann; John T. Baily; Samuel P. Black, III; J. Ralph Borneman, Jr.; Terrence W. Cavanaugh; Wilson C. Cooney; LuAnn Datesh; Patricia A. Goldman; Jonathan Hirt Hagen; Thomas B. Hagen; C. Scott Hartz; Samuel P. Katz; Gwendolyn King; Claude C. Lilly, III; Martin J. Lippert; George R. Lucore; Jeffrey A. Ludrof; Edmund J. Mehl; Henry N. Nassau; Thomas W. Palmer; Martin P. Sheffield; Seth E. Schofield; Richard L. Stover; Jan R. Van Gorder; Elizabeth A. Hirt Vorsheck; Harry H. Weil; and Robert C. Wilburn (the "Beltz II" lawsuit). The individual defendants are all present or former Directors of Indemnity (the "Directors").

The allegations of the Beltz II lawsuit arise from the same fundamental, underlying claims as the Sullivan and prior Beltz litigation, i.e., that Indemnity improperly retained Service Charges and Added Service Charges. The Beltz II lawsuit alleges that the retention of the Service Charges and Added Service Charges was improper because, for among other reasons, that retention constituted a breach of the Subscriber's Agreement and an Implied Covenant of Good Faith and Fair Dealing by Indemnity, breaches of fiduciary duty by Indemnity and the other defendants, conversion by Indemnity, and unjust enrichment by defendants Jonathan Hirt Hagen, Thomas B. Hagen, and Elizabeth A. Hirt Vorsheck, at the expense of Exchange. The Beltz II lawsuit requests, among other things, that a judgment be entered against the Defendants certifying the action as a class action pursuant to Rule 23 of the Federal Rules of Civil Procedure; declaring Plaintiffs as representatives of the Class and Plaintiffs' counsel as counsel for the Class; declaring the conduct alleged as unlawful, including, but not limited to, Defendants' retention of the Service Charges and Added Service Charges; enjoining Defendants from continuing to retain the Service Charges and Added Service Charges; and awarding compensatory and punitive damages and interest.

On September 23, 2016, Indemnity filed a motion to dismiss the Beltz II lawsuit. On September 30, 2016, the Directors filed their own motions to dismiss the Beltz II lawsuit. On July 17, 2017, the Court granted Indemnity's and the Directors' motions to dismiss the Beltz II lawsuit, dismissing the case in its entirety. The Court ruled that "the Subscriber's Agreement does not govern the separate and additional charges at issue in the Complaint" and, therefore, dismissed the breach of contract claim against Indemnity for failure to state a claim. The Court also ruled that the remaining claims, including the claims for breach of fiduciary duty against Indemnity and the Directors, are barred by the applicable statutes of limitation or fail to state legally cognizable claims. On August 14, 2017, Plaintiffs filed a notice of appeal to the United States Court of Appeals for the Third Circuit.

On May 10, 2018, the United States Court of Appeals for the Third Circuit affirmed the District Court's dismissal of the Beltz II lawsuit. On May 24, 2018, Plaintiffs filed a petition seeking rehearing of their appeal before the Third Circuit. The Third Circuit denied that petition on June 14, 2018.

For additional information on contingencies, see Part II, Item 8. "Financial Statements and Supplementary Data - Note 17, Commitment and Contingencies, of Notes to Financial Statements".

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

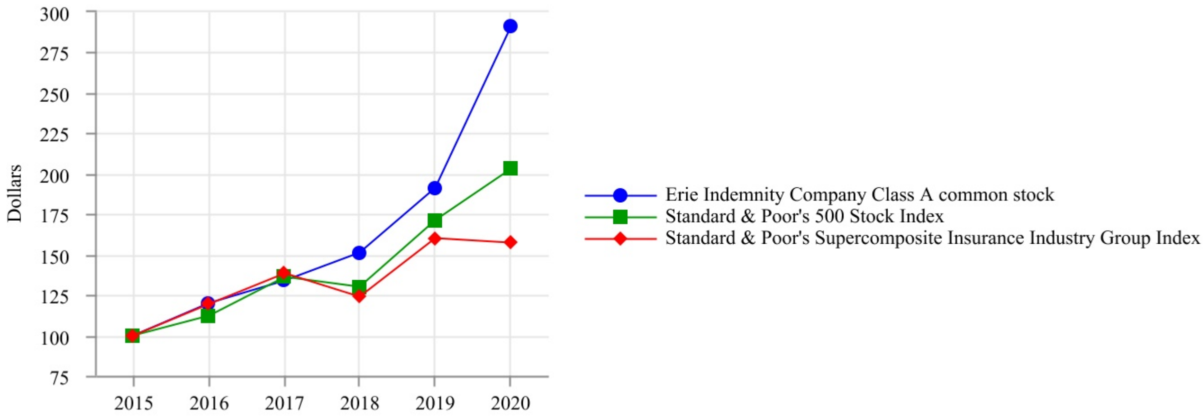
Common Stock Market Prices and Dividends

Our Class A, non-voting common stock trades on The NASDAQ Stock Market℠ LLC under the symbol "ERIE". No established trading market exists for the Class B voting common stock. Broadridge Corporate Issuer Solutions, Inc. serves as our transfer agent and registrar. As of February 19, 2021, there were approximately 561 shareholders of record for the Class A non-voting common stock and 9 shareholders of record for the Class B voting common stock.

Historically, we have declared and paid cash dividends on a quarterly basis at the discretion of the Board of Directors. The payment and amount of future dividends on the common stock will be determined by the Board of Directors and will depend upon, among other things, our operating results, financial condition, cash requirements, and general business conditions at the time such payment is considered.

Stock Performance

The following graph depicts the cumulative total shareholder return, assuming reinvestment of dividends, for the periods indicated for our Class A common stock compared to the Standard & Poor's 500 Stock Index and the Standard & Poor's Supercomposite Insurance Industry Group Index. The Standard & Poor's Supercomposite Insurance Industry Group Index is made up of 57 constituent members represented by property and casualty insurers, insurance brokers, and life insurers, and is a capitalization weighted index.



	2015	2016	2017	2018	2019	2020
Erie Indemnity Company Class A common stock	$ 100 (1)	$ 120	$ 134	$ 151	$ 191	$ 291
Standard & Poor's 500 Stock Index	100 (1)	112	136	130	171	203
Standard & Poor's Supercomposite Insurance Industry Group Index	100 (1)	119	138	124	160	157

(1) Assumes $100 invested at the close of trading, including reinvestment of dividends, on the last trading day preceding the first day of the fifth preceding fiscal year, in our Class A common stock, the Standard & Poor's 500 Stock Index, and the Standard & Poor's Supercomposite Insurance Industry Group Index.

Issuer Purchases of Equity Securities
We may purchase shares, from time-to-time, in the open market, through trading plans entered into with one or more brokerage firms pursuant to Rule 10b5-1 under the Securities Exchange Act of 1934, or through privately negotiated transactions. The purchase of shares is dependent upon prevailing market conditions and alternate uses of capital, and at times and in a manner that is deemed appropriate.

Our Board of Directors authorized a stock repurchase program effective January 1, 1999, allowing the repurchase of our outstanding Class A nonvoting common stock. Various approvals for continuation of this program have since been authorized, with the most recent occurring in 2011 for $150 million, which was authorized with no time limitation. There were no repurchases of our Class A common stock under this program during the quarter ending December 31, 2020. We had approximately $17.8 million of repurchase authority remaining under this program, based upon trade date, at both December 31, 2020 and February 19, 2021.

See Item 8. "Financial Statements and Supplementary Data – Note 13, Capital Stock, of Notes to Financial Statements" contained within this report for discussion of additional shares purchased outside of this program.

ITEM 6. SELECTED FINANCIAL DATA

Not applicable.

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

The following discussion of financial condition and results of operations highlights significant factors influencing Erie Indemnity Company ("Indemnity", "we", "us", "our"). This discussion should be read in conjunction with the audited financial statements and related notes and all other items contained within this Annual Report on Form 10-K as these contain important information helpful in evaluating our financial condition and results of operations.

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995:
Statements contained herein that are not historical fact are forward-looking statements and, as such, are subject to risks and uncertainties that could cause actual events and results to differ, perhaps materially, from those discussed herein. Forward-looking statements relate to future trends, events or results and include, without limitation, statements and assumptions on which such statements are based that are related to our plans, strategies, objectives, expectations, intentions, and adequacy of resources. Examples of forward-looking statements are discussions relating to premium and investment income, expenses, operating results, and compliance with contractual and regulatory requirements. Forward-looking statements are not guarantees of future performance and involve risks and uncertainties that are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in such forward-looking statements. Among the risks and

uncertainties, in addition to those set forth in our filings with the Securities and Exchange Commission, that could cause actual results and future events to differ from those set forth or contemplated in the forward-looking statements include the following:

- dependence upon our relationship with the Erie Insurance Exchange ("Exchange") and the management fee under the agreement with the subscribers at the Exchange;
- dependence upon our relationship with the Exchange and the growth of the Exchange, including:
    - general business and economic conditions;
    - factors affecting insurance industry competition;
    - dependence upon the independent agency system; and
    - ability to maintain our reputation for customer service;
- dependence upon our relationship with the Exchange and the financial condition of the Exchange, including:
    - the Exchange's ability to maintain acceptable financial strength ratings;
    - factors affecting the quality and liquidity of the Exchange's investment portfolio;
    - changes in government regulation of the insurance industry;
    - litigation and regulatory actions;
    - emerging claims and coverage issues in the industry; and
    - severe weather conditions or other catastrophic losses, including terrorism;
- potential impacts of the COVID-19 pandemic on the growth and financial condition of the Exchange;
- costs of providing policy issuance and renewal services to the Exchange under the subscriber's agreement;
- ability to attract and retain talented management and employees;
- ability to ensure system availability and effectively manage technology initiatives;
- difficulties with technology or data security breaches, including cyber attacks;
- ability to maintain uninterrupted business operations;
- outcome of pending and potential litigation;
- potential impacts of the COVID-19 pandemic on our operations, the business operations of our customers and/or independent agents, or our third-party vendor operations;
- factors affecting the quality and liquidity of our investment portfolio; and
- our ability to meet liquidity needs and access capital.

A forward-looking statement speaks only as of the date on which it is made and reflects our analysis only as of that date. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events, changes in assumptions, or otherwise.

RECENT ACCOUNTING STANDARDS

See Item 8. "Financial Statements and Supplementary Data - Note 2, Significant Accounting Policies, of Notes to Financial Statements" contained within this report for a discussion of recently adopted accounting standards and the impact on our financial statements.

OPERATING OVERVIEW

Overview

We are a Pennsylvania business corporation that since 1925 has been the managing attorney-in-fact for the subscribers (policyholders) at the Exchange, a reciprocal insurer that writes property and casualty insurance. Our primary function as attorney-in-fact is to perform policy issuance and renewal services on behalf of the subscribers at the Exchange. We also act as attorney-in-fact on behalf of the Exchange, as well as the service provider for its insurance subsidiaries, with respect to all administrative services.

The Exchange is a reciprocal insurance exchange, which is an unincorporated association of individuals, partnerships and corporations that agree to insure one another. Each applicant for insurance to the Exchange signs a subscriber's agreement, which contains an appointment of Indemnity as their attorney-in-fact to transact the business of the Exchange on their behalf.

Pursuant to the subscriber’s agreement for acting as attorney-in-fact in these two capacities, we earn a management fee. Management fee revenue is based upon all direct and affiliated assumed premiums written by the Exchange and the management fee rate, which is not to exceed 25%. Our Board of Directors establishes the management fee rate at least annually, generally in December for the following year. The process of setting the management fee rate includes the evaluation of current year operating results compared to both prior year and industry estimated results for both Indemnity and the Exchange, and consideration of several factors for both entities including: their relative financial strength and capital position; projected revenue, expense and earnings for the subsequent year; future capital needs; as well as competitive position. The management fee rate was set at 25% for 2020, 2019 and 2018. Our Board of Directors set the 2021 management fee rate again at 25%, its maximum level.

Our earnings are primarily driven by the management fee revenue generated for the services we provide to the Exchange. The policy issuance and renewal services we provide to the Exchange are related to the sales, underwriting and issuance of policies. The sales related services we provide include agent compensation and certain sales and advertising support services. Agent compensation includes scheduled commissions to agents based upon premiums written as well as additional commissions and bonuses to agents, which are earned by achieving targeted measures. Agent compensation comprised approximately 66% of our 2020 policy issuance and renewal expenses. The underwriting services we provide include underwriting and policy processing and comprised approximately 10% of our 2020 policy issuance and renewal expenses. The remaining services we provide include customer service and administrative support. We also provide information technology services that support all the functions listed above that comprised approximately 11% of our 2020 policy issuance and renewal expenses. Included in these expenses are allocations of costs for departments that support these policy issuance and renewal functions.

By virtue of its legal structure as a reciprocal insurer, the Exchange does not have any employees or officers. Therefore, it enters into contractual relationships by and through an attorney-in-fact. Indemnity serves as the attorney-in-fact on behalf of the Exchange with respect to its administrative services. The Exchange's insurance subsidiaries also utilize Indemnity for these services in accordance with the service agreements between each of the subsidiaries and Indemnity. Claims handling services include costs incurred in the claims process, including the adjustment, investigation, defense, recording and payment functions. Life insurance management services include costs incurred in the management and processing of life insurance business. Investment management services are related to investment trading activity, accounting and all other functions attributable to the investment of funds. Included in these expenses are allocations of costs for departments that support these administrative functions. The amounts incurred for these services are reimbursed to Indemnity at cost in accordance with the subscriber's agreement and the service agreements. State insurance regulations require that intercompany service agreements and any material amendments be approved in advance by the state insurance department.

Our results of operations are tied to the growth and financial condition of the Exchange as the Exchange is our sole customer, and our earnings are largely generated from management fees based on the direct and affiliated assumed premiums written by the Exchange. The Exchange generates revenue by insuring preferred and standard risks, with personal lines comprising 71% of the 2020 direct and affiliated assumed written premiums and commercial lines comprising the remaining 29%. The principal personal lines products are private passenger automobile and homeowners. The principal commercial lines products are commercial multi-peril, commercial automobile and workers compensation.

We generate investment income from our fixed maturity and equity security portfolios. Our portfolio is managed with the objective of maximizing after-tax returns on a risk-adjusted basis. We actively evaluate the portfolios for securities in an unrealized loss position and record impairment write-downs on investments in instances where we have the intent to sell or it's more likely than not that we would be required to sell the security. Impairments resulting from a credit loss are recognized in earnings with a corresponding allowance on the balance sheet.

Coronavirus ("COVID-19") Pandemic

On March 11, 2020, the outbreak of the coronavirus ("COVID-19") was declared a global pandemic. The significant volatility in the financial markets, economic disruption and uncertainty resulting from the COVID-19 pandemic that began in the first quarter of 2020 continues to evolve and the pandemic’s ultimate impact and duration remain highly uncertain at this time.

The impact the COVID-19 pandemic has on the premiums written by the Exchange, our sole customer, affects our management fee revenue. While the Exchange experienced declines in new business premiums in the first half of 2020 due to business disruptions and recessionary conditions, new business premiums grew 10.8% in the second half of 2020 compared to the same period in 2019, primarily driven by growth in the personal auto and homeowners lines of business. The uncertainty of the ongoing impacts of the COVID-19 pandemic will likely continue in 2021 and may continue until such time as the spread of the virus is contained. In response to reduced driving conditions resulting from the COVID-19 pandemic, the Exchange implemented $200 million in personal and commercial auto rate reductions, which became effective in the third quarter of 2020, resulting in a decrease of approximately $90 million in the Exchange written premiums and a corresponding decrease of approximately $22 million in our management fee revenue in 2020. The remainder of the rate reductions will impact the Exchange’s written premiums and our corresponding management fee revenue in 2021. There may also be other market and/or regulatory pressures that could impact the Exchange’s operations. In 2020, within our cost of operations, we incurred increased agent incentive costs as lower claim frequency resulted in improved agent profitability. We also incurred additional technology costs in support of remote working conditions for our employees. These expenses, among others, could continue to persist as the full extent and duration of the pandemic’s impacts remain uncertain. While the financial market volatility created by the COVID-19 pandemic had a negative impact on our investment portfolio in the first quarter of 2020, markets substantially recovered through the remainder of the year, resulting in overall realized and unrealized gains in 2020. We could experience future losses and/or impairments to the portfolio given the pandemic’s impact on market conditions. We have provided additional disclosure of these impacted areas throughout our Management’s Discussion and Analysis that follows. A broader discussion of the potential future impacts has also been disclosed in the Financial Condition, Liquidity and Capital Resources, and Part I, Item 1A. "Risk Factors" related to COVID-19 contained within this report.

We have a dedicated internal committee comprised of management from various finance disciplines reviewing our risk positions and emerging trends on an ongoing basis as circumstances are evolving. The committee is reviewing risk scenarios and performing stress tests, including the review of cash flow trends, liquidity requirements and other forms of risk quantification. This provides tools for management, as well as our Risk Committee of the Board of Directors, to assess risks and prioritize key issues.

While we were not required to close our physical locations under the state mandated closure of nonessential services, out of concern for the health and safety of our employees, over 90% of our workforce has been working remote since March 2020. We have had no significant interruption to our core business processes or systems to date. We have had no significant changes to our financial close or reporting processes or related internal controls, nor do we anticipate any significant future challenges at this time. We have a dedicated team developing a return to the office plan that will be implemented when it becomes feasible and safe.

Financial Overview

(dollars in thousands, except per share data)	2020	% Change	2019	% Change	2018
	Years ended December 31,				
Operating income	$ 338,157	(5.4) %	$ 357,339	3.8 %	$ 344,343
Total investment income	32,867	(17.8)	39,967	54.9	25,796
Interest expense, net	731	(14.7)	856	(65.2)	2,460
Other (expense) income	(1,778)	NM	255	(93.0)	3,641
Income before income taxes	368,515	(7.1)	396,705	6.8	371,320
Income tax expense	75,211	(5.8)	79,884	(3.9)	83,096
Net income	$ 293,304	(7.4) %	$ 316,821	9.9 %	$ 288,224
Net income per share - diluted	$ 5.61	(7.4) %	$ 6.06	9.9 %	$ 5.51

NM = not meaningful

Operating income decreased in 2020 compared to 2019 as growth in operating expenses outpaced the growth in operating revenues. Management fee revenue is based upon the management fee rate we charge and the direct and affiliated assumed premiums written by the Exchange. The management fee rate was 25% for 2020, 2019, and 2018. The direct and affiliated assumed premiums written by the Exchange increased 1.7% to $7.6 billion in 2020 and 5.2% to $7.5 billion in 2019.

Cost of operations for policy issuance and renewal services increased 3.3% to $1.6 billion in 2020 primarily due to higher commissions driven by direct and affiliated assumed written premium growth, higher agent incentive compensation driven by lower automobile claims frequency experienced by the Exchange, and higher personnel costs. Cost of operations for policy issuance and renewal services increased 5.5% to $1.5 billion in 2019 driven primarily by higher commissions and higher investments in information technology, partially offset by lower agent and employee incentive costs related to less profitable growth on the property and casualty insurance business of the Exchange.

Management fee revenue for administrative services increased 4.0% to $59.5 million in 2020 compared to 6.7% to $57.2 million in 2019. The administrative services reimbursement revenue and corresponding cost of operations increased both total operating revenue and total operating expenses to $609.4 million in 2020 and $582.0 million in 2019, but had no net impact on operating income.

Total investment income decreased $7.1 million in 2020 primarily driven by higher impairments and lower net investment income reflecting lower interest rates due to market volatility caused by the COVID-19 pandemic. Total investment income increased $14.2 million in 2019 primarily driven by net realized investment gains and higher net investment income.

Income tax expense was $75.2 million in 2020 compared to $79.9 million in 2019. Income tax expense was reduced in 2019 by $4.0 million as a result of settling an uncertain tax position, which decreased our effective tax rate by 1.0%.

General Conditions and Trends Affecting Our Business

Economic conditions

Unfavorable changes in economic conditions, including declining consumer confidence, inflation, high unemployment, and the threat of recession, among others, may lead the Exchange's customers to modify coverage, not renew policies, or even cancel policies, which could adversely affect the premium revenue of the Exchange, and consequently our management fee. The extent to which economic conditions could impact the Exchange's operations and our management fee was exacerbated with the COVID-19 pandemic. The extent and duration of the impacts to economic conditions remain uncertain as the pandemic continues to evolve. See Financial Condition, Liquidity and Capital Resources, and Part I, Item 1A. "Risk Factors" contained within this report for a discussion of the potential impacts of the COVID-19 pandemic on our operations.

Financial market volatility

Our portfolio of fixed maturity and equity security investments is subject to market volatility especially in periods of instability in the worldwide financial markets. Over time, net investment income could also be impacted by volatility and by the general level of interest rates, which impact reinvested cash flow from the portfolio and business operations. Depending upon market conditions, which are unpredictable and remain uncertain, considerable fluctuation could exist in the fair value of our investment portfolio and reported total investment income, which could have an adverse impact on our financial condition, results of operations, and cash flows. Significant volatility has been seen in the global financial markets since the outbreak of the COVID-19 pandemic. The extent of the impact on our invested assets cannot be estimated with a high degree of certainty at this time given the ongoing developments of this pandemic and the related impacts on the financial markets.

CRITICAL ACCOUNTING ESTIMATES

The financial statements include amounts based upon estimates and assumptions that have a significant effect on reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period and related disclosures. We consider an accounting estimate to be critical if 1) it requires assumptions to be made that were uncertain at the time the estimate was made, and 2) different estimates that could have been used, or changes in the estimate that are likely to occur from period-to-period, could have a material impact on our Statements of Operations or Financial Position.

The following presents a discussion of those accounting policies surrounding estimates that we believe are the most critical to our reported amounts and require the most subjective and complex judgment. If actual events differ significantly from the underlying assumptions, there could be material adjustments to prior estimates that could potentially adversely affect our results of operations, financial condition, and cash flows. The estimates and the estimating methods used are reviewed continually, and any adjustments considered necessary are reflected in current earnings.

Investment Valuation

Available-for-sale securities

We make estimates concerning the valuation of all investments. Valuation techniques are used to derive the fair value of the available-for-sale securities we hold. Fair value is the price that would be received to sell an asset in an orderly transaction between willing market participants at the measurement date.

Fair value measurements are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect our view of market assumptions in the absence of observable market information. We utilize valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs.

For purposes of determining whether the market is active or inactive, the classification of a financial instrument is based upon the following definitions:

- An active market is one in which transactions for the assets being valued occur with sufficient frequency and volume to provide reliable pricing information.

- An inactive (illiquid) market is one in which there are few and infrequent transactions, where the prices are not current, price quotations vary substantially, and/or there is little information publicly available for the asset being valued.

We continually assess whether or not an active market exists for all of our investments and as of each reporting date re-evaluate the classification in the fair value hierarchy. All assets carried at fair value are classified and disclosed in one of the following three categories:

- Level 1 – Quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

- Level 2 – Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

- Level 3 – Unobservable inputs for the asset or liability.

Level 1 reflects market data obtained from independent sources, such as prices obtained from an exchange or a nationally recognized pricing service for identical instruments in active markets and primarily includes preferred stock.

Level 2 includes those financial instruments that are valued using industry-standard models that consider various inputs, such as the interest rate and credit spread for the underlying financial instruments. All significant inputs are observable, or derived from observable information in the marketplace, or are supported by observable levels at which transactions are executed in the marketplace. Financial instruments in this category primarily include corporate bonds, structured securities and preferred stock.

Level 3 securities are valued based upon unobservable inputs, reflecting our estimates of value based upon assumptions used by market participants. Securities are also assigned to Level 3 in cases where non-binding broker quotes are significant to the valuation and there is a lack of transparency as to whether these quotes are based upon information that is observable in the marketplace. Fair value estimates for securities valued using unobservable inputs require significant judgment due to the illiquid nature of the market for these securities and represent the best estimate of the fair value that would occur in an orderly transaction between willing market participants at the measurement date under current market conditions. Fair value for these securities is generally valued using an estimate of fair value based upon indicative market prices that include significant unobservable inputs not based upon, nor corroborated by, market information, including the utilization of discounted cash flow analyses which have been risk-adjusted to take into account illiquidity and other market factors. This category primarily consists of structured securities and corporate bonds.

As of each reporting period, financial instruments recorded at fair value are classified based upon the lowest level of input that is significant to the fair value measurement. The presence of at least one unobservable input that has significant impact to the fair value measurement would result in classification as a Level 3 instrument. Our assessment of the significance of a particular input to the fair value measurement requires judgment, and considers factors specific to the asset, such as the relative impact on the fair value as a result of including a particular input and market conditions. We did not make any other significant judgments except as described above.

Estimates of fair values for our investment portfolio are obtained primarily from a nationally recognized pricing service. Our Level 1 securities are valued using an exchange traded price provided by the pricing service. Pricing service valuations for Level 2 securities include multiple verifiable, observable inputs including benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data. Pricing service valuations for Level 3 securities are based upon proprietary models and are used when observable inputs are not available or in illiquid markets.

Although virtually all of our prices are obtained from third party sources, we also perform internal pricing reviews, including evaluating the methodology and inputs used to ensure that we determine the proper classification level of the financial instrument and reviewing securities with price changes that vary significantly from current market conditions or independent price sources. Price variances are investigated and corroborated by market data and transaction volumes. We have reviewed the pricing methodologies of our pricing service as well as other observable inputs and believe that the prices adequately consider market activity in determining fair value.

In limited circumstances we adjust the price received from the pricing service when, in our judgment, a better reflection of fair value is available based upon corroborating information and our knowledge and monitoring of market conditions such as a disparity in price of comparable securities and/or non-binding broker quotes. In other circumstances, certain securities are internally priced because prices are not provided by the pricing service.

When a price from the pricing service is not available, values are determined by obtaining broker/dealer quotes and/or market comparables. When available, we obtain multiple quotes for the same security. The ultimate value for these securities is determined based upon our best estimate of fair value using corroborating market information. As of December 31, 2020, nearly all of our available-for-sale and equity securities were priced using a third party pricing service.

Impairments
Available-for-sale securities in an unrealized loss position are evaluated to determine whether the impairment is a result of credit loss or other factors. If we have the intent to sell or it's more likely than not that we would be required to sell the security before recovery of the amortized cost basis, the entire impairment is recognized in earnings. Securities that have experienced a decline in fair value that we do not intend to sell, and that we will not be required to sell before recovery, are evaluated to determine if the decline in fair value is credit related. Impairment resulting from a credit loss is recognized in earnings with a corresponding allowance on the balance sheet. Future recoveries of credit loss result in an adjustment to the allowance and earnings in the period the credit conditions improve. Factors considered in the evaluation of credit loss include the extent to which fair value is less than cost and fundamental factors specific to the issuer such as financial condition, changes in credit ratings, near and long-term business prospects and other factors, as well as the likelihood of recovery of the amortized cost of the security. If the qualitative review indicates credit impairment, the allowance for credit loss is measured as the amount that the security’s amortized cost exceeds the present value of cash flows expected to be collected and is limited to the amount that fair value is below amortized cost.

Retirement Benefit Plans for Employees

Our pension plans consist of a noncontributory defined benefit pension plan covering substantially all employees and an unfunded supplemental employee retirement plan ("SERP") for certain members of executive and senior management. Although we are the sponsor of these postretirement plans and record the funded status of these plans, the Exchange and its subsidiaries reimburse us for approximately 59% of the annual benefit expense of these plans, which includes pension benefits for employees performing administrative services and the Exchange's allocated share of costs for employees in departments that support the administrative functions.

Our pension obligation is developed from actuarial estimates. Several statistical and other factors, which attempt to anticipate future events, are used in calculating the expense and liability related to the plans. Key factors include assumptions about the discount rates and expected rates of return on plan assets. We review these assumptions annually and modify them considering historical experience, current market conditions, including changes in investment returns and interest rates, and expected future trends.

Accumulated and projected benefit obligations are expressed as the present value of future cash payments. We discount those cash payments based upon a yield curve developed from corporate bond yield information with maturities that correspond to the payment of benefits. Lower discount rates increase present values and subsequent year pension expense, while higher discount rates decrease present values and subsequent year pension expense. The construction of the yield curve is based upon yields of corporate bonds rated AA or equivalent quality. Target yields are developed from bonds at various maturity points and a curve is fitted to those targets. Spot rates (zero coupon bond yields) are developed from the yield curve and used to discount benefit payment amounts associated with each future year. The present value of plan benefits is calculated by applying the spot/discount rates to projected benefit cash flows. A single discount rate is then developed to produce the same present value. The cash flows from the yield curve were matched against our projected benefit payments in the pension plan, which have a duration of about 19 years. This yield curve supported the selection of a 2.96% discount rate for the projected benefit obligation at December 31, 2020 and for the 2021 pension expense. The same methodology was used to develop the 3.59% and 4.47% discount rates used to determine the projected benefit obligation for 2019 and 2018, respectively, and the pension expense for 2020 and 2019, respectively. A 25 basis point decrease in the discount rate assumption, with other assumptions held constant, would increase pension cost in the following year by $6.8 million, of which our share would be approximately $2.8 million, and would increase the pension benefit obligation by $61.6 million.

Unrecognized actuarial gains and losses arise from several factors, including experience and assumption changes in the obligations and from the difference between expected returns and actual returns on plan assets. These unrecognized gains and losses are recorded in the pension plan obligation and accumulated other comprehensive income (loss). These amounts are systematically recognized to net periodic pension expense in future periods, with gains decreasing and losses increasing future pension expense. If actuarial net gains or losses exceed 5% of the greater of the projected benefit obligation and the market-related value of plan assets, the excess is recognized through the net periodic pension expense equally over the estimated service period of the employee group, which is currently 14 years.

The expected long-term rate of return for the pension plan represents the average rate of return to be earned on plan assets over the period the benefits included in the benefit obligation are to be paid. To determine the expected long-term rate of return assumption, we utilized models based upon rigorous historical analysis and forward-looking views of the financial markets based upon key factors such as historical returns for the asset class' applicable indices, the correlations of the asset classes under various market conditions and consensus views on future real economic growth and inflation. The expected future return for each asset class is then combined by considering correlations between asset classes and the volatilities of each asset class to produce a reasonable range of asset return results within which our expected long-term rate of return assumption falls. The expected long-term rate of return is less susceptible to annual revisions, as there are typically no significant changes in the asset mix. Based on the current asset allocation and a review of the key factors and expectations of future asset performance, we reduced the expected return on asset assumption from 6.00% to 5.50% for 2021. A change of 25 basis points in the expected long-term rate of return assumption, with other assumptions held constant, would have an estimated $2.3 million impact on net pension benefit cost in the following year, of which our share would be approximately $0.9 million.

We use a four-year averaging method to determine the market-related value of plan assets, which is used to determine the expected return component of pension expense. Under this methodology, asset gains or losses that result from returns that differ from our long-term rate of return assumption are recognized in the market-related value of assets on a level basis over a four-year period. The market-related asset experience during 2020 that related to the actual investment return being different from that assumed during the prior year was a gain of $146.3 million. Recognition of this gain will be deferred and recognized over a four-year period, consistent with the market-related asset value methodology. Once factored into the market-related asset value, these experience gains and losses will be amortized over a period of 14 years, which is the remaining service period of the employee group.

Estimates of fair values of the pension plan assets are obtained primarily from the trustee and custodian of our pension plan. Our Level 1 category includes a money market mutual fund and a separate account for which the fair value is determined using an exchange traded price provided by the trustee and custodian. Our Level 2 category includes commingled pools. Estimates of fair values for securities held by our commingled pools are obtained primarily from the trustee and custodian. Trustee and custodian valuation methodologies for Level 2 securities include multiple verifiable, observable inputs including benchmark yields, reported trades, broker/dealer quotes, issuers spreads, two-sided markets, benchmark securities, bids, offers, and reference data. There were no Level 3 investments in 2020 or 2019.

We expect our net pension benefit costs to increase from $45.1 million in 2020 to $56.6 million in 2021 primarily driven by the decrease in the discount rate. Our share of the net pension benefit costs after reimbursements was $18.5 million in 2020. We expect our share of the net pension benefit costs to be approximately $23.2 million in 2021.

The actuarial assumptions we used in determining our pension obligation may differ materially from actual results due to changing market and economic conditions, higher or lower withdrawal rates, or longer or shorter life spans of participants. While we believe that the assumptions used are appropriate, differences in actual experience or changes in assumptions may materially affect our financial position, results of operations, or cash flows. See Item 8. "Financial Statements and Supplementary Data - Note 10, Postretirement Benefits, of Notes to Financial Statements" contained within this report for additional details on the pension plans.

RESULTS OF OPERATIONS

Management fee revenue

We have two performance obligations in the subscriber's agreement, providing policy issuance and renewal services and acting as attorney-in-fact for the Exchange, as well as the service provider for its insurance subsidiaries, with respect to all administrative services. We earn management fees for acting as the attorney-in-fact for the subscribers at the Exchange in these two capacities. Our revenues are allocated between the two performance obligations.

Management fee rate

The management fee is calculated by multiplying all direct and affiliated assumed premiums written by the Exchange by the management fee rate, which is determined by our Board of Directors at least annually. The management fee rate was set at 25%, the maximum rate, for 2020, 2019 and 2018. Changes in the management fee rate can affect our revenue and net income significantly. The transaction price for management fee revenue and administrative service reimbursement revenue is allocated based on the estimated standalone selling prices developed using industry information and other available information for similar services. We update the transaction price allocation annually based upon the most recent information available or more frequently if there have been significant changes in any components considered in the transaction price. In 2020, we reviewed the transaction price allocation quarterly to consider the most current economic conditions related to the COVID-19 pandemic. The reviews resulted in no material change to the allocation.

The following table presents the allocation and disaggregation of revenue for our two performance obligations:

	Years ended December 31,				
(dollars in thousands)	2020	% Change	2019	% Change	2018
Policy issuance and renewal services					
Direct and affiliated assumed premiums written by the Exchange	$ 7,613,519	1.7 %	$ 7,486,030	5.2 %	$ 7,112,846
Management fee rate	24.2 %		24.2 %		24.2 %
Management fee revenue	1,842,472	1.7	1,811,619	5.2	1,721,309
Change in allowance for management fee returned on cancelled policies (1)	(678)	41.7	(1,162)	33.3	(1,742)
Management fee revenue - policy issuance and renewal services, net	$ 1,841,794	1.7 %	$ 1,810,457	5.3 %	$ 1,719,567
Administrative services					
Direct and affiliated assumed premiums written by the Exchange	$ 7,613,519	1.7 %	$ 7,486,030	5.2 %	$ 7,112,846
Management fee rate	0.8 %		0.8 %		0.8 %
Management fee revenue	60,908	1.7	59,888	5.2	56,903
Change in contract liability (2)	(1,376)	47.8	(2,633)	17.9	(3,209)
Change in allowance for management fee returned on cancelled policies (1)	(69)	(34.6)	(51)	17.0	(62)
Management fee revenue - administrative services, net	59,463	4.0	57,204	6.7	53,632
Administrative services reimbursement revenue	609,435	4.7	582,010	0.3	580,336
Total revenue from administrative services	$ 668,898	4.6 %	$ 639,214	0.8 %	$ 633,968

(1) Management fees are returned to the Exchange when policies are cancelled mid-term and unearned premiums are refunded. We record an estimated allowance for management fees returned on mid-term policy cancellations. This estimated allowance has been allocated between the two performance obligations consistent with the revenue allocation proportion. The potential for a greater number of mid-term cancellations as a result of the COVID-19 pandemic was taken into consideration in the determination of this allowance in 2020.

(2) Management fee revenue - administrative services is recognized over time as the services are performed. See Item 8. "Financial Statements - Note 3, Revenue, of Notes to Financial Statements" contained within this report.

Direct and affiliated assumed premiums written by the Exchange

Direct and affiliated assumed premiums include premiums written directly by the Exchange and premiums assumed from its wholly owned property and casualty subsidiaries. Direct and affiliated assumed premiums written by the Exchange increased 1.7% to $7.6 billion in 2020, from $7.5 billion in 2019, driven by an increase in policies in force. Year-over-year policies in force for all lines of business increased 2.1% in 2020 as the result of continuing strong policyholder retention, compared to 1.8% in 2019. The year-over-year average premium per policy for all lines of business decreased 0.4% at December 31, 2020, compared to an increase of 3.2% at December 31, 2019. The year-over-year average premium per policy at December 31, 2020 was impacted by the rate reductions for personal and commercial auto policies as a result of the COVID-19 pandemic.

Premiums generated from new business decreased 1.2% to $852 million in 2020. While new business policies written increased 5.0 % in 2020, year-over-year average premium per policy on new business decreased 5.9% at December 31, 2020, driven by the personal and commercial auto rate reductions which took effect in the third quarter of 2020. Premiums generated from new business decreased 2.6% to $863 million in 2019. While year-over-year average premium per policy on new business increased 5.1% at December 31, 2019, new business policies written decreased 7.4% in 2019.

Premiums generated from renewal business increased 2.1% to $6.8 billion in 2020, compared to 6.4%, or $6.6 billion, in 2019. Underlying the trend in renewal business premiums were increases in average premium per policy and steady policy retention ratios. The renewal business year-over-year average premium per policy increased 0.4% at December 31, 2020, compared to 2.9% at December 31, 2019.

The Exchange implements rate changes in order to meet loss cost expectations. As the Exchange writes policies with annual terms only, rate actions take 12 months to be fully recognized in written premium and 24 months to be recognized in earned premiums. Since rate changes are realized at renewal, it takes 12 months to implement a rate change to all policyholders and another 12 months to earn the increased or decreased premiums in full. As a result, certain rate changes approved in 2019 were reflected in 2020, and a portion of the rate actions in 2020, primarily those in response to reduced driving conditions resulting from the COVID-19 pandemic, will be reflected in 2021. The Exchange continuously evaluates pricing and product offerings to meet consumer demands.

Personal lines – Total personal lines premiums written increased 1.3% to $5.4 billion in 2020, from $5.3 billion in 2019, driven by an increase in total personal lines policies in force of 2.2%. While the impacts of the COVID-19 pandemic, including changes in consumer behavior and driving patterns, among others, significantly reduced new personal policies written in the second quarter of 2020, new personal policies written increased 20.7% in the second half of 2020, compared to the same period last year. Total personal lines year-over-year average premium per policy decreased 0.8% at December 31, 2020, compared to the prior year, driven by personal auto rate reductions. Total personal lines policies in force increased 1.8% in 2019 and year-over-year average premium per policy increased 2.9% at December 31, 2019.

Commercial lines – Total commercial lines premiums written increased 2.6% to $2.2 billion in 2020, compared to 2019, driven by a 1.6% increase in total commercial lines policies in force and a 0.9% increase in the total commercial lines year-over-year average premium per policy. While there was a significant reduction in new commercial policies written in the second quarter of 2020 as a result of the business disruptions and unfavorable economic conditions related to the COVID-19 pandemic, new commercial policies written increased 2.4% in the second half of 2020 compared to the same period last year. The second half of 2020 activity was primarily driven by an increase in commercial auto policies written which was partially offset by a decrease in workers compensation policies written. Total commercial lines premiums written increased 6.1% in 2019, compared to 2018, driven by a 2.4% increase in total commercial lines policies in force and a 3.6% increase in the total commercial lines year-over-year average premium per policy.

Future trends-premium revenue – Through a careful agency selection process, the Exchange plans to continue its effort to expand the size of its agency force to increase market penetration in existing operating territories to contribute to future growth. While our agents initially experienced business declines resulting from disruptions created by the COVID-19 pandemic, there have been no significant disruptions in their operations. The continued impacts of the COVID-19 pandemic could make it difficult for our independent agents to write new business and retain existing business and/or constrain our ability to recruit new agents.

Changes in premium levels attributable to the growth in policies in force directly affect the profitability of the Exchange and have a direct bearing on our management fee. Our continued focus on underwriting discipline and the maturing of pricing sophistication models have contributed to the Exchange's steady policy retention ratios. The continued growth of its policy base is dependent upon the Exchange's ability to retain existing and attract new subscribers/policyholders. A lack of new policy growth or the inability to retain existing customers could have an adverse effect on the Exchange's premium level growth, and consequently our management fee.

Changes in premium levels attributable to rate changes also directly affect the profitability of the Exchange and have a direct bearing on our management fee. Pricing actions contemplated or taken by the Exchange are subject to various regulatory requirements of the states in which it operates. The pricing actions already implemented, or to be implemented, have an effect on the market competitiveness of the Exchange's insurance products. Such pricing actions, and those of the Exchange's competitors, could affect the ability of the Exchange's agents to retain and attract new business; additionally, exposure reductions and/or changes in mix of business as a result of economic conditions could impact the average premium written and affiliated assumed by the Exchange, as customers may reduce coverages.

The COVID-19 pandemic may have a negative impact on the Exchange's premiums, and therefore our management fees, given recessionary economic conditions and related declines in consumer activity and demand for certain services, as well as the potential for sustained changes in driving patterns. The remaining rate reductions implemented for personal and commercial auto policies in response to the COVID-19 pandemic are estimated to decrease premiums by $110 million with a corresponding decrease of $28 million in management fee revenue in 2021. Future premiums could also be impacted by potential regulatory changes resulting from the COVID-19 pandemic.

The extent of the impact to the Exchange's premiums and our management fee cannot be estimated with a high degree of certainty at this time given the ongoing developments related to this pandemic. See also Part I, Item 1A. "Risk Factors" contained within this report.

Policy issuance and renewal services

(dollars in thousands)	Years ended December 31, 2020	% Change	2019	% Change	2018
Management fee revenue - policy issuance and renewal services, net	$ 1,841,794	1.7 %	$ 1,810,457	5.3 %	$ 1,719,567
Service agreement revenue	25,797	(6.6)	27,627	(3.7)	28,677
	1,867,591	1.6	1,838,084	5.1	1,748,244
Cost of policy issuance and renewal services	1,588,897	3.3	1,537,949	5.5	1,457,533
Operating income - policy issuance and renewal services	$ 278,694	(7.1) %	$ 300,135	3.2 %	$ 290,711

Policy issuance and renewal services
We allocate a portion of the management fee, which currently equates to 24.2% of the direct and affiliated assumed premiums written by the Exchange, for providing policy issuance and renewal services. This portion of the management fee is recognized as revenue when the policy is issued or renewed because it is at that time that the services we provide are substantially complete and the executed insurance policy is transferred to the customer. The increase in management fee revenue for policy issuance and renewal services was driven by the increase in the direct and affiliated assumed premiums written by the Exchange discussed previously.

Service agreement revenue
Service agreement revenue includes service charges we collect from subscribers/policyholders for providing extended payment terms on policies written and affiliated assumed by the Exchange, and late payment and policy reinstatement fees. The service charges are fixed dollar amounts per billed installment. The decrease in service agreement revenue reflects the continued shift to payment plans that do not incur service charges or offer a premium discount for certain payment methods.

Cost of policy issuance and renewal services

(dollars in thousands)	Years ended December 31, 2020	% Change	2019	% Change	2018
Commissions:					
Total commissions	$ 1,051,272	2.6 %	$ 1,024,654	4.2 %	$ 983,758
Non-commission expense:					
Underwriting and policy processing	$ 160,646	3.7 %	$ 154,934	3.8 %	$ 149,234
Information technology	173,827	3.7	167,600	16.0	144,495
Sales and advertising	53,212	1.6	52,362	(5.8)	55,608
Customer service	34,638	7.1	32,353	9.9	29,447
Administrative and other	115,302	8.7	106,046	11.6	94,991
Total non-commission expense	537,625	4.7	513,295	8.3	473,775
Total cost of policy issuance and renewal services	$ 1,588,897	3.3 %	$ 1,537,949	5.5 %	$ 1,457,533

Commissions – Commissions increased $26.6 million in 2020 compared to 2019 resulting from higher direct and affiliated assumed premiums written by the Exchange and higher agent incentive compensation. The Exchange experienced a significant decrease in automobile claims frequency and related loss expense beginning in March 2020 that continued through May 2020 driven by the COVID-19 pandemic, which contributed to an increase in the profitability component of the agent incentive bonuses. Claims frequency increased in June 2020 and maintained consistent levels through the remainder of 2020. Commissions increased $40.9 million in 2019 compared to 2018 resulting from higher direct and affiliated assumed premiums written by the Exchange, somewhat offset by lower agent incentive costs related to less profitable growth.

Non-commission expense – Non-commission expense increased $24.3 million in 2020 compared to 2019. Underwriting and policy processing costs increased $5.7 million primarily due to increased personnel costs and underwriting report costs. Information technology costs increased $6.2 million primarily due to increased personnel costs and hardware and software costs. Administrative and other expenses increased $9.3 million primarily driven by increased personnel costs. Increased personnel costs in all categories included higher incentive plan award accruals related to underwriting performance in 2020 compared to targets and higher vacation accruals as employees took less vacation in 2020 as a result of the COVID-19 pandemic.

In 2019, non-commission expense increased $39.5 million compared to 2018. Underwriting and policy processing costs increased $5.7 million primarily due to increased underwriting report costs and other policy acquisition costs. Information technology costs increased $23.1 million primarily due to increased professional fees and hardware and software costs. Sales and advertising costs decreased $3.2 million due to decreased personnel costs. Customer service costs increased $2.9 million primarily due to increased credit card processing fees and personnel costs. Administrative and other expenses increased $11.1 million primarily driven by an increase in the long-term incentive plan costs due to a higher company stock price in 2019 compared to 2018 and several multi-year commitments made to support community development initiatives. Personnel costs in all expense categories were impacted by increased medical expenses, somewhat offset by lower estimated costs for incentive plans related to sales and underwriting performance in 2019 compared to targets.

Administrative services

	Years ended December 31,				
(dollars in thousands)	2020	% Change	2019	% Change	2018
Management fee revenue - administrative services, net	$ 59,463	4.0 %	$ 57,204	6.7 %	$ 53,632
Administrative services reimbursement revenue	609,435	4.7	582,010	0.3	580,336
Total revenue allocated to administrative services	668,898	4.6	639,214	0.8	633,968
Administrative services expenses					
Claims handling services	525,072	3.7	506,491	0.1	505,843
Investment management services	36,835	9.5	33,640	4.9	32,065
Life management services	47,528	13.5	41,879	(1.3)	42,428
Operating income - administrative services	$ 59,463	4.0 %	$ 57,204	6.7 %	$ 53,632

Administrative services

We allocate a portion of the management fee, which currently equates to 0.8% of the direct and affiliated assumed premiums written by the Exchange, to the administrative services. This portion of the management fee is recognized as revenue over a four-year period representing the time over which the services are provided. We also report reimbursed costs as revenues, which are recognized monthly as services are provided.

Cost of administrative services

By virtue of its legal structure as a reciprocal insurer, the Exchange does not have any employees or officers. Therefore, it enters into contractual relationships by and through an attorney-in-fact. Indemnity serves as the attorney-in-fact on behalf of the Exchange with respect to its administrative services in accordance with the subscriber's agreement. The Exchange's insurance subsidiaries also utilize Indemnity for these services in accordance with the service agreements between each of the subsidiaries and Indemnity. The amounts incurred for these services are reimbursed to Indemnity at cost in accordance with the subscriber's agreement and the service agreements. We record these reimbursements due from the Exchange and its insurance subsidiaries as a receivable.

Total investment income

A summary of the results of our investment operations is as follows for the years ended December 31:

(dollars in thousands)	2020	% Change	2019	% Change	2018
Net investment income	$ 29,753	(12.6) %	$ 34,059	15.9 %	$ 29,387
Net realized investment gains (losses)	6,392	4.7	6,103	NM	(2,010)
Net impairment losses recognized in earnings	(3,278)	NM	(195)	NM	(1,581)
Total investment income	$ 32,867	(17.8) %	$ 39,967	54.9 %	$ 25,796

NM = not meaningful

Net investment income

Net investment income primarily includes interest and dividends on our fixed maturity and equity security portfolios, net of investment expenses. Net investment income decreased by $4.3 million in 2020, compared to 2019, primarily due to decreased income from cash and cash equivalents driven by lower rates and invested balances, somewhat offset by increased preferred stock income resulting from higher invested balances. Net investment income increased by $4.7 million in 2019, compared to 2018, primarily due to an increase in cash and cash equivalent and agent loan interest income reflecting higher invested balances and rates, somewhat offset by decreased income on fixed maturities due to lower invested balances and yields.

Net realized investment gains (losses)

A breakdown of our net realized investment gains (losses) is as follows for the years ended December 31:

(in thousands)	2020	2019	2018
Securities sold:			
Available-for-sale securities	$ 1,335	$ 4,619	$ (1,297)
Equity securities	(713)	(1)	(111)
Equity securities change in fair value	5,769	1,485	(708)
Miscellaneous	1	—	106
Net realized investment gains (losses)	$ 6,392	$ 6,103	$ (2,010)

Net realized gains of $6.4 million in 2020 were primarily due market value adjustments on equity securities and from the sale of available-for-sale securities. Net realized gains of $6.1 million in 2019 were primarily due to gains from sales of available-for-sale securities and increases in fair value of equity securities, while losses of $2.0 million in 2018 were due to losses from sales of available-for-sale and equity securities and decreases in fair value of equity securities.

Net impairment losses recognized in earnings

Net impairment losses recognized on available-for-sale securities in 2020 include $2.3 million of securities in an unrealized loss position where we had intent to sell prior to recovery of our amortized cost basis and $0.7 million of credit impairment losses. The remaining impairments include the change in the current expected credit loss allowance related to our agent loans. The COVID-19 pandemic's impact on financial markets contributed to higher impairment losses on our available-for-sale securities during 2020 compared to prior years. Net impairment losses recognized in 2019 and 2018 included securities in an unrealized loss position that we intended to sell prior to expected recovery of our amortized cost basis as well as securities in an unrealized loss position where we determined the loss was other-than-temporary based on credit factors.

Financial Condition of Erie Insurance Exchange
Serving in the capacity of attorney-in-fact for the Exchange, we are dependent on the growth and financial condition of the Exchange, who is our sole customer. The strength of the Exchange and its wholly owned subsidiaries is rated annually by A.M. Best Company through assessing its financial stability and ability to pay claims. The ratings are generally based upon factors relevant to policyholders and are not directed toward return to investors. The Exchange and each of its property and casualty subsidiaries are rated A+ "Superior", the second highest financial strength rating, which is assigned to companies that have achieved superior overall performance when compared to the standards established by A.M. Best and have a superior ability to meet obligations to policyholders over the long term. On July 8, 2020, the outlook for the financial strength rating was affirmed as stable. As of December 31, 2020, only approximately 12% of insurance groups, in which the Exchange is included, are rated A+ or higher.

The financial statements of the Exchange are prepared in accordance with statutory accounting principles prescribed by the Commonwealth of Pennsylvania. Financial statements prepared under statutory accounting principles focus on the solvency of the insurer and generally provide a more conservative approach than under U.S. generally accepted accounting principles. Statutory direct written premiums of the Exchange and its wholly owned property and casualty subsidiaries grew 1.7% to $7.6 billion in 2020 from $7.5 billion in 2019. These premiums, along with investment income, are the major sources of cash that support the operations of the Exchange. Policyholders' surplus, determined under statutory accounting principles, was $10.7 billion and $9.5 billion at December 31, 2020 and 2019, respectively. The Exchange and its wholly owned property and casualty subsidiaries' year-over-year policy retention ratio continues to be high at 89.9% at December 31, 2020 and 90.0% at December 31, 2019.

We have prepared our financial statements considering the financial strength of the Exchange based on its A.M. Best rating and strong level of surplus. We are monitoring risks related to the COVID-19 pandemic on an ongoing basis and believe that the Exchange falls within established risk tolerances. However, see Part I, Item 1A. "Risk Factors" for possible outcomes that could impact that determination.

FINANCIAL CONDITION

Investments
Our investment portfolio is managed with the objective of maximizing after-tax returns on a risk-adjusted basis. The following table presents the carrying value of our investments as of December 31:

(dollars in thousands)	2020	% to total	2019	% to total
Fixed maturities	$ 928,236	84 %	$ 730,701	82 %
Equity securities:				
Preferred stock	94,071	9	64,752	7
Common stock	19	0	2,381	0
Agent Loans [1]	69,212	6	67,696	8
Other investments	14,325	1	28,205	3
Total investments	$ 1,105,863	100 %	$ 893,735	100 %

(1) The current portion of agent loans is included with prepaid expenses and other current assets in the Statements of Financial Position.

We continually review our investment portfolio for impairment and determine whether the impairment is a result of credit loss or other factors. We individually analyze all positions with an emphasis on those in a significant unrealized loss position. If we have the intent to sell or it's more likely than not that we would be required to sell the security before recovery of the amortized cost basis, the entire impairment is recognized in earnings. Factors considered in the evaluation of credit loss include the extent to which fair value is less than cost and fundamental factors specific to the issuer such as financial condition, changes in credit ratings, near and long-term business prospects and other factors, as well as the likelihood of recovery of the amortized cost of the security. Impairment resulting from credit loss is recognized in earnings with a corresponding allowance on the balance sheet. We believe our investment valuation philosophy and accounting practices result in appropriate and timely measurement of fair value and recognition of impairment.

Fixed maturities
Under our investment strategy, we maintain a fixed maturity portfolio that is of high quality and well diversified within each market sector. This investment strategy also achieves a balanced maturity schedule. Our fixed maturity portfolio is managed with the goal of achieving reasonable returns while limiting exposure to risk.

Fixed maturities are carried at fair value with unrealized gains and losses, net of deferred taxes, included in shareholders' equity. Net unrealized gains on fixed maturities, net of deferred taxes, totaled $23.3 million at December 31, 2020, compared to net unrealized gains of $4.5 million at December 31, 2019.

The following table presents a breakdown of the fair value of our fixed maturity portfolio by industry sector and rating as of December 31, 2020: [1]

(in thousands)	AAA	AA	A	BBB	Non-investment grade	Fair value
Basic materials	$ 0	$ 0	$ 3,277	$ 4,053	$ 8,911	$ 16,241
Communications	0	8,932	8,661	22,451	18,973	59,017
Consumer	0	3,246	25,221	66,057	43,391	137,915
Diversified	0	0	0	1,072	423	1,495
Energy	0	7,548	4,701	18,288	11,424	41,961
Financial	0	1,035	59,632	117,261	12,393	190,321
Industrial	0	0	10,220	14,851	18,465	43,536
Structured securities [2]	146,270	168,083	34,018	13,439	0	361,810
Technology	0	5,311	12,308	18,448	11,388	47,455
Utilities	0	0	3,945	18,997	5,543	28,485
Total	$ 146,270	$ 194,155	$ 161,983	$ 294,917	$ 130,911	$ 928,236

(1) Ratings are supplied by S&P, Moody's, and Fitch. The table is based upon the lowest rating for each security.
(2) Structured securities include residential and commercial mortgage-backed securities, collateralized debt obligations, and asset-backed securities.

Equity Securities

Equity securities consist of nonredeemable preferred and common stock and are carried at fair value in the Statements of Financial Position with all changes in unrealized gains and losses reflected in the Statements of Operations.

The following table presents an analysis of the fair value of our nonredeemable preferred and common stock securities by sector as of December 31:

(in thousands)	2020		2019	
	Preferred Stock	Common stock	Preferred Stock	Common stock
Communications	$ 2,699	$ 0	$ 1,052	$ 2,381
Consumer	3,068	0	508	0
Energy	2,187	19	1,881	0
Financial services	76,575	0	53,513	0
Industrial	800	0	980	0
Utilities	8,742	0	6,818	0
Total	$ 94,071	$ 19	$ 64,752	$ 2,381

Shareholders' Equity

Postretirement benefit plans

The funded status of our postretirement benefit plans is recognized in the Statements of Financial Position, with a corresponding adjustment to accumulated other comprehensive income (loss), net of tax. At December 31, 2020, shareholders' equity amounts related to these postretirement plans increased by $20.0 million, net of tax, of which $10.6 million represents amortization of the prior service cost and net actuarial loss and $9.4 million represents the current period actuarial gain. The actuarial gain was driven by higher than expected returns on assets which exceeded losses incurred as a result of the lower discount rate in 2020. At December 31, 2019, shareholders' equity amounts related to these postretirement plans increased by $1.7 million, net of tax, of which $4.9 million represents amortization of the prior service cost and net actuarial loss offset by $3.2 million of current period actuarial loss. The 2019 actuarial loss was primarily due to the change in the discount rate assumption used to measure the future benefit obligations to 3.59% in 2019, from 4.47% in 2018. Although we are the sponsor of these postretirement plans and record the funded status of these plans, the Exchange and its subsidiaries reimburse us for approximately 59% of the annual benefit expense of these plans, which includes pension benefits for employees performing administrative services and their allocated share of costs for employees in departments that support the administrative functions.

Home Office Expansion

In 2016, we entered into a credit agreement for a $100 million senior secured draw term loan credit facility ("Credit Facility") for the acquisition of real property and construction of an office building that will serve as part of our principal headquarters. On January 1, 2019, the Credit Facility converted to a fully-amortized term loan with monthly payments of principal and interest at a fixed rate of 4.35% over a period of 28 years. We capitalized applicable interest charges incurred during the construction period of long-term building projects as part of the historical cost of the asset. The building was completed in the fourth quarter of 2020.

LIQUIDITY AND CAPITAL RESOURCES

While we did not see a significant impact on our sources or uses of cash in 2020 as a result of the COVID-19 pandemic, we may experience future reductions in our management fee revenue if the Exchange’s premium growth is constrained. Also, future disruptions in the markets could occur which may affect our liquidity position. Accordingly, we continue to monitor the sufficiency of our liquidity and capital resources given the potential impact of the COVID-19 pandemic. There is potential that the funding requirements for our costs of operations will increase related to agent compensation and technology costs, among others. If our normal operating and investing cash activities were to become insufficient to meet future funding requirements, we believe we have sufficient access to liquidity through our cash position, liquid marketable securities and our $100 million line of credit that does not expire until October 2023. See broader discussions of potential risks to our operations in the Operating Overview and Part I, Item 1A. "Risk Factors" contained within this report.

Sources and Uses of Cash

Liquidity is a measure of a company's ability to generate sufficient cash flows to meet the short- and long-term cash requirements of its business operations and growth needs. Our liquidity requirements have been met primarily by funds generated from management fee revenue and income from investments. Cash provided from these sources is used primarily to fund the costs of our management operations including commissions, salaries and wages, pension plans, share repurchases, dividends to shareholders, and the purchase and development of information technology. We expect that our operating cash needs will be met by funds generated from operations.

Volatility in the financial markets presents challenges to us as we do occasionally access our investment portfolio as a source of cash. Some of our fixed income investments, despite being publicly traded, may be illiquid. Volatility in these markets could impair our ability to sell certain of our fixed income securities or cause such securities to sell at deep discounts. We believe we have sufficient liquidity to meet our needs from sources other than the liquidation of securities, even if market volatility persists throughout 2021 and beyond.

Cash flow activities

The following table provides condensed cash flow information for the years ended December 31:

(in thousands)	2020	2019	2018
Net cash provided by operating activities	$ 342,595	$ 364,527	$ 263,585
Net cash used in investing activities	(243,225)	(124,634)	(81,398)
Net cash used in financing activities	(274,869)	(169,571)	(131,491)
Net (decrease) increase in cash	$ (175,499)	$ 70,322	$ 50,696

Net cash provided by operating activities was $342.6 million in 2020, compared to $364.5 million in 2019 and $263.6 million in 2018. Decreased cash provided by operating activities in 2020 was primarily due to an increase in cash paid for agent commissions of $33.3 million due to higher scheduled commissions driven by premium growth, increased general operating expenses paid of $17.4 million and increased administrative services expenses paid of $16.2 million. Offsetting the decrease in cash provided by operating activities was an increase of $42.5 million in management fee received driven by growth in direct and affiliated assumed premiums written by the Exchange, compared to 2019. Increased cash provided by operating activities in 2019 was primarily due to an increase of $93.8 million in management fee revenue received driven by growth in direct and affiliated assumed premiums written by the Exchange and a decrease in pension contributions and employee benefits paid of $72.8 million, driven by the $80 million accelerated pension contribution in 2018. Offsetting the increase in cash provided by operating activities was increased cash paid for agent commissions of $41.8 million due to higher scheduled commissions driven by premium growth, compared to 2018.

Net cash used in investing activities totaled $243.2 million in 2020, compared to $124.6 million in 2019 and $81.4 million in 2018. Net cash used in investing activities increased in 2020 as purchases of available-for-sale securities exceeded the proceeds generated from investment sales and maturities/calls of available-for-sale securities. Fixed asset purchases decreased $46.5 million in 2020 compared to 2019 primarily due to the completion of the new home office building in the fourth quarter of 2020 which was funded primarily by the senior secured draw term loan credit facility. In 2019, we generated more proceeds from investment activity, which were offset by higher purchases of available-for-sale securities and equity securities due to portfolio rebalancing. Fixed asset purchases also increased primarily related to the new home office building.

Net cash used in financing activities totaled $274.9 million in 2020, compared to $169.6 million in 2019 and $131.5 million in 2018. The increase in cash used in 2020, compared to 2019, was due to an increase in dividends paid to shareholders. In addition to the normal quarterly dividends paid in 2020, the Board also declared a special one-time cash dividend of $2.00 on each Class A share and $300 on each Class B share totaling $93.1 million, which was paid in December 2020. The increase in cash used in 2019, compared to 2018, was due to an increase in dividends paid to shareholders and principal payments on the senior secured draw term loan credit facility, which commenced January 1, 2019.

No shares of our Class A nonvoting common stock were repurchased in 2020, 2019 and 2018 in conjunction with our stock repurchase program. In 2011, our Board of Directors approved a continuation of the current stock repurchase program for a total of $150 million with no time limitation. This repurchase authority includes, and is not in addition to, any unspent amounts remaining under the prior authorization. We had approximately $17.8 million of repurchase authority remaining under this program at December 31, 2020, based upon trade date.

We purchase shares of our outstanding Class A nonvoting common stock outside of our publicly announced share repurchase program for certain stock-based incentive plans. We purchased 31,248 shares for $5.8 million in 2020, 15,003 shares for $2.6 million in 2019 and 27,120 shares for $3.2 million in 2018 to settle awards for our equity compensation plan and to fund the rabbi trust for the outside director deferred stock compensation plan and the incentive compensation deferral plan. All shares were delivered in the year they were purchased.

Capital Outlook

We regularly prepare forecasts evaluating the current and future cash requirements for both normal and extreme risk events, including the current COVID-19 pandemic. Should an extreme risk event result in a cash requirement exceeding normal cash flows, we have the ability to meet our future funding requirements through various alternatives available to us.

Outside of our normal operating and investing cash activities, future funding requirements could be met through: 1) cash and cash equivalents, which total approximately $161.2 million at December 31, 2020, 2) a $100 million bank revolving line of credit, and 3) liquidation of unpledged assets held in our investment portfolio, including preferred and common stock and investment grade bonds which totaled approximately $646.4 million at December 31, 2020. Volatility in the financial markets could impair our ability to sell certain fixed income securities or cause such securities to sell at deep discounts. Additionally, we have the ability to curtail or modify discretionary cash outlays such as those related to shareholder dividends and share repurchase activities.

As of December 31, 2020, we have access to a $100 million bank revolving line of credit with a $25 million letter of credit sublimit that expires on October 30, 2023. As of December 31, 2020, a total of $99.1 million remains available under the facility due to $0.9 million outstanding letters of credit, which reduce the availability for letters of credit to $24.1 million. We had no borrowings outstanding on our line of credit as of December 31, 2020. Investments with a fair value of $124.9 million were pledged as collateral on the line at December 31, 2020. These securities have no trading restrictions and are reported as available-for-sale securities and cash and cash equivalents in the Statements of Financial Position. The bank requires compliance with certain covenants, which include leverage ratios and debt restrictions. We were in compliance with our bank covenants at December 31, 2020.

Contractual Obligations

We have certain obligations and commitments to make future payments under various contracts. As of December 31, 2020, the aggregate obligations were as follows:

	Payments due by period				
(in thousands)	Total	2021	2022-2023	2024-2025	2026 and thereafter
Long-term debt [(1)]	$ 160,648	$ 6,183	$ 12,366	$ 12,366	$ 129,733
Home office expansion [(2)]	13,556	13,556	0	0	0
Operating leases [(3)]	14,537	10,817	3,452	89	179
Other commitments [(4)]	385,707	244,638	125,434	14,977	658
Gross contractual obligations [(5)]	574,448	275,194	141,252	27,432	130,570
Estimated reimbursements from affiliates [(6)]	114,293	68,694	38,891	6,318	390
Net contractual obligations	$ 460,155	$ 206,500	$ 102,361	$ 21,114	$ 130,180

(1) Long-term debt amount differs from the balance presented on the Statements of Financial Position as the amount in the table above includes interest and principal payments.

(2) We agreed to the guaranteed maximum price terms of an agreement with our construction manager for the construction of the office building that will serve as part of our principal headquarters. The building was completed in the fourth quarter of 2020. Commitments due in 2021 represent settlement of final construction costs. This project is primarily being funded by the senior secured draw term loan credit facility included in long-term debt in the table above. Included in these amounts are obligations for furniture and fixtures and information technology costs for the office building.

(3) Operating leases represent the total commitment for the lease components of our operating lease agreements. Non-lease component commitments related to these contracts are included in other commitments. See Item 8. "Financial Statements and Supplementary Data - Note 2, Significant Accounting Policies and Note 8, Leases, of Notes to Financial Statements" contained within this report.

(4) Other commitments include various agreements for services, including information technology, support, and maintenance obligations, and other obligations in the ordinary course of business. These agreements are enforceable and legally binding and specify fixed or minimum quantities to be purchased and the approximate timing of the transaction. The table above also includes agreements that contain cancellation provisions, some of which may require us to pay a termination fee. The amounts under such contracts are included in the table above as we expect to make future cash payments according to the contract terms.

(5) The obligation for our unfunded Supplemental Employee Retirement Plan (SERP) for our executive and senior management is not included in gross contractual obligations. The accumulated benefit obligation for this plan at December 31, 2020 is $26.5 million. We expect to have sufficient cash flows from operations to meet the future benefit payments as these become due.

(6) We are reimbursed from the Exchange and its subsidiaries for a portion of the costs related to other commitments and operating leases.

Our funding policy for our defined benefit pension plan is generally to contribute an amount equal to the greater of the target normal cost for the plan year, or the amount necessary to fund the plan to 100%. Historically, this has resulted in an annual pension contribution. In 2018, however, we made accelerated pension contributions totaling $80 million. Following our 2018 contribution, we would not expect to make a subsequent contribution until the sum of the target normal costs for plan years beginning on and after December 31, 2017 exceeds $80 million, or earlier if a contribution is necessary to fund the plan to 100%.

Off-Balance Sheet Arrangements

Off-balance sheet arrangements include those with unconsolidated entities that may have a material current or future effect on our financial condition or results of operations, including material variable interests in unconsolidated entities that conduct certain activities. We have no material off-balance sheet obligations.

Enterprise Risk Management

The role of our Enterprise Risk Management ("ERM") function is to ensure that all significant risks are clearly identified, understood, proactively managed and consistently monitored to achieve strategic objectives for all stakeholders. Our ERM program views risk holistically across our entire group of companies. It ensures implementation of risk responses to mitigate potential impacts. See Part I, Item 1A. "Risk Factors" contained in this report for a list of risk factors.

Our ERM process is founded on a governance framework that includes oversight at multiple levels of our organization, including our Board of Directors and executive management. Accountability to identify, manage, and mitigate risk is embedded within all functions and areas of our business. We have defined risk tolerances to monitor and manage significant risks within acceptable levels. In addition to identifying, evaluating, prioritizing, monitoring, and mitigating significant risks, our ERM process includes extreme event analyses and scenario testing. Given our defined tolerance for risk, risk model output is used to quantify the potential variability of future performance and the sufficiency of capital and liquidity levels.

TRANSACTIONS/AGREEMENTS WITH RELATED PARTIES

Board Oversight
Our Board of Directors has a broad oversight responsibility over our intercompany relationships with the Exchange. As a consequence, our Board of Directors may be required to make decisions or take actions that may not be solely in the interest of our shareholders, such as setting the management fee rate paid by the Exchange to us and ratifying any other significant activity.

Insurance Holding Company System
Most states have enacted legislation that regulates insurance holding company systems, defined as two or more affiliated persons, one or more of which is an insurer. The Exchange has the following wholly owned property and casualty subsidiaries: Erie Insurance Company, Erie Insurance Company of New York, Erie Insurance Property & Casualty Company and Flagship City Insurance Company, and a wholly owned life insurance company, Erie Family Life Insurance Company. Indemnity and the Exchange, and its wholly owned subsidiaries, meet the definition of an insurance holding company system.

All transactions within a holding company system affecting the member insurers of the holding company system must be fair and reasonable and any charges or fees for services performed must be reasonable. Approval by the applicable insurance commissioner is required prior to the consummation of transactions affecting the members within a holding company system.

Intercompany Agreements
Subscriber's and services agreements
We serve as attorney-in-fact for the subscribers at the Exchange, a reciprocal insurance exchange. Each applicant for insurance to a reciprocal insurance exchange signs a subscriber's agreement that contains an appointment of an attorney-in-fact. Through the designation of attorney-in-fact, we are required to provide policy issuance and renewal services and act as the attorney-in-fact for the Exchange with respect to all administrative services, as discussed previously. Pursuant to the subscriber's agreement, we earn a management fee for these services calculated as a percentage of the direct and affiliated assumed premiums written by the Exchange. By virtue of its legal structure as a reciprocal insurer, the Exchange does not have any employees or officers. Therefore, it enters into contractual relationships by and through the attorney-in-fact. The Exchange's insurance subsidiaries also utilize Indemnity for all administrative services in accordance with the service agreements between each of the subsidiaries and Indemnity. The amounts incurred for all administrative services are reimbursed to Indemnity at cost in accordance with the subscriber's agreement and the service agreements. These reimbursements are settled on a monthly basis. State insurance regulations require that intercompany service agreements and any material amendments be approved in advance by the state insurance department.

Leased property
We lease the home office from the Exchange. Rent is based on rental rates of like property in Erie, Pennsylvania and all operating expenses including utilities, cleaning, repairs, real estate taxes, and property insurance are the responsibility of the tenant (Indemnity). Rental costs of shared facilities are allocated based upon usage or square footage occupied. We also had a lease commitment with EFL for a field office until 2018.

We previously owned three field offices for which rental costs of shared facilities were allocated based upon usage or square footage occupied. In 2018, we sold the three field offices to the Exchange at the current independent appraised value in order to align the ownership interest of these facilities with the functions being performed at these locations, which are claims-related activities.

Cost Allocation
The allocation of costs affects our financial condition and that of the Exchange and its wholly owned subsidiaries. Management's role is to determine that allocations are consistently made in accordance with the subscriber's agreement with the subscribers at the Exchange, intercompany service agreements, and applicable insurance laws and regulations. Allocation of costs under these various agreements requires judgment and interpretation, and such allocations are performed using a consistent methodology, which is intended to adhere to the terms and intentions of the underlying agreements.

Intercompany Receivables
We have significant receivables from the Exchange and its affiliates that result in a concentration of credit risk. Net receivables from the Exchange and other affiliates were $494.6 million, or 23.4% of total assets, at December 31, 2020 and $468.6 million, or 23.2% of total assets, at December 31, 2019. These receivables include management fees due for policy issuance and renewal services performed by us under the subscriber's agreement, and certain costs we incur acting as the attorney-in-fact on behalf of the Exchange as well as the service provider for its insurance subsidiaries with respect to all administrative services,

as discussed previously. These receivables from the Exchange and its affiliates are settled monthly. We continually monitor the financial strength of the Exchange.

Surplus Note
We previously held a $25 million surplus note issued to us by EFL that was payable on demand on or after December 31, 2018. In 2018, EFL, with the appropriate approval from the Pennsylvania Insurance Commissioner, satisfied its obligation and repaid the surplus note. EFL paid related interest to us of $1.6 million in 2018.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The significant volatility in the financial markets and uncertainty resulting from the COVID-19 pandemic continues to evolve and the pandemic's ultimate impact and duration remain highly uncertain. We could experience future losses and/or impairments to the portfolio and a continued lower interest rate environment given the pandemic's impact on market conditions.

Market Risk
Market risk is the risk of loss arising from adverse changes in interest rates, credit spreads, equity prices, or foreign exchange rates, as well as other relevant market rate or price changes. The volatility and liquidity in the markets in which the underlying assets are traded directly influence market risk. The following is a discussion of our primary risk exposures, including interest rate risk, investment credit risk, concentration risk, liquidity risk, and equity price risk, and how those exposures are currently managed as of December 31, 2020.

Interest Rate Risk
We invest primarily in fixed maturity investments, which comprised 84% of our invested assets at December 31, 2020. The value of the fixed maturity portfolio is subject to interest rate risk. As market interest rates decrease, the value of the portfolio increases with the opposite holding true in rising interest rate environments. We do not hedge our exposure to interest rate risk. A common measure of the interest sensitivity of fixed maturity assets is effective duration, a calculation that utilizes maturity, coupon rate, yield, and call terms to calculate an expected change in fair value given a change in interest rates. The longer the duration, the more sensitive the asset is to market interest rate fluctuations. Duration is analyzed quarterly to ensure that it remains in the targeted range.

A sensitivity analysis is used to measure the potential loss in future earnings, fair values, or cash flows of interest-sensitive instruments resulting from one or more selected hypothetical changes in interest rates and other market rates or prices over a selected period. The following pro forma information is presented assuming a 100-basis point parallel increase in interest rates across the yield curve at December 31 of each year and reflects the estimated effect on the fair value of our fixed maturity portfolio.

Fixed maturities interest-rate sensitivity analysis

(dollars in thousands)	At December 31,	
	2020	2019
Fair value of fixed maturity portfolio	$ 928,236	$ 730,701
Fair value assuming 100-basis point rise in interest rates	$ 904,287	$ 710,534
Effective duration (as a percentage)	2.7	2.8

While the fixed maturity portfolio is sensitive to interest rates, the future principal cash flows that will be received by contractual maturity date are presented below at December 31, 2020 and 2019. Actual cash flows may differ from those stated as a result of calls, prepayments, or defaults.

Contractual repayments of principal by maturity date

(in thousands)	
Fixed maturities:	December 31, 2020
2021	$ 17,403
2022	48,958
2023	107,507
2024	142,707
2025	110,105
Thereafter	452,168
Total	$ 878,848
Fair value	$ 928,236

(in thousands)	
Fixed maturities:	December 31, 2019
2020	$ 32,473
2021	26,652
2022	60,120
2023	103,345
2024	139,005
Thereafter	349,145
Total	$ 710,740
Fair value	$ 730,701

Investment Credit Risk

Our objective is to earn competitive returns by investing in a diversified portfolio of securities. Our portfolios of fixed maturity securities, nonredeemable preferred stock and, to a lesser extent, short-term investments are subject to credit risk. This risk is defined as the potential loss in fair value resulting from adverse changes in the borrower's ability to repay the debt. We manage this risk by performing upfront underwriting analysis and ongoing reviews of credit quality by position and for the portfolio in total. We do not hedge the credit risk inherent in our fixed maturity and nonredeemable preferred stock investments.

Generally, the fixed maturities in our portfolio are rated by external rating agencies. If not externally rated, we rate them internally on a basis consistent with that used by the rating agencies. We classify all fixed maturities as available-for-sale securities, allowing us to meet our liquidity needs and provide greater flexibility to appropriately respond to changes in market conditions.

The following tables show our fixed maturity investments by rating[(1)]:

	At December 31, 2020		
(dollars in thousands)	Amortized cost	Fair value	Percent of total
AAA, AA, A	$ 487,752	$ 502,408	54 %
BBB	283,219	294,917	32
Total investment grade	770,971	797,325	86
BB	47,870	50,399	5
B	63,397	64,611	7
CCC, CC, C, and below	16,552	15,901	2
Total non-investment grade	127,819	130,911	14
Total	$ 898,790	$ 928,236	100 %

(dollars in thousands)	At December 31, 2019		
	Amortized cost	Fair value	Percent of total
AAA, AA, A	$ 386,046	$ 388,278	53 %
BBB	224,373	226,977	31
Total investment grade	610,419	615,255	84
BB	49,866	51,177	7
B	53,782	54,310	8
CCC, CC, C, and below	10,883	9,959	1
Total non-investment grade	114,531	115,446	16
Total	$ 724,950	$ 730,701	100 %

(1) Ratings are supplied by S&P, Moody's, and Fitch. The table is based upon the lowest rating for each security.

We are also exposed to a concentration of credit risk with the Exchange. See the "Transactions/Agreements with Related Parties, Intercompany Receivables" section of Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained within this report for further discussion of this risk.

Concentration Risk

While our portfolio is well diversified within each market sector, there is an inherent risk of concentration in a particular industry or sector. We continually monitor our level of exposure to individual issuers as well as our allocation to each industry and market sector against internally established policies. See the "Financial Condition" section of Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained within this report for details of investment holdings by sector.

Liquidity Risk

Periods of volatility in the financial markets can create conditions where fixed maturity investments, despite being publicly traded, can become illiquid. However, we actively manage the maturity profile of our fixed maturity portfolio such that scheduled repayments of principal occur on a regular basis.

Equity Price Risk

Our portfolio of equity securities, which primarily includes nonredeemable preferred stock, is carried on the Statements of Financial Position at estimated fair value. Equity securities are exposed to the risk of potential loss in estimated fair value resulting from an adverse change in prices ("price risk"). We do not hedge our exposure to price risk inherent in our equity investments.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Erie Indemnity Company

Opinion on the Financial Statements

We have audited the accompanying statements of financial position of Erie Indemnity Company (the "Company") as of December 31, 2020 and 2019, the related statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, 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, 2020, 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 25, 2021 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 include 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.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the 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.

	Proportional Cost Allocation
Description of the Matter	For the year ended December 31, 2020, the Company’s administrative services reimbursement revenue totaled $609.4 million. The Company’s primary function, as attorney-in-fact, is to perform certain services on behalf of the subscribers at the Erie Insurance Exchange (Exchange) and its insurance subsidiaries, in accordance with the Subscriber’s Agreement and the service agreements with each of the Exchange’s insurance subsidiaries. As explained in Note 2 of the financial statements, pursuant to approved service agreements, administrative services, which include costs associated with claims handling services, life insurance related operating activities, investment management, and operating overhead incurred by the Company on behalf of the Exchange and its insurance subsidiaries, are reimbursed to the Company at cost and recorded as administrative services reimbursement revenue. To determine the proportional cost allocation to each entity, the Company determines utilization statistics using numerous variables including, among others, employee count, square footage, vehicle count, and project hours. Auditing management’s proportional cost allocations was complex due to the number of costs that are included in the allocations and the judgment applied in determining the utilization statistics used to determine the proportional allocations to each entity.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company’s proportional cost allocations process. This included, among others, testing management’s review controls over the determination of the utilization statistics and ultimate allocation of costs to the Exchange and its insurance subsidiaries. To test the Company’s proportional cost allocations, our procedures included, among others, evaluating that the costs included in the allocations are in accordance with the Subscriber’s Agreement and the service agreements with each of the Exchange’s insurance subsidiaries. We tested the completeness and accuracy of the costs subjected to allocation through testing of the reconciliation of the costs recorded in the source systems to the costs that are allocated. We evaluated the allocation of costs to the Exchange and its insurance subsidiaries with the costs allocated in prior periods.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2003.

Cleveland, OH
February 25, 2021

ERIE INDEMNITY COMPANY
STATEMENTS OF OPERATIONS
Years ended December 31, 2020, 2019 and 2018
(dollars in thousands, except per share data)

	2020	2019	2018
Operating revenue			
Management fee revenue - policy issuance and renewal services, net	$ 1,841,794	$ 1,810,457	$ 1,719,567
Management fee revenue - administrative services, net	59,463	57,204	53,632
Administrative services reimbursement revenue	609,435	582,010	580,336
Service agreement revenue	25,797	27,627	28,677
Total operating revenue	2,536,489	2,477,298	2,382,212
Operating expenses			
Cost of operations - policy issuance and renewal services	1,588,897	1,537,949	1,457,533
Cost of operations - administrative services	609,435	582,010	580,336
Total operating expenses	2,198,332	2,119,959	2,037,869
Operating income	338,157	357,339	344,343
Investment income			
Net investment income	29,753	34,059	29,387
Net realized investment gains (losses)	6,392	6,103	(2,010)
Net impairment losses recognized in earnings	(3,278)	(195)	(1,581)
Total investment income	32,867	39,967	25,796
Interest expense, net	731	856	2,460
Other (expense) income	(1,778)	255	3,641
Income before income taxes	368,515	396,705	371,320
Income tax expense	75,211	79,884	83,096
Net income	**$ 293,304**	**$ 316,821**	**$ 288,224**
Earnings Per Share			
Net income per share			
Class A common stock – basic	$ 6.30	$ 6.80	$ 6.19
Class A common stock – diluted	**$ 5.61**	**$ 6.06**	**$ 5.51**
Class B common stock – basic and diluted	$ 945	$ 1,020	$ 928
Weighted average shares outstanding – Basic			
Class A common stock	46,188,659	46,188,836	46,188,637
Class B common stock	2,542	2,542	2,542
Weighted average shares outstanding – Diluted			
Class A common stock	52,313,360	52,319,860	52,315,213
Class B common stock	2,542	2,542	2,542

See accompanying notes to Financial Statements. See Note 14, "Accumulated Other Comprehensive Income (Loss)", for amounts reclassified out of accumulated other comprehensive income (loss) into the Statements of Operations.

ERIE INDEMNITY COMPANY
STATEMENTS OF COMPREHENSIVE INCOME
Years ended December 31, 2020, 2019 and 2018
(in thousands)

	2020	2019	2018
Net income	$ 293,304	$ 316,821	$ 288,224
Other comprehensive income, net of tax			
Change in unrealized holding gains (losses) on available-for-sale securities	18,738	11,718	(9,937)
Pension and other postretirement plans	19,987	1,698	35,712
Total other comprehensive income, net of tax	38,725	13,416	25,775
Comprehensive income	$ 332,029	$ 330,237	$ 313,999

See accompanying notes to Financial Statements. See Note 14, "Accumulated Other Comprehensive Income (Loss)", for amounts reclassified out of accumulated other comprehensive income (loss) into the Statements of Operations.

ERIE INDEMNITY COMPANY
STATEMENTS OF FINANCIAL POSITION
At December 31, 2020 and 2019
(dollars in thousands, except per share data)

	2020	2019
Assets		
Current assets:		
Cash and cash equivalents	$ 161,240	$ 336,739
Available-for-sale securities	17,697	32,810
Equity securities	19	2,381
Receivables from Erie Insurance Exchange and affiliates, net	494,637	468,636
Prepaid expenses and other current assets	49,897	44,943
Federal income taxes recoverable	2,664	462
Accrued investment income	6,146	5,433
Total current assets	732,300	891,404
Available-for-sale securities, net	910,539	697,891
Equity securities	94,071	64,752
Fixed assets, net	265,341	221,379
Agent loans, net	62,449	60,978
Deferred income taxes, net	12,341	17,186
Other assets	40,081	62,650
Total assets	**$ 2,117,122**	**$ 2,016,240**
Liabilities and shareholders' equity		
Current liabilities:		
Commissions payable	$ 262,338	$ 262,963
Agent bonuses	110,158	96,053
Accounts payable and accrued liabilities	150,706	134,957
Dividends payable	48,200	44,940
Contract liability	36,917	35,938
Deferred executive compensation	17,319	10,882
Current portion of long-term borrowings	2,031	1,979
Total current liabilities	627,669	587,712
Defined benefit pension plans	164,346	145,659
Long-term borrowings	93,833	95,842
Contract liability	18,878	18,435
Deferred executive compensation	14,904	13,734
Other long-term liabilities	9,444	21,605
Total liabilities	929,074	882,987
Shareholders' equity		
Class A common stock, stated value $0.0292 per share; 74,996,930 shares authorized; 68,299,200 shares issued; 46,189,068 shares outstanding	1,992	1,992
Class B common stock, convertible at a rate of 2,400 Class A shares for one Class B share, stated value $70 per share; 3,070 shares authorized; 2,542 shares issued and outstanding	178	178
Additional paid-in-capital	16,487	16,483
Accumulated other comprehensive loss	(78,143)	(116,868)
Retained earnings	2,393,624	2,377,558
Total contributed capital and retained earnings	2,334,138	2,279,343
Treasury stock, at cost; 22,110,132 shares held	(1,163,670)	(1,158,910)
Deferred compensation	17,580	12,820
Total shareholders' equity	**1,188,048**	**1,133,253**
Total liabilities and shareholders' equity	**$ 2,117,122**	**$ 2,016,240**

See accompanying notes to Financial Statements.

ERIE INDEMNITY COMPANY
STATEMENTS OF SHAREHOLDERS' EQUITY
Years ended December 31, 2020, 2019 and 2018
(dollars in thousands, except per share data)

	Class A common stock	Class B common stock	Additional paid-in-capital	Accumulated other comprehensive income (loss)	Retained earnings	Treasury stock	Deferred compensation	Total shareholders' equity
Balance, December 31, 2017	$ 1,992	$ 178	$ 16,470	$ (156,059)	$ 2,140,853	$ (1,155,668)	$ 9,578	$ 857,344
Cumulative effect adjustments (1)					(38,392)			(38,392)
Net income					288,224			288,224
Other comprehensive income				25,775				25,775
Dividends declared:								
Class A $3.42 per share					(157,964)			(157,964)
Class B $513.00 per share					(1,304)			(1,304)
Net purchase of treasury stock (2)			(11)			0		(11)
Deferred compensation						(2,566)	2,566	0
Rabbi trust distribution (3)						609	(609)	0
Balance, December 31, 2018	$ 1,992	$ 178	$ 16,459	$ (130,284)	$ 2,231,417	$ (1,157,625)	$ 11,535	$ 973,672
Net income					316,821			316,821
Other comprehensive income				13,416				13,416
Dividends declared:								
Class A $3.665 per share					(169,283)			(169,283)
Class B $549.75 per share					(1,397)			(1,397)
Net purchase of treasury stock (2)			24			0		24
Deferred compensation						(2,208)	2,208	0
Rabbi trust distribution (3)						923	(923)	0
Balance, December 31, 2019	$ 1,992	$ 178	$ 16,483	$ (116,868)	$ 2,377,558	$ (1,158,910)	$ 12,820	$ 1,133,253
Cumulative effect adjustment (1)					(1,075)			(1,075)
Net income					293,304			293,304
Other comprehensive income				38,725				38,725
Dividends declared:								
Class A $5.93 per share					(273,902)			(273,902)
Class B $889.50 per share					(2,261)			(2,261)
Net purchase of treasury stock (2)			4			0		4
Deferred compensation						(5,465)	5,465	0
Rabbi trust distribution (3)						705	(705)	0
Balance, December 31, 2020	$ 1,992	$ 178	$ 16,487	$ (78,143)	$ 2,393,624	$ (1,163,670)	$ 17,580	$ 1,188,048

(1) Cumulative effect adjustments in 2018 are primarily related to the implementation of new revenue recognition guidance effective January 1, 2018. The Cumulative effect adjustment in 2020 is related to the implementation of new credit loss allowance accounting guidance effective January 1, 2020. See Note 2, "Significant Accounting Policies."

(2) Net purchases of treasury stock in 2018, 2019 and 2020 includes the repurchase of our Class A common stock in the open market that were subsequently distributed to satisfy stock based compensation awards. See Note 11, "Incentive and Deferred Compensation Plans".

(3) Distributions of our Class A shares were made from the rabbi trust to a retired director and an incentive compensation deferral plan participant in 2018, 2019 and 2020. See Note 11, "Incentive and Deferred Compensation Plans".

See accompanying notes to Financial Statements.

ERIE INDEMNITY COMPANY
STATEMENTS OF CASH FLOWS
Years ended December 31, 2020, 2019 and 2018
(in thousands)

	2020	2019	2018
Cash flows from operating activities			
Management fee received	$ 1,887,537	$ 1,845,075	$ 1,751,247
Administrative services reimbursements received	587,347	588,255	574,698
Service agreement fee received	25,797	27,627	28,677
Net investment income received	35,740	36,442	44,662
Commissions paid to agents	(928,864)	(895,563)	(853,758)
Agents bonuses paid	(108,227)	(115,795)	(134,314)
Salaries and wages paid	(188,070)	(186,460)	(182,537)
Pension contributions and employee benefits paid	(33,098)	(42,728)	(115,525)
General operating expenses paid	(253,545)	(236,128)	(208,036)
Administrative services expenses paid	(598,753)	(582,528)	(580,338)
Income taxes paid	(82,576)	(72,817)	(58,814)
Interest paid	(693)	(853)	(2,377)
Net cash provided by operating activities	342,595	364,527	263,585
Cash flows from investing activities			
Purchase of investments:			
Available-for-sale securities	(396,014)	(956,818)	(392,895)
Equity securities	(79,518)	(66,760)	(4,087)
Other investments	(1,142)	(1,080)	(243)
Proceeds from investments:			
Available-for-sale securities sales	101,718	687,347	235,323
Available-for-sale securities maturities/calls	118,852	303,798	134,396
Equity securities	70,405	16,109	4,162
Other investments	613	3,722	3,387
Purchase of fixed assets	(55,528)	(102,039)	(56,297)
Proceeds from disposal of fixed assets	15	777	6,014
Loans to agents	(10,098)	(17,611)	(42,594)
Collections on agent loans	7,472	7,921	6,436
Repayment of note receivable from Erie Family Life Insurance	—	—	25,000
Net cash used in investing activities	(243,225)	(124,634)	(81,398)
Cash flows from financing activities			
Dividends paid to shareholders	(272,902)	(167,651)	(156,474)
Net (payments) proceeds from long-term borrowings	(1,967)	(1,920)	24,983
Net cash used in financing activities	(274,869)	(169,571)	(131,491)
Net (decrease) increase in cash and cash equivalents	(175,499)	70,322	50,696
Cash and cash equivalents, beginning of year	336,739	266,417	215,721
Cash and cash equivalents, end of year	$ 161,240	$ 336,739	$ 266,417
Supplemental disclosure of noncash transactions			
Transfer of investments from other investments to equity securities	$ 13,041	$ 3,310	$ —
Liability incurred to purchase fixed assets	$ 14,214	$ 6,800	$ 8,453
Operating lease assets obtained in exchange for new operating lease liabilities	$ 4,943	$ 35,483	$ —

See accompanying notes to Financial Statements. See Note 18, "Supplementary Data on Cash Flows", for additional supplemental cash flow information.

ERIE INDEMNITY COMPANY
NOTES TO FINANCIAL STATEMENTS

Note 1. Nature of Operations

Erie Indemnity Company ("Indemnity", "we", "us", "our") is a publicly held Pennsylvania business corporation that has since its incorporation in 1925 served as the attorney-in-fact for the subscribers (policyholders) at the Erie Insurance Exchange ("Exchange"). The Exchange, which also commenced business in 1925, is a Pennsylvania-domiciled reciprocal insurer that writes property and casualty insurance.

Our primary function as attorney-in-fact is to perform policy issuance and renewal services on behalf of the subscribers at the Exchange. We also act as attorney-in-fact on behalf of the Exchange with respect to all claims handling and investment management services, as well as the service provider for all claims handling, life insurance, and investment management services for its insurance subsidiaries, collectively referred to as "administrative services". Acting as attorney-in-fact in these two capacities is done in accordance with a subscriber's agreement (a limited power of attorney) executed individually by each subscriber (policyholder), which appoints us as their common attorney-in-fact to transact certain business on their behalf. Pursuant to the subscriber's agreement for acting as attorney-in-fact in these two capacities, we earn a management fee calculated as a percentage of the direct and affiliated assumed premiums written by the Exchange.

The policy issuance and renewal services we provide to the Exchange are related to the sales, underwriting and issuance of policies. The sales related services we provide include agent compensation and certain sales and advertising support services. Agent compensation includes scheduled commissions to agents based upon premiums written as well as additional commissions and bonuses to agents, which are earned by achieving targeted measures. Agent compensation comprised approximately 66% of our 2020 policy issuance and renewal expenses. The underwriting services we provide include underwriting and policy processing and comprised approximately 10% of our 2020 policy issuance and renewal expenses. The remaining services we provide include customer service and administrative support. We also provide information technology services that support all the functions listed above that comprised approximately 11% of our 2020 policy issuance and renewal expenses. Included in these expenses are allocations of costs for departments that support these policy issuance and renewal functions.

By virtue of its legal structure as a reciprocal insurer, the Exchange does not have any employees or officers. Therefore, it enters into contractual relationships by and through an attorney-in-fact. Indemnity serves as the attorney-in-fact on behalf of the Exchange with respect to its administrative services. The Exchange's insurance subsidiaries also utilize Indemnity for these services in accordance with the service agreements between each of the subsidiaries and Indemnity. Claims handling services include costs incurred in the claims process, including the adjustment, investigation, defense, recording and payment functions. Life insurance management services include costs incurred in the management and processing of life insurance business. Investment management services are related to investment trading activity, accounting and all other functions attributable to the investment of funds. Included in these expenses are allocations of costs for departments that support these administrative functions. The amounts incurred for these services are reimbursed to Indemnity at cost in accordance with the subscriber's agreement and the service agreements. State insurance regulations require that intercompany service agreements and any material amendments be approved in advance by the state insurance department.

Our results of operations are tied to the growth and financial condition of the Exchange. If any events occurred that impaired the Exchange’s ability to grow or sustain its financial condition, including but not limited to reduced financial strength ratings, disruption in the independent agency relationships, significant catastrophe losses, or products not meeting customer demands, the Exchange could find it more difficult to retain its existing business and attract new business. A decline in the business of the Exchange almost certainly would have as a consequence a decline in the total premiums paid and a correspondingly adverse effect on the amount of the management fees we receive. We also have an exposure to a concentration of credit risk related to the unsecured receivables due from the Exchange for its management fee and cost reimbursements. See Note 16, "Concentrations of Credit Risk".

Coronavirus ("COVID-19") pandemic
On March 11, 2020, the outbreak of the coronavirus ("COVID-19") was declared a global pandemic. The significant volatility in the financial markets, economic disruption and uncertainty resulting from the COVID-19 pandemic that began in the first quarter of 2020 continues to evolve and the pandemic’s ultimate impact and duration remain highly uncertain at this time. The Exchange’s previously announced rate reductions that became effective in the second half of 2020, coupled with the uncertain economic conditions, will likely continue to constrain the Exchange’s premium growth which will impact our management fee revenue. The Exchange’s underwriting profitability has improved largely due to declines in claims frequency. The extent and

duration of changes in consumer behavior and driving patterns and the resulting impact to the Exchange's growth and financial condition remain uncertain.

The economic conditions resulting from the COVID-19 pandemic may negatively impact the collectability of the Exchange's premiums receivable, however no significant impact has been noted through the date of this report. While our investment portfolio was negatively impacted by the volatility in the financial markets in the first quarter of 2020, markets substantially recovered through the remainder of 2020. We are unable to predict the duration or extent of the business disruption or the financial impact given the ongoing development of the pandemic and its impacts on the economy and financial markets.

Note 2. Significant Accounting Policies

Basis of presentation
The accompanying financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP").

Use of estimates
The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Recently adopted accounting standards
We adopted Accounting Standards Update ("ASU") 2016-13, *"Financial Instruments-Credit Losses"* which applies to our receivable from Erie Insurance Exchange and affiliates, agent loans, and investments, on January 1, 2020. The guidance requires financial assets measured at amortized cost to be presented at the net amount expected to be collected through the use of a new forward-looking current expected credit loss model and credit losses relating to available-for-sale debt securities to be recognized through an allowance for credit losses.

For assets measured at amortized cost for which a current expected credit loss allowance was required, we adopted the guidance using the modified-retrospective approach. At January 1, 2020, we recorded current expected credit loss allowances related to agent loans of $0.8 million and receivables from Erie Insurance Exchange and affiliates of $0.6 million. This resulted in the recording of a cumulative effect adjustment, net of taxes, to retained earnings of $1.1 million. Our available-for-sale investments are not measured at amortized cost, and therefore do not require the use of a current expected credit loss model. Any credit losses, however, are required to be recorded as an allowance for credit losses rather than a reduction of the carrying value of the asset. For available-for-sale securities, we adopted the guidance using the prospective approach and recorded an initial allowance for credit losses of $0.6 million at March 31, 2020.

We adopted Accounting Standards Codification ("ASC") 842, *"Leases"* on January 1, 2019 using the optional transition method, which permits entities to apply the new guidance prospectively with certain practical expedients available. We elected the package of practical expedients which among other things allowed us to carry forward the historical lease classifications. We did not elect the hindsight practical expedient in determining the lease term for existing leases. The adoption of the new standard resulted in the recognition of operating lease assets of $32.7 million and operating lease liabilities of $32.1 million on the Statement of Financial Position at January 1, 2019. The adoption of this standard did not have a material impact on our Statement of Operations and had no impact on our net cash flows.

We adopted ASC 606, *"Revenue from Contracts with Customers"* on January 1, 2018, using the modified retrospective method applied to all contracts. Under ASC 606, we determined that we have two performance obligations under the subscriber’s agreement. The first performance obligation is providing policy issuance and renewal services. The second performance obligation is acting as the attorney-in-fact on behalf of the Exchange, as well as the service provider for its insurance subsidiaries, with respect to all administrative services. Upon adoption of ASC 606, the management fee earned per the subscriber’s agreement, currently 25% of all direct and affiliated assumed premiums written by the Exchange, is allocated between the two performance obligations. Prior to the adoption of ASC 606, the entire management fee was allocated to the policy issuance and renewal services. Additionally, the expenses we incur and related reimbursements we receive related to the administrative services are presented gross in our Statement of Operations effective January 1, 2018.

On January 1, 2018, we established a contract liability of $48.5 million representing the portion of revenue not yet earned related to the administrative services to be provided in subsequent years. We recorded a related deferred tax asset of $10.2 million and a cumulative effect adjustment that reduced retained earnings by $38.3 million. The adoption of ASC 606 changed the presentation of our Statement of Cash Flows, but had no net impact to our cash flows.

Cash and cash equivalents – Cash, money market accounts and other short-term, highly liquid investments with a maturity of three months or less at the date of purchase, are considered cash and cash equivalents.

Investments

Available-for-sale securities – Fixed maturity debt securities and redeemable preferred stock are classified as available-for-sale and reported at fair value with unrealized investment gains and losses, net of income taxes, recognized in other comprehensive income. Available-for-sale securities with a remaining maturity of 12 months or less and any security that we intend to sell as of the reporting date are classified as current assets.

Available-for-sale securities in an unrealized loss position are evaluated to determine whether the impairment is a result of credit loss or other factors. If we have the intent to sell or it's more likely than not that we would be required to sell the security before recovery of the amortized cost basis, the entire impairment is recognized in earnings. Securities that have experienced a decline in fair value that we do not intend to sell, and that we will not be required to sell before recovery, are evaluated to determine if the decline in fair value is credit related. Impairment resulting from a credit loss is recognized in earnings with a corresponding allowance on the balance sheet. Future recoveries of credit loss result in an adjustment to the allowance and earnings in the period the credit conditions improve. Factors considered in the evaluation of credit loss include the extent to which fair value is less than cost and fundamental factors specific to the issuer such as financial condition, changes in credit ratings, near and long-term business prospects and other factors, as well as the likelihood of recovery of the amortized cost of the security. If the qualitative review indicates credit impairment, the allowance for credit loss is measured as the amount that the security's amortized cost exceeds the present value of cash flows expected to be collected and is limited to the amount that fair value is below amortized cost.

Equity securities – Non-redeemable preferred and common stocks are classified as equity securities and reported at fair value with changes in fair value recognized in net realized investment gains (losses). Securities that we intend to sell as of the reporting date are classified as current assets.

Realized gains and losses and investment income – Realized gains and losses on sales of available-for-sale and equity securities are recognized in income based upon the specific identification method and reported as net realized investment gains (losses). Interest income is recognized as earned and includes amortization of premium and accretion of discount. Income is recognized based on the constant effective yield method, which includes periodically updated prepayment assumptions obtained from third party data sources on our prepaying securities. The effective yield for prepaying securities is recalculated on a retrospective basis. Dividend income is recognized at the ex-dividend date. Interest and dividend income and the results of our limited partnership investments are reported as net investment income. We do not record an allowance for credit losses on accrued investment income as any amount deemed uncollectible is reversed from interest income in the period the expected payment defaults.

Deferred taxes

Deferred tax assets and liabilities are recorded for temporary differences between the tax basis of assets and liabilities and the reported amounts in the financial statements, using the statutory tax rates in effect for the year in which the differences are expected to settle or be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date under the law. The need for valuation allowances on deferred tax assets are estimated based upon our assessment of the realizability of such amounts.

Fixed assets

Fixed assets are stated at cost less accumulated depreciation and amortization. Fixed assets are primarily comprised of software, which includes internally used capitalized software and development costs, as well as building and building improvements, equipment, furniture and fixtures, and leasehold improvements. Assets in use are depreciated using the straight-line method over the estimated useful life except for leasehold improvements, which are depreciated over the shorter of their economic useful life or the lease term. Software is depreciated over periods ranging from 3-7 years, buildings and building improvements are depreciated over 20-45 years, equipment is depreciated over 3-10 years, and furniture and fixtures are depreciated over 7 years. We review long-lived assets for impairment whenever events or changes indicate that the carrying value may not be recoverable. Under these circumstances, if the fair value were less than the carrying amount of the asset, we would recognize a loss for the difference. We capitalize applicable interest charges incurred during the construction period of significant long-term building projects as part of the historical cost of the asset.

Agent loans

Agent loans, the majority of which are senior secured, are carried at unpaid principal balance with interest recorded in investment income as earned. The current portion of agent loans is recorded in prepaid expenses and other current assets. The adoption of ASU 2016-13 on January 1, 2020 requires the recording of a current expected credit loss allowance on these loans. The allowance is estimated using available loss history and/or external loss rates based on comparable loan losses and considers current conditions and forecasted information. When establishing the expected credit loss allowance upon implementation of ASU 2016-13, a cumulative effect adjustment was recorded to beginning retained earnings. Future changes to the allowance will be recognized in earnings as adjustments to net impairment losses. Prior to the adoption of ASU 2016-13, we did not record an allowance for credit losses as the majority of these loans are senior secured and have had insignificant default amounts.

Other assets

Other assets include operating lease assets, other investments, and other long-term prepaid assets. The determination of whether an arrangement is a lease and the related lease classification is made at inception of a contract. Our leases are classified as operating leases. Operating lease assets and liabilities are recorded at inception based on the present value of the future minimum lease payments over the lease term at commencement date. When an implicit rate for the lease is not available, we use our incremental borrowing rate based on the information available at commencement date to determine the present value of future payments. Lease terms include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Most of our lease contracts contain lease and non-lease components. Non-lease components are expensed as incurred. Operating lease assets are included in other assets, and the current and noncurrent portions of the operating lease liabilities are included in accounts payable and accrued expenses and other long-term liabilities, respectively.

Agent bonus estimates

Our more significant agent bonus plan is based upon an individual agency's property and casualty underwriting profitability and also includes a component for growth in agency property and casualty premiums if the agency's underwriting profitability targets for the book of business are met. The estimate for this agent bonus plan is based upon the performance over 36 months, and is modeled on a monthly basis using actual underwriting results for the two prior years and current year-to-date actual results and forecasted results for the remainder of the year. Our second agent bonus plan is based on an agency's one-year underwriting profitability and uses a similar model but considers actual and forecasted results for a calendar year only. At December 31 of each year, we use actual data available and record an accrual based upon the expected payment amount. These costs are included in cost of operations - policy issuance and renewal services.

Recognition of management fee revenue

We earn management fees from the Exchange under the subscriber’s agreement for services provided. Pursuant to the subscriber’s agreement, we may retain up to 25% of all direct and affiliated assumed premiums written by the Exchange. The management fee rate is set at least annually by our Board of Directors. The management fee revenue is calculated by multiplying the management fee rate by the direct and affiliated assumed premiums written by the Exchange and is allocated between the two performance obligations we have under the subscriber's agreement. The first performance obligation is to provide policy issuance and renewal services. The second performance obligation is acting as the attorney-in-fact with respect to the administrative services.

Management fee revenue allocated to the policy issuance and renewal services is recognized at the time of policy issuance or renewal, because it is at the time of policy issuance or renewal when the economic benefit of the service we provide (the substantially completed policy issuance or renewal service) and the control of the promised asset (the executed insurance policy) transfers to the customer.

Management fee revenue allocated to the second performance obligation relates to us acting as the attorney-in-fact on behalf of the Exchange, as well as the service provider for its insurance subsidiaries, with respect to the administrative services and is recognized over a four-year period representing the time over which the economic benefit of the services provided (i.e. management of the administrative services) transfers to the customer.

Administrative services

By virtue of its legal structure as a reciprocal insurer, the Exchange does not have any employees or officers. Therefore, it enters into contractual relationships by and through an attorney-in-fact. Indemnity serves as the attorney-in-fact on behalf of the Exchange with respect to its administrative services in accordance with the subscriber's agreement. The Exchange's insurance subsidiaries also utilize Indemnity for these services in accordance with the service agreements between each of the subsidiaries and Indemnity. Claims handling services include costs incurred in the claims process, including the adjustment, investigation, defense, recording and payment functions. Life insurance management services include costs incurred in the management and processing of life insurance business. Investment management services are related to investment trading activity, accounting and all other functions attributable to the investment of funds. Included in these expenses are allocations of costs for departments that support these administrative functions. Common overhead expenses and certain service department costs incurred by us on behalf of the Exchange and its insurance subsidiaries are reimbursed by the proper entity based upon appropriate utilization statistics (employee count, square footage, vehicle count, project hours, etc.) specifically measured to accomplish proportional allocations, which we believe are reasonable. The expenses we incur and related reimbursements we receive for administrative services are presented gross in our Statement of Operations. Reimbursements are settled on a monthly basis. The amounts incurred for these services are reimbursed to Indemnity at cost in accordance with the subscriber's agreement and the service agreements. State insurance regulations require that intercompany service agreements and any material amendments be approved in advance by the state insurance department.

Recognition of service agreement revenue

Service agreement revenue consists of service charges we collect from policyholders for providing multiple payment plans on policies written by the Exchange and its property and casualty subsidiaries. Service charges, which are flat dollar charges for each installment billed beyond the first installment, are recognized as revenue when bills are rendered to the policyholder. Service agreement revenue also includes late payment and policy reinstatement fees, which are also recognized as revenue when bills are rendered to the policyholder.

Reclassifications

Certain amounts previously reported in the 2019 and 2018 financial statements have been reclassified for comparative purposes to conform to the current period’s presentation. “Limited partnership investments” has now been combined within “Other assets” in the Statements of Financial Position and “Equity in earnings (losses) of limited partnerships” is now included in “Net investment income” in the Statements of Operations. The reclassifications had no effect on previously reported net income.

Note 3. Revenue

The majority of our revenue is derived from the subscriber’s agreement between us and the subscribers (policyholders) at the Exchange. Pursuant to the subscriber’s agreement, we earn a management fee calculated as a percentage, not to exceed 25%, of all direct and affiliated assumed written premiums of the Exchange.

We allocate a portion of our management fee revenue, currently 25% of the direct and affiliated assumed written premiums of the Exchange, between the two performance obligations we have under the subscriber’s agreement. The first performance obligation is to provide policy issuance and renewal services to the subscribers (policyholders) at the Exchange, and the second is to act as attorney-in-fact on behalf of the Exchange, as well as the service provider for its insurance subsidiaries, with respect to all administrative services. The transaction price, including management fee revenue and administrative service reimbursement revenue, is allocated based on the estimated standalone selling prices developed using industry information and other available information for similar services. We update the transaction price allocation annually based upon the most recent information available or more frequently if there have been significant changes in any components considered in the transaction price. In 2020, we reviewed the transaction price allocation quarterly to consider the most current economic conditions related to the COVID-19 pandemic. The reviews resulted in no material change to the allocation.

The first performance obligation is to provide policy issuance and renewal services that result in executed insurance policies between the Exchange or one of its insurance subsidiaries and the subscriber (policyholder). The subscriber (policyholder), receives economic benefits when substantially all the policy issuance or renewal services are complete and an insurance policy is issued or renewed by the Exchange or one of its insurance subsidiaries. It is at the time of policy issuance or renewal that the allocated portion of revenue is recognized.

The Exchange, by virtue of its legal structure as a reciprocal insurer, does not have any employees or officers. Therefore, it enters into contractual relationships by and through an attorney-in-fact. Indemnity serves as the attorney-in-fact on behalf of the Exchange with respect to its administrative services in accordance with the subscriber's agreement. The Exchange's insurance subsidiaries also utilize Indemnity for these services in accordance with the service agreements between each of the subsidiaries and Indemnity. Collectively, these services represent a second performance obligation under the subscriber’s agreement and the service agreements. The revenue allocated to this performance obligation is recognized over time as these services are provided. The portion of revenue not yet earned is recorded as a contract liability in the Statements of Financial Position. The administrative services expenses we incur and the related reimbursements we receive are recorded gross in the Statements of Operations.

Indemnity records a receivable from the Exchange for management fee revenue when the premium is written or assumed from affiliates by the Exchange. Indemnity collects the management fee from the Exchange when the Exchange collects the premiums from the subscribers (policyholders). As the Exchange issues policies with annual terms only, cash collections generally occur within one year.

The amount of management fee revenue we receive can vary due to the potential of mid-term cancellations. Management fees are returned to the Exchange when policyholders cancel their insurance coverage mid-term and unearned premiums are refunded to them. We maintain an estimated allowance to reduce the management fee to its estimated net realizable value to account for the potential of mid-term policy cancellations based on historical cancellation rates. In 2020, our historical cancellation rates were adjusted to include the potential for increased cancellations given the current economic conditions related to the COVID-19 pandemic. This estimated allowance has been allocated between the two performance obligations consistent with the revenue allocation proportions.

The following table disaggregates revenue by our two performance obligations for the years ended December 31:

(in thousands)	2020	2019	2018
Management fee revenue - policy issuance and renewal services, net	$ 1,841,794	$ 1,810,457	$ 1,719,567
Management fee revenue - administrative services, net	59,463	57,204	53,632
Administrative services reimbursement revenue	609,435	582,010	580,336
Total administrative services	$ 668,898	$ 639,214	$ 633,968

Note 4. Earnings Per Share

Class A and Class B basic earnings per share and Class B diluted earnings per share are calculated under the two-class method. The two-class method allocates earnings to each class of stock based upon its dividend rights. Class B shares are convertible into Class A shares at a conversion ratio of 2,400 to 1. See Note 13, "Capital Stock".

Class A diluted earnings per share are calculated under the if-converted method, which reflects the conversion of Class B shares to Class A shares. Diluted earnings per share calculations include the dilutive effect of assumed issuance of stock-based awards under compensation plans that have the option to be paid in stock using the treasury stock method. See Note 11, "Incentive and Deferred Compensation Plans".

A reconciliation of the numerators and denominators used in the basic and diluted per-share computations is presented as follows for each class of common stock:

(dollars in thousands, except per share data)	For the years ended December 31,								
	2020			2019			2018		
	Allocated net income (numerator)	Weighted shares (denominator)	Per- share amount	Allocated net income (numerator)	Weighted shares (denominator)	Per- share amount	Allocated net income (numerator)	Weighted shares (denominator)	Per- share amount
Class A – Basic EPS:									
Income available to Class A stockholders	$ 290,902	46,188,659	$ 6.30	$ 314,227	46,188,836	$ 6.80	$ 285,864	46,188,637	$ 6.19
Dilutive effect of stock-based awards	0	23,901	—	0	30,224	—	0	25,776	—
Assumed conversion of Class B shares	2,402	6,100,800	—	2,594	6,100,800	—	2,360	6,100,800	—
Class A – Diluted EPS:									
Income available to Class A stockholders on Class A equivalent shares	$ 293,304	52,313,360	$ 5.61	$ 316,821	52,319,860	$ 6.06	$ 288,224	52,315,213	$ 5.51
Class B – Basic EPS:									
Income available to Class B stockholders	$ 2,402	2,542	$ 945	$ 2,594	2,542	$ 1,020	$ 2,360	2,542	$ 928
Class B – Diluted EPS:									
Income available to Class B stockholders	$ 2,401	2,542	$ 945	$ 2,593	2,542	$ 1,020	$ 2,359	2,542	$ 928

Note 5. Fair Value

Financial instruments carried at fair value
Our available-for-sale and equity securities are recorded at fair value, which is the price that would be received to sell the asset in an orderly transaction between willing market participants as of the measurement date.

Valuation techniques used to derive the fair value of our available-for-sale and equity securities are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources. Unobservable inputs reflect our own assumptions regarding fair market value for these securities. Financial instruments are categorized based upon the following characteristics or inputs to the valuation techniques:

- Level 1 – Quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

- Level 2 – Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

- Level 3 – Unobservable inputs for the asset or liability.

Estimates of fair values for our investment portfolio are obtained primarily from a nationally recognized pricing service. Our Level 1 securities are valued using an exchange traded price provided by the pricing service. Pricing service valuations for Level 2 securities include multiple verifiable, observable inputs including benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data. Pricing service valuations for Level 3 securities are based upon proprietary models and are used when observable inputs are not available or in illiquid markets.

Although virtually all of our prices are obtained from third party sources, we also perform internal pricing reviews, including evaluating the methodology and inputs used to ensure that we determine the proper classification level of the financial instrument and reviewing securities with price changes that vary significantly from current market conditions or independent price sources. Price variances are investigated and corroborated by market data and transaction volumes. We have reviewed the pricing methodologies of our pricing service as well as other observable inputs and believe that the prices adequately consider market activity in determining fair value.

In limited circumstances we adjust the price received from the pricing service when, in our judgment, a better reflection of fair value is available based upon corroborating information and our knowledge and monitoring of market conditions such as a disparity in price of comparable securities and/or non-binding broker quotes. In other circumstances, certain securities are internally priced because prices are not provided by the pricing service.

When a price from the pricing service is not available, values are determined by obtaining broker/dealer quotes and/or market comparables. When available, we obtain multiple quotes for the same security. The ultimate value for these securities is determined based upon our best estimate of fair value using corroborating market information. As of December 31, 2020, nearly all of our available-for-sale and equity securities were priced using a third party pricing service.

The following tables present our fair value measurements on a recurring basis by asset class and level of input as of:

	December 31, 2020			
(in thousands)	Total	Level 1	Level 2	Level 3
Available-for-sale securities:				
Corporate debt securities	$ 566,425	$ 1,281	$ 559,319	$ 5,825
Residential mortgage-backed securities	112,179	0	111,242	937
Commercial mortgage-backed securities	120,201	0	100,739	19,462
Collateralized debt obligations	110,447	0	110,447	0
Other debt securities	18,984	0	18,984	0
Total available-for-sale securities	928,236	1,281	900,731	26,224
Equity securities - nonredeemable preferred and common stock:				
Financial services sector	76,575	24,981	51,594	0
Utilities sector	8,742	3,957	4,785	0
Consumer sector	3,068	576	2,492	0
Communications sector	2,699	2,699	0	0
Energy sector	2,206	676	1,530	0
Industrial sector	800	800	0	0
Total equity securities	94,090	33,689	60,401	0
Total	$ 1,022,326	$ 34,970	$ 961,132	$ 26,224

	December 31, 2019			
(in thousands)	Total	Level 1	Level 2	Level 3
Available-for-sale securities:				
Corporate debt securities	$ 454,880	$ 2,683	$ 443,873	$ 8,324
Residential mortgage-backed securities	125,343	0	125,343	0
Commercial mortgage-backed securities	67,541	0	64,220	3,321
Collateralized debt obligations	77,856	0	77,856	0
Other debt securities	5,081	0	5,081	0
Total available-for-sale securities	730,701	2,683	716,373	11,645
Equity securities - nonredeemable preferred and common stock:				
Financial services sector	53,513	14,927	38,586	0
Utilities sector	6,818	3,190	3,628	0
Communications sector	3,433	3,433	0	0
Energy sector	1,881	0	1,881	0
Industrial sector	980	0	980	0
Consumer sector	508	0	508	0
Total equity securities	67,133	21,550	45,583	0
Total	$ 797,834	$ 24,233	$ 761,956	$ 11,645

We review the fair value hierarchy classifications each reporting period. Transfers between hierarchy levels may occur due to changes in available market observable inputs.

Level 3 Assets – Year-to-Date Change:

(in thousands)	Beginning balance at December 31, 2019	Included in earnings[(1)]	Included in other comprehensive income	Purchases	Sales	Transfers into Level 3[(2)]	Transfers out of Level 3[(2)]	Ending balance at December 31, 2020
Available-for-sale securities:								
Corporate debt securities	$ 8,324	$ (2)	$ (156)	$ 7,180	$ (1,405)	$ 10,526	$ (18,642)	$ 5,825
Residential mortgage-backed securities	0	(19)	(48)	287	(1,539)	11,496	(9,240)	937
Commercial mortgage-backed securities	3,321	(183)	913	12,281	(2,334)	39,591	(34,127)	19,462
Collateralized debt obligations	0	0	3	247	0	0	(250)	0
Total available-for-sale securities	11,645	(204)	712	19,995	(5,278)	61,613	(62,259)	26,224
Nonredeemable preferred stock	0	151	0	2,836	0	0	(2,987)	0
Total Level 3 securities	$ 11,645	$ (53)	$ 712	$ 22,831	$ (5,278)	$ 61,613	$ (65,246)	$ 26,224

Level 3 Assets – Year-to-Date Change:

(in thousands)	Beginning balance at December 31, 2018	Included in earnings[(1)]	Included in other comprehensive income	Purchases	Sales	Transfers into Level 3[(2)]	Transfers out of Level 3[(2)]	Ending balance at December 31, 2019
Available-for-sale securities:								
Corporate debt securities	$ 12,577	$ 10	$ 146	$ 2,020	$ (7,415)	$ 11,542	$ (10,556)	$ 8,324
Residential mortgage-backed securities	0	4	15	921	(32)	0	(908)	0
Commercial mortgage-backed securities	0	(9)	(21)	478	(1,068)	7,281	(3,340)	3,321
Collateralized debt obligations	0	0	1	2,300	0	0	(2,301)	0
Total Level 3 available-for-sale securities	$ 12,577	$ 5	$ 141	$ 5,719	$ (8,515)	$ 18,823	$ (17,105)	$ 11,645

(1) These amounts are reported as net investment income and net realized investment gains (losses) for each of the periods presented above.

(2) Transfers into and/or (out) of Level 3 are primarily attributable to the availability of market observable information and the re-evaluation of the observability of pricing inputs.

Financial instruments not carried at fair value

The following table presents the carrying values and fair values of financial instruments categorized as Level 3 in the fair value hierarchy that are recorded at carrying value as of:

	December 31, 2020		December 31, 2019	
(in thousands)	Carrying Value	Fair Value	Carrying Value	Fair Value
Agent loans [(1)]	$ 69,212	$ 73,854	$ 67,696	$ 71,602
Long-term borrowings [(2)]	96,113	113,054	98,080	101,888

(1) The discount rate used to calculate fair value at December 31, 2020 is reflective of an increase in the BB+ financial yield curve due to the market volatility resulting from the COVID-19 pandemic.

(2) The discount rate used to calculate fair value at December 31, 2020 is reflective of a decline in U.S. Treasury bond yields due to the market volatility resulting from the COVID-19 pandemic.

Note 6. Investments

Available-for-sale securities

See Note 5, "Fair Value" for additional fair value disclosures. The following tables summarize the cost and fair value, net of credit loss allowance, of our available-for-sale securities as of:

	December 31, 2020			
(in thousands)	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
Corporate debt securities	$ 546,096	$ 21,843	$ 1,514	$ 566,425
Residential mortgage-backed securities	108,840	3,373	34	112,179
Commercial mortgage-backed securities	115,346	5,090	235	120,201
Collateralized debt obligations	110,121	657	331	110,447
Other debt securities	18,387	606	9	18,984
Total available-for-sale securities, net	$ 898,790	$ 31,569	$ 2,123	$ 928,236

	December 31, 2019			
(in thousands)	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
Corporate debt securities	$ 450,295	$ 6,289	$ 1,704	$ 454,880
Residential mortgage-backed securities	124,337	1,056	50	125,343
Commercial mortgage-backed securities	67,210	479	148	67,541
Collateralized debt obligations	78,059	44	247	77,856
Other debt securities	5,049	71	39	5,081
Total available-for-sale securities, net	$ 724,950	$ 7,939	$ 2,188	$ 730,701

The amortized cost and estimated fair value of available-for-sale securities at December 31, 2020, are shown below by remaining contractual term to maturity. Expected maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

	December 31, 2020	
(in thousands)	Amortized cost	Estimated fair value
Due in one year or less	$ 17,393	$ 17,553
Due after one year through five years	419,019	435,504
Due after five years through ten years	185,849	189,711
Due after ten years	276,529	285,468
Total available-for-sale securities (1)	$ 898,790	$ 928,236

(1) The contractual maturities of our available-for-sale securities are included in the table. However, given our intent to sell certain impaired securities, these securities are classified as current assets in our Statements of Financial Position at December 31, 2020.

The below securities have been evaluated and determined to be temporary declines in fair value for which we expect to recover our entire principal plus interest. The following tables present available-for-sale securities based on length of time in a gross unrealized loss position as of:

	December 31, 2020						
	Less than 12 months		12 months or longer		Total		
(dollars in thousands)	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses	No. of holdings
Corporate debt securities	$ 39,693	$ 644	$ 7,952	$ 870	$ 47,645	$ 1,514	257
Residential mortgage-backed securities	8,163	34	0	0	8,163	34	13
Commercial mortgage-backed securities	16,582	235	0	0	16,582	235	31
Collateralized debt obligations	50,036	232	10,899	99	60,935	331	65
Other debt securities	1,019	9	0	0	1,019	9	4
Total available-for-sale securities	$ 115,493	$ 1,154	$ 18,851	$ 969	$ 134,344	$ 2,123	370
Quality breakdown of available-for-sale securities:							
Investment grade	$ 86,807	$ 561	$ 10,899	$ 99	$ 97,706	$ 660	119
Non-investment grade	28,686	593	7,952	870	36,638	1,463	251
Total available-for-sale securities	$ 115,493	$ 1,154	$ 18,851	$ 969	$ 134,344	$ 2,123	370

	December 31, 2019						
	Less than 12 months		12 months or longer		Total		
(dollars in thousands)	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses	No. of holdings
Corporate debt securities	$ 25,804	$ 342	$ 15,699	$ 1,362	$ 41,503	$ 1,704	158
Residential mortgage-backed securities	16,712	50	0	0	16,712	50	7
Commercial mortgage-backed securities	21,981	147	372	1	22,353	148	30
Collateralized debt obligations	20,889	33	41,010	214	61,899	247	49
Other debt securities	2,350	39	0	0	2,350	39	2
Total available-for-sale securities	$ 87,736	$ 611	$ 57,081	$ 1,577	$ 144,817	$ 2,188	246
Quality breakdown of available-for-sale securities:							
Investment grade	$ 76,315	$ 287	$ 46,390	$ 218	$ 122,705	$ 505	100
Non-investment grade	11,421	324	10,691	1,359	22,112	1,683	146
Total available-for-sale securities	$ 87,736	$ 611	$ 57,081	$ 1,577	$ 144,817	$ 2,188	246

Credit loss allowance on investments

As of December 31, 2020, the current expected credit loss allowance on agent loans is $1.1 million and the credit loss allowance on available-for-sale securities is $0.2 million.

Net investment income

Investment income, net of expenses, was generated from the following portfolios for the years ended December 31:

(in thousands)	2020	2019	2018
Available-for-sale securities [(1)]	$ 22,631	$ 22,496	$ 24,978
Equity securities	4,147	1,418	628
Cash equivalents and other	4,436	11,206	4,806
Total investment income	31,214	35,120	30,412
Less: investment expenses	1,461	1,061	1,025
Investment income, net of expenses	$ 29,753	$ 34,059	$ 29,387

(1) Includes interest earned on note receivable from EFL of $1.6 million in 2018. The note was repaid in full in 2018.

Realized investment gains (losses)

Realized gains (losses) on investments were as follows for the years ended December 31:

(in thousands)	2020	2019	2018
Available-for-sale securities:			
Gross realized gains	$ 3,920	$ 6,258	$ 1,892
Gross realized losses	(2,585)	(1,639)	(3,189)
Net realized gains (losses) on available-for-sale securities	1,335	4,619	(1,297)
Equity securities	5,056	1,484	(819)
Miscellaneous	1	0	106
Net realized investment gains (losses)	$ 6,392	$ 6,103	$ (2,010)

The portion of net unrealized gains and losses recognized during the reporting period related to equity securities held at the reporting date is calculated as follows for the years ended December 31:

(in thousands)	2020	2019	2018
Equity securities:			
Net gains (losses) recognized during the period	$ 5,056	$ 1,484	$ (819)
Less: net (losses) gains recognized on securities sold	(469)	360	(86)
Net unrealized gains (losses) recognized on securities held at reporting date	$ 5,525	$ 1,124	$ (733)

Net impairment losses recognized in earnings

Upon adoption of ASU 2016-13 on January 1, 2020, impairments on available-for-sale securities that are deemed to be credit related are recognized in earnings with a corresponding available-for-sale security allowance. All unrealized losses related to factors other than credit are recorded in other comprehensive income. Prior to January 1, 2020, we had the intent to sell all credit-impaired available-for-sale securities; therefore, the entire amount of the impairment charges was included in earnings and no impairments were recognized in other comprehensive income. See also Note 2, "Significant Accounting Policies".

Impairments on available-for-sale securities and agent loans were as follows for the years ended December 31:

(in thousands)	2020	2019	2018
Available-for-sale securities:			
Intent to sell	$ 2,274	$ 195	$ 1,581
Credit impaired	707	—	—
Total available-for-sale securities	2,981	195	1,581
Agent loans - expected credit losses	297	—	—
Net impairment losses recognized in earnings	$ 3,278	$ 195	$ 1,581

Note 7. Fixed Assets

The following table summarizes our fixed assets by category as of December 31:

(in thousands)	2020	2019
Software	$ 196,139	$ 191,709
Land, buildings, and building improvements	121,332	5,068
Equipment	37,426	14,546
Furniture and fixtures	20,998	1,934
Leasehold improvements	1,313	1,313
Projects in progress	47,277	22,992
Construction in progress	—	122,801
Total fixed assets, gross	424,485	360,363
Less: Accumulated depreciation and amortization	(159,144)	(138,984)
Fixed assets, net	$ 265,341	$ 221,379

Land, buildings, and building improvements, equipment, and furniture and fixtures increased due to the completion of a new office building serving as part of our principal headquarters in the fourth quarter of 2020. The building was financed using a senior secured draw term loan credit facility. See Note 9, "Borrowing Arrangements". Interest capitalized during construction was $3.5 million, $3.4 million, and $1.5 million for the years ended December 31, 2020, 2019 and 2018, respectively. Projects in progress include certain computer software and software developments costs for internal use that are not yet subject to amortization. Depreciation and amortization of fixed assets totaled $21.2 million, $16.8 million and $13.4 million for the years ended December 31, 2020, 2019 and 2018, respectively, and is included in cost of operations - policy issuance and renewal services.

Note 8. Leases

The following table summarizes our lease assets and liabilities as of December 31:

(in thousands)	2020	2019
Operating lease assets	$ 14,381	$ 22,401
Operating lease liabilities - current	$ 10,713	$ 11,289
Operating lease liabilities - long-term	3,643	10,665
Total operating lease liabilities	$ 14,356	$ 21,954

We currently have leases for real estate, technology equipment, copiers, and vehicles. Our largest operating lease asset at December 31, 2020 of $6.3 million is for office space leased from the Exchange, including the home office. Under this lease, rent is based on rental rates of like property and all operating expenses are the responsibility of the tenant (Indemnity). The lease agreement expires December 31, 2021. See Note 15, "Related Party".

Operating lease costs for the years ended December 31, 2020 and 2019 totaled $13.1 million and $14.0 million, respectively. Of this amount, the Exchange and its subsidiaries reimbursed us $5.3 million and $6.0 million for the years ended December 31, 2020 and 2019, respectively, which represents the allocated share of lease costs supporting administrative services activities.

Note 9. Borrowing Arrangements

Bank Line of Credit
As of December 31, 2020, we have access to a $100 million bank revolving line of credit with a $25 million letter of credit sublimit that expires on October 30, 2023. As of December 31, 2020, a total of $99.1 million remains available under the facility due to $0.9 million outstanding letters of credit, which reduces the availability for letters of credit to $24.1 million. We had no borrowings outstanding on our line of credit as of December 31, 2020. Investments with a fair value of $124.9 million were pledged as collateral on the line at December 31, 2020. The securities pledged as collateral have no trading restrictions and are reported as available-for-sale securities and cash and cash equivalents as of December 31, 2020. The banks require compliance with certain covenants, which include leverage ratios and debt restrictions, for our line of credit. We are in compliance with all covenants at December 31, 2020.

Term Loan Credit Facility
In 2016, we entered into a credit agreement for a $100 million senior secured draw term loan credit facility ("Credit Facility") for the acquisition of real property and construction of an office building to serve as part of our principal headquarters. On January 1, 2019, the Credit Facility converted to a fully-amortized term loan with monthly payments of principal and interest at a fixed rate of 4.35% over a period of 28 years. Investments with a fair value of $126.5 million were pledged as collateral for the facility and are reported as available-for-sale securities and cash and cash equivalents as of December 31, 2020. The bank requires compliance with certain covenants, which include leverage ratios, debt restrictions and minimum net worth, for our Credit Facility. We are in compliance with all covenants at December 31, 2020.

The remaining unpaid balance from the Credit Facility is reported at carrying value, net of unamortized loan origination and commitment fees as long-term borrowings. See Note 5, "Fair Value" for the estimated fair value of these borrowings.

Annual principal payments
The following table sets forth future principal payments:

(in thousands)

Year	Principal payments
2021	$ 2,031
2022	2,109
2023	2,226
2024	2,302
2025	2,449
Thereafter	84,996

Note 10. Postretirement Benefits

Pension plans
Our pension plans consist of a noncontributory defined benefit pension plan covering substantially all employees and an unfunded supplemental employee retirement plan ("SERP") for certain members of executive and senior management. The pension plans provide benefits to covered individuals satisfying certain age and service requirements. The defined benefit pension plan and SERP each provide benefits through a final average earnings formula.

Although we are the sponsor of these postretirement plans and record the funded status of these plans, the Exchange and its subsidiaries reimburse us for approximately 59% of the annual benefit expense of these plans, which represents pension benefits for employees performing administrative services and their allocated share of costs for employees in departments that support the administrative functions. For our funded pension plan, amounts are settled in cash for the portion of pension costs allocated to the Exchange and its subsidiaries. For our unfunded plans, we pay the obligations when due and amounts are settled in cash between entities when there is a payout.

Cost of pension plans
Pension plan cost includes the following components:

(in thousands)

	2020	2019	2018
Service cost for benefits earned	$ 43,492	$ 33,854	$ 38,052
Interest cost on benefit obligation	37,578	39,306	35,382
Expected return on plan assets	(49,411)	(47,484)	(51,260)
Prior service cost amortization	1,343	1,394	1,353
Net actuarial loss amortization	12,125	5,113	12,809
Pension plan cost (1)	$ 45,127	$ 32,183	$ 36,336

(1) Pension plan costs represent the total cost before reimbursements to Indemnity from the Exchange and its subsidiaries.

Actuarial assumptions
The following table describes the assumptions at December 31 used to measure the year-end obligations and the net periodic benefit costs for the subsequent year:

	2020	2019	2018	2017
Employee pension plan:				
Discount rate	2.96 %	3.59 %	4.47 %	3.73 %
Expected return on assets	6.00	6.00	6.75	6.75
Compensation increases (1)	3.21	3.21	3.32	3.32
SERP:				
Discount rate – pre-retirement/post-retirement (2)	2.86	3.59/3.09	4.47/3.97	3.73/3.23
Rate of compensation increase	5.00	5.00	5.00	5.00

(1) The rate of compensation increase for the employee plan is age-graded. An equivalent single compensation increase rate of 3.21% in 2020 and 2019 and 3.32% in 2018 would produce similar results.

(2) In 2020, the SERP discount rate methodology was revised to utilize SERP specific cash outflows independent of the employee pension plan discount rate, eliminating a difference between pre-retirement and post-retirement rates.

The economic assumptions that have the most impact on the postretirement benefits expense are the discount rate and the long-term rate of return on plan assets. The discount rate assumption used to determine the benefit obligation for all periods presented was based upon a yield curve developed from corporate bond yield information.

The pension plan's expected long-term rate of return represents the average rate of return to be earned on plan assets over the period the benefits included in the benefit obligation are to be paid. To determine the expected long-term rate of return assumption, we utilized models based upon rigorous historical analysis and forward-looking views of the financial markets based upon key factors such as historical returns for the asset class' applicable indices, the correlations of the asset classes under various market conditions and consensus views on future real economic growth and inflation. The expected future return for each asset class is then combined by considering correlations between asset classes and the volatilities of each asset class to produce a reasonable range of asset return results within which our expected long-term rate of return assumption falls.

Funding policy/funded status

In 2018, we made accelerated pension contributions totaling $80 million. Following our 2018 contributions, we would not expect to make a subsequent contribution until the sum of the target normal costs for plan years beginning on and after December 31, 2017 exceeds $80 million, or earlier if a contribution is necessary to fund the plan to 100%. At that time, our funding policy will again generally be to contribute an amount equal to the greater of the target normal cost for the plan year, or the amount necessary to fund the plan to 100%. Additional contributions may be necessary or desirable due to future plan changes, our particular business or investment strategy, or pending law changes. The following table sets forth the funded status of the pension plans and the amounts recognized in the Statements of Financial Position at December 31:

(in thousands)

	2020	2019
Funded status at end of year	$ (165,098)	$ (146,842)
Pension liabilities – due within one year [1]	$ (752)	$ (1,183)
Pension liabilities – due after one year	(164,346)	(145,659)
Net amount recognized	$ (165,098)	$ (146,842)

(1) The current portion of pension liabilities is included in accounts payable and accrued liabilities.

Benefit obligations

Benefit obligations are described in the following tables. Accumulated and projected benefit obligations represent the obligations of a pension plan for past service as of the measurement date. The accumulated benefit obligation is the present value of pension benefits earned as of the measurement date based on employee service and compensation prior to that date. It differs from the projected benefit obligation in that the accumulated benefit obligation includes no assumptions to reflect expected future compensation. The following table sets forth a reconciliation of beginning and ending balances of the projected benefit obligation, as well as the accumulated benefit obligation at December 31:

(in thousands)

	2020	2019
Projected benefit obligation, beginning of year	$ 1,054,467	$ 886,165
Service cost for benefits earned	43,492	33,854
Interest cost on benefit obligation	37,578	39,306
Plan amendments	0	452
Actuarial loss	134,470	138,144
Benefits paid	(23,848)	(43,454)
Projected benefit obligation, end of year	$ 1,246,159	$ 1,054,467
Accumulated benefit obligation, end of year	$ 1,006,884	$ 858,209

Projected benefit obligations increased $191.7 million at December 31, 2020 compared to December 31, 2019 due primarily to actuarial losses resulting from the lower discount rate used to measure the future benefit obligations. The discount rate decreased to 2.96% in 2020 from 3.59% in 2019. The decrease in benefits paid of $19.6 million in 2020 compared to 2019 was primarily due to a pension plan amendment made in 2019 offering a one-time lump sum payment to former vested employees.

Both the defined benefit plan and the SERP had projected benefit obligations in excess of plan assets at December 31:

(in thousands)	Projected Benefit Obligation in Excess of Plan Assets	
	2020	2019
Projected benefit obligation	$ 1,246,159	$ 1,054,467
Plan assets	1,081,061	907,625

The SERP had accumulated benefit obligations in excess of plan assets at December 31:

(in thousands)	Accumulated Benefit Obligation in Excess of Plan Assets	
	2020	2019
Accumulated benefit obligation	$ 26,462	$ 23,411
Plan assets	—	—

Pension assets

The following table sets forth a reconciliation of beginning and ending balances of the fair value of plan assets at December 31:

(in thousands)	2020	2019
Fair value of plan assets, beginning of year	$ 907,625	$ 767,569
Actual gain on plan assets	195,713	182,002
Employer contributions	1,571	1,508
Benefits paid	(23,848)	(43,454)
Fair value of plan assets, end of year	$ 1,081,061	$ 907,625

Accumulated other comprehensive loss

Net actuarial loss and prior service cost included in accumulated other comprehensive loss that were not yet recognized as components of net benefit costs were as follows:

(in thousands)	2020	2019
Net actuarial loss	$ 118,721	$ 142,678
Prior service cost	9,570	10,913
Net amount not yet recognized	$ 128,291	$ 153,591

Other comprehensive income

Amounts recognized in other comprehensive income for pension plans were as follows:

(in thousands)	2020	2019
Net actuarial (gain) loss arising during the year	$ (11,832)	$ 3,626
Amortization of net actuarial loss	(12,125)	(5,113)
Amortization of prior service cost	(1,343)	(1,394)
Amendments (1)	0	452
Total recognized in other comprehensive income	$ (25,300)	$ (2,429)

(1) In 2019, there was one new SERP participant.

Asset allocation
The employee pension plan utilizes a return seeking and a liability asset matching allocation strategy. It is based upon the understanding that 1) equity investments are expected to outperform debt investments over the long-term, 2) the potential volatility of short-term returns from equities is acceptable in exchange for the larger expected long-term returns, and 3) a portfolio structured across investment styles and markets (both domestic and foreign) reduces volatility. As a result, the employee pension plan's investment portfolio utilizes a broadly diversified asset allocation across domestic and foreign equity and debt markets. The investment portfolio is composed of commingled pools and a separate account that are dedicated exclusively to the management of employee benefit plan assets.

The target and actual asset allocations for the portfolio are as follows for the years ended December 31:

	Target asset allocation	Target asset allocation	Actual asset allocation	Actual asset allocation
Asset allocation:	2020	2019	2020	2019
Equity securities:				
U.S. equity securities	27 % [(1)]	27 %	28 %	28 %
Non-U.S. equity securities	18 [(2)]	18	18	18
Total equity securities	45	45	46	46
Debt securities	54 [(3)]	54	53	53
Other	1 [(4)]	1	1	1
Total	100 %	100 %	100 %	100 %

(1) U.S. equity securities – 23% seek to achieve excess returns relative to the Russell 2000 Index. The remaining 77% of the allocation to U.S. equity securities are comprised of equity index funds that track the S&P 500.

(2) Non-U.S. equity securities – 11% are allocated to international small cap investments, while another 21% are allocated to international emerging market investments. The remaining 68% of the Non-U.S. equity securities are allocated to investments seeking to achieve excess returns relative to an international market index.

(3) Debt securities – 33% are allocated to long U.S. Treasury Strips, 67% are allocated to U.S. corporate bonds with an emphasis on long duration bonds rated A or better.

(4) Institutional money market fund.

The following tables present fair value measurements for the pension plan assets by major category and level of input as of:

(in thousands)	December 31, 2020 Fair value measurements of plan assets using: Total	Level 1	Level 2	Level 3
Equity securities:				
U.S. equity securities	$ 296,624	$ 0	$ 296,624	$ 0
Non-U.S. equity securities	196,971	134,841	62,130	0
Total equity securities	493,595	134,841	358,754	0
Debt securities	574,910	0	574,910	0
Other	12,556	12,556	0	0
Total	$ 1,081,061	$ 147,397	$ 933,664	$ 0

(in thousands)	December 31, 2019 Fair value measurements of plan assets using: Total	Level 1	Level 2	Level 3
Equity securities:				
U.S. equity securities	$ 248,585	$ 0	$ 248,585	$ 0
Non-U.S. equity securities	165,752	0	165,752	0
Total equity securities	414,337	0	414,337	0
Debt securities	482,497	0	482,497	0
Other	10,791	10,791	0	0
Total	$ 907,625	$ 10,791	$ 896,834	$ 0

Estimates of fair values of the pension plan assets are obtained primarily from the trustee and custodian of our pension plan. Our Level 1 category includes a money market mutual fund and a separate account for which the fair value is determined using an exchange traded price provided by the trustee and custodian. Our Level 2 category includes commingled pools. Estimates of fair values for securities held by our commingled pools are obtained primarily from the trustee and custodian. Trustee and custodian valuation methodologies for Level 2 securities include multiple verifiable, observable inputs including benchmark yields, reported trades, broker/dealer quotes, issuers spreads, two-sided markets, benchmark securities, bids, offers, and reference data.

Estimated future benefit payments

The following table sets forth amounts of benefits expected to be paid over the next 10 years from our pension plans as of:

(in thousands) Year ending December 31,	Expected future benefit payments
2021	$ 25,940
2022	29,162
2023	33,450
2024	36,643
2025	40,136
2026 - 2030	248,536

Employee savings plan
All full-time and regular part-time employees are eligible to participate in a qualified 401(k) savings plan. We match 100% of the participant contributions up to 3% of compensation and 50% of participant contributions over 3% and up to 5% of compensation. Matching contributions paid to the plan were $15.8 million in 2020, $14.9 million in 2019, and $13.9 million in 2018. In 2018, we made an additional discretionary employer contribution of $5.4 million, as a way of sharing the tax savings realized from the lower corporate income tax rate that became effective January 1, 2018 with our employees. The Exchange and its subsidiaries reimbursed us for approximately 59% of the matching and discretionary contributions. Employees are permitted to invest the employer-matching contributions in our Class A common stock. Employees, other than executive and senior officers, may sell the shares at any time without restriction, provided they are in compliance with applicable insider trading laws; sales by executive and senior officers are subject to additional pre-clearance restrictions imposed by our insider trading policies. The plan acquires shares in the open market necessary to meet the obligations of the plan. Plan participants held 0.2 million shares of our Class A common stock at December 31, 2020 and 2019.

Note 11. Incentive and Deferred Compensation Plans

We have two incentive plans and two deferred compensation plans for our executives, senior vice presidents and other selected officers, and two deferred compensation plans for our outside directors.

Annual incentive plan
Our annual incentive plan ("AIP") is a bonus plan that pays cash to our executives, senior vice presidents and other selected officers annually. Participants can elect to defer up to 100% of the award under either the deferred compensation plan or the incentive compensation deferral plan. If the funding qualifier is met, plan participants are eligible to receive the incentive based upon attainment of corporate and individual performance measures, which can include various financial measures. The measures are established at the beginning of each year by the Executive Compensation and Development Committee of our Board of Directors ("ECDC"), with ultimate approval by the full Board of Directors. The corporate performance measures included the growth in direct written premium and statutory combined ratio of the Exchange and its property and casualty subsidiaries for all periods presented.

Long-term incentive plan
Our long-term incentive plan ("LTIP") is a performance based incentive plan designed to reward executives, senior vice presidents and other selected officers who can have a significant impact on our long-term performance and to further align the interests of such employees with those of our shareholders. The LTIP permits grants of performance shares or units, or phantom shares to be satisfied with shares of our Class A common stock or cash payment as determined by the ECDC. Participants can elect to defer up to 100% of the award under the incentive compensation deferral plan. The ECDC determines the form of the award to be granted at the beginning of each performance period, which is generally a three-year period. The number of shares of the Company's common stock authorized for grant under the LTIP is 1.5 million shares, with no one person able to receive more than 250,000 shares or the equivalent of $5 million during any one performance period. We repurchase our Class A common stock on the open market to settle stock awards under the plan. We do not issue new shares of common stock to settle stock awards. LTIP awards are considered vested at the end of each applicable performance period.

The LTIP provides the recipient the right to earn performance shares or units, or phantom stock based on the level of achievement of performance goals as defined by us. Performance measures and a peer group of property and casualty companies to be used for comparison are determined by the ECDC. The performance measures for all periods presented were the reported growth in direct written premium and statutory combined ratio of the Exchange and its property and casualty subsidiaries and return on invested assets over a three-year performance period as compared to the results of the peer group over the same period. Because the award is based upon a comparison to results of a peer group over a three-year period, the award accrual is based upon estimates of probable results for the remaining performance period. This estimate is subject to variability if our results or the results of the peer group are substantially different than the results we project.

The fair value of LTIP awards is measured at each reporting date at the current share price of our Class A common stock. A liability is recorded and compensation expense is recognized ratably over the performance period.

At December 31, 2020, the plan awards for the 2018-2020 performance period, which will be granted as a cash award were fully vested. Distributions will be made in 2021 once peer group financial information becomes available. The estimated plan award based upon the peer group information as of September 30, 2020 is $11.2 million. At December 31, 2019, the fully vested cash awards for the 2017-2019 performance period that were not deferred totaled $7.4 million and were paid to participants in June 2020. At December 31, 2018, the awards paid in cash for the 2016-2018 performance period were fully vested and resulted in a $8.2 million payment to plan participants in June 2019. At December 31, 2017, the awards for the 2015-2017 performance period were fully vested and resulted in a $8.3 million payment to plan participants in June 2018. The ECDC has determined that the plan awards for the 2019-2021 and 2020-2022 performance periods will be paid in cash.

The Exchange and its subsidiaries reimburse us for compensation costs of employees performing administrative services. Earned compensation costs are allocated to these entities and reimbursed to us in cash once the payout is made. The total compensation cost charged to operations related to these LTIP awards was $12.0 million in 2020, $7.3 million in 2019, and $6.3 million in 2018. The related tax benefits recognized in income were $2.5 million in 2020, $1.5 million in 2019, and $1.3 million in 2018. The Exchange and its subsidiaries reimburse us for approximately 48% of the annual compensation cost of these plans. At December 31, 2020, there was $6.8 million of total unrecognized compensation cost for non-vested LTIP awards related to open performance periods. Unrecognized compensation is expected to be recognized over a period of two years.

Deferred compensation plan

Our deferred compensation plan allows executives, senior vice presidents and other selected officers to elect to defer receipt of a portion of their compensation and AIP cash awards until a later date. Employer 401(k) matching contributions that are in excess of the annual contribution or compensation limits are also credited to the participant accounts for those who elected to defer receipt of some portion of their base salary. Participants select hypothetical investment funds for their deferrals which are credited with the hypothetical returns generated.

Incentive compensation deferral plan

We have an unfunded, non-qualified incentive compensation deferral plan for participants of the AIP and LTIP. Participants can elect to defer up to 100% of their annual AIP award and/or up to 100% of their LTIP award for each performance period. Deferred awards will be credited to a deferred stock account as credits denominated in Class A shares of the Company stock until retirement or other separation from service from the Company. Participants are 100% vested at date of deferral. The shares are held in a rabbi trust, which was established to hold the shares earned under both the incentive compensation deferral plan and the deferred stock compensation plan for outside directors. The rabbi trust is classified and accounted for as equity in a manner consistent with the accounting for treasury stock. Dividends received on the shares in the rabbi trust are used to purchase additional shares. Vested share credits will be paid to participants from the rabbi trust upon separation from service in approximate equal annual installments of Class A shares for a period of three years. In 2020, the rabbi trust purchased 3,934 shares of our common stock in the open market at an average price of $155.92 for $0.6 million to satisfy the liability for the 2019 AIP awards and 18,126 shares at an average price of $185.31 for $3.4 million to satisfy the liability for the 2017-2019 LTIP performance period awards deferred under the incentive compensation deferral plan. In 2019, the rabbi trust purchased 4,387 shares of our common stock in the open market at an average price of $176.34 for $0.8 million to satisfy the liability for the 2018 AIP awards deferred under the incentive compensation deferral plan. In 2018, the rabbi trust purchased 12,005 shares of our common stock in the open market at an average price of $119.28 for $1.4 million to satisfy the liability for the 2017 AIP awards deferred under the incentive compensation deferral plan.

Deferred compensation plans for outside directors

We have a deferred compensation plan for our outside directors that allows participants to defer receipt of a portion of their annual compensation until a later date. Participants select hypothetical investment funds for their deferrals which are credited with the hypothetical returns generated.

We also have a deferred stock compensation plan for our outside directors to further align the interests of directors with those of our shareholders that provides for a portion of the directors' annual compensation in shares of our Class A common stock. Each director vests in the grant 25% every three months over the course of a year. Dividends paid by us are credited to each director's account which vest immediately. We do not issue new shares of common stock to directors. Our practice is to repurchase shares of our Class A common stock in the open market to satisfy these awards, which are held in the rabbi trust.

The rabbi trust purchased 7,401 shares of our common stock on the open market at an average price of $201.78 for $1.5 million in 2020, 7,370 shares at an average price of $194.62 for $1.4 million in 2019, and 9,285 shares at an average price of $122.19 for $1.1 million in 2018 to satisfy the liability of the stock compensation plan for outside directors. The shares are distributed to the outside director from the rabbi trust upon ending board service. The total compensation charged to operations related to these awards totaled $0.9 million, $1.1 million and $0.8 million in 2020, 2019 and 2018, respectively.

The following table sets forth a reconciliation of beginning and ending balances of our deferred executive compensation liability as of December 31:

(in thousands)

	2020	2019	2018
Deferred executive compensation, beginning of the year	$ 24,616	$ 26,182	$ 30,057
Annual incentive plan awards	5,619	2,745	4,751
Long-term incentive plan awards	12,381	7,267	6,331
Employer match and hypothetical earnings on deferred compensation	2,962	2,700	1,484
Total plan awards and earnings	20,962	12,712	12,566
Total plan awards paid	(10,121)	(12,852)	(14,482)
Compensation deferred	4,668	1,579	1,928
Distributions from the deferred compensation plans	(2,081)	(797)	(1,321)
Forfeitures [(1)]	(356)	—	—
Funding of rabbi trust for deferred stock compensation plan for outside directors	(1,493)	(1,434)	(1,165)
Funding of rabbi trust for incentive compensation deferral plan	(3,972)	(774)	(1,401)
Deferred executive compensation, end of the year	$ 32,223	$ 24,616	$ 26,182

(1) Forfeitures are the result of a plan participant who separated from service with the Company.

Equity compensation plan

We also have an equity compensation plan ("ECP") which is designed to reward key employees, as determined by the ECDC or the chief executive officer, who can have a significant impact on our long-term performance and to further align the interests of such employees with those of our shareholders. The ECP permits grants of restricted shares, restricted share units and other share based awards, to be satisfied with shares of our Class A common stock or cash. The ECDC determines the form of the award to be granted at the beginning of each performance period. The number of shares of the Company's Class A common stock authorized for grant under the ECP is 100,000 shares, with no one person able to receive more than 5,000 shares in a calendar year. We do not issue new shares of common stock to satisfy plan awards. Share awards are settled through the repurchase of our Class A common stock on the open market. Restricted share awards may be entitled to receive dividends payable during the performance period, or, if subject to performance goals, to receive dividend equivalents payable upon vesting. Dividend equivalents may provide for the crediting of interest or hypothetical reinvestment experience payable after expiration of the performance period. Vesting conditions are determined at the time the award is granted and may include continuation of employment for a specific period, satisfaction of performance goals and the defined performance period, and the satisfaction of any other terms and conditions as determined to be appropriate. The plan is to remain in effect until December 31, 2022, unless earlier amended or terminated by our Board of Directors.

To date, all awards have been satisfied with shares of our Class A common stock. In 2020, we purchased 1,787 Class A shares with an average share price of $165.82 and a market value of $0.3 million to satisfy the liability for the 2017 plan year. In 2019, we purchased 3,246 Class A shares with an average share price of $132.35 and a market value of $0.4 million to satisfy the liability for the 2016 plan year. In 2018, we purchased 5,830 shares with an average share price of $117.39 and a market value of $0.7 million to satisfy the liability for the 2015 plan year and remainder of the 2014 plan year awards. The total compensation charged to operations related to these ECP awards was $0.7 million in 2020, $0.5 million in 2019, and $0.4 million in 2018. The Exchange and its subsidiaries reimburse us for earned compensation costs of employees performing administrative services, which can fluctuate each year based on the plan participants. The Exchange and its subsidiaries reimbursed us for approximately 59%, 49%, and 68% of the awards paid in 2020, 2019, and 2018 respectively. Unearned compensation expense of $0.6 million is expected to be recognized over a period of three years.

Note 12. Income Taxes

The provision for income taxes consists of the following for the years ended December 31:

(in thousands)

	2020	2019	2018
Current income tax expense	$ 80,373	$ 76,535	$ 84,454
Deferred income tax (benefit) expense	(5,162)	3,349	(1,358)
Income tax expense	$ 75,211	$ 79,884	$ 83,096

A reconciliation of the provision for income taxes, with amounts determined by applying the statutory federal income tax rate to pre-tax income, is as follows for the years ended December 31:

(in thousands)

	2020	2019	2018
Income tax at statutory rate	$ 77,388	$ 83,308	$ 77,977
Tax-exempt interest	—	(123)	(1,305)
(Decrease) increase in unrecognized tax benefits	—	(3,088)	3,088
Other, net	(2,177)	(213)	3,336
Income tax expense	$ 75,211	$ 79,884	$ 83,096

Temporary differences and carry-forwards, which give rise to deferred tax assets and liabilities, are as follows as of December 31:

(in thousands)

	2020	2019
Deferred tax assets:		
Pension and other postretirement benefits	$ 29,065	$ 25,720
Other employee benefits	14,544	11,835
Deferred revenue	3,872	3,755
Allowance for management fee returned on cancelled policies	3,515	3,421
Unrealized losses on investments	1,083	—
Other	2,692	1,663
Total deferred tax assets	54,771	46,394
Deferred tax liabilities:		
Depreciation	29,978	19,454
Unrealized gains on investments	7,540	4,181
Prepaid expenses	3,800	4,890
Commissions	884	545
Other	228	138
Total deferred tax liabilities	42,430	29,208
Net deferred tax asset	$ 12,341	$ 17,186

If we determine that any of our deferred tax assets will not result in future tax benefits, a valuation allowance must be established for the portion of the assets that are not expected to be realized. We had no valuation allowance recorded at December 31, 2020 or 2019.

A reconciliation of unrecognized tax benefits for the years ended December 31 is as follows:

(in thousands)	2020	2019	2018
Balance at the beginning of the year	$ 0	$ 3,088	$ 0
Additions for current year tax positions	—	—	7,719
Reductions for current year tax positions	—	—	(4,631)
Additions for prior year tax positions	—	4,631	—
Reductions for prior year tax positions	—	(7,719)	—
Balance at the end of the year	$ 0	$ 0	$ 3,088

The uncertain tax position including $3.1 million of tax expense and $0.9 million of interest expense recorded in 2018 was settled during 2019. This settlement reduced our effective tax rate by 1.0% in 2019. The amounts recorded in 2018 resulted from the difference in measuring the tax liability at the previous tax rate and the current enacted tax rate. The recording of the uncertain tax position and related interest expense increased our 2018 effective tax rate by 1.0%.

Tax years ending December 31, 2019, 2018 and 2017 remain open to IRS examination. We are not currently under IRS audit, nor have we been notified of an upcoming IRS audit.

We are the attorney-in-fact for the subscribers (policyholders) at the Exchange, a reciprocal insurance exchange. In that capacity, we provide all services and facilities necessary to conduct the Exchange's insurance business. Indemnity and the Exchange together constitute a single insurance business. Consequently, we are not subject to state corporate income or franchise taxes in states where the Exchange conducts its business and the states collect premium tax in lieu of corporate income or franchise tax, as a result of the Exchange's remittance of premium taxes in those states.

Note 13. Capital Stock

Class A and B common stock
We have two classes of common stock: Class A which has a dividend preference and Class B which has voting power and a conversion right. Each share of Class A common stock outstanding at the time of the declaration of any dividend upon shares of Class B common stock shall be entitled to a dividend payable at the same time, at the same record date, and in an amount at least equal to 2/3 of 1.0% of any dividend declared on each share of Class B common stock. We may declare and pay a dividend in respect to Class A common stock without any requirement that any dividend be declared and paid in respect to Class B common stock. Sole shareholder voting power is vested in Class B common stock except insofar as any applicable law shall permit Class A common shareholders to vote as a class in regards to any changes in the rights, preferences, and privileges attaching to Class A common stock. Holders of Class B shares may, at their option, convert their shares into Class A shares at the rate of 2,400 Class A shares per Class B share. There were no shares of Class B common stock converted into Class A common stock in 2020, 2019 or 2018.

Stock repurchases
Our Board of Directors authorized a stock repurchase program effective January 1, 1999 allowing the repurchase of our outstanding Class A nonvoting common stock. In 2011, our Board of Directors approved a continuation of the current stock repurchase program for a total of $150 million, with no time limitation. Treasury shares are recorded in the Statements of Financial Position at total cost based upon trade date. There were no shares repurchased under this program during 2020, 2019 or 2018. We had approximately $17.8 million of repurchase authority remaining under this program at December 31, 2020, based upon trade date.

We made stock repurchases in 2020, 2019, and 2018 outside of our publicly announced share repurchase program related to stock-based awards. See Note 11, "Incentive and Deferred Compensation Plans" for additional information.

Note 14. Accumulated Other Comprehensive Income (Loss)

Changes in accumulated other comprehensive income ("AOCI") (loss) by component, including amounts reclassified to other comprehensive income ("OCI") (loss) and the related line item in the Statements of Operations where net income is presented, are as follows for the year ended December 31:

(in thousands)	2020			2019			2018		
	Before Tax	Income Tax	Net	Before Tax	Income Tax	Net	Before Tax	Income Tax	Net
Investment securities:									
AOCI (loss), beginning of year	$ 5,664	$ 1,189	$ 4,475	$ (9,169)	$ (1,926)	$ (7,243)	$ 3,410	$ 716	$ 2,694
OCI (loss) before reclassifications	22,074	4,636	17,438	19,257	4,044	15,213	(15,372)	(3,228)	(12,144)
Realized investment (gains) losses	(1,335)	(280)	(1,055)	(4,619)	(970)	(3,649)	1,297	272	1,025
Impairment losses	2,981	626	2,355	195	41	154	1,581	332	1,249
Cumulative effect of adopting ASU 2016-01 (1)	—	—	—	—	—	—	(85)	(18)	(67)
OCI (loss)	23,720	4,982	18,738	14,833	3,115	11,718	(12,579)	(2,642)	(9,937)
AOCI (loss), end of year	$ 29,384	$ 6,171	$ 23,213	$ 5,664	$ 1,189	$ 4,475	$ (9,169)	$ (1,926)	$ (7,243)
Pension and other postretirement plans:									
AOCI (loss), beginning of year	$ (153,600)	$ (32,257)	$ (121,343)	$ (155,749)	$ (32,708)	$ (123,041)	$ (200,954)	$ (42,201)	$ (158,753)
OCI (loss) before reclassifications	11,832	2,485	9,347	(4,085)	(858)	(3,227)	31,401	6,594	24,807
Amortization of prior service costs (2)	1,343	282	1,061	1,394	293	1,101	1,353	284	1,069
Amortization of net actuarial loss (2)	12,125	2,546	9,579	4,840	1,016	3,824	12,451	2,615	9,836
OCI	25,300	5,313	19,987	2,149	451	1,698	45,205	9,493	35,712
AOCI (loss), end of year	$ (128,300)	$ (26,944)	$ (101,356)	$ (153,600)	$ (32,257)	$ (121,343)	$ (155,749)	$ (32,708)	$ (123,041)
Total									
AOCI (loss), beginning of year	$ (147,936)	$ (31,068)	$ (116,868)	$ (164,918)	$ (34,634)	$ (130,284)	$ (197,544)	$ (41,485)	$ (156,059)
Investment securities	23,720	4,982	18,738	14,833	3,115	11,718	(12,579)	(2,642)	(9,937)
Pension and other postretirement plans	25,300	5,313	19,987	2,149	451	1,698	45,205	9,493	35,712
OCI	49,020	10,295	38,725	16,982	3,566	13,416	32,626	6,851	25,775
AOCI (loss), end of year	$ (98,916)	$ (20,773)	$ (78,143)	$ (147,936)	$ (31,068)	$ (116,868)	$ (164,918)	$ (34,634)	$ (130,284)

(1) A reclassification of unrealized losses of equity securities from AOCI (loss) to retained earnings was required at January 1, 2018 as a result of new accounting guidance.

(2) These components of AOCI (loss) are included in the computation of net periodic pension cost. See Note 10, "Postretirement Benefits", for additional information.

Note 15. Related Party

Management fee
A management fee is charged to the Exchange for services we provide under the subscriber's agreement with subscribers at the Exchange. The fee is a percentage of direct and affiliated assumed premiums written by the Exchange. This percentage rate is determined at least annually by our Board of Directors but cannot exceed 25%. The management fee rate charged the Exchange was 25% in 2020, 2019 and 2018. The Board of Directors elected to maintain the fee at 25% beginning January 1, 2021.

There is no provision in the subscriber's agreement for termination of our appointment as attorney-in-fact by the subscribers at the Exchange and the appointment is not affected by a policyholder's disability or incapacity.

Insurance holding company system
Most states have enacted legislation that regulates insurance holding company systems, defined as two or more affiliated persons, one or more of which is an insurer. The Exchange has the following wholly owned property and casualty subsidiaries: Erie Insurance Company, Erie Insurance Company of New York, Erie Insurance Property & Casualty Company and Flagship City Insurance Company, and a wholly owned life insurance company, Erie Family Life Insurance Company. Indemnity and the Exchange, and its wholly owned subsidiaries, meet the definition of an insurance holding company system.

All transactions within a holding company system affecting the member insurers of the holding company system must be fair and reasonable and any charges or fees for services performed must be reasonable. Approval by the applicable insurance commissioner is required prior to the consummation of transactions affecting the members within a holding company system.

Office leases
We lease the home office from the Exchange. See Note 8, "Leases". Lease expense totaled $6.1 million in both 2020 and 2019 and $6.0 million in 2018. Operating expenses, including utilities, cleaning, repairs, real estate taxes, and property insurance, totaled $15.7 million, $16.7 million, and $13.5 million in 2020, 2019, and 2018, respectively. The Exchange and its subsidiaries reimburse us for rent costs and related operating expenses of shared facilities used to perform administrative services, which are allocated based upon usage or square footage occupied. Reimbursements related to the use of this space totaled $4.6 million, $4.2 million, and $3.9 million in 2020, 2019, and 2018, respectively. We also had a lease commitment with EFL for a field office until 2018. Annual rentals paid to EFL under this lease totaled $0.4 million in 2018.

We previously owned three field offices for which rental costs of shared facilities were allocated based upon usage or square footage occupied. In 2018, we sold the field offices we owned to the Exchange at the current independent appraised value in order to align the ownership interest of these facilities with the functions being performed at these locations, which are claims-related activities. We recognized a gain on the sale of $3.4 million, which is included in "Other (expense) income".

Notes receivable from EFL
We previously held a $25 million surplus note issued to us by EFL that was payable on demand on or after December 31, 2018. In 2018, EFL, with the appropriate approval from the Pennsylvania Insurance Commissioner, satisfied its obligation and repaid the surplus note. EFL paid related interest to us of $1.6 million in 2018.

Note 16. Concentrations of Credit Risk

Financial instruments that could potentially expose us to concentrations of credit risk include our unsecured receivables from the Exchange. A large majority of our revenue and receivables are from the Exchange and its affiliates. See also Note 1, "Nature of Operations". Net management fee amounts and other reimbursements due from the Exchange and its affiliates were $494.6 million and $468.6 million at December 31, 2020 and 2019, respectively. Given the financial strength of the Exchange and historical experience of no credit losses, we previously did not record a credit loss allowance to these receivables. Upon adoption of ASU 2016-13, we recorded an allowance for current expected credit losses of $0.6 million related to the receivables from the Exchange and affiliates. See also Note 2, "Significant Accounting Policies". There was no material change to this allowance as of December 31, 2020.

Note 17. Commitments and Contingencies

In 2020, we entered into an agreement with a bank for the establishment of a loan participation program for agent loans. The maximum amount of loans to be funded through this program is $100 million. We have committed to fund a minimum of 30% of each loan executed through this program. As of December 31, 2020, the total loans executed under this agreement totaled $14.9 million, of which our portion of the loans is $6.4 million. Additionally, we have agreed to guarantee a portion of the funding provided by the other participants in the program in the event of default. As of December 31, 2020, our maximum potential amount of future payments on the guaranteed portion is $1.5 million. All loan payments under the participation program are current as of December 31, 2020.

We are involved in litigation arising in the ordinary course of conducting business. In accordance with current accounting standards for loss contingencies and based upon information currently known to us, we establish reserves for litigation when it is probable that a loss associated with a claim or proceeding has been incurred and the amount of the loss or range of loss can be reasonably estimated. When no amount within the range of loss is a better estimate than any other amount, we accrue the minimum amount of the estimable loss. To the extent that such litigation against us may have an exposure to a loss in excess of the amount we have accrued, we believe that such excess would not be material to our financial condition, results of operations, or cash flows. Legal fees are expensed as incurred. We believe that our accruals for legal proceedings are appropriate and, individually and in the aggregate, are not expected to be material to our financial condition, results of operations, or cash flows.

We review all litigation on an ongoing basis when making accrual and disclosure decisions. For certain legal proceedings, we cannot reasonably estimate losses or a range of loss, if any, particularly for proceedings that are in their early stages of development or where the plaintiffs seek indeterminate damages. Various factors, including, but not limited to, the outcome of potentially lengthy discovery and the resolution of important factual questions, may need to be determined before probability can be established or before a loss or range of loss can be reasonably estimated. If the loss contingency in question is not both probable and reasonably estimable, we do not establish an accrual and the matter will continue to be monitored for any developments that would make the loss contingency both probable and reasonably estimable. In the event that a legal proceeding results in a substantial judgment against, or settlement by, us, there can be no assurance that any resulting liability or financial commitment would not have a material adverse effect on our financial condition, results of operations, or cash flows.

Note 18. Supplementary Data on Cash Flows

A reconciliation of net income to net cash provided by operating activities as presented in the Statements of Cash Flows is as follows for the years ended December 31:

(in thousands)	2020	2019	2018
Cash flows from operating activities:			
Net income	$ 293,304	$ 316,821	$ 288,224
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	21,195	16,813	13,368
Deferred income tax (benefit) expense	(5,162)	3,349	(1,358)
Lease amortization expense	13,108	13,959	—
Realized (gains) losses and impairments on investments	(3,114)	(5,908)	3,591
(Gain) loss on disposal of fixed assets	(15)	75	(3,047)
Net investment income	5,878	543	6,423
Increase (decrease) in deferred compensation	7,611	(1,541)	(3,886)
Increase in receivables from affiliates	(26,548)	(19,505)	(30,804)
(Increase) decrease in accrued investment income	(713)	(170)	1,590
(Increase) decrease in federal income taxes recoverable	(2,202)	7,700	21,738
Decrease (increase) in prepaid pension	41,227	28,798	(47,335)
(Increase) decrease in prepaid expenses and other assets	(2,569)	(9,407)	6,446
(Decrease) increase in accounts payable and accrued expenses	(14,307)	(3,627)	11,039
(Decrease) increase in commissions payable	(625)	21,390	13,449
Increase (decrease) in accrued agent bonuses	14,105	(7,409)	(19,066)
Increase in contract liability	1,422	2,646	3,213
Net cash provided by operating activities	$ 342,595	$ 364,527	$ 263,585

Note 19. Subsequent Events

No items were identified in this period subsequent to the financial statement date that required adjustment or additional disclosure.

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
We maintain disclosure controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosures.

As required by the Securities and Exchange Commission Rule 13a-15(e), we carried out an evaluation, under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2020. Based upon the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective.

Changes in Internal Control over Financial Reporting
There has been no change in our internal controls over financial reporting during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect our internal controls over financial reporting. Our process for evaluating controls and procedures is continuous and encompasses constant improvement of the design and effectiveness of established controls and procedures.

Management's Report on Internal Control over Financial Reporting
Management is responsible for establishing and maintaining adequate internal control over financial reporting of Erie Indemnity Company, as defined in Rules 13a-15(f) under the Exchange Act. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of the Erie Indemnity Company's internal control over financial reporting based upon the framework in the *Internal Control-Integrated Framework* issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. Based upon our evaluation under the framework in the *Internal Control-Integrated Framework* issued in 2013, management has concluded that Erie Indemnity Company's internal control over financial reporting was effective as of December 31, 2020.

/s/ Timothy G. NeCastro	/s/ Gregory J. Gutting	/s/ Julie M. Pelkowski
Timothy G. NeCastro	Gregory J. Gutting	Julie M. Pelkowski
President and	Executive Vice President	Senior Vice President
Chief Executive Officer	and Chief Financial Officer	and Controller
February 25, 2021	February 25, 2021	February 25, 2021

Our independent auditor, Ernst & Young LLP, a registered public accounting firm, has issued an attestation report on our internal control over financial reporting. This report appears on the following page.

ITEM 9B. OTHER INFORMATION

There was no additional information in the fourth quarter of 2020 that has not already been filed in a Form 8-K.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Erie Indemnity Company

Opinion on Internal Control over Financial Reporting

We have audited Erie Indemnity Company’s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Erie Indemnity Company (the "Company") maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the statements of financial position of the Company as of December 31, 2020 and 2019, and the related statements of operations, comprehensive income, shareholders’ equity, and cash flows for each of the three years in the period ended December 31, 2020 and the related notes (collectively referred to as the financial statements) of the Company and our report dated February 25, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Cleveland, OH
February 25, 2021

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information with respect to our outside directors, audit committee and audit committee financial experts and Section 16(a) beneficial ownership reporting compliance, is incorporated herein by reference to the information statement on Schedule 14C to be filed with the Securities and Exchange Commission no later than 120 days after December 31, 2020.

We have adopted a Code of Conduct that applies to all of our outside directors, officers and employees. We have previously filed a copy of the Code of Conduct as Exhibit 14.3 to the Registrant's Form 10-K filed with the Securities and Exchange Commission on February 25, 2016. In addition to this, we have adopted a Code of Ethics for Senior Financial Officers that also applies to our Chief Executive Officer, Chief Financial Officer, Chief Accounting Officer and any other person performing similar functions. We have previously filed a copy of the Code of Ethics for Senior Financial Officers as Exhibit 14.4 to the Registrant's Form 8-K filed with the Securities and Exchange Commission on June 1, 2016. Our Code of Conduct and Code of Ethics for Senior Financial Officers are also available on our website at www.erieinsurance.com.

Executive Officers of the Registrant

Name	Age as of 12/31/2020	Principal Occupation and Positions for Past Five Years
President & Chief Executive Officer:		
Timothy G. NeCastro	60	President and Chief Executive Officer since January 2017; Chief Executive Officer, August 2016 through December 2016; President and Chief Executive Officer Designate, June 2016 through July 2016; Senior Vice President, West Region, February 2010 through June 2016; Director, Erie Family Life Insurance Company ("EFL"), Erie Insurance Company ("EIC"), Flagship City Insurance Company ("Flagship"), Erie Insurance Company of New York ("ENY") and Erie Insurance Property & Casualty Company ("EPC").
Executive Vice Presidents:		
Lorianne Feltz	51	Executive Vice President, Claims & Customer Service since November 2016; Senior Vice President, Customer Service, January 2011 through November 2016.
Gregory J. Gutting	57	Executive Vice President and Chief Financial Officer since August 2016; Interim Executive Vice President and Chief Financial Officer, October 2015 through July 2016; Senior Vice President and Controller, March 2009 through September 2015; Director, EFL, EIC, Flagship, ENY and EPC.
Robert C. Ingram, III	62	Executive Vice President and Chief Information Officer since August 2012; Director, EFL, EIC, Flagship, ENY and EPC.
Douglas E. Smith	46	Executive Vice President, Sales & Products since November 2016; Senior Vice President, Personal Lines, November 2008 through October 2016.
Dionne Wallace Oakley	53	Executive Vice President, Human Resources & Strategy since January 2018; Senior Vice President, Human Resources, September 2012 through December 2017.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item with respect to executive compensation is incorporated by reference to the information statement on Schedule 14C to be filed with the Securities and Exchange Commission no later than 120 days after December 31, 2020.

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

The information with respect to security ownership of certain beneficial owners and management and securities authorized for issuance under equity compensation plans, is incorporated by reference to the information statement on Schedule 14C to be filed with the Securities and Exchange Commission no later than 120 days after December 31, 2020.

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

Information with respect to certain relationships with our outside directors is incorporated by reference to the information statement on Schedule 14C to be filed with the Securities and Exchange Commission no later than 120 days after December 31, 2020.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item is incorporated by reference to the information statement on Schedule 14C to be filed with the Securities and Exchange Commission no later than 120 days after December 31, 2020.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

1. Financial Statements
   Included in Part II, Item 8. "Financial Statements and Supplementary Data" contained in this report.

   Erie Indemnity Company:
   - Report of Independent Registered Public Accounting Firm on the Effectiveness of Internal Control over Financial Reporting
   - Report of Independent Registered Public Accounting Firm on the Financial Statements
   - Statements of Operations for the three years ended December 31, 2020, 2019 and 2018
   - Statements of Comprehensive Income for the three years ended December 31, 2020, 2019 and 2018
   - Statements of Financial Position as of December 31, 2020 and 2019
   - Statements of Shareholders' Equity for the three years ended December 31, 2020, 2019 and 2018
   - Statements of Cash Flows for the three years ended December 31, 2020, 2019 and 2018
   - Notes to Financial Statements

2. Financial Statement Schedules
   All schedules are not required, not applicable, or the information is included in the financial statements or notes thereto.

ITEM 16. FORM 10-K SUMMARY

None.

EXHIBIT INDEX

(Pursuant to Item 601 of Regulation S-K)

Exhibit Number	Description of Exhibit
3.8	Amended and Restated Articles of Incorporation of Registrant dated April 19, 2011. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on August 2, 2011.
3.10	Erie Indemnity Company Amended and Restated Bylaws dated April 30, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on May 3, 2019.
4.1*	Erie Indemnity Company Description of Capital Stock
10.12	Form of Subscriber's Agreement whereby policyholders of Erie Insurance Exchange appoint Registrant as their Attorney-in-Fact. Such exhibit is incorporated by reference to the like titled but renumbered exhibit in the Registrant's Form 10-Q that was filed with the Securities and Exchange Commission on November 6, 2002.
10.104	Deferred Compensation Plan of Erie Indemnity Company (As Amended and Restated as of January 1, 2009). Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 26, 2009.
10.145	Erie Indemnity Company Equity Compensation Plan (incorporated by reference to Appendix A to the Registrant's Information Statement for the 2013 Annual Meeting of Shareholders filed with the Commission on March 18, 2013).
10.153	Erie Indemnity Company Long-Term Incentive Plan (As Amended and Restated Effective as of January 1, 2014). Such exhibit is incorporated by reference to Appendix B to the Registrant's Information Statement for the 2014 Annual Meeting of Shareholders filed with the Commission on March 14, 2014.
10.154	First Amendment to Erie Indemnity Company Equity Compensation Plan effective January 1, 2014, dated March 10, 2014. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on May 1, 2014.
10.156	Form of Indemnification Agreement by and between Erie Indemnity Company and each Director and Executive Officer of Erie Indemnity Company. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 26, 2009.
10.157	First Amendment to Erie Indemnity Company Long-Term Incentive Plan (As Amended and Restated Effective as of January 1, 2014), dated March 25, 2015. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on April 30, 2015.
10.158	Erie Indemnity Company Deferred Compensation Plan for Outside Directors (As Amended and Restated as of July 29, 2015), dated October 20, 2015. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 25, 2016.
10.159	Erie Indemnity Company Deferred Stock Plan for Outside Directors (As of July 29, 2015), dated October 20, 2015. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 25, 2016.
10.162	Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 18, 2015. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 25, 2016.
10.163	Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective as of January 1, 2015), dated December 18, 2015. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 25, 2016.
10.166	First Amendment to Erie Indemnity Company Deferred Stock Plan for Outside Directors (As Amended and Restated as of July 29, 2015), dated March 31, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on April 28, 2016.
10.169	First Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated September 12, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on October 27, 2016.

Exhibit Number	Description of Exhibit
10.170	Second Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated September 12, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on October 27, 2016.
10.171	First Amendment to Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective as of January 1, 2015), dated September 12, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on October 27, 2016.
10.173	Second Amendment to Erie Indemnity Company Long-Term Incentive Plan (As Amended and Restated Effective as of January 1, 2014), dated August 1, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on October 27, 2016.
10.174	Credit Agreement by and among Erie Indemnity Company and PNC Bank, National Association, dated as of November 7, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on November 14, 2016.
10.175	Pledge Agreement made by Erie Indemnity Company in favor of PNC Bank, National Association, dated as of November 7, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on November 14, 2016.
10.177	Erie Indemnity Company Incentive Compensation Deferral Plan (Effective January 1, 2017), dated December 7, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 23, 2017.
10.178	Third Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 22, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 23, 2017.
10.179	Lease Agreement between Erie Insurance Exchange and Erie Indemnity Company effective January 1, 2017. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on May 1, 2017.
10.183	Second Amendment to Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective January 1, 2015), dated October 17, 2017. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on October 26, 2017.
10.184	Amended Appendix A (Building List) to Lease Agreement between Erie Insurance Exchange and Erie Indemnity Company effective January 1, 2017, dated October 25, 2017. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on October 26, 2017.
10.185	Third Amendment to Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective January 1, 2015), dated December 20, 2017. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 22, 2018.
10.186	Fourth Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 20, 2017. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 22, 2018.
10.187	First Amendment to Credit Agreement by and between Erie Indemnity Company and PNC Bank, National Association, dated as of December 13, 2016. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on January 24, 2018.
10.188	Second Amendment to Credit Agreement by and between Erie Indemnity Company and PNC Bank, National Association, dated as of January 22, 2018. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on January 24, 2018.
10.190	Fourth Amendment to Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective January 1, 2015), dated May 2, 2018. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on July 26, 2018.
10.192	Second Amended and Restated Credit Agreement among JPMorgan Chase Bank, National Association, as Administrative Agent; the Lenders named therein; and Erie Indemnity Company, dated October 30, 2018. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on November 2, 2018.

Exhibit Number	Description of Exhibit
10.193	Third Amendment to Credit Agreement by and between Erie Indemnity Company and PNC Bank, National Association, dated as of November 13, 2018. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on November 14, 2018.
10.194	Fifth Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 20, 2018. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 21, 2019.
10.195	Fifth Amendment to Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective January 1, 2015), dated March 29, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on May 2, 2019.
10.196	First Amendment to Erie Indemnity Company Incentive Compensation Deferral Plan (Effective January 1, 2017), dated July 1, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on July 25, 2019.
10.197	Appendix B to Deferred Compensation Plan of Erie Indemnity Company (As Amended and Restated Effective as of January 1, 2019). Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on July 25, 2019.
10.198	Sixth Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated September 3, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-Q that was filed with the Commission on October 24, 2019.
10.199	Seventh Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 23, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 27, 2020.
10.200	Eighth Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 23, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 27, 2020.
10.201	Ninth Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 23, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 27, 2020.
10.202	Sixth Amendment to Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective January 1, 2015), dated December 23, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 27, 2020.
10.203	Seventh Amendment to Erie Insurance Group Employee Savings Plan (As Amended and Restated Effective January 1, 2015), dated December 23, 2019. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 27, 2020.
10.204	Erie Indemnity Company Annual Incentive Plan effective January 1, 2020. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 27, 2020.
10.205	Erie Indemnity Company Long-Term Incentive Plan (Effective as of January 1, 2020). Such exhibit is incorporated by reference to Appendix A to the Registrant's Information Statement for the 2020 Annual Meeting of Shareholders filed with the Commission on March 20, 2020.
10.206*	Tenth Amendment to Erie Insurance Group Retirement Plan for Employees (As Amended and Restated Effective December 31, 2014), dated December 23, 2020.
10.207*	Second Amendment to Erie Indemnity Company Incentive Compensation Deferral Plan (Effective as of January 1, 2017), dated December 24, 2020.
10.208*	Second Amendment to Supplemental Retirement Plan for Certain Members of the Erie Insurance Group Retirement Plan for Employees (Amended and Restated as of January 1, 2009), dated December 24, 2020.
10.209*	Second Amendment to Appendix B to Deferred Compensation Plan of Erie Indemnity Company (As Amended and Restated Effective as of January 1, 2009), dated December 24, 2020.
14.3	Code of Conduct. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 10-K that was filed with the Commission on February 25, 2016.
14.4	Code of Ethics for Senior Financial Officers. Such exhibit is incorporated by reference to the like titled exhibit in the Registrant's Form 8-K that was filed with the Commission on June 1, 2016.

Exhibit Number	Description of Exhibit
23*	Consent of Independent Registered Public Accounting Firm.
31.1*	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32*	Certification 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.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104*	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

* Filed herewith.

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.

February 25, 2021

ERIE INDEMNITY COMPANY
(Registrant)

By: /s/ Timothy G. NeCastro
Timothy G. NeCastro, President and CEO
(Principal Executive Officer)

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

February 25, 2021

/s/ Timothy G. NeCastro
Timothy G. NeCastro, President and CEO
(Principal Executive Officer)

/s/ Gregory J. Gutting
Gregory J. Gutting, Executive Vice President and CFO
(Principal Financial Officer)

/s/ Julie M. Pelkowski
Julie M. Pelkowski, Senior Vice President and Controller
(Principal Accounting Officer)

Board of Directors:

/s/ J. Ralph Borneman, Jr. J. Ralph Borneman, Jr.	/s/ C. Scott Hartz C. Scott Hartz
/s/ Eugene C. Connell Eugene C. Connell	/s/ Brian A. Hudson, Sr. Brian A. Hudson, Sr.
/s/ Salvatore Correnti Salvatore Correnti	/s/ George R. Lucore George R. Lucore
/s/ LuAnn Datesh LuAnn Datesh	/s/ Thomas W. Palmer Thomas W. Palmer
/s/ Jonathan Hirt Hagen Jonathan Hirt Hagen	/s/ Elizabeth Hirt Vorsheck Elizabeth Hirt Vorsheck
/s/ Thomas B. Hagen Thomas B. Hagen, Chairman	

Exhibit 4.1

ERIE INDEMNITY COMPANY

DESCRIPTION OF CAPITAL STOCK

The following summary of the rights of our Class A common stock, stated value $0.0292 per share ("Class A Common Stock") and Class B common stock, stated value $70.00 per share ("Class B Common Stock") does not purport to be complete. This summary is subject to and qualified by the provisions of our Amended and Restated Articles of Incorporation dated April 19, 2011 ("Articles of Incorporation") and our Amended and Restated Bylaws dated April 30, 2019 ("Bylaws"), copies of which are incorporated herein by reference. Additionally, the Pennsylvania Business Corporation Law of 1988, as amended (the "PBCL"), also affects the terms of our capital stock.

Our authorized capital stock consists of 74,996,930 shares of Class A Common Stock and 3,070 shares of Class B Common Stock. As of the close of business on February 19, 2021, 46,189,068 shares of Class A Common Stock and 2,542 shares of Class B Common Stock were outstanding. Updates to the number of shares outstanding will be made on the cover page of our annual or quarterly reports for subsequent fiscal years or fiscal quarters that we file with the Securities and Exchange Commission.

Description of Class A Common Stock and Class B Common Stock

Voting Rights. Under our Articles of Incorporation, shares of Class B Common Stock have the exclusive right to elect directors and to vote on matters brought before meetings of shareholders, except where any applicable law shall permit shares of Class A Common Stock to vote as a class in regard to any change in the rights, preferences and privileges of our Class A Common Stock.

Action by Majority Written Consent. Any action required or permitted to be taken at a meeting of the holders of Class B Common Stock may be taken without a meeting if a consent or consents thereto signed by the holders of a majority of the Class B Common Stock then outstanding shall be filed in writing with the Secretary of the Corporation.

Right to Dividends and Other Distributions. Holders of shares of Class B Common Stock are entitled to receive dividends if, when and as they are declared by our Board of Directors out of funds legally available therefor. If and when a dividend is declared and paid on shares of Class B Common Stock, each share of Class A Common Stock is entitled to the declaration and payment of a dividend, at the same time and on the same record date, in an amount at least equal to two-thirds of one percent (2/3%) of the dividend per share paid on the Class B Common Stock.

In addition, shares of Class A Common Stock are entitled to receive dividends if, when and as they are declared by our Board of Directors out of funds legally available therefor without any requirement that a simultaneous dividend be paid on shares of Class B Common Stock.

Right to Receive Liquidation Distributions. Upon our liquidation, dissolution or winding-up, holders of Class A Common Stock and holders of Class B Common Stock are entitled to share ratably in any assets available for distribution to shareholders, provided, however, that in any such event, each holder of a share of Class B Common Stock shall receive the amount to which he or she would be entitled as if his or her share of Class B Common Stock had been converted into 2,400 shares of Class A Common Stock.

Conversion. Each share of Class B Common Stock is convertible at any time, at the option of the holder thereof, into 2,400 shares of Class A Common Stock. We will cancel any shares of Class B Common Stock tendered for conversion and such shares shall not be reissued following conversion. Shares of Class A Common Stock are not convertible into any other shares of our capital stock.

Preemptive Rights. Holders of Class A Common Stock have the preemptive right to subscribe for and purchase pro rata any shares of Class A Common Stock offered for sale for cash, at a price per share not less than the stated value of the Class A Common Stock and upon such terms as are fixed by our Board of Directors. This preemptive right does not apply to shares of Class A Common Stock issued upon the conversion of shares of Class B Common Stock. Holders of Class B Common Stock do not have preemptive rights.

Other Matters. Holders of Class A Common Stock and Class B Common Stock have no cumulative voting rights. There are no redemption rights or sinking fund provisions applicable to the Class A Common Stock or Class B Common Stock. All outstanding shares of Class A Common Stock and Class B Common Stock are fully paid and non-assessable.

Trading Market. The Class A Common Stock is registered pursuant to Section 12(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and is listed on the NASDAQ Global Select Market under the symbol “ERIE”. Broadridge Corporate Issuer Solutions, Inc. serves as our transfer agent. The Class B Common Stock is not registered under the Exchange Act and is not actively traded.

Certain Provisions Affecting Control of Our Company

General. Certain provisions of our Articles of Incorporation, Bylaws and the PBCL operate with respect to extraordinary corporate transactions, such as mergers, reorganizations, tender offers, sales or transfers of substantially all of our assets or our liquidation of the Company, and could have the effect of delaying or making more difficult a change in control of our company in certain circumstances.

Certain Provisions of the Bylaws. Our Bylaws establish advance notice procedures with respect to shareholder proposals and the nomination of candidates for election of directors. These procedures may impede shareholders' ability to bring matters before a meeting of shareholders or make nominations for directors at a meeting of shareholders.

Our Bylaws include provisions eliminating the personal liability of our directors to the fullest extent permitted by the PBCL and indemnifying our directors and officers to the fullest extent permitted by the PBCL. The limitation of liability and indemnification provisions in our Bylaws may discourage shareholders from bringing a lawsuit against directors for breach of their fiduciary duty. These provisions may also have the effect of reducing the likelihood of derivative litigation against directors and officers, even though a derivative action, if successful, might otherwise benefit us and our shareholders.

Our Bylaws provide that any or all of the directors may be removed at any time, either with or without cause, by a vote of a majority of the shares of Class B Common Stock outstanding and entitled to vote. This provision may delay or prevent our shareholders from removing incumbent directors.

Our Bylaws may be altered, amended, changed or repealed by (i) the approval or consent of not less than a majority of the shares of Class B Common Stock then outstanding or (ii) a majority of the entire board of directors, subject to certain exceptions.

Certain Provisions of the PBCL. Under the PBCL, certain anti-takeover provisions may apply to Pennsylvania registered corporations (e.g., publicly traded companies) including those relating to (i) business combination transactions with an interested shareholder (generally defined to include a person who beneficially owns shares representing at least twenty percent of the votes that all shareholders would be entitled to cast in an election of directors of the corporation) unless certain conditions are satisfied or an exemption is applicable; (ii) control-share acquisitions in which the voting rights of certain shareholders of the corporation (specifically, a shareholder who acquires 20%, 33-1/3 or 50% or more of the voting power of the corporation) are conditioned upon the consent of a majority vote at a meeting of the independent shareholders of the corporation after disclosure by such shareholder of certain information; (iii) disgorgement of profits by certain controlling persons, generally defined as a 20% beneficial owner, from the disposition of any equity securities within twenty-four months prior to, and eighteen months succeeding, the acquisition of such control; (iv) the payment of severance to any eligible employee of a covered corporation whose employment is terminated, other than for willful misconduct, within ninety days before, or twenty-four months after, a control-share acquisition; (v) the rights of shareholders who objects to a "control transaction" (generally defined as the acquisition of voting shares by a person or group that would entitle the holders thereof to cast at least 20% of the votes that all shareholders would be entitled to cast in an election of the directors of the corporation) to demand fair value for their stock following a control transaction; (vi) a set of interrelated provisions which are designed to support the validity of actions taken by our Board of Directors in response to takeover bids, including specifically the Board's authority to "accept, reject or take no action" with respect to a takeover bid, and permitting the unfavorable disparate treatment of a takeover bidder, and (viii) provisions which allow the directors broad discretion in considering the best interests of the corporation, including a provision which permits the Board to consider various corporate interests including the short-term and long-term interests of the corporation and the resources, intent and conduct of any person seeking to acquire the corporation.

Other Factors. There are three H.O. Hirt Trusts that collectively own 2,340 shares of Class B Common Stock which represents approximately 92% of our outstanding Class B Common Stock. This concentrated ownership of the Class B Common Stock as well as certain insurance laws and regulations applicable to the acquisition of insurance holding companies can be expected to have the effect of delaying, averting or preventing a change in control of our company and would probably prevent a change in control unless a majority of the trustees then in office of each of the H.O. Hirt Trusts vote in favor of such a change in control.

TENTH AMENDMENT TO
ERIE INSURANCE GROUP
RETIREMENT PLAN FOR EMPLOYEES

(As Amended and Restated effective December 31, 2014)

WHEREAS, Erie Indemnity Company (the "Company") maintains the Erie Insurance Group Retirement Plan for Employees (the "Plan") under an amendment and restatement effective December 31, 2014;

WHEREAS, the Plan provides that the Company may amend the Plan; and

WHEREAS, the Company wishes to amend the Plan to provide certain participants who terminate employment with the Company on or after December 31, 2020 and before December 31, 2023 and on whose behalf the Plan maintains a benefit which has a limited present value, an ability to receive such Plan benefit in the form of a lump sum during a limited period of time following the participant's termination of employment, and to offer a similar option to certain surviving spouses and alternate payees with Plan interests; and

NOW, THEREFORE, effective as of the dates indicated, the Company hereby amends the Plan as follows:

1. Section 7.8(a) of the Plan is amended and restated in its entirety to read as follows, effective December 31, 2020:

(a) Notwithstanding any provision of the Plan to the contrary, if the actuarial equivalent present value of any retirement benefit, deferred vested pension or survivor benefit does not exceed $5,000 such benefit shall be paid as soon as practicable in a lump sum equal to such present value. Except as otherwise provided in this Article VII, no lump sum payments shall be made if the actuarial equivalent present value of the benefit is in excess of this threshold.

2. Article VII of the Plan is amended by adding a new section to the end thereof to read as follows, effective December 31, 2020:

7.14 Payment Option Window for Eligible Persons. Under the terms of this Section 7.14, an Eligible Person may make an EP Window Benefit Election during the EP Window Election Period to commence payment of the Plan interest maintained on his behalf in the form of a lump sum or an annuity (each as determined below) as of an EP Window Commencement Date. The provisions of this Section 7.14 shall be an alternative method by which an Eligible Person may receive his Plan interest and does not change or eliminate payment options otherwise available to an Eligible Person under Plan provisions other than this Section 7.14.

(a) Definitions. For purposes of this Section 7.14, the terms set forth below shall have the meanings set forth below.

(i) The term “Designated Period” shall mean the period beginning on December 31, 2020 and ending on December 30, 2023.

(ii) The term “Eligible Person” shall mean an individual on whose behalf a benefit interest is maintained under the Plan and who satisfies (A), (B) and (C) below, as determined solely in the discretion of the Administrator:

(A) The individual is either:

(1) a Participant who has terminated employment with the Company and all Affiliates during the Designated Period;

(2) a surviving Spouse of a Participant who experiences his Date of Severance due to death during the Designated Period or of a Participant who both has terminated employment with the Company and all Affiliates during the Designated Period for a reason other than death and then dies during his EP Window Election Period; or

(3) an alternate payee under a qualified domestic relations order (as defined in Section 414(p) of the Code) that is qualified by the Administrator during the Designated Period and which assigns, as a separate interest, all or a portion of the Plan benefit maintained on behalf of a Participant (“Alternate Payee”); and

(B) The actuarial equivalent present value of the vested Plan interest maintained on behalf of such individual, determined under this Section 7.14 as of the Present Value Determination Date, is in excess of $5,000 and not in excess of $100,000; and

(C) As of the Present Value Determination Date, or such other date of determination as determined by the Administrator, the individual’s Plan interest can reasonably be determined based on data available to the Administrator, the individual can be located by the Administrator after a diligent search and the individual has not commenced payment of his Plan interest under the provisions of the Plan other than this Section 7.14;

provided, however, that an Eligible Person shall not include any individual whose participation in the Payment Option Window described in this Section 7.14 would administratively be impracticable, as the Administrator may advise the Company.

(iii) The term “EP Window Benefit Election” shall mean the written election made by an Eligible Person, in accordance with such rules and procedures as the Administrator may apply, to receive or commence to receive his Plan interest under the terms of this Section 7.14. For an EP Window Benefit Election to be valid, the EP Window Benefit Election by any Eligible Person who is a Participant must satisfy the requirements for spousal consent, if otherwise applicable under Section 7.6, the completed EP Window Benefit Election form must be signed and dated within the EP Window Election Period and such election form must be received in good form by the Administrator or its delegate within an administratively feasible time period following the EP Window Election Period, as determined by the Administrator. Notwithstanding the foregoing, any Eligible Person who makes an election to receive payment or commence to receive payment pursuant to this Section 7.14 shall have the ability to revoke any such election by contacting the Administrator or its delegate on or before the EP Window Commencement Date applicable to that Eligible Person in the means described in communications provided to the Eligible Person.

(iv) The term “EP Window Commencement Date” shall mean the date elected by an Eligible Person to commence payment under this Section 7.14, although the date of actual payment may be delayed for administrative reasons. The EP Window Commencement Date for any given Eligible Person shall be the first day of a month that both (A) is a month that begins within the EP Window Election Period or is the month next following the close of the EP Window Election Period and (B) follows the date the Administrator or its delegate furnishes the Eligible Person with the election materials described in Section 7.5.

(v) The term “EP Window Election Period” shall mean the special election period during which an Eligible Person may elect to receive payment or commence to receive payment of the Plan interest maintained on his behalf as of an EP Window Commencement Date, even if such Eligible Person has not satisfied the eligibility conditions that otherwise would be required to commence payment of such Plan interest (determined without regard to this Section 7.14). The EP Window Election Period for any given Eligible Person shall begin on the date the Administrator or its delegate issues a Plan benefit statement or notice to the Eligible Person and shall end on the 180th day following the date such statement is issued or such later date established by the Administrator in a uniform and nondiscriminatory manner.

(vi) The term “Present Value Determination Date” shall mean the date the Administrator or its delegate determines the actuarial equivalent present value of an Eligible Person’s Plan interest pursuant to a nondiscriminatory and uniform procedure adopted by the Administrator.

(vii) The term “Section 417(e) Assumptions” shall mean the applicable interest rate promulgated by the Secretary of the Treasury under Section 417(e)(3)(C) of the Code for the fourth calendar month preceding the first day of the Plan Year in which the distribution is payable and the mortality assumptions prescribed by the Secretary of the Treasury for such Plan Year pursuant to Section 417(e)(3)(B) of the Code.

(b) <u>Lump Sum Payment Determination</u>. For any Eligible Person who makes a valid EP Window Benefit Election and elects to receive payment of the Plan interest maintained on his behalf in the form of a lump sum, the lump sum payment shall be determined as follows:

(i) <u>Participants Otherwise Eligible for Immediate Commencement</u>. With respect to an Eligible Person who is a Participant and who is eligible for immediate commencement of payment as of the EP Window Commencement Date under the provisions of the Plan other than this Section 7.14, the lump sum payment shall be the greater of the actuarial equivalent present values of the following amounts, each determined by using the Section 417(e) Assumptions:

(A) the Eligible Person’s Plan interest, payable in the form of a single life annuity for the Eligible Person’s life, commencing as of the Normal Retirement Date of the Participant who is the Eligible Person; and

(B) the Eligible Person’s Plan interest, payable in the form of a single life annuity for the Eligible Person’s life commencing as of the EP Window Commencement Date.

(ii) <u>Participants Not Otherwise Eligible for Immediate Commencement</u>. With respect to an Eligible Person who is a Participant and who is not eligible for immediate commencement of payment as of the EP Window Commencement Date under the provisions of the Plan other than this Section 7.14, the lump sum payment shall be the actuarial equivalent present value of the Eligible Person's Plan interest, payable in the form of a single life annuity for the Eligible Person's life, commencing as of the Normal Retirement Date of the Participant who is the Eligible Person, determined by using the Section 417(e) Assumptions.

(iii) Eligible Persons Who are Not Participants. The following provisions shall apply with respect to an Eligible Person who is not a Participant:

(A) Surviving Spouse. With respect to an Eligible Person who is a surviving Spouse, the lump sum payment shall be the actuarial equivalent present value of such Eligible Person's Plan interest, payable in the form of a survivor annuity commencing as of the earliest date commencement is permitted under Article VIII, determined by using the Section 417(e) Assumptions.

(B) Alternate Payees. With respect to an Eligible Person who is an Alternate Payee, the lump sum payment shall be the actuarial equivalent present value of such Eligible Person's Plan interest, payable in the form of a life annuity payable over such Eligible Person's lifetime only, commencing as of the earliest retirement age (as defined in Section 414(p) of the Code) of the Participant with respect to whom the Alternate Payee has a Plan interest, determined by using the Section 417(e) Assumptions.

Any lump sum payment pursuant to this Section 7.14 shall fully settle the Plan's liability with respect to an Eligible Person and no further benefit of any type shall be payable to, or on behalf of, such Eligible Person hereunder with respect to the Plan interest paid as a lump sum.

(c) Immediate Annuity Payment. For any Eligible Person who makes a valid EP Window Benefit Election and elects to receive payment of the Plan interest maintained on his behalf in a form other than a lump sum payment, the Eligible Person shall be entitled to elect payment in an immediately commencing annuity in the following optional forms and determined in accordance with the following provisions:

(i) Participants Otherwise Eligible for Immediate Commencement. With respect to an Eligible Person who is a Participant and who is eligible for immediate commencement of payment as of the EP Window Commencement Date under the provisions of the Plan other than this Section 7.14, such Eligible Person's Plan interest shall be payable in one of the following optional annuity forms as such Eligible Person may elect, and the following early reduction factors and actuarial factors shall apply in the determination of such payment:

(A) Forms. The optional forms from which such Eligible Person may elect payment of his immediately commencing annuity shall be all of the annuity payment forms that would otherwise have been available to such Eligible Person under the Plan had he made a valid election to commence payment of his Plan interest as of the EP Window Commencement Date (determined without regard to this Section 7.14).

(B) Reduction for Early Commencement, Increase for Late Commencement and Actuarial Factors. To the extent otherwise applicable under the Plan, actuarial factors for determining the reduction of such Eligible Person's Plan interest due to early commencement, any increase of such Eligible Person's Plan interest due to late commencement and for determining actuarial equivalent benefits between available forms of annuity, shall be the factors that would have applied if such Eligible Person had made a valid election to commence payment of his Plan interest, with a benefit commencement date of the EP Window Commencement Date, and had elected the same form of immediately commencing annuity elected by such Eligible Person in his EP Window Benefit Election (all determined without regard to this Section 7.14).

(ii) Participants Not Otherwise Eligible for Immediate Commencement. With respect to an Eligible Person who is a Participant and who is not eligible for immediate commencement of payment as of the EP Window Commencement Date under the provisions of the Plan other than this Section 7.14, such Eligible Person's Plan interest shall be payable in one of the following optional annuity forms as such Eligible Person may elect, and the following early reduction factors and actuarial factors shall apply in the determination of such payment:

(A) Forms. The optional forms from which such Eligible Person may elect payment of his immediately commencing annuity shall be the Automatic Surviving Spouse's Pension described in Section 7.5 of the Plan, the 75% Joint and Survivor Option described in Section 7.7 with his Spouse as Beneficiary (provided, for both such options, such

Eligible Participant is married to a Spouse as of the EP Window Commencement Date) and the single life annuity described in Section 7.3 of the Plan.

(B) Early Reduction and Actuarial Factors. Actuarial factors for determining the reduction to be applied to such Eligible Person's Plan interest payable at Normal Retirement Date to reflect early commencement, and for determining actuarial equivalent benefits between available forms of annuity, shall be based on the Section 417(e) Assumptions.

(iii) Eligible Persons Who are Not Participants. The following provisions shall apply with respect to an Eligible Person who is not a Participant:

(A) Surviving Spouse. With respect to an Eligible Person who is a surviving Spouse, such Eligible Person may elect, in lieu of the lump sum benefit provided under subparagraph (b)(iii)(A) above, to receive payment as a survivor annuity determined in accordance with Article VIII. If such Eligible Person is not otherwise eligible to commence a survivor annuity as of the EP Window Commencement Date under Article VIII, such Eligible Person may elect under this Section 7.14 to receive a survivor annuity payable over such Eligible Person's lifetime only, commencing as of the EP Window Commencement Date, which shall be the actuarial equivalent of such lump sum benefit determined by using the Section 417(e) Assumptions.

(B) Alternate Payees. With respect to an Eligible Person who is an Alternate Payee, such Eligible Person may elect, in lieu of the lump sum benefit provided under subparagraph (b)(iii)(B) above, to receive payment at such time and in such form of benefit as otherwise provided in the qualified domestic relations order that has assigned a Plan interest to the Alternate Payee. If such Eligible Person is not otherwise eligible to commence his Plan interest as of the EP Window Commencement Date under the terms of the applicable qualified domestic relations order, such Eligible Person may elect under this Section 7.14 to receive his Plan interest as an annuity payable over such Eligible Person's lifetime only, commencing as of the EP Window Commencement Date, which shall be the actuarial equivalent of such lump sum benefit determined by using the Section 417(e) Assumptions.

(d) Form and Validity of Elections. All EP Window Benefit Elections must be made in writing on a form and in a manner provided by the Administrator as set forth on such form, and must be received in good form by the Administrator or its delegate within an administratively feasible time period following the EP Window Election Period, as determined by the Administrator. The Administrator shall have the authority to determine the validity and sufficiency of any EP Window Benefit Election.

(e) Death of Eligible Person After Valid Election and Before Commencement. Subject to the provisions of Article VIII, in the event an Eligible Person who is a Participant and who has made a valid EP Window Benefit Election to receive a lump sum payment dies before the EP Window Commencement Date, the Participant's surviving Spouse shall be paid the lump sum to which such Participant was otherwise eligible under this Section 7.14 or, in lieu thereof, such Spouse may elect to receive a survivor annuity payable over such Spouse's lifetime only, commencing as of the EP Window Commencement Date, which shall be the actuarial equivalent of such lump sum benefit using the Section 417(e) Assumptions. If such deceased Participant has no surviving Spouse, the lump sum shall be paid to such Participant's estate. Any such payment shall be made as soon as administratively practicable following such Participant's EP Window Commencement Date. In the event an Eligible Person who is a not Participant and who has made a valid EP Window Benefit Election dies before the EP Window Commencement Date, the Eligible Person's EP Window Benefit Election shall become null and void and such Eligible Person shall be entitled to such Plan interest as may be provided under the provisions of the Plan other than this Section 7.14.

(f) Administration. The Administrator shall have the authority to make and enforce all such rules and procedures as it deems necessary or proper for the administration of this Section 7.14.

* * * * * * *

IN WITNESS WHEREOF, the Company has caused this Amendment to be executed this 23rd day of December, 2020.

ERIE INDEMNITY COMPANY

ATTEST:

/s/ Cynthia R. Crosby

By: /s/ Brian W. Bolash

Title: SVP, Secretary & General Counsel

Exhibit 10.207

SECOND AMENDMENT TO

ERIE INDEMNITY COMPANY
INCENTIVE COMPENSATION DEFERRAL PLAN

Effective January 1, 2017

WHEREAS, Erie Indemnity Company (the "Company") maintains the Erie Indemnity Company Incentive Compensation Deferral Plan (the "Plan"); and

WHEREAS, Article 7 of the Plan provides that the Company may amend the Plan provided such amendment is made pursuant to a resolution of the Board of Directors of the Company; and

WHEREAS, the Company desires to amend the Plan to remove Article 5.3(a) of the Plan which allows the Company to delay a payment of nonqualified deferred compensation to the extent that the Company reasonably anticipates that the payment would not be deductible under Section 162(m) of the Internal Revenue Code of 1986 due to changes in how that provision is applied; and

WHEREAS, the Company's Board of Directors approved the aforementioned amendment by resolution on December 8, 2020.

NOW, THEREFORE, BE IT RESOLVED, that the Company hereby amends in its entirety Article 5.3(a) of the Plan as follows, effective as of December 31, 2020:

a) [Intentionally Omitted]

IN WITNESS WHEREOF, the Company has caused this Second Amendment to be executed this 24th day of December, 2020.

ERIE INDEMNITY COMPANY

ATTEST:

/s/ Brian W. Bolash

By: /s/ Timothy NeCastro

Title: President and CEO

SECOND AMENDMENT TO

SUPPLEMENTAL RETIREMENT PLAN FOR CERTAIN MEMBERS OF THE ERIE INSURANCE GROUP RETIREMENT PLAN FOR EMPLOYEES

(Amended and Restated as of January 1, 2009)

WHEREAS, Erie Indemnity Company (the “Company”) maintains the Supplemental Retirement Plan for Certain Members of the Erie Insurance Group Retirement Plan for Employees (the “Plan”); and

WHEREAS, Section 7 of the Plan provides that the Company may amend the Plan; and

WHEREAS, the Company desires to amend the Plan to remove Section 5.4(a) of the Plan which allows the Company to delay a payment of nonqualified deferred compensation to the extent that the Company reasonably anticipates that the payment would not be deductible under Section 162(m) of the Internal Revenue Code of 1986 due to changes in how that provision is applied; and

WHEREAS, the Company’s Board of Directors approved the aforementioned amendment by resolution on December 8, 2020.

NOW, THEREFORE, the Company hereby amends in its entirety Section 5.4(a) of the Plan as follows, effective as of December 31, 2020:

a) [Intentionally Omitted]

IN WITNESS WHEREOF, the Company has caused this Second Amendment to be executed this 24th day of December, 2020.

ERIE INDEMNITY COMPANY

ATTEST:

/s/ Brian W. Bolash

By: /s/ Timothy NeCastro

Title: President and CEO

SECOND AMENDMENT TO

APPENDIX B

DEFERRED COMPENSATION PLAN OF ERIE INDEMNITY COMPANY

Accounts Not Earned and Vested On or Before December 31, 2004

(As Amended and Restated Effective as of January 1, 2009)

WHEREAS, Erie Indemnity Company (the "Company") maintains the Deferred Compensation Plan of Erie Indemnity Company (the "Plan"); and

WHEREAS, Article 4 of the Plan provides that the Company may amend the Plan; and

WHEREAS, the Company desires to amend Appendix B to the Plan to remove Article 5.4(a) of Appendix B to the Plan which allows the Company to delay a payment of nonqualified deferred compensation to the extent that the Company reasonably anticipates that the payment would not be deductible under Section 162(m) of the Internal Revenue Code of 1986 due to changes in how that provision is applied; and

WHEREAS, the Company's Board of Directors approved the aforementioned amendment by resolution on December 8, 2020.

NOW, THEREFORE, the Company hereby amends in its entirety, Article 5.4(a) of Appendix B to the Plan as follows, effective as of December 31, 2020:

a) [Intentionally Omitted]

IN WITNESS WHEREOF, the Company has caused this Second Amendment to be executed this 24th day of December, 2020.

ERIE INDEMNITY COMPANY

ATTEST:

/s/ Brian W. Bolash

By: /s/ Timothy NeCastro

Title: President and CEO

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-8 No. 333-218739) pertaining to the Erie Indemnity Company Incentive Compensation Deferral Plan,
(2) Registration Statement (Form S-8 No. 333-188244) pertaining to the Erie Indemnity Company Equity Compensation Plan,
(3) Registration Statement (Form S-8 No. 333-148705) pertaining to the Erie Indemnity Company 2004 Long-Term Incentive Plan, Erie Indemnity Company 1997 Long-Term Incentive Plan, and Erie Indemnity Company Deferred Compensation Plan for Outside Directors,
(4) Registration Statement (Form S-8 No. 333-82062) pertaining to the Erie Indemnity Company Long-Term Incentive Plan, and
(5) Registration Statement (Form S-8 No. 333-53318) pertaining to the Erie Indemnity Company Long-Term Incentive Plan

of our reports dated February 25, 2021, with respect to the financial statements of Erie Indemnity Company and the effectiveness of internal control over financial reporting of Erie Indemnity Company included in this Annual Report (Form 10-K) of Erie Indemnity Company for the year ended December 31, 2020.

/s/ Ernst & Young LLP

Cleveland, OH
February 25, 2021

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Timothy G. NeCastro, certify that:

1. I have reviewed this annual report on Form 10-K of Erie Indemnity Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's fourth fiscal quarter that has materially affected or is reasonably likely to materially affect the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors:

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 25, 2021

/s/ Timothy G. NeCastro
Timothy G. NeCastro
President & CEO

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Gregory J. Gutting, certify that:

1. I have reviewed this annual report on Form 10-K of Erie Indemnity Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's fourth fiscal quarter that has materially affected or is reasonably likely to materially affect the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors:

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 25, 2021

/s/ Gregory J. Gutting
Gregory J. Gutting
Executive Vice President & CFO

Exhibit 32

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

We, Timothy G. NeCastro, Chief Executive Officer of the Erie Indemnity Company (the "Company"), and Gregory J. Gutting, Chief Financial Officer of the Company, certify, pursuant to § 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. § 1350, that:

(1) The Annual Report on Form 10-K of the Company for the annual period ended December 31, 2020 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m); and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Timothy G. NeCastro
Timothy G. NeCastro
President & CEO

/s/ Gregory J. Gutting
Gregory J. Gutting
Executive Vice President & CFO

February 25, 2021

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.