

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 10-Q

☒ **Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the quarterly period ended September 30, 2019**

or

☐ **Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the transition period from _____ to _____**

Commission File Number: 001-15811

MARKEL CORPORATION
(Exact name of registrant as specified in its charter)

Virginia
(State or other jurisdiction of
incorporation or organization)

54-1959284
(I.R.S. Employer
Identification No.)

4521 Highwoods Parkway, Glen Allen, Virginia 23060-6148
(Address of principal executive offices) (Zip Code)

(804) 747-0136
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common Stock, no par value	MKL	New York Stock Exchange

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

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

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

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

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

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

Number of shares of the registrant's common stock outstanding at October 22, 2019: 13,812,499

Markel Corporation
Form 10-Q
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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

MARKEL CORPORATION AND SUBSIDIARIES

Consolidated Balance Sheets (dollars in thousands)

	September 30, 2019	December 31, 2018
	(unaudited)	
ASSETS		
Investments, at estimated fair value:		
Fixed maturities, available-for-sale (amortized cost of \$9,601,898 in 2019 and \$9,950,773 in 2018)	\$ 10,204,025	\$ 10,043,188
Equity securities (cost of \$3,204,316 in 2019 and \$2,971,856 in 2018)	6,978,874	5,720,945
Short-term investments, available-for-sale (estimated fair value approximates cost)	1,545,393	1,077,696
Total Investments	18,728,292	16,841,829
Cash and cash equivalents	2,715,455	2,014,168
Restricted cash and cash equivalents	484,314	382,264
Receivables	1,930,394	1,692,526
Reinsurance recoverables	5,372,156	5,221,947
Deferred policy acquisition costs	570,323	474,513
Prepaid reinsurance premiums	1,508,853	1,331,022
Goodwill	2,187,585	2,237,975
Intangible assets	1,659,129	1,726,196
Other assets	1,879,695	1,383,823
Total Assets	\$ 37,036,196	\$ 33,306,263
LIABILITIES AND EQUITY		
Unpaid losses and loss adjustment expenses	\$ 14,437,816	\$ 14,276,479
Life and annuity benefits	1,021,185	1,001,453
Unearned premiums	4,224,074	3,611,028
Payables to insurance and reinsurance companies	408,508	337,326
Senior long-term debt and other debt (estimated fair value of \$4,257,000 in 2019 and \$3,030,000 in 2018)	3,896,962	3,009,577
Other liabilities	2,247,179	1,796,036
Total Liabilities	26,235,724	24,031,899
Redeemable noncontrolling interests	165,602	174,062
Commitments and contingencies		
Shareholders' equity:		
Common stock	3,402,934	3,392,993
Retained earnings	6,988,888	5,782,310
Accumulated other comprehensive income (loss)	231,632	(94,650)
Total Shareholders' Equity	10,623,454	9,080,653
Noncontrolling interests	11,416	19,649
Total Equity	10,634,870	9,100,302
Total Liabilities and Equity	\$ 37,036,196	\$ 33,306,263

See accompanying notes to consolidated financial statements.

MARKEL CORPORATION AND SUBSIDIARIES

Consolidated Statements of Income and Comprehensive Income (Unaudited)

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
<i>(dollars in thousands, except per share data)</i>				
OPERATING REVENUES				
Earned premiums	\$ 1,300,032	\$ 1,185,323	\$ 3,703,470	\$ 3,484,528
Net investment income	113,382	106,307	339,395	319,710
Net investment gains:				
Net realized investment gains (losses)	150	(496)	764	(9,084)
Change in fair value of equity securities	31,994	426,571	1,069,224	417,410
Net investment gains	32,144	426,075	1,069,988	408,326
Products revenues	386,708	362,577	1,237,178	1,129,036
Services and other revenues	200,792	155,667	594,631	456,833
Total Operating Revenues	2,033,058	2,235,949	6,944,662	5,798,433
OPERATING EXPENSES				
Losses and loss adjustment expenses	752,134	736,846	2,118,000	1,951,142
Underwriting, acquisition and insurance expenses	475,219	441,961	1,392,747	1,317,921
Products expenses	354,404	341,718	1,098,968	1,062,000
Services and other expenses	153,358	132,024	498,760	394,311
Amortization of intangible assets	35,695	27,795	112,663	86,259
Impairment of goodwill and intangible assets	—	—	—	14,904
Total Operating Expenses	1,770,810	1,680,344	5,221,138	4,826,537
Operating Income	262,248	555,605	1,723,524	971,896
Interest expense	47,465	37,961	129,022	114,722
Net foreign exchange gains	(53,850)	(1,383)	(57,001)	(65,427)
Loss on early extinguishment of debt	6,705	—	6,705	—
Income Before Income Taxes	261,928	519,027	1,644,798	922,601
Income tax expense	57,975	109,999	356,849	299,580
Net Income	203,953	409,028	1,287,949	623,021
Net income (loss) attributable to noncontrolling interests	(1,684)	(410)	8,587	(342)
Net Income to Shareholders	\$ 205,637	\$ 409,438	\$ 1,279,362	\$ 623,363
OTHER COMPREHENSIVE INCOME				
Change in net unrealized gains (losses) on available-for-sale investments, net of taxes:				
Net holding gains (losses) arising during the period	\$ 48,315	\$ (91,002)	\$ 329,113	\$ (306,069)
Reclassification adjustments for net losses included in net income	203	10,573	760	5,496
Change in net unrealized gains (losses) on available-for-sale investments, net of taxes	48,518	(80,429)	329,873	(300,573)
Change in foreign currency translation adjustments, net of taxes	(4,606)	(14,471)	(5,978)	(19,968)
Change in net actuarial pension loss, net of taxes	462	509	2,338	1,741
Total Other Comprehensive Income (Loss)	44,374	(94,391)	326,233	(318,800)
Comprehensive Income	248,327	314,637	1,614,182	304,221
Comprehensive income (loss) attributable to noncontrolling interests	(1,742)	(469)	8,538	(382)
Comprehensive Income to Shareholders	\$ 250,069	\$ 315,106	\$ 1,605,644	\$ 304,603
NET INCOME PER SHARE				
Basic	\$ 13.97	\$ 28.56	\$ 92.92	\$ 44.29
Diluted	\$ 13.95	\$ 28.50	\$ 92.84	\$ 44.21

See accompanying notes to consolidated financial statements.

MARKEL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Changes in Equity
(Unaudited)

Quarter Ended September 30, 2019	Common Shares	Common Stock	Retained Earnings	Accumulated Other Comprehensive Income	Total Shareholders' Equity	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
<i>(in thousands)</i>								
June 30, 2019	13,826	\$ 3,400,964	\$ 6,808,201	\$ 187,200	\$ 10,396,365	\$ 16,716	\$ 10,413,081	\$ 151,297
Net income (loss)			205,637	—	205,637	(5,590)	200,047	3,906
Other comprehensive income (loss)			—	44,432	44,432	—	44,432	(58)
Comprehensive Income (Loss)					250,069	(5,590)	244,479	3,848
Issuance of common stock	1	43	—	—	43	—	43	—
Repurchase of common stock	(12)	—	(12,732)	—	(12,732)	—	(12,732)	—
Restricted stock units expensed	—	2,410	—	—	2,410	—	2,410	—
Adjustment of redeemable noncontrolling interests	—	—	(12,221)	—	(12,221)	—	(12,221)	12,221
Purchase of noncontrolling interest	—	(483)	—	—	(483)	—	(483)	483
Other	—	—	3	—	3	290	293	(2,247)
September 30, 2019	13,815	\$ 3,402,934	\$ 6,988,888	\$ 231,632	\$ 10,623,454	\$ 11,416	\$ 10,634,870	\$ 165,602

Nine Months Ended September 30, 2019	Common Shares	Common Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
<i>(in thousands)</i>								
December 31, 2018	13,888	\$ 3,392,993	\$ 5,782,310	\$ (94,650)	\$ 9,080,653	\$ 19,649	\$ 9,100,302	\$ 174,062
Net income (loss)			1,279,362	—	1,279,362	(4,185)	1,275,177	12,772
Other comprehensive income (loss)			—	326,282	326,282	—	326,282	(49)
Comprehensive Income (Loss)					1,605,644	(4,185)	1,601,459	12,723
Issuance of common stock	7	43	—	—	43	—	43	—
Repurchase of common stock	(80)	—	(81,998)	—	(81,998)	—	(81,998)	—
Restricted stock units expensed	—	14,282	—	—	14,282	—	14,282	—
Adjustment to Nephila purchase price allocation	—	—	—	—	—	(8,250)	(8,250)	51
Adjustment of redeemable noncontrolling interests	—	—	9,464	—	9,464	—	9,464	(9,464)
Purchase of noncontrolling interest	—	(4,219)	—	—	(4,219)	—	(4,219)	(4,542)
Other	—	(165)	(250)	—	(415)	4,202	3,787	(7,228)
September 30, 2019	13,815	\$ 3,402,934	\$ 6,988,888	\$ 231,632	\$ 10,623,454	\$ 11,416	\$ 10,634,870	\$ 165,602

See accompanying notes to consolidated financial statements.

MARKEL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Changes in Equity (continued)
(Unaudited)

Quarter Ended September 30, 2018 <i>(in thousands)</i>	Common Shares	Common Stock	Retained Earnings	Accumulated Other Comprehensive Loss	Total Shareholders' Equity	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
June 30, 2018	13,886	\$ 3,387,121	\$ 6,184,299	\$ (90,560)	\$ 9,480,860	\$ (3,446)	\$ 9,477,414	\$ 155,998
Net income (loss)			409,438	—	409,438	(359)	409,079	(51)
Other comprehensive loss			—	(94,332)	(94,332)	—	(94,332)	(59)
Comprehensive Income (Loss)					315,106	(359)	314,747	(110)
Issuance of common stock	4	—	—	—	—	—	—	—
Repurchase of common stock	(6)	—	(6,572)	—	(6,572)	—	(6,572)	—
Restricted stock units expensed	—	3,292	—	—	3,292	—	3,292	—
Adjustment of redeemable noncontrolling interests	—	—	(12,035)	—	(12,035)	—	(12,035)	12,035
Purchase of noncontrolling interest	—	600	—	—	600	—	600	(7,065)
Other	—	1,309	1,432	—	2,741	(33)	2,708	(2,119)
September 30, 2018	13,884	\$ 3,392,322	\$ 6,576,562	\$ (184,892)	\$ 9,783,992	\$ (3,838)	\$ 9,780,154	\$ 158,739

See accompanying notes to consolidated financial statements.

MARKEL CORPORATION AND SUBSIDIARIES

Consolidated Statements of Changes in Equity (continued) (Unaudited)

Nine Months Ended September 30, 2018 (in thousands)	Common Shares	Common Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
December 31, 2017	13,904	\$ 3,381,834	\$ 3,776,743	\$ 2,345,571	\$ 9,504,148	\$ (2,567)	\$ 9,501,581	\$ 166,269
Cumulative effect of adoption of ASU No. 2014- 09, net of taxes			325	—	325	—	325	—
Cumulative effect of adoption of ASU No. 2016- 01, net of taxes			2,613,242	(2,613,242)	—	—	—	—
Cumulative effect of adoption of ASU No. 2018- 02			(401,539)	401,539	—	—	—	—
January 1, 2018	13,904	3,381,834	5,988,771	133,868	9,504,473	(2,567)	9,501,906	166,269
Net income (loss)			623,363	—	623,363	(1,269)	622,094	927
Other comprehensive loss			—	(318,760)	(318,760)	—	(318,760)	(40)
Comprehensive Income (Loss)					304,603	(1,269)	303,334	887
Issuance of common stock	8	2	—	—	2	—	2	—
Repurchase of common stock	(28)	—	(30,829)	—	(30,829)	—	(30,829)	—
Restricted stock units expensed	—	15,521	—	—	15,521	—	15,521	—
Adjustment of redeemable noncontrolling interests	—	—	(6,621)	—	(6,621)	—	(6,621)	6,621
Purchase of noncontrolling interest	—	(4,986)	—	—	(4,986)	—	(4,986)	(7,104)
Other	—	(49)	1,878	—	1,829	(2)	1,827	(7,934)
September 30, 2018	13,884	\$ 3,392,322	\$ 6,576,562	\$ (184,892)	\$ 9,783,992	\$ (3,838)	\$ 9,780,154	\$ 158,739

See accompanying notes to consolidated financial statements.

MARKEL CORPORATION AND SUBSIDIARIES
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	Nine Months Ended September 30,	
	2019	2018
	<i>(dollars in thousands)</i>	
OPERATING ACTIVITIES		
Net income	\$ 1,287,949	\$ 623,021
Adjustments to reconcile net income to net cash provided by operating activities	(575,991)	140,155
Net Cash Provided By Operating Activities	711,958	763,176
INVESTING ACTIVITIES		
Proceeds from sales of fixed maturities and equity securities	326,304	361,768
Proceeds from maturities, calls and prepayments of fixed maturities	446,625	459,517
Cost of fixed maturities and equity securities purchased	(657,563)	(1,409,263)
Net change in short-term investments	(451,408)	257,288
Cost of equity method investments	(216,806)	(3,647)
Additions to property and equipment	(95,457)	(78,886)
Proceeds from disposals of fixed assets	15,949	1,528
Acquisitions, net of cash acquired	(25,627)	(11,314)
Other	825	(30,206)
Net Cash Used By Investing Activities	(657,158)	(453,215)
FINANCING ACTIVITIES		
Additions to senior long-term debt and other debt	1,578,823	145,813
Repayment of senior long-term debt and other debt	(680,516)	(246,049)
Premiums and fees related to early extinguishment of debt	(10,086)	—
Repurchases of common stock	(81,998)	(30,829)
Payment of contingent consideration	(14,113)	(15,914)
Purchase of noncontrolling interests	(9,754)	(13,523)
Distributions to noncontrolling interests	(7,147)	(7,964)
Other	(4,565)	(3,303)
Net Cash Provided (Used) By Financing Activities	770,644	(171,769)
Effect of foreign currency rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents	(22,107)	(12,096)
Increase in cash, cash equivalents, restricted cash and restricted cash equivalents	803,337	126,096
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of period	2,396,432	2,500,846
CASH, CASH EQUIVALENTS, RESTRICTED CASH AND RESTRICTED CASH EQUIVALENTS AT END OF PERIOD	\$ 3,199,769	\$ 2,626,942

See accompanying notes to consolidated financial statements.

MARKEL CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

Markel Corporation is a diverse financial holding company serving a variety of niche markets. Markel Corporation's principal business markets and underwrites specialty insurance products. Through its wholly owned subsidiary, Markel Ventures, Inc. (Markel Ventures), Markel Corporation also owns interests in various businesses that operate outside of the specialty insurance marketplace.

a) Basis of Presentation. The consolidated balance sheet as of September 30, 2019 and the related consolidated statements of income and comprehensive income and changes in equity for the quarters and nine months ended September 30, 2019 and 2018, and the consolidated statements of cash flows for the nine months ended September 30, 2019 and 2018 are unaudited. In the opinion of management, all adjustments necessary for fair presentation of such consolidated financial statements have been included. Such adjustments consist only of normal, recurring items. Interim results are not necessarily indicative of results of operations for the entire year. The consolidated balance sheet as of December 31, 2018 was derived from Markel Corporation's audited annual consolidated financial statements.

The accompanying consolidated financial statements have been prepared in accordance with United States (U.S.) generally accepted accounting principles (GAAP) and include the accounts of Markel Corporation and its consolidated subsidiaries, as well as any variable interest entities (VIEs) that meet the requirements for consolidation (the Company). All significant intercompany balances and transactions have been eliminated in consolidation. The Company consolidates the results of its Markel Ventures subsidiaries on a one-month lag, with the exception of significant transactions or events that occur during the intervening period. Certain prior year amounts have been reclassified to conform to the current presentation.

The preparation of financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities. Actual results may differ materially from the estimates and assumptions used in preparing the consolidated financial statements.

The consolidated financial statements and notes are presented as permitted by Form 10-Q and do not contain certain information included in the Company's annual consolidated financial statements and notes. Readers are urged to review the Company's 2018 Annual Report on Form 10-K for a more complete description of the Company's business and accounting policies.

b) Leases. Following the adoption of Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) No. 2016-02, *Leases (Topic 842)*, effective January 1, 2019, the present value of future lease payments for the Company's leases with terms greater than 12 months are included on the consolidated balance sheet as lease liabilities and right-of-use lease assets.

The Company's lease portfolio primarily consists of operating leases for real estate. Total expected lease payments are based on the lease payments specified in the contract and the stated term, including any options to extend or terminate that the Company is reasonably certain to exercise. The Company has elected the practical expedient to account for lease components and any associated non-lease components as a single lease component, and therefore allocates all of the expected lease payments to the lease component.

The lease liability, which represents the Company's obligation to make lease payments arising from the lease, is calculated based on the present value of expected lease payments over the remaining lease term, discounted using the Company's collateralized incremental borrowing rate at the commencement date. The lease liability is then adjusted for any prepaid rent, lease incentives received or capitalized initial direct costs to determine the lease asset, which represents the Company's right to use the underlying asset for the lease term. Lease liabilities and lease assets are included in other liabilities and other assets, respectively, on the consolidated balance sheet.

Total lease costs are primarily comprised of rental expense for operating leases. Rental expense is recognized on a straight line basis over the lease term and includes amortization of the right-of-use lease asset and imputed interest on the lease liability. Rental expense attributable to the Company's underwriting operations is included in underwriting, acquisition and insurance expenses and rental expense attributable to the Company's other operations is included in products expenses and services and other expenses in the consolidated statements of income and comprehensive income.

2. Recent Accounting Pronouncements

Effective January 1, 2019, the Company adopted FASB ASU No. 2016-02, *Leases (Topic 842)* and several other ASUs that were issued as amendments to ASU No. 2016-02, which require lessees to record most leases in their balance sheets as a lease liability with a corresponding right-of-use asset, but continue to recognize the related rent expense within net income. The Company elected to apply the optional transition method, under which an entity initially applies the new lease standard to existing leases at the beginning of the period of adoption. The Company continues to apply the previous guidance to 2018 and prior periods. The Company also elected the package of practical expedients permitted under the transition guidance within the new standard, which, among other things, allowed companies to carry forward their historical lease classification. As a result of adopting ASU No. 2016-02, the Company recorded a right-of-use lease asset and a lease liability of \$243.7 million and \$264.6 million, respectively as of January 1, 2019. ASU No. 2016-02 also requires expanded lease disclosures, which are included in note 12. Adoption of this standard did not have a material impact on the Company's results of operations or cash flows.

The following ASU issued by the FASB is relevant to the Company's operations and was adopted effective January 1, 2019. This ASU did not have a material impact on the Company's financial position, results of operations or cash flows:

- ASU No. 2017-08, *Receivables—Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities*

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The FASB subsequently issued several ASUs as amendments to ASU No. 2016-13. The standard replaces the current incurred loss model used to measure impairment losses with a current expected credit loss (CECL) model for financial instruments measured at amortized cost, including reinsurance recoverables and trade receivables. For available-for-sale fixed maturities, which are measured at fair value, the ASU requires entities to record impairments as an allowance, rather than a reduction of the amortized cost, as is currently required under the other-than-temporary impairment model. ASU No. 2016-13 becomes effective for the Company during the first quarter of 2020 and will be applied using a modified retrospective approach through a cumulative-effect adjustment to retained earnings as of January 1, 2020. The Company is currently evaluating ASU No. 2016-13 to determine the potential impact that adopting this standard will have on its consolidated financial statements. Application of the CECL model will not impact the Company's investment portfolio, none of which is measured at amortized cost, but will impact certain of the Company's other financial assets, including its reinsurance recoverables and receivables. Upon adoption of this ASU, any impairment losses on the Company's available-for-sale fixed maturities will be recorded as an allowance, subject to reversal, rather than as a reduction in amortized cost.

In August 2018, the FASB issued ASU No. 2018-12, *Financial Services—Insurance (Topic 944): Targeted Improvements to the Accounting for Long-Duration Contracts*. The ASU requires insurance entities with long duration contracts to: (1) review and, if there is a change, update the assumptions used to measure cash flows at least annually, as well as update the discount rate assumption at each reporting date; (2) measure all market risk benefits associated with deposit (or account balance) contracts at fair value; and (3) disclose liability rollforwards and information about significant inputs, judgments, assumptions and methods used in measurement, including changes thereto and the effect of those changes on measurement. In August 2019, the FASB proposed an update to ASU No. 2018-12 to defer its effective date. The proposed update would make the ASU effective for the Company during the first quarter of 2022. ASU No. 2018-12 will, among other things, impact the discount rate used in estimating reserves for the Company's life and annuity reinsurance portfolio, which is in runoff. Currently, the discount rate assumption is locked-in for the life of the contracts, unless there is a loss recognition event. The Company is currently evaluating ASU No. 2018-12 to determine the impact that adopting this standard will have on its consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. The ASU aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software and hosting arrangements that include an internal-use software license. The ASU requires an entity to expense the implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. Currently, such costs are generally expensed as incurred. ASU No. 2018-15 becomes effective for the Company during the first quarter of 2020 and may be applied on a prospective or retrospective basis. Early adoption is permitted. The Company is currently evaluating its information technology projects to determine the impact that adopting ASU No. 2018-15 will have on its consolidated financial statements.

The following ASUs issued by the FASB are relevant to the Company's operations and are not yet effective. These ASUs are not expected to have a material impact on the Company's financial position, results of operations or cash flows:

- ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*
- ASU No. 2018-14, *Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans*
- ASU No. 2018-17, *Consolidation (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities*

3. Acquisitions

The Hagerty Group, LLC

In June 2019, the Company acquired a minority ownership interest in The Hagerty Group, LLC (Hagerty Group), a company that primarily operates as a managing general agent under the names Hagerty Insurance Agency and Hagerty Classic Marine Insurance Agency (collectively, Hagerty). Hagerty Group also includes Hagerty Re, a Bermuda Class 3 reinsurance company. Hagerty Group is a leading automotive lifestyle brand and provider of specialty insurance to automobile enthusiasts. Total consideration for the Company's investment was \$212.5 million. The Company's investment in Hagerty Group is accounted for under the equity method and is included in other assets on the Company's consolidated balance sheet.

Essentia Insurance Company, one of the Company's insurance subsidiaries, is the exclusive insurance underwriter for Hagerty in the U.S., and a portion of this insurance is ceded to Hagerty Re. Gross written premiums attributable to Hagerty for the quarter and nine months ended September 30, 2019 were \$120.8 million and \$333.7 million, respectively, of which \$57.7 million and \$159.8 million were ceded to Hagerty Re.

Brahmin Leather Works, LLC

In October 2018, the Company acquired 90% of Brahmin Leather Works, LLC (Brahmin), a Massachusetts-based privately held creator of fashion leather handbags. Total consideration for the acquisition was \$192.9 million, which included cash consideration of \$172.3 million. Total consideration also includes the estimated fair value of contingent consideration the Company expects to pay based on Brahmin's earnings as defined in the purchase agreement, for the period of 2019 through 2021.

As of December 31, 2018, the purchase price was preliminarily allocated to the acquired assets and liabilities of Brahmin based on estimated fair value at the acquisition date. During the second quarter of 2019, the Company completed the process of determining the fair value of the assets and liabilities acquired with Brahmin. The Company recognized goodwill of \$63.8 million, which is primarily attributable to expected future earnings and cash flow potential of Brahmin. The majority of the goodwill recognized is deductible for income tax purposes. The Company also recognized other intangible assets of \$93.3 million, which includes \$57.0 million of customer relationships, \$35.0 million of trade names and \$1.3 million of other intangible assets, which are being amortized over a weighted average period of 16 years, 16 years and 8 years, respectively. The Company also recognized redeemable noncontrolling interests of \$19.6 million. Results attributable to Brahmin are included in the Company's Market Ventures segment.

Nephila Holdings Ltd.

In November 2018, the Company acquired all of the outstanding shares of Nephila Holdings Ltd. (Nephila), a Bermuda-based investment fund manager offering a broad range of investment products, including insurance-linked securities, catastrophe bonds, insurance swaps and weather derivatives. Nephila generates revenue primarily through management and incentive fees. Total consideration for the acquisition was \$974.4 million, all of which was cash consideration.

As of December 31, 2018, the purchase price was preliminarily allocated to the acquired assets and liabilities of Nephila based on estimated fair values at the acquisition date. During the third quarter of 2019, the Company completed the process of determining the fair value of the assets and liabilities acquired with Nephila. The Company recognized goodwill of \$434.2 million, which is primarily attributable to expected future earnings and cash flow potential of Nephila. None of the goodwill recognized is deductible for income tax purposes. The Company also recognized other intangible assets of \$551.0 million, which includes \$468.0 million of investment management agreements, \$32.0 million of broker relationships, \$27.0 million of technology and \$24.0 million of trade names, which are being amortized over a weighted average period of 17 years, 12 years, 6 years and 14 years, respectively. The Company also recognized noncontrolling interests of \$15.1 million attributable to certain consolidated subsidiaries of Nephila that are not wholly-owned. Nephila operates as a separate business unit and its operating results are not included in a reportable segment.

4. Investments

a) The following tables summarize the Company's available-for-sale investments. Commercial and residential mortgage-backed securities include securities issued by U.S. government-sponsored enterprises and U.S. government agencies.

	September 30, 2019			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<i>(dollars in thousands)</i>				
Fixed maturities:				
U.S. Treasury securities	\$ 293,954	\$ 3,201	\$ (199)	\$ 296,956
U.S. government-sponsored enterprises	331,356	28,628	(11)	359,973
Obligations of states, municipalities and political subdivisions	4,047,517	272,703	(112)	4,320,108
Foreign governments	1,471,214	158,652	(14,252)	1,615,614
Commercial mortgage-backed securities	1,708,617	81,696	(230)	1,790,083
Residential mortgage-backed securities	868,317	42,015	(663)	909,669
Asset-backed securities	9,881	46	(3)	9,924
Corporate bonds	871,042	37,905	(7,249)	901,698
Total fixed maturities	9,601,898	624,846	(22,719)	10,204,025
Short-term investments	1,546,129	364	(1,100)	1,545,393
Investments, available-for-sale	\$ 11,148,027	\$ 625,210	\$ (23,819)	\$ 11,749,418

	December 31, 2018			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<i>(dollars in thousands)</i>				
Fixed maturities:				
U.S. Treasury securities	\$ 248,286	\$ 308	\$ (1,952)	\$ 246,642
U.S. government-sponsored enterprises	357,765	5,671	(4,114)	359,322
Obligations of states, municipalities and political subdivisions	4,285,068	96,730	(28,868)	4,352,930
Foreign governments	1,482,826	98,356	(21,578)	1,559,604
Commercial mortgage-backed securities	1,691,572	3,154	(44,527)	1,650,199
Residential mortgage-backed securities	886,501	6,170	(12,499)	880,172
Asset-backed securities	19,614	7	(213)	19,408
Corporate bonds	979,141	13,234	(17,464)	974,911
Total fixed maturities	9,950,773	223,630	(131,215)	10,043,188
Short-term investments	1,080,027	443	(2,774)	1,077,696
Investments, available-for-sale	\$ 11,030,800	\$ 224,073	\$ (133,989)	\$ 11,120,884

b) The following tables summarize gross unrealized investment losses on available-for-sale investments by the length of time that securities have continuously been in an unrealized loss position.

	September 30, 2019					
	Less than 12 months		12 months or longer		Total	
	Estimated Fair Value	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Losses
<i>(dollars in thousands)</i>						
Fixed maturities:						
U.S. Treasury securities	\$ 7,481	\$ (6)	\$ 81,674	\$ (193)	\$ 89,155	\$ (199)
U.S. government-sponsored enterprises	—	—	35,386	(11)	35,386	(11)
Obligations of states, municipalities and political subdivisions	1,053	(13)	25,289	(99)	26,342	(112)
Foreign governments	157,525	(5,764)	166,998	(8,488)	324,523	(14,252)
Commercial mortgage-backed securities	—	—	34,144	(230)	34,144	(230)
Residential mortgage-backed securities	2,105	(9)	71,317	(654)	73,422	(663)
Asset-backed securities	—	—	2,242	(3)	2,242	(3)
Corporate bonds	168,843	(5,862)	78,519	(1,387)	247,362	(7,249)
Total fixed maturities	337,007	(11,654)	495,569	(11,065)	832,576	(22,719)
Short-term investments	115,139	(1,100)	—	—	115,139	(1,100)
Total	\$ 452,146	\$ (12,754)	\$ 495,569	\$ (11,065)	\$ 947,715	\$ (23,819)

At September 30, 2019, the Company held 220 available-for-sale securities with a total estimated fair value of \$947.7 million and gross unrealized losses of \$23.8 million. Of these 220 securities, 162 securities had been in a continuous unrealized loss position for one year or longer and had a total estimated fair value of \$495.6 million and gross unrealized losses of \$11.1 million. The Company does not intend to sell or believe it will be required to sell these available-for-sale securities before recovery of their amortized cost.

	December 31, 2018					
	Less than 12 months		12 months or longer		Total	
	Estimated Fair Value	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Losses
<i>(dollars in thousands)</i>						
Fixed maturities:						
U.S. Treasury securities	\$ 2,922	\$ (83)	\$ 156,352	\$ (1,869)	\$ 159,274	\$ (1,952)
U.S. government-sponsored enterprises	88,854	(1,923)	96,337	(2,191)	185,191	(4,114)
Obligations of states, municipalities and political subdivisions	656,573	(12,455)	453,736	(16,413)	1,110,309	(28,868)
Foreign governments	419,764	(14,461)	84,776	(7,117)	504,540	(21,578)
Commercial mortgage-backed securities	653,410	(10,128)	709,971	(34,399)	1,363,381	(44,527)
Residential mortgage-backed securities	276,777	(3,685)	242,949	(8,814)	519,726	(12,499)
Asset-backed securities	1,645	(11)	17,030	(202)	18,675	(213)
Corporate bonds	313,164	(10,965)	222,761	(6,499)	535,925	(17,464)
Total fixed maturities	2,413,109	(53,711)	1,983,912	(77,504)	4,397,021	(131,215)
Short-term investments	197,643	(2,774)	—	—	197,643	(2,774)
Total	\$ 2,610,752	\$ (56,485)	\$ 1,983,912	\$ (77,504)	\$ 4,594,664	\$ (133,989)

At December 31, 2018, the Company held 1,005 securities with a total estimated fair value of \$4.6 billion and gross unrealized losses of \$134.0 million. Of these 1,005 securities, 541 securities had been in a continuous unrealized loss position for one year or longer and had a total estimated fair value of \$2.0 billion and gross unrealized losses of \$77.5 million.

The Company completes a detailed analysis each quarter to assess whether the decline in the fair value of any investment below its cost basis is deemed other-than-temporary. All available-for-sale securities with unrealized losses are reviewed. The Company considers many factors in completing its quarterly review of securities with unrealized losses for other-than-temporary impairment, including the length of time and the extent to which fair value has been below cost and the financial condition and near-term prospects of the issuer.

For fixed maturities, the Company considers whether it intends to sell the security or if it is more likely than not that it will be required to sell the security before recovery, the implied yield-to-maturity, the credit quality of the issuer and the ability to recover all amounts outstanding when contractually due. For fixed maturities where the Company intends to sell the security or it is more likely than not that the Company will be required to sell the security before recovery of its amortized cost, a decline in fair value is considered to be other-than-temporary and is recognized in net income based on the fair value of the security at the time of assessment, resulting in a new cost basis for the security. If the decline in fair value of a fixed maturity below its amortized cost is considered to be other-than-temporary based upon other considerations, the Company compares the estimated present value of the cash flows expected to be collected to the amortized cost of the security. The extent to which the estimated present value of the cash flows expected to be collected is less than the amortized cost of the security represents the credit-related portion of the other-than-temporary impairment, which is recognized in net income, resulting in a new cost basis for the security. Any remaining decline in fair value represents the non-credit portion of the other-than-temporary impairment, which is recognized in other comprehensive income.

c) The amortized cost and estimated fair value of fixed maturities at September 30, 2019 are shown below by contractual maturity.

<i>(dollars in thousands)</i>	Amortized Cost	Estimated Fair Value
Due in one year or less	\$ 491,999	\$ 485,791
Due after one year through five years	1,285,281	1,310,381
Due after five years through ten years	2,081,192	2,197,791
Due after ten years	3,156,611	3,500,386
	7,015,083	7,494,349
Commercial mortgage-backed securities	1,708,617	1,790,083
Residential mortgage-backed securities	868,317	909,669
Asset-backed securities	9,881	9,924
Total fixed maturities	\$ 9,601,898	\$ 10,204,025

d) The following table presents the components of net investment income.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Interest:				
Municipal bonds (tax-exempt)	\$ 17,456	\$ 19,588	\$ 54,167	\$ 60,810
Municipal bonds (taxable)	18,442	18,634	55,634	54,487
Other taxable bonds	40,560	40,932	122,583	117,949
Short-term investments, including overnight deposits	14,294	13,719	38,259	36,224
Dividends on equity securities	25,493	21,721	73,486	66,202
Income (loss) from equity method investments	366	(3,556)	3,436	(3,268)
Other	797	255	3,971	242
	117,408	111,293	351,536	332,646
Investment expenses	(4,026)	(4,986)	(12,141)	(12,936)
Net investment income	\$ 113,382	\$ 106,307	\$ 339,395	\$ 319,710

e) The following table presents net investment gains and the change in net unrealized gains (losses) on available-for-sale investments.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Realized gains:				
Sales and maturities of fixed maturities	\$ 856	\$ 2,916	\$ 2,660	\$ 3,748
Sales and maturities of short-term investments	1,540	1,447	1,288	1,624
Other	124	171	584	1,008
Total realized gains	2,520	4,534	4,532	6,380
Realized losses:				
Sales and maturities of fixed maturities	(198)	(1,003)	(1,109)	(2,652)
Sales and maturities of short-term investments	(2,172)	(3,997)	(2,659)	(10,044)
Other	—	(30)	—	(2,768)
Total realized losses	(2,370)	(5,030)	(3,768)	(15,464)
Net realized investment gains (losses)	150	(496)	764	(9,084)
Change in fair value of equity securities:				
Change in fair value of equity securities sold during the period	(345)	151	35,786	10,230
Change in fair value of equity securities held at the end of the period	32,339	426,420	1,033,438	407,180
Change in fair value of equity securities	31,994	426,571	1,069,224	417,410
Net investment gains	\$ 32,144	\$ 426,075	\$ 1,069,988	\$ 408,326
Change in net unrealized gains (losses) on available-for-sale investments included in other comprehensive income (loss):				
Fixed maturities	\$ 95,170	\$ (103,083)	\$ 509,712	\$ (384,176)
Short-term investments	(2,266)	1,417	1,595	239
Net increase (decrease)	\$ 92,904	\$ (101,666)	\$ 511,307	\$ (383,937)

5. Fair Value Measurements

Accounting Standards Codification (ASC) 820, *Fair Value Measurements and Disclosures*, establishes a three-level hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). If the inputs used to measure the assets or liabilities fall within different levels of the hierarchy, the classification is based on the lowest level input that is significant to the fair value measurement of the asset or liability.

Classification of assets and liabilities within the hierarchy considers the markets in which the assets and liabilities are traded and the reliability and transparency of the assumptions used to determine fair value. The hierarchy requires the use of observable market data when available. The levels of the hierarchy are defined as follows:

Level 1 – Inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities traded in active markets.

Level 2 – Inputs to the valuation methodology include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability and market-corroborated inputs.

Level 3 – Inputs to the valuation methodology are unobservable for the asset or liability and are significant to the fair value measurement.

In accordance with ASC 820, the Company determines fair value based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining fair value, the Company uses various methods, including the market, income and cost approaches. The Company uses valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. The following section describes the valuation methodologies used by the Company to measure assets and liabilities at fair value, including an indication of the level within the fair value hierarchy in which each asset or liability is generally classified.

Available-for-sale investments and equity securities. Available-for-sale investments and equity securities are recorded at fair value on a recurring basis. Available-for-sale investments include fixed maturities and short-term investments. Short-term investments include certificates of deposit, commercial paper, discount notes and treasury bills with original maturities of one year or less. Fair value for available-for-sale investments and equity securities are determined by the Company after considering various sources of information, including information provided by a third party pricing service. The pricing service provides prices for substantially all of the Company's fixed maturities and equity securities. In determining fair value, the Company generally does not adjust the prices obtained from the pricing service. The Company obtains an understanding of the pricing service's valuation methodologies and related inputs, which include, but are not limited to, reported trades, benchmark yields, issuer spreads, bids, offers, duration, credit ratings, estimated cash flows and prepayment speeds. The Company validates prices provided by the pricing service by reviewing prices from other pricing sources and analyzing pricing data in certain instances.

The Company has evaluated the various types of securities in its investment portfolio to determine an appropriate fair value hierarchy level based upon trading activity and the observability of market inputs. Level 1 investments include those traded on an active exchange, such as the New York Stock Exchange. Level 2 investments include U.S. Treasury securities, U.S. government-sponsored enterprises, municipal bonds, foreign government bonds, commercial mortgage-backed securities, residential mortgage-backed securities, asset-backed securities and corporate debt securities. Level 3 investments include the Company's investments in certain insurance-linked securities funds managed by Markel CATCo Investment Management Ltd. (MCIM), a consolidated subsidiary, that are not traded on an active exchange, as further described and defined in note 14 (the Markel CATCo Funds), and are valued using unobservable inputs.

Fair value for available-for-sale investments and equity securities is measured based upon quoted prices in active markets, if available. Due to variations in trading volumes and the lack of quoted market prices, fixed maturities are classified as Level 2 investments. The fair value of fixed maturities is normally derived through recent reported trades for identical or similar securities, making adjustments through the reporting date based upon available market observable data described above. If there are no recent reported trades, the fair value of fixed maturities may be derived through the use of matrix pricing or model processes, where future cash flow expectations are developed based upon collateral performance and discounted at an estimated market rate. Significant inputs used to determine the fair value of obligations of states, municipalities and political subdivisions, corporate bonds and obligations of foreign governments include reported trades, benchmark yields, issuer spreads, bids, offers, credit information and estimated cash flows. Significant inputs used to determine the fair value of commercial mortgage-backed securities, residential mortgage-backed securities and asset-backed securities include the type of underlying assets, benchmark yields, prepayment speeds, collateral information, tranche type and volatility, estimated cash flows, credit information, default rates, recovery rates, issuer spreads and the year of issue.

Due to the significance of unobservable inputs required in measuring the fair value of the Company's investments in the Markel CATCo Funds, these investments are classified as Level 3 within the fair value hierarchy. The fair value of the securities are derived using their reported net asset value (NAV) as the primary input, as well as other observable and unobservable inputs as deemed necessary by management. Management has obtained an understanding of the inputs, assumptions, process, and controls used to determine NAV, which is calculated by an independent third party. Unobservable inputs to the NAV calculations include assumptions around premium earnings patterns and loss reserve estimates for the underlying securitized reinsurance contracts in which the Markel CATCo Funds invest. Significant unobservable inputs used in the valuation of these investments include an adjustment to include the fair value of the equity that was issued by one of the Markel CATCo Funds in exchange for notes receivable, rather than cash, which is excluded from NAV. The determination of fair value of the securities also considers external market data, including the trading price relative to its NAV of CATCo Reinsurance Opportunities Fund Ltd. (CROF), a comparable security traded on a market operated by the London Stock Exchange and on the Bermuda Stock Exchange further described in note 14. Generally, the Company's investments in the Markel CATCo Funds are redeemable annually as of January 1st of each calendar year. However, in years with significant loss events on the underlying securitized reinsurance contracts, as was the case in 2018 and 2017, payment for the redemption of certain investments may be restricted for up to three years.

The Company's valuation policies and procedures for Level 3 investments are determined by management. Fair value measurements are analyzed quarterly to ensure the change in fair value from prior periods is reasonable relative to management's understanding of the underlying investments, recent market trends and external market data.

Senior long-term debt and other debt. Senior long-term debt and other debt is carried at amortized cost with the estimated fair value disclosed on the consolidated balance sheets. Senior long-term debt and other debt is classified as Level 2 within the fair value hierarchy due to variations in trading volumes and the lack of quoted market prices. Fair value for senior long-term debt and other debt is generally derived through recent reported trades for identical securities, making adjustments through the reporting date, if necessary, based upon available market observable data including U.S. Treasury securities and implied credit spreads. Significant inputs used to determine the fair value of senior long-term debt and other debt include reported trades, benchmark yields, issuer spreads, bids and offers.

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The following tables present the balances of assets measured at fair value on a recurring basis by level within the fair value hierarchy.

	September 30, 2019			
<i>(dollars in thousands)</i>	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Fixed maturities, available-for-sale:				
U.S. Treasury securities	\$ —	\$ 296,956	\$ —	\$ 296,956
U.S. government-sponsored enterprises	—	359,973	—	359,973
Obligations of states, municipalities and political subdivisions	—	4,320,108	—	4,320,108
Foreign governments	—	1,615,614	—	1,615,614
Commercial mortgage-backed securities	—	1,790,083	—	1,790,083
Residential mortgage-backed securities	—	909,669	—	909,669
Asset-backed securities	—	9,924	—	9,924
Corporate bonds	—	901,698	—	901,698
Total fixed maturities, available-for-sale	—	10,204,025	—	10,204,025
Equity securities:				
Insurance, banks and other financial institutions	2,247,952	—	44,489	2,292,441
Industrial, consumer and all other	4,686,433	—	—	4,686,433
Total equity securities	6,934,385	—	44,489	6,978,874
Short-term investments, available-for-sale	1,444,357	101,036	—	1,545,393
Total investments	\$ 8,378,742	\$ 10,305,061	\$ 44,489	\$ 18,728,292

	December 31, 2018			
<i>(dollars in thousands)</i>	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Fixed maturities, available-for-sale:				
U.S. Treasury securities	\$ —	\$ 246,642	\$ —	\$ 246,642
U.S. government-sponsored enterprises	—	359,322	—	359,322
Obligations of states, municipalities and political subdivisions	—	4,352,930	—	4,352,930
Foreign governments	—	1,559,604	—	1,559,604
Commercial mortgage-backed securities	—	1,650,199	—	1,650,199
Residential mortgage-backed securities	—	880,172	—	880,172
Asset-backed securities	—	19,408	—	19,408
Corporate bonds	—	974,911	—	974,911
Total fixed maturities, available-for-sale	—	10,043,188	—	10,043,188
Equity securities:				
Insurance, banks and other financial institutions	1,876,811	—	53,728	1,930,539
Industrial, consumer and all other	3,790,406	—	—	3,790,406
Total equity securities	5,667,217	—	53,728	5,720,945
Short-term investments, available-for-sale	981,616	96,080	—	1,077,696
Total investments	\$ 6,648,833	\$ 10,139,268	\$ 53,728	\$ 16,841,829

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

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Equity securities, beginning of period	\$ 37,988	\$ 119,675	\$ 53,728	\$ 168,809
Purchases	—	—	500	28,900
Sales	(857)	—	(7,726)	(34,653)
Net investment gains (losses) on Level 3 investments	7,358	2,418	(2,013)	(40,963)
Transfers into Level 3	—	—	—	—
Transfers out of Level 3	—	—	—	—
Equity securities, end of period	\$ 44,489	\$ 122,093	\$ 44,489	\$ 122,093

There were no transfers into or out of Level 1 and Level 2 during the quarter and nine months ended September 30, 2019 and 2018.

The Company did not have any assets or liabilities measured at fair value on a non-recurring basis during the nine months ended September 30, 2019 and 2018.

6. Segment Reporting Disclosures

The Company's chief operating decision maker reviews the Company's ongoing underwriting operations on a global basis in the following two segments: Insurance and Reinsurance. In determining how to allocate resources and assess the performance of its underwriting results, management considers many factors, including the nature of the insurance product sold, the type of account written and the type of customer served. The Insurance segment includes all direct business and facultative placements written across the Company. The Reinsurance segment includes all treaty reinsurance written across the Company. All investing activities related to the Company's underwriting operations are included in the Investing segment.

The Markel Ventures segment primarily consists of controlling interests in a diverse portfolio of businesses that operate in various industries. The chief operating decision maker reviews and assesses Markel Ventures' performance in the aggregate, as a single operating segment.

The Company's other operations include the results of the Company's program services business and the results of the Company's insurance-linked securities operations attributable to MCIM and, beginning November 2018, Nephila. The Company's other operations also include results for underwriting lines of business discontinued prior to, or in conjunction with, acquisitions, including development on asbestos and environmental loss reserves and results attributable to the run-off of life and annuity reinsurance business, which are monitored separately from the Company's ongoing underwriting operations. For purposes of segment reporting, none of the Company's other operations are considered to be reportable segments.

Segment profit for the Company's underwriting segments is measured by underwriting profit. The property and casualty insurance industry commonly defines underwriting profit as earned premiums net of losses and loss adjustment expenses and underwriting, acquisition and insurance expenses. Underwriting profit does not replace operating income or net income computed in accordance with U.S. GAAP as a measure of profitability. Underwriting profit or loss provides a basis for management to evaluate the Company's underwriting performance. Segment profit for the Investing segment is measured by net investment income and net investment gains. Segment profit for the Markel Ventures segment is measured by operating income.

For management reporting purposes, the Company allocates assets to its investing and Markel Ventures segments and certain of its other operations, including its program services and insurance-linked securities operations. Underwriting assets include assets attributed to the Company's Insurance and Reinsurance segments, discontinued underwriting lines of business, as well as assets that are not specifically attributed to the Company's other operations. Underwriting and investing assets are not allocated to the Company's underwriting segments since the Company does not manage its assets by underwriting segment. The Company does not allocate capital expenditures for long-lived assets to either of its underwriting segments for management reporting purposes.

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The following tables summarize the Company's segment disclosures.

	Quarter Ended September 30, 2019					
<i>(dollars in thousands)</i>	Insurance	Reinsurance	Investing	Markel Ventures ⁽¹⁾	Other ⁽²⁾	Consolidated
Gross premium volume	\$ 1,418,363	\$ 226,387	\$ —	\$ —	\$ 619,742	\$ 2,264,492
Net written premiums	1,181,919	187,180	—	—	1,285	1,370,384
Earned premiums	1,058,869	240,144	—	—	1,019	1,300,032
Losses and loss adjustment expenses:						
Current accident year	(722,172)	(178,058)	—	—	—	(900,230)
Prior accident years	135,029	13,800	—	—	(733)	148,096
Amortization of policy acquisition costs	(218,710)	(61,925)	—	—	—	(280,635)
Other operating expenses	(171,731)	(20,436)	—	—	(2,417)	(194,584)
Underwriting profit (loss)	81,285	(6,475)	—	—	(2,131)	72,679
Net investment income	—	—	113,220	162	—	113,382
Net investment gains	—	—	32,144	—	—	32,144
Products revenues	—	—	—	386,708	—	386,708
Services and other revenues	—	—	—	109,373	91,419	200,792
Products expenses	—	—	—	(354,404)	—	(354,404)
Services and other expenses	—	—	—	(96,015)	(57,343)	(153,358)
Amortization of intangible assets ⁽³⁾	—	—	—	(10,357)	(25,338)	(35,695)
Segment profit (loss)	\$ 81,285	\$ (6,475)	\$ 145,364	\$ 35,467	\$ 6,607	\$ 262,248
Interest expense						(47,465)
Net foreign exchange gains						53,850
Loss on early extinguishment of debt						(6,705)
Income before income taxes						\$ 261,928
U.S. GAAP combined ratio ⁽⁴⁾	92%	103%			NM ⁽⁵⁾	94%

(1) Products expenses and services and other expenses for the Markel Ventures segment include depreciation expense of \$12.9 million for the quarter ended September 30, 2019.

(2) Other represents the total profit (loss) attributable to the Company's operations that are not included in a reportable segment as well as any amortization of intangible assets that are not allocated to a reportable segment.

(3) Segment profit for the Markel Ventures segment includes amortization of intangible assets attributable to Markel Ventures. Amortization of intangible assets is not allocated to any other reportable segments.

(4) The U.S. GAAP combined ratio is a measure of underwriting performance and represents the relationship of incurred losses, loss adjustment expenses and underwriting, acquisition and insurance expenses to earned premiums.

(5) NM - Ratio is not meaningful

Quarter Ended September 30, 2018

<i>(dollars in thousands)</i>	Insurance	Reinsurance	Investing	Markel Ventures ⁽¹⁾	Other ⁽²⁾	Consolidated
Gross premium volume	\$ 1,248,150	\$ 234,360	\$ —	\$ —	\$ 561,261	\$ 2,043,771
Net written premiums	1,021,684	195,349	—	—	(762)	1,216,271
Earned premiums	961,062	225,277	—	—	(1,016)	1,185,323
Losses and loss adjustment expenses:						
Current accident year	(674,529)	(186,505)	—	—	48	(860,986)
Prior accident years	111,117	12,681	—	—	342	124,140
Amortization of policy acquisition costs	(182,857)	(58,991)	—	—	—	(241,848)
Other operating expenses	(172,340)	(26,125)	—	—	(1,648)	(200,113)
Underwriting profit (loss)	42,453	(33,663)	—	—	(2,274)	6,516
Net investment income	—	—	106,164	143	—	106,307
Net investment gains	—	—	426,075	—	—	426,075
Products revenues	—	—	—	362,577	—	362,577
Services and other revenues	—	—	—	106,694	48,973	155,667
Products expenses	—	—	—	(341,718)	—	(341,718)
Services and other expenses	—	—	—	(94,924)	(37,100)	(132,024)
Amortization of intangible assets ⁽³⁾	—	—	—	(9,139)	(18,656)	(27,795)
Segment profit (loss)	\$ 42,453	\$ (33,663)	\$ 532,239	\$ 23,633	\$ (9,057)	\$ 555,605
Interest expense						(37,961)
Net foreign exchange gains						1,383
Income before income taxes						\$ 519,027
U.S. GAAP combined ratio ⁽⁴⁾	96%	115%			NM ⁽⁵⁾	99%

- (1) Products expenses and services and other expenses for the Markel Ventures segment include depreciation expense of \$13.0 million for the quarter ended September 30, 2018.
- (2) Other represents the total loss attributable to the Company's operations that are not included in a reportable segment as well as any amortization of intangible assets that are not allocated to a reportable segment.
- (3) Segment profit for the Markel Ventures segment includes amortization of intangible assets attributable to Markel Ventures. Amortization of intangible assets is not allocated to any other reportable segments.
- (4) The U.S. GAAP combined ratio is a measure of underwriting performance and represents the relationship of incurred losses, loss adjustment expenses and underwriting, acquisition and insurance expenses to earned premiums.
- (5) NM - Ratio is not meaningful

Nine Months Ended September 30, 2019

<i>(dollars in thousands)</i>	Insurance	Reinsurance	Investing	Markel Ventures (1)	Other (2)	Consolidated
Gross premium volume	\$ 3,979,559	\$ 963,145	\$ —	\$ —	\$ 1,823,977	\$ 6,766,681
Net written premiums	3,306,447	844,949	—	—	1,719	4,153,115
Earned premiums	3,023,865	678,382	—	—	1,223	3,703,470
Losses and loss adjustment expenses:						
Current accident year	(1,998,042)	(456,870)	—	—	—	(2,454,912)
Prior accident years	309,324	20,695	—	—	6,893	336,912
Amortization of policy acquisition costs	(627,318)	(178,209)	—	—	—	(805,527)
Other operating expenses	(526,884)	(58,301)	—	—	(2,035)	(587,220)
Underwriting profit	180,945	5,697	—	—	6,081	192,723
Net investment income	—	—	338,783	612	—	339,395
Net investment gains	—	—	1,069,988	—	—	1,069,988
Products revenues	—	—	—	1,237,178	—	1,237,178
Services and other revenues	—	—	—	330,653	263,978	594,631
Products expenses	—	—	—	(1,098,968)	—	(1,098,968)
Services and other expenses	—	—	—	(290,745)	(208,015)	(498,760)
Amortization of intangible assets (3)	—	—	—	(31,674)	(80,989)	(112,663)
Segment profit (loss)	\$ 180,945	\$ 5,697	\$ 1,408,771	\$ 147,056	\$ (18,945)	\$ 1,723,524
Interest expense						(129,022)
Net foreign exchange gains						57,001
Loss on early extinguishment of debt						(6,705)
Income before income taxes						\$ 1,644,798
U.S. GAAP combined ratio (4)	94%	99%			NM (5)	95%

(1) Products expenses and services and other expenses for the Markel Ventures segment include depreciation expense of \$40.4 million for the nine months ended September 30, 2019.

(2) Other represents the total profit (loss) attributable to the Company's operations that are not included in a reportable segment as well as any amortization of intangible assets that are not allocated to a reportable segment.

(3) Segment profit for the Markel Ventures segment includes amortization of intangible assets attributable to Markel Ventures. Amortization of intangible assets is not allocated to any other reportable segments.

(4) The U.S. GAAP combined ratio is a measure of underwriting performance and represents the relationship of incurred losses, loss adjustment expenses and underwriting, acquisition and insurance expenses to earned premiums.

(5) NM - Ratio is not meaningful

Nine Months Ended September 30, 2018

<i>(dollars in thousands)</i>	Insurance	Reinsurance	Investing	Markel Ventures (1)	Other (2)	Consolidated
Gross premium volume	\$ 3,575,340	\$ 935,498	\$ —	\$ —	\$ 1,577,250	\$ 6,088,088
Net written premiums	2,935,789	795,136	—	—	754	3,731,679
Earned premiums	2,782,107	702,854	—	—	(433)	3,484,528
Losses and loss adjustment expenses:						
Current accident year	(1,855,190)	(485,678)	—	—	—	(2,340,868)
Prior accident years	369,775	18,135	—	—	1,816	389,726
Amortization of policy acquisition costs	(554,185)	(178,818)	—	—	—	(733,003)
Other operating expenses	(523,239)	(59,433)	—	—	(2,246)	(584,918)
Underwriting profit (loss)	219,268	(2,940)	—	—	(863)	215,465
Net investment income	—	—	319,253	457	—	319,710
Net investment gains	—	—	408,326	—	—	408,326
Products revenues	—	—	—	1,129,036	—	1,129,036
Services and other revenues	—	—	—	311,048	145,785	456,833
Products expenses	—	—	—	(1,062,000)	—	(1,062,000)
Services and other expenses	—	—	—	(273,876)	(120,435)	(394,311)
Amortization of intangible assets (3)	—	—	—	(29,332)	(56,927)	(86,259)
Impairment of goodwill and intangible assets	—	—	—	(14,904)	—	(14,904)
Segment profit (loss)	\$ 219,268	\$ (2,940)	\$ 727,579	\$ 60,429	\$ (32,440)	\$ 971,896
Interest expense						(114,722)
Net foreign exchange gains						65,427
Income before income taxes						\$ 922,601
U.S. GAAP combined ratio (4)	92%	100%			NM (5)	94%

- (1) Products expenses and services and other expenses for the Markel Ventures segment include depreciation expense of \$38.5 million for the nine months ended September 30, 2018.
- (2) Other represents the total loss attributable to the Company's operations that are not included in a reportable segment as well as any amortization of intangible assets that are not allocated to a reportable segment.
- (3) Segment profit for the Markel Ventures segment includes amortization of intangible assets attributable to Markel Ventures. Amortization of intangible assets is not allocated to any other reportable segments.
- (4) The U.S. GAAP combined ratio is a measure of underwriting performance and represents the relationship of incurred losses, loss adjustment expenses and underwriting, acquisition and insurance expenses to earned premiums.
- (5) NM - Ratio is not meaningful

b) The following table reconciles segment assets to the Company's consolidated balance sheets.

<i>(dollars in thousands)</i>	September 30, 2019	December 31, 2018
Segment assets:		
Investing	\$ 21,893,706	\$ 19,100,790
Underwriting	6,896,240	6,451,984
Markel Ventures	2,257,878	2,124,506
Total segment assets	31,047,824	27,677,280
Other operations	5,988,372	5,628,983
Total assets	\$ 37,036,196	\$ 33,306,263

7. Products, Services and Other Revenues

The amount of revenues from contracts with customers was \$535.7 million and \$472.2 million for the quarters ended September 30, 2019 and 2018, respectively, and \$1.7 billion and \$1.5 billion for the nine months ended September 30, 2019 and 2018, respectively.

The following table disaggregates revenues from contracts with customers by type, all of which are included in products revenues and services and other revenues in the consolidated statements of income and comprehensive income.

<i>(dollars in thousands)</i>	Quarter Ended September 30,					
	2019			2018		
	Markel Ventures	Other	Total	Markel Ventures	Other	Total
Products	\$ 378,421	\$ —	\$ 378,421	\$ 350,981	\$ —	\$ 350,981
Services	97,062	17,516	114,578	95,071	7,841	102,912
Investment management	—	42,750	42,750	—	18,258	18,258
Total revenues from contracts with customers	475,483	60,266	535,749	446,052	26,099	472,151
Program services and other fronting arrangements	—	30,775	30,775	—	22,478	22,478
Other	20,598	378	20,976	23,219	396	23,615
Total	\$ 496,081	\$ 91,419	\$ 587,500	\$ 469,271	\$ 48,973	\$ 518,244

<i>(dollars in thousands)</i>	Nine Months Ended September 30,					
	2019			2018		
	Markel Ventures	Other	Total	Markel Ventures	Other	Total
Products	\$ 1,198,124	\$ —	\$ 1,198,124	\$ 1,095,461	\$ —	\$ 1,095,461
Services	291,617	64,142	355,759	276,548	25,737	302,285
Investment management	—	113,738	113,738	—	52,965	52,965
Total revenues from contracts with customers	1,489,741	177,880	1,667,621	1,372,009	78,702	1,450,711
Program services and other fronting arrangements	—	84,953	84,953	—	65,810	65,810
Other	78,090	1,145	79,235	68,075	1,273	69,348
Total	\$ 1,567,831	\$ 263,978	\$ 1,831,809	\$ 1,440,084	\$ 145,785	\$ 1,585,869

The following table presents receivables and customer deposits related to contracts with customers.

<i>(dollars in thousands)</i>	September 30, 2019	December 31, 2018
Receivables	\$ 267,638	\$ 247,532
Customer deposits	\$ 70,984	\$ 48,238

8. Unpaid Losses and Loss Adjustment Expenses

The following table presents a reconciliation of consolidated beginning and ending reserves for losses and loss adjustment expenses.

<i>(dollars in thousands)</i>	Nine Months Ended September 30,	
	2019	2018
Net reserves for losses and loss adjustment expenses, beginning of year	\$ 9,214,443	\$ 8,964,945
Foreign currency movements	(51,544)	(35,754)
Adjusted net reserves for losses and loss adjustment expenses, beginning of year	9,162,899	8,929,191
Incurred losses and loss adjustment expenses:		
Current accident year	2,454,912	2,340,868
Prior accident years	(336,942)	(389,740)
Total incurred losses and loss adjustment expenses	2,117,970	1,951,128
Payments:		
Current accident year	410,493	390,245
Prior accident years	1,597,117	1,438,224
Total payments	2,007,610	1,828,469
Effect of foreign currency rate changes	(669)	368
Net reserves for losses and loss adjustment expenses, end of period	9,272,590	9,052,218
Reinsurance recoverables on unpaid losses	5,165,226	4,836,271
Gross reserves for losses and loss adjustment expenses, end of period	\$ 14,437,816	\$ 13,888,489

For the nine months ended September 30, 2019, incurred losses and loss adjustment expenses included \$336.9 million of favorable development on prior years' loss reserves, which included \$257.7 million of favorable development on the Company's general liability, workers' compensation and professional liability product lines within the Insurance segment, and aviation, auto and whole account product lines within the Reinsurance segment.

In 2019, underwriting results included \$42.6 million of underwriting loss from Hurricane Dorian and Typhoon Faxai (2019 Catastrophes). The underwriting loss on the 2019 Catastrophes was comprised of \$45.1 million of estimated losses and loss adjustment expenses partially offset by \$2.5 million of net assumed reinstatement premiums. The estimated losses and loss adjustment expenses on the 2019 Catastrophes for the nine months ended September 30, 2019 were net of estimated ceded losses of \$4.8 million. Both the gross and net loss estimates on the 2019 Catastrophes represent the Company's best estimate of losses based upon information currently available. The Company's estimate for these losses is based on preliminary industry loss estimates, output from both industry and proprietary models as well as a review of in-force contracts, and for Hurricane Dorian, claims received to date and detailed policy level reviews. Early industry loss estimates for Typhoon Faxai have a wide range of variability. While the Company believes its reserves for the 2019 Catastrophes as of September 30, 2019 are adequate, the Company continues to closely monitor industry loss estimates and reported claims and will adjust its estimates of gross and net losses as new information becomes available.

For the nine months ended September 30, 2018, incurred losses and loss adjustment expenses included \$389.7 million of favorable development on prior years' loss reserves, which included \$312.2 million of favorable development on the Company's general liability, workers' compensation, marine and energy and professional liability product lines within the Insurance segment and credit and surety and marine and energy product lines within the Reinsurance segment.

In 2018, underwriting results included \$75.7 million of underwriting loss from Hurricane Florence and Typhoon Jebi (2018 Catastrophes). The underwriting loss on the 2018 Catastrophes was comprised of \$77.8 million of estimated losses and loss adjustment expenses partially offset by \$2.1 million of net assumed reinstatement premiums. The estimated losses and loss adjustment expenses on the 2018 Catastrophes for the nine months ended September 30, 2018 were net of estimated ceded losses of \$28.6 million.

9. Reinsurance

The following tables summarize the effect of reinsurance and retrocessional reinsurance on premiums written and earned.

Quarter Ended September 30,								
<i>(dollars in thousands)</i>	2019				2018			
	Direct	Assumed	Ceded	Net Premiums	Direct	Assumed	Ceded	Net Premiums
Underwriting:								
Written	\$ 1,358,243	\$ 282,506	\$ (271,094)	\$ 1,369,655	\$ 1,207,605	\$ 274,898	\$ (266,788)	\$ 1,215,715
Earned	1,219,103	327,431	(246,965)	1,299,569	1,113,763	313,378	(242,120)	1,185,021
Program services and other:								
Written	584,196	39,547	(623,014)	729	529,958	31,310	(560,712)	556
Earned	576,576	20,399	(596,512)	463	480,694	13,046	(493,438)	302
Consolidated:								
Written	1,942,439	322,053	(894,108)	1,370,384	1,737,563	306,208	(827,500)	1,216,271
Earned	\$ 1,795,679	\$ 347,830	\$ (843,477)	\$ 1,300,032	\$ 1,594,457	\$ 326,424	\$ (735,558)	\$ 1,185,323

Nine Months Ended September 30,								
<i>(dollars in thousands)</i>	2019				2018			
	Direct	Assumed	Ceded	Net Premiums	Direct	Assumed	Ceded	Net Premiums
Underwriting:								
Written	\$ 3,808,759	\$ 1,129,440	\$ (786,704)	\$ 4,151,495	\$ 3,429,666	\$ 1,081,171	\$ (781,126)	\$ 3,729,711
Earned	3,510,203	946,648	(754,505)	3,702,346	3,221,946	965,586	(703,785)	3,483,747
Program services and other:								
Written	1,754,613	73,869	(1,826,862)	1,620	1,537,412	39,839	(1,575,283)	1,968
Earned	1,629,659	49,672	(1,678,207)	1,124	1,374,443	16,784	(1,390,446)	781
Consolidated:								
Written	5,563,372	1,203,309	(2,613,566)	4,153,115	4,967,078	1,121,010	(2,356,409)	3,731,679
Earned	\$ 5,139,862	\$ 996,320	\$ (2,432,712)	\$ 3,703,470	\$ 4,596,389	\$ 982,370	\$ (2,094,231)	\$ 3,484,528

Substantially all of the premiums written and earned in the Company's program services business for the quarter and nine months ended September 30, 2019 and 2018 was ceded. The percentage of consolidated ceded earned premiums to gross earned premiums was 39% and 40% for the quarter and nine months ended September 30, 2019, respectively, and 38% for both the quarter and nine months ended September 30, 2018. The percentage of consolidated assumed earned premiums to net earned premiums was 27% for both the quarter and nine months ended September 30, 2019, and 28% for both the quarter and nine months ended September 30, 2018.

Substantially all of the incurred losses and loss adjustment expenses in the Company's program services business, which totaled \$412.7 million and \$1.1 billion for the quarter and nine months ended September 30, 2019, respectively, and \$329.9 million and \$959.5 million for the quarter and nine months ended September 30, 2018, respectively, were ceded. Incurred losses and loss adjustment expenses for the Company's underwriting operations were net of ceded incurred losses and loss adjustment expenses of \$94.4 million and \$443.8 million for the quarter and nine months ended September 30, 2019, respectively, and \$171.1 million and \$394.9 million for the quarter and nine months ended September 30, 2018, respectively.

10. Life and Annuity Benefits

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

Life and annuity benefits are also adjusted to the extent unrealized gains on the investments supporting the policy benefit reserves would result in a reserve deficiency if those gains were realized. During the quarter and nine months ended September 30, 2019, the Company recognized a reserve deficiency resulting from a decrease in the market yield on the investment portfolio supporting the policy benefit reserves by increasing life and annuity benefits by \$31.3 million and \$93.1 million, respectively, and decreasing the change in net unrealized holding gains included in other comprehensive income by a corresponding amount. As of September 30, 2019, the cumulative adjustment to life and annuity benefits attributable to unrealized gains on the underlying investment portfolio totaled \$93.1 million. No adjustment was required for the quarter or nine months ended September 30, 2018.

11. Senior Long-Term Debt and Other Debt

In April 2019, the Company entered into a credit agreement for a new revolving credit facility, which provides up to \$300 million of capacity for future acquisitions, investments and stock repurchases, and for other working capital and general corporate purposes. At the Company's discretion, up to \$200 million of the total capacity may be used for letters of credit. The Company may increase the capacity of the facility by up to \$200 million subject to obtaining commitments for the increase and certain other terms and conditions. The Company pays interest on balances outstanding under the facility and a utilization fee for letters of credit issued under the facility. The Company also pays a commitment fee on the unused portion of the facility based on the Company's leverage ratio as calculated under the credit agreement. The credit agreement includes financial covenants that require that the Company not exceed a maximum leverage ratio and maintain a minimum amount of consolidated net worth, as well as other customary covenants and events of default. Markel Corporation, along with Alterra Finance LLC, guaranteed the obligations under the facility. This facility replaced the Company's previous \$300 million revolving credit facility and is scheduled to expire in April 2024. There were no borrowings outstanding on either credit facility as of September 30, 2019 or December 31, 2018.

In May 2019, the Company issued \$600 million of 5.0% unsecured senior notes due May 20, 2049. Net proceeds to the Company were \$592.2 million, before expenses. In September 2019, the Company used a portion of these proceeds to retire its 7.125% unsecured senior notes due September 30, 2019 (\$234.8 million aggregate principal outstanding at December 31, 2018). The Company expects to use the remainder of the proceeds for general corporate purposes.

In September 2019, the Company issued \$300 million of 3.35% unsecured senior notes due September 17, 2029 and \$500 million of 4.15% unsecured senior notes due September 17, 2050. Net proceeds to the Company were \$297.5 million and \$494.5 million, respectively, before expenses. The Company used a portion of these proceeds to purchase \$125.2 million of principal on its 6.25% unsecured senior notes due September 30, 2020 and \$97.8 million of principal on its 5.35% unsecured senior notes due June 1, 2021 through a tender offer at a total purchase price of \$130.1 million and \$103.0 million, respectively. In connection with the tender offer and purchase, the Company recognized a loss on early extinguishment of debt of \$6.7 million during the quarter and nine months ended September 30, 2019. The Company used a portion of the remaining proceeds to redeem the remaining outstanding balance on its 6.25% and 5.35% unsecured senior notes, as described below, and expects to use the remainder for general corporate purposes.

In October 2019, the Company redeemed the remaining outstanding balance on its 6.25% unsecured senior notes due September 30, 2020 (\$224.8 million aggregate principal outstanding at September 30, 2019) and 5.35% unsecured senior notes due June 1, 2021 (\$152.2 million aggregate principal outstanding at September 30, 2019) for a total purchase price of \$233.4 million and \$160.2 million, respectively.

12. Leases

The Company's leases primarily consist of operating leases for real estate and have remaining terms of up to 15 years. Total lease costs for operating leases were \$14.0 million and \$47.2 million for the quarter and nine months ended September 30, 2019, respectively.

The following table summarizes details for the Company's operating leases recorded on the consolidated balance sheet as of September 30, 2019.

(dollars in thousands)

Right-of-use lease assets	\$	230,474
Lease liabilities	\$	254,119
Weighted average remaining lease term		8.6 years
Weighted average discount rate		3.4%

The table below summarizes maturities of the Company's operating lease liabilities as of September 30, 2019, which reconciles to total lease liabilities included in other liabilities in the Company's consolidated balance sheet.

Years Ending December 31,

(dollars in thousands)

2019	\$	14,250
2020		45,536
2021		42,202
2022		36,483
2023		30,903
2024 and thereafter		124,176
Total lease payments		293,550
Less imputed interest		(39,431)
Total operating lease liabilities	\$	254,119

13. Income Taxes

The effective tax rate was 22% and 32% for the nine months ended September 30, 2019 and 2018, respectively. In 2018, the Company decided to elect to treat its two most significant United Kingdom subsidiaries as domestic corporations for U.S. tax purposes. As a result, the earnings and profits of those subsidiaries are no longer considered to be indefinitely reinvested, and during the nine months ended September 30, 2018, the Company recorded a one-time deferred tax charge of \$102.0 million related to the book and tax basis differences attributable to those subsidiaries. This tax charge represented 11% of the 2018 effective tax rate.

The Company uses the estimated annual effective tax rate method for calculating its tax provision in interim periods. This method applies the Company's best estimate of the effective tax rate expected for the full year to year-to-date earnings before income taxes. Certain items, including those deemed to be unusual, infrequent or that cannot be reliably estimated (discrete items), such as the deferred tax charge described above, are excluded from the estimated annual effective tax rate and the related tax expense or benefit is reported in the same period as the related item. The Company's estimated annual effective tax rate was 21% and 20% for the nine months ended September 30, 2019 and 2018, respectively.

The Internal Revenue Service is currently examining the Company's 2017 federal income tax return. The Company believes its income tax liabilities were adequate as of September 30, 2019, however, these liabilities could be adjusted as a result of this examination.

14. Variable Interest Entities

MCIM, a wholly-owned consolidated subsidiary of the Company, is an insurance-linked securities investment fund manager and reinsurance manager headquartered in Bermuda. Results attributable to MCIM are not included in a reportable segment.

MCIM serves as the insurance manager for Markel CATCo Re Ltd. (Markel CATCo Re), a Bermuda Class 3 reinsurance company, and as the investment manager for Markel CATCo Reinsurance Fund Ltd., a Bermuda exempted mutual fund company comprised of multiple segregated accounts (Markel CATCo Funds). MCIM also serves as the investment manager to CATCo Reinsurance Opportunities Fund Ltd. (CROF), a limited liability closed-end Bermuda exempted mutual fund company which invests substantially all of its assets in Markel CATCo Reinsurance Fund Ltd. The Markel CATCo Funds issue multiple classes of nonvoting, redeemable preference shares to investors through its funds and the Markel CATCo Funds are primarily invested in nonvoting preference shares of Markel CATCo Re. The underwriting results of Markel CATCo Re are attributed to the Markel CATCo Funds through those nonvoting preference shares. Voting shares in Markel CATCo Reinsurance Fund Ltd. and Markel CATCo Re are held by MCIM.

The Markel CATCo Funds and Markel CATCo Re are considered VIEs, as their preference shareholders have no voting rights. MCIM has the power to direct the activities that most significantly impact the economic performance of these entities, but does not have a variable interest in any of the entities. Except as described below, the Company is not the primary beneficiary of the Markel CATCo Funds or Markel CATCo Re, and therefore does not consolidate these entities, as the Company's involvement is generally limited to that of an investment or insurance manager, receiving fees that are at market and commensurate with the level of effort required. Investment management and incentive fees earned by the Company from unconsolidated Markel CATCo Funds were \$10.0 million and \$18.3 million for the quarters ended September 30, 2019 and 2018, respectively, and \$28.1 million and \$53.0 million for the nine months ended September 30, 2019 and 2018, respectively. The Company is the sole investor in one of the Markel CATCo Funds, the Markel Diversified Fund, and consolidates that fund as its primary beneficiary.

The following table presents the balance sheets of the Markel Diversified Fund, which are included on the Company's consolidated balance sheets.

<i>(dollars in thousands)</i>	September 30, 2019	December 31, 2018
Assets		
Equity securities: Investment in unconsolidated Markel CATCo Fund	\$ 16,866	\$ 27,547
Other	198	1,082
Total Assets	\$ 17,064	\$ 28,629
Liabilities and Equity		
Note payable	\$ 24,875	\$ 24,875
Other	65	200
Total Liabilities	24,940	25,075
Total Equity	(7,876)	3,554
Total Liabilities and Equity	\$ 17,064	\$ 28,629

The assets of the Markel Diversified Fund are available for use only by the Markel Diversified Fund, and are not available for use by the Company. Equity securities for the Markel Diversified Fund represent an investment in one of the unconsolidated Markel CATCo Funds and represent 3% of the outstanding preference shares of that fund as of September 30, 2019 and 2% as of December 31, 2018. The note payable was delivered as part of the consideration provided for the Markel Diversified Fund's investment in the unconsolidated Fund. This note payable is included in senior long-term debt and other debt on the Company's consolidated balance sheets. Negative equity as of September 30, 2019 reflects cumulative losses on the Company's investment in the unconsolidated Fund in excess of the portion that has been funded in cash. Other than the note payable, any liabilities held by the Markel Diversified Fund have no recourse to the Company's general credit.

The Company also has an investment in another one of the Markel CATCo Funds (\$27.6 million and \$26.2 million as of September 30, 2019 and December 31, 2018, respectively) but does not have the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE, and therefore does not consolidate that fund.

The Company's exposure to risk from the unconsolidated Markel CATCo Funds and Markel CATCo Re was historically limited to its investment and any earned but uncollected fees. Beginning in 2019, the Company also entered into various reinsurance contracts on behalf of Markel CATCo Re. See note 15. The Company has not issued any investment performance guarantees to these VIEs or their investors. As of September 30, 2019, net assets under management of MCIM for unconsolidated VIEs were \$3.0 billion. See note 18.

15. Related Party Transactions

The Company engages in certain related party transactions in the normal course of business at arm's length. Details of the Company's transactions with related parties in its insurance-linked securities operations are included below.

Nephila

In November 2018, the Company expanded its insurance-linked securities operations through the acquisition of Nephila, which serves as the investment manager to several Bermuda, Ireland and U.S. based private funds (the Nephila Funds). To provide access for the Nephila Funds to the insurance, reinsurance and weather markets, Nephila also provides managing general agent services and acts as an insurance manager to certain Bermuda Class 3 and 3A reinsurance companies and as both a service company coverholder and agent with binding authority for Lloyd's Syndicate 2357 (Syndicate 2357) (collectively, the Nephila Reinsurers). Nephila receives management fees for its investment and insurance management services from the Nephila Funds based on the net asset value of the accounts managed, and, for certain funds, incentive fees based on the annual performance of the funds it manages. Nephila also receives commissions from the Nephila Reinsurers, which are based on the direct written premiums of the insurance contracts placed. Total revenues attributed to services provided to the Nephila Funds and the Nephila Reinsurers for the quarter and nine months ended September 30, 2019 were \$42.7 million and \$124.7 million, respectively.

Within the Company's program services business, the Company has a program with Nephila through which the Company writes insurance policies that are ceded to Syndicate 2357 and certain other Nephila Reinsurers. Through this arrangement, Nephila utilizes certain of the Company's licensed insurance companies to write U.S. catastrophe exposed property risk that is then ceded to Nephila Reinsurers. For the quarter and nine months ended September 30, 2019, gross premiums written through the Company's program with Nephila were \$126.4 million and \$360.6 million, respectively, all of which were ceded to Nephila Reinsurers. As of September 30, 2019 and December 31, 2018, reinsurance recoverables on the consolidated balance sheets included \$229.8 million and \$179.8 million, respectively, due from Nephila Reinsurers.

Under this program, the Company bears underwriting risk for annual aggregate agreement year losses in excess of a limit the Company believes is unlikely to be exceeded. To the extent losses under this program exceed the prescribed limit, the Company is obligated to pay such losses to the cedents without recourse to the Nephila Reinsurers. While the Company believes losses under this program are unlikely, those losses, if incurred, could be material to the Company's consolidated results of operations and financial condition.

The Company has also entered into both assumed and ceded reinsurance transactions with the Nephila Reinsurers in the normal course of business, which are not material to the Company's consolidated financial statements.

Markel CATCo

During the first quarter of 2019, the Company entered into various reinsurance contracts with third parties on behalf of Markel CATCo Re, an unconsolidated subsidiary, in exchange for ceding fees. These reinsurance contracts primarily cover losses for events that may occur during 2019, however, in some instances, coverage is also provided for adverse development on 2018 and prior accident years' loss events. Incurred losses on these contracts are fully ceded to Markel CATCo Re. The loss exposures on these contracts are fully collateralized by Markel CATCo Re up to an amount that the Company believes is unlikely to be exceeded. The Company has credit risk from Markel CATCo Re for any uncollateralized amounts. Markel CATCo Re's ability to pay losses in excess of the collateralized amounts depends on the availability of funds that are not otherwise needed to pay losses on other contracts. As of September 30, 2019, the Company's maximum exposure to loss on these contracts, representing the net uncollateralized risks, was \$191.6 million. Total ceding fees attributed to these contracts were \$8.8 million, of which \$2.2 million and \$6.6 million was earned and included in services and other revenues in the Company's consolidated statements of income and other comprehensive income for the quarter and nine months ended September 30, 2019, respectively. Results attributed to these contracts are not included in a reportable segment.

Within the Company's reinsurance operations, the Company also enters into reinsurance contracts that are ceded to Markel CATCo Re. Under this program, the Company retains underwriting risk for annual aggregate agreement year losses in excess of a limit the Company believes is unlikely to be exceeded. To the extent losses under this program exceed the prescribed limit, the Company is obligated to pay such losses to the cedents without recourse to Markel CATCo Re. Gross premiums written and ceded to Markel CATCo Re were \$0.1 million and \$5.5 million for the quarter and nine months ended September 30, 2019, respectively, and \$1.0 million and \$10.6 million for the quarter and nine months ended September 30, 2018, respectively.

See note 14 for details of the Company's other transactions with Markel CATCo Re and the Markel CATCo Funds.

16. Shareholders' Equity

a) In August 2019, the Board of Directors approved a new share repurchase program (the 2019 Program) to replace the previous share repurchase program that was approved by the Board of Directors in May 2018 (the 2018 Program). Consistent with the 2018 Program, the 2019 Program provides for the repurchase of up to \$300 million of common stock and has no expiration date but may be terminated by the Board of Directors at any time.

During the nine months ended September 30, 2019, the Company repurchased an aggregate of 77,991 shares of common stock at a cost of \$81.1 million, including 73,371 shares repurchased under the 2018 Program at a cost of \$75.8 million, and 4,620 shares repurchased under the 2019 program at a cost of \$5.4 million. In total, the Company repurchased 93,036 shares of common stock under the 2018 Program at a cost of \$97.2 million.

b) Net income per share was determined by dividing adjusted net income to shareholders by the applicable weighted average shares outstanding. Diluted net income per share is computed by dividing adjusted net income to shareholders by the weighted average number of common shares and dilutive potential common shares outstanding during the period.

<i>(in thousands, except per share amounts)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income to shareholders	\$ 205,637	\$ 409,438	\$ 1,279,362	\$ 623,363
Adjustment of redeemable noncontrolling interests	(12,221)	(12,035)	9,464	(6,621)
Adjusted net income to shareholders	\$ 193,416	\$ 397,403	\$ 1,288,826	\$ 616,742
Basic common shares outstanding	13,849	13,917	13,870	13,925
Dilutive potential common shares from restricted stock units and restricted stock	15	26	12	24
Diluted shares outstanding	13,864	13,943	13,882	13,949
Basic net income per share	\$ 13.97	\$ 28.56	\$ 92.92	\$ 44.29
Diluted net income per share	\$ 13.95	\$ 28.50	\$ 92.84	\$ 44.21

17. Other Comprehensive Income

Other comprehensive income includes net holding gains on available-for-sale investments arising during the period, changes in unrealized other-than-temporary impairment losses on fixed maturities arising during the period and reclassification adjustments for net gains included in net income. Other comprehensive income also includes changes in foreign currency translation adjustments and changes in net actuarial pension loss.

The following table presents the change in accumulated other comprehensive income (loss) by component, net of taxes and noncontrolling interests, for the nine months ended September 30, 2019 and 2018.

<i>(dollars in thousands)</i>	Unrealized Holding Gains (Losses) on Available-for-Sale Securities	Foreign Currency	Net Actuarial Pension Loss	Total
December 31, 2017	\$ 2,477,973	\$ (74,003)	\$ (58,399)	\$ 2,345,571
Cumulative effect of adoption of ASU No. 2016-01	(2,615,734)	2,492	—	(2,613,242)
Cumulative effect of adoption of ASU No. 2018-02	401,539	—	—	401,539
January 1, 2018	263,778	(71,511)	(58,399)	133,868
Other comprehensive income (loss) before reclassifications	(306,069)	(19,928)	1,741	(324,256)
Amounts reclassified from accumulated other comprehensive income	5,496	—	—	5,496
Total other comprehensive income (loss)	(300,573)	(19,928)	1,741	(318,760)
September 30, 2018	\$ (36,795)	\$ (91,439)	\$ (56,658)	\$ (184,892)
December 31, 2018	\$ 48,060	\$ (86,652)	\$ (56,058)	\$ (94,650)
Other comprehensive income (loss) before reclassifications	329,113	(5,929)	2,338	325,522
Amounts reclassified from accumulated other comprehensive loss	760	—	—	760
Total other comprehensive income (loss)	329,873	(5,929)	2,338	326,282
September 30, 2019	\$ 377,933	\$ (92,581)	\$ (53,720)	\$ 231,632

Effective January 1, 2018, the Company adopted ASU No. 2016-01 and as a result, equity securities are no longer classified as available-for-sale with unrealized gains and losses recognized in other comprehensive income. Rather, changes in the fair value of equity securities are now recognized in net income. Upon adoption of this ASU, cumulative net unrealized gains on equity securities of \$2.6 billion, net of deferred income taxes, were reclassified from accumulated other comprehensive income into retained earnings.

Effective January 1, 2018, the Company adopted ASU No. 2018-02, which provided an option to reclassify tax effects remaining in accumulated other comprehensive income as a result of the Tax Cuts and Jobs Act to retained earnings. As a result of adopting the ASU, the Company reclassified \$401.5 million of previously recognized deferred taxes from accumulated other comprehensive income into retained earnings as of January 1, 2018.

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The following table summarizes the tax expense (benefit) associated with each component of other comprehensive income (loss).

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Change in net unrealized gains (losses) on available-for-sale investments:				
Net holding gains (losses) arising during the period	\$ 13,018	\$ (24,047)	\$ 88,168	\$ (84,825)
Reclassification adjustments for net losses included in net income	54	2,810	202	1,461
Change in net unrealized gains (losses) on available-for-sale investments	13,072	(21,237)	88,370	(83,364)
Change in foreign currency translation adjustments	—	6,594	—	3,072
Change in net actuarial pension loss	123	135	622	463
Total	\$ 13,195	\$ (14,508)	\$ 88,992	\$ (79,829)

The following table presents the details of amounts reclassified from accumulated other comprehensive income (loss) into income, by component.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Unrealized holding gains (losses) on available-for-sale investments:				
Net realized investment losses, excluding other-than-temporary impairment losses	(257)	(13,383)	(962)	(6,957)
Income taxes	54	2,810	202	1,461
Reclassification of unrealized holding losses, net of taxes	\$ (203)	\$ (10,573)	\$ (760)	\$ (5,496)
Net actuarial pension loss:				
Underwriting, acquisition and insurance expenses	\$ (585)	\$ (644)	\$ (2,960)	\$ (2,204)
Income taxes	123	135	622	463
Reclassification of net actuarial pension loss, net of taxes	\$ (462)	\$ (509)	\$ (2,338)	\$ (1,741)

18. Commitments and Contingencies

a) Late in the fourth quarter of 2018, the Company was contacted by and received inquiries from the U.S. Department of Justice, U.S. Securities and Exchange Commission and Bermuda Monetary Authority (collectively, Governmental Authorities) into loss reserves recorded in late 2017 and early 2018 at Markel CATCo Re (the Markel CATCo Inquiries), an unconsolidated subsidiary managed by MCIM. As a result, the Company engaged outside counsel to conduct an internal review.

The internal review was completed in April 2019 and found no evidence that MCIM personnel acted in bad faith in exercising business judgment in the setting of reserves and making related disclosures during late 2017 and early 2018. The Company's outside counsel has met with the Governmental Authorities and reported the findings from the internal review. The Markel CATCo Inquiries are ongoing. The Company cannot currently predict the duration, scope or result of the Markel CATCo Inquiries.

During the internal review, the Company discovered violations of Markel policies by two senior executives of MCIM. As a result, these two executives are no longer with the Company (the MCIM Executive Departures).

Between January 11, 2019 and March 7, 2019, several related putative class actions were filed in the U.S. District Court for the Southern District of New York against Markel Corporation and certain present or former officers and directors alleging violations of the federal securities laws relating to the matters that are the subject of the Markel CATCo Inquiries (the Markel Securities Litigation). The actions were consolidated. On August 6, 2019, the Markel Securities Litigation was voluntarily dismissed.

On February 21, 2019, Anthony Belisle and Alissa Fredricks, two senior executives who are no longer with MCIM, each separately filed suit against MCIM and Markel Corporation, which suits were amended on March 29, 2019 and March 28, 2019, respectively (the MCIM Executive Suits). As amended, Mr. Belisle's complaint alleged claims for, among other things, breach of contract, defamation, invasion of privacy, indemnification, intentional interference with contractual relations and deceptive and unfair acts and sought relief of, among other things, \$66.0 million in incentive compensation, enhanced compensatory damages, consequential damages, damages for emotional distress and injury to reputation, exemplary damages and attorneys' fees. In June 2019, MCIM, Markel Corporation, and Mr. Belisle agreed to commence binding arbitration to finally, fully and confidentially resolve the claims and counterclaims alleged in the action, and the Belisle suit was dismissed with prejudice in July 2019. The arbitrators have been selected and the arbitration proceeding has commenced. The Company believes that Mr. Belisle's claims are without merit and any material loss resulting from the Belisle binding arbitration to be remote. As amended, Ms. Fredricks' complaint alleged claims for, among other things, breach of contract, defamation, invasion of privacy, indemnification, intentional interference with contractual relations and deceptive and unfair acts and sought relief of, among other things, \$7.5 million in incentive compensation, consequential damages, damages for emotional distress and injury to reputation, exemplary damages and attorneys' fees. In June 2019, the action filed by Ms. Fredricks was settled by mutual agreement to the satisfaction of all parties.

The Markel CATCo Inquiries, Markel Securities Litigation, MCIM Executive Departures and MCIM Executive Suits, as well as other related matters of which the Company is currently unaware, could result in additional claims, litigation, investigations, enforcement actions or proceedings. For example, additional litigation may be filed by investors in the Markel CATCo Funds. The Company also could become subject to increased regulatory scrutiny, investigations or proceedings in any of the jurisdictions where it operates. If any regulatory authority takes action against the Company or the Company enters into an agreement to settle a matter, the Company may incur sanctions or be required to pay substantial fines or implement remedial measures that could prove costly or disruptive to its businesses and operations. Costs associated with the Company's internal review, including legal and investigation costs, as well as legal costs incurred in connection with any existing or future litigation, are being expensed as incurred.

An unfavorable outcome in one or more of these matters, and others the Company cannot anticipate, could have a material adverse effect on the Company's results of operations and financial condition. In addition, the Company may take further steps to mitigate potential risks or liabilities that may arise from the Markel CATCo Inquiries and related developments and some of those steps may have a material impact on the Company's results of operations or financial condition. Even if an unfavorable outcome does not materialize, these matters, and actions the Company may take in response, could have an adverse impact on the Company's reputation and result in substantial expense and disruption.

In December 2018, investors in the Markel CATCo Funds were offered an additional redemption opportunity (the Special Redemption). Under the Special Redemption, investors in the Markel CATCo Funds were offered the option, through March 29, 2019, to redeem any or all shares held as of June 30, 2019. Through both the Special Redemption and the annual redemption for January 1, 2019, substantially all of the capital in the Markel CATCo Funds was tendered for redemption. In July 2019, MCIM announced it would cease accepting new investments in the Markel CATCo Funds and would not write any new business in Markel CATCo Re. Both the Markel CATCo Funds and Markel CATCo Re have been placed into run-off, returning capital to investors as it becomes available. The process is expected to take approximately three years. Payment for the redemptions of shares is an obligation of the Markel CATCo Funds, not Markel Corporation or its subsidiaries.

b) The Company has reviewed events at one of its Markel Ventures products businesses. Since becoming aware of a matter late in the first quarter of 2018 related to the business's manufacture of products, the Company has conducted an investigation, reviewed the business's operations and developed remediation plans. Upon completion of its review during 2018, the Company accrued an expense of \$33.5 million in its results of operations. This amount represented management's best estimate of amounts considered probable including: remediation costs associated with the manufacture of products, costs associated with the investigation of this matter, a write down of inventory on hand and settlement costs related to pre-existing litigation.

Final resolution of this matter could ultimately result in additional remediation and other costs, the amount of which cannot be estimated at this time, but which could have a material impact on the Company's income before income taxes. However, management does not expect this matter ultimately will have a material adverse effect on the Company's results of operations or financial condition. If a determination is made that additional costs associated with this matter are considered probable, these additional costs will be recognized as an expense in the Company's results of operations. As of September 30, 2019, \$21.4 million remained accrued for ongoing remediation efforts.

In addition, contingencies arise in the normal course of the Company's operations and are not expected to have a material impact on the Company's financial condition or results of operations.

c) In September 2019, the Company announced the launch of Lodgepine Capital Management Limited (Lodgepine), its new retrocessional insurance-linked securities fund manager in Bermuda. Lodgepine's initial product offering will be Lodgepine Fund Limited, a property catastrophe retrocessional investment fund, which is expected to launch by January 1, 2020. The Company has committed to invest up to \$100 million in Lodgepine Fund Limited.

19. Subsequent Events

In October 2019, Japan sustained losses from Typhoon Hagibis. Based on information currently available, the Company estimates its range of net incurred losses and loss adjustment expenses on this event is between \$60 million and \$120 million before income taxes. This estimated range of losses was derived based on preliminary industry loss estimates and reviews of in-force contracts. However, early industry loss estimates for Typhoon Hagibis have a wide range of variability. The Company will refine its estimate of losses, which will be recorded in the fourth quarter of 2019, as more details about the actual level of claims emerge.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The accompanying consolidated financial statements and related notes have been prepared in accordance with United States (U.S.) generally accepted accounting principles (GAAP) and include the accounts of Markel Corporation and its consolidated subsidiaries, as well as any variable interest entities that meet the requirements for consolidation (the Company).

Our Business

We are a diverse financial holding company serving a variety of niche markets. Our principal business markets and underwrites specialty insurance products. We believe that our specialty product focus and niche market strategy enable us to develop expertise and specialized market knowledge. We seek to differentiate ourselves from competitors by our expertise, service, continuity and other value-based considerations. We also own interests in various businesses that operate outside of the specialty insurance marketplace. Our financial goals are to earn consistent underwriting and operating profits and superior investment returns to build shareholder value.

Our business is comprised of the following types of operations:

- Underwriting - our underwriting operations are comprised of our risk-bearing insurance and reinsurance operations
- Investing - our investing activities are primarily related to our underwriting operations
- Markel Ventures - our Markel Ventures operations include our controlling interests in a diverse portfolio of businesses that operate outside of the specialty insurance marketplace
- Insurance-linked securities - our insurance-linked securities operations include investment fund managers that offer a variety of investment products, including insurance-linked securities, catastrophe bonds, insurance swaps and weather derivatives
- Program services - our program services business serves as a fronting platform that provides other insurance entities access to the U.S. property and casualty insurance market

Underwriting and Investing

Our chief operating decision maker allocates resources to and assesses the performance of our ongoing underwriting operations on a global basis in the following two segments: Insurance and Reinsurance. In determining how to monitor our underwriting results, we consider many factors, including the nature of the insurance product sold, the type of account written and the type of customer served. The Insurance segment includes all direct business and facultative placements written across the Company. The Reinsurance segment includes all treaty reinsurance written across the Company. Results for lines of business discontinued prior to, or in conjunction with, acquisitions, including development on asbestos and environmental loss reserves and the results attributable to the run-off of life and annuity reinsurance business, are monitored separately and are not included in a reportable segment. All investing activities related to our underwriting operations are included in the Investing segment.

Our Insurance segment includes both hard-to-place risks written outside of the standard market on an excess and surplus lines basis and unique and hard-to-place risks that must be written on an admitted basis due to marketing and regulatory reasons. Risks written in our Insurance segment are written on either a direct basis or a subscription basis, the latter of which means that the loss exposures brought into the market are typically insured by more than one insurance company or Lloyd's syndicate. When we write business in the subscription market, we prefer to participate as lead underwriter in order to control underwriting terms, policy conditions and claims handling. The following products are included in this segment: general liability, professional liability, primary and excess of loss property, including catastrophe-exposed property, personal property, workers' compensation, marine and energy liability coverages, specialty program insurance for well-defined niche markets, and liability and other coverages tailored for unique exposures. Business in this segment is written through our Markel Assurance, Markel Specialty and Markel International divisions. The Markel Assurance division writes commercial and Fortune 1000 accounts on an excess and surplus lines as well as admitted basis. The Markel Specialty division writes program insurance and other specialty coverages for well-defined niche markets, primarily on an admitted basis. The Markel International division writes business worldwide, primarily from our London-based platform, which includes our syndicate at Lloyd's.

Our Reinsurance segment includes property, casualty and specialty treaty reinsurance products offered to other insurance and reinsurance companies globally through the broker market. Our treaty reinsurance offerings include both quota share and excess of loss reinsurance and are typically written on a participation basis, which means each reinsurer shares proportionally in the business ceded under the reinsurance treaty written. Principal lines of business include: property, including catastrophe-exposed property, professional liability, general casualty, credit, surety, auto, and workers' compensation. Our reinsurance product offerings are underwritten principally by our Global Reinsurance division.

Markel Ventures

Through our wholly-owned subsidiary Markel Ventures, Inc. (Markel Ventures), we own interests in various businesses that we monitor and report in the Markel Ventures segment. These businesses are viewed by management as separate and distinct from our insurance operations and are comprised of a diverse portfolio of businesses from different industries that offer various types of products and services to businesses and consumers, predominately in the United States. Our products group manufactures, builds or produces consumer and industrial products, such as equipment used in baking systems and food processing, portable dredges, over-the-road car haulers and equipment, laminated oak and composite wood flooring used in the trucking industry, dormitory furniture, wall systems, medical casework and marine panels, storage and transportation equipment for specialty gas, ornamental plants, fashion handbags and residential homes. The services group offers consumer and business services, such as management and technology consulting, leasing and management of manufactured housing communities, behavioral healthcare, concierge health programs and retail intelligence.

In October 2018, we acquired 90% of Brahmin Leather Works (Brahmin), a Massachusetts-based privately held creator of fashion leather handbags. Results attributable to Brahmin are included in our Markel Ventures segment.

Insurance-linked Securities

Our insurance-linked securities operations are comprised of our Nephila and Markel CATCo operations.

In November 2018, we completed the acquisition of all of the outstanding shares of Nephila Holdings Ltd. (together with its subsidiaries, Nephila). Through its subsidiaries, Nephila primarily serves as an insurance and investment fund manager headquartered in Bermuda that offers a broad range of investment products, including insurance-linked securities, catastrophe bonds, insurance swaps and weather derivatives.

Nephila serves as the investment manager to several Bermuda, Ireland and U.S. based private funds (the Nephila Funds). To provide access for the Nephila Funds to the insurance, reinsurance and weather markets, Nephila also provides managing general agent services and acts as an insurance manager to certain Bermuda Class 3 and 3A reinsurance companies and as both a service company coverholder and agent with binding authority for Lloyd's Syndicate 2357 (Syndicate 2357) (collectively, the Nephila Reinsurers). The results of the Nephila Reinsurers are attributed to the Nephila Funds primarily through derivative transactions between these entities. Neither the Nephila Funds nor the Nephila Reinsurers are subsidiaries of Markel Corporation, and as such, these entities are not included in our consolidated financial statements. Nephila's net assets under management were \$10.5 billion and \$11.6 billion as of September 30, 2019 and December 31, 2018, respectively.

Our Markel CATCo operations are conducted through Markel CATCo Investment Management Ltd. (MCIM). MCIM is an insurance-linked securities investment fund manager headquartered in Bermuda that focused on building and managing highly diversified, collateralized retrocession and reinsurance portfolios covering global property catastrophe risks. MCIM serves as the insurance manager for Markel CATCo Re Ltd. (Markel CATCo Re), a Bermuda Class 3 reinsurance company, and as the investment manager for Markel CATCo Reinsurance Fund Ltd., a Bermuda exempted mutual fund company comprised of multiple segregated accounts (Markel CATCo Funds). MCIM also serves as the investment manager to CATCo Reinsurance Opportunities Fund Ltd. (CROF), a limited liability closed-end Bermuda exempted mutual fund company listed on a market operated by the London Stock Exchange and on the Bermuda Stock Exchange. CROF invests substantially all of its assets in Markel CATCo Reinsurance Fund Ltd. Both Markel CATCo Re and the Markel CATCo Funds are unconsolidated subsidiaries of Markel Corporation. MCIM's net assets under management were \$3.0 billion and \$3.4 billion as of September 30, 2019 and December 31, 2018, respectively. In July 2019, MCIM announced it would cease accepting new investments in the Markel CATCo Funds and would not write any new business in Markel CATCo Re. Both the Markel CATCo Funds and Markel CATCo Re have been placed into run-off, returning capital to investors as it becomes available. See note 18 of the notes to consolidated financial statements for further details regarding recent developments within our Markel CATCo operations.

In September 2019, we announced the launch of Lodgepine Capital Management Limited (Lodgepine), our new retrocessional insurance-linked securities fund manager in Bermuda. Lodgepine's initial product offering will be Lodgepine Fund Limited, a property catastrophe retrocessional investment fund, which is expected to launch by January 1, 2020. We have committed to invest up to \$100 million in Lodgepine Fund Limited.

Program Services

Our program services business is conducted through our State National division and is separately managed from our underwriting operations. Our program services business generates fee income, in the form of ceding (program service) fees, by offering issuing carrier capacity to both specialty general agents and other producers who sell, control, and administer books of insurance business that are supported by third parties that assume reinsurance risk, including Syndicate 2357. Through our program services business, we write a wide variety of insurance products, principally including general liability insurance, commercial liability insurance, commercial multi-peril insurance, property insurance and workers' compensation insurance, substantially all of which is ceded to third parties. Gross written premiums in our program services business were \$619.2 million and \$1.8 billion for the quarter and nine months ended September 30, 2019, respectively, and \$561.3 million and \$1.6 billion for the quarter and nine months ended September 30, 2018, respectively, substantially all of which was ceded.

Critical Accounting Estimates

Critical accounting estimates are those estimates that both are important to the portrayal of our financial condition and results of operations and require us to exercise significant judgment. The preparation of financial statements in accordance with U.S. GAAP requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of material contingent assets and liabilities, including litigation contingencies. These estimates, by necessity, are based on assumptions about numerous factors.

Our critical accounting estimates consist of estimates and assumptions used in determining the reserves for unpaid losses and loss adjustment expenses and life and annuity reinsurance benefit reserves as well as estimates and assumptions used in the valuation of goodwill and intangible assets. We review the adequacy of reserves for unpaid losses and loss adjustment expenses and life and annuity reinsurance benefit reserves quarterly. Estimates and assumptions used in the valuation of goodwill and intangible assets are reviewed in conjunction with an acquisition and goodwill and indefinite-lived intangible assets are reassessed at least annually for impairment. Actual results may differ materially from the estimates and assumptions used in preparing the consolidated financial statements.

Readers are urged to review our 2018 Annual Report on Form 10-K for a more complete description of our critical accounting estimates.

Recent Accounting Pronouncements

The following Accounting Standard Updates (ASUs) issued by the Financial Accounting Standards Board have the most potential to significantly impact our consolidated financial position, results of operations or cash flows in future periods upon adoption:

- ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*
- ASU No. 2018-12, *Financial Services—Insurance (Topic 944): Targeted Improvements to the Accounting for Long-Duration Contracts*
- ASU No. 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*

See note 2 of the notes to consolidated financial statements for discussion of these ASUs and our current assessment of the expected effects on our consolidated financial position, results of operations and cash flows.

Results of Operations

The following table presents the components of net income to shareholders and comprehensive income to shareholders.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Insurance segment underwriting profit	\$ 81,285	\$ 42,453	\$ 180,945	\$ 219,268
Reinsurance segment underwriting profit (loss)	(6,475)	(33,663)	5,697	(2,940)
Investing segment profit ⁽¹⁾	145,364	532,239	1,408,771	727,579
Markel Ventures segment profit ⁽²⁾	35,467	23,633	147,056	60,429
Other operations ⁽³⁾	6,607	(9,057)	(18,945)	(32,440)
Interest expense	(47,465)	(37,961)	(129,022)	(114,722)
Net foreign exchange gains	53,850	1,383	57,001	65,427
Loss on early extinguishment of debt	(6,705)	—	(6,705)	—
Income tax expense	(57,975)	(109,999)	(356,849)	(299,580)
Net loss (income) attributable to noncontrolling interests	1,684	410	(8,587)	342
Net income to shareholders	205,637	409,438	1,279,362	623,363
Other comprehensive income (loss) to shareholders	44,432	(94,332)	326,282	(318,760)
Comprehensive income to shareholders	\$ 250,069	\$ 315,106	\$ 1,605,644	\$ 304,603

- (1) Net investment income and net investment gains, if any, attributable to Markel Ventures are included in segment profit for Markel Ventures. All other net investment income and net investment gains are included in investing segment profit.
- (2) Segment profit for the Markel Ventures segment includes amortization of intangible assets attributable to Markel Ventures. Amortization of intangible assets is not allocated to any other reportable segments.
- (3) Other operations represents the total profit (loss) attributable to the Company's operations that are not included in a reportable segment as well as any amortization of intangible assets that is not allocated to a reportable segment.

The components of net income to shareholders and comprehensive income to shareholders are discussed in detail under "Underwriting Results," "Investing Results," "Markel Ventures," "Other Operations," "Interest Expense, Loss on Early Extinguishment of Debt and Income Taxes" and "Comprehensive Income to Shareholders."

Underwriting Results

Underwriting profits are a key component of our strategy to build shareholder value. We believe that the ability to achieve consistent underwriting profits demonstrates knowledge and expertise, commitment to superior customer service and the ability to manage insurance risk. The property and casualty insurance industry commonly defines underwriting profit or loss as earned premiums net of losses and loss adjustment expenses and underwriting, acquisition and insurance expenses. We use underwriting profit or loss and the combined ratio as a basis for evaluating our underwriting performance. The combined ratio is a measure of underwriting performance and represents the relationship of incurred losses, loss adjustment expenses and underwriting, acquisition and insurance expenses to earned premiums. The combined ratio is the sum of the loss ratio and the expense ratio. A combined ratio less than 100% indicates an underwriting profit, while a combined ratio greater than 100% reflects an underwriting loss. The loss ratio represents the relationship of incurred losses and loss adjustment expenses to earned premiums. The expense ratio represents the relationship of underwriting, acquisition and insurance expenses to earned premiums.

Consolidated

The following table presents selected data from our underwriting operations, including any business retained through our program services operations and amounts attributable to lines that were discontinued in conjunction with acquisitions, neither of which are included in a reportable segment.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Gross premium volume ⁽¹⁾	\$ 1,645,995	\$ 1,483,059	\$ 4,944,336	\$ 4,512,805
Net written premiums	1,370,384	1,216,271	4,153,115	3,731,679
Net retention ⁽¹⁾	83%	82%	84%	83%
Earned premiums	1,300,032	1,185,323	3,703,470	3,484,528
Losses and loss adjustment expenses	752,134	736,846	2,118,000	1,951,142
Underwriting, acquisition and insurance expenses	475,219	441,961	1,392,747	1,317,921
Underwriting profit	72,679	6,516	192,723	215,465

U.S. GAAP Combined Ratios

Insurance	92%	96%	94%	92%
Reinsurance	103%	115%	99%	100%
Markel Corporation (Consolidated)	94%	99%	95%	94%

(1) Gross premium volume and net retention exclude \$618.5 million and \$1.8 billion for the quarter and nine months ended September 30, 2019, respectively, and \$560.7 million and \$1.6 billion for the quarter and nine months ended September 30, 2018, respectively, of written premiums attributable to our program services business and other fronting arrangements that were ceded.

Underwriting results for the quarter and nine months ended September 30, 2019 included \$42.6 million of underwriting loss from Hurricane Dorian and Typhoon Faxai (2019 Catastrophes). Estimated net losses and loss adjustment expenses on the 2019 Catastrophes were net of estimated ceded losses of \$4.8 million. Both the gross and net loss estimates on the 2019 Catastrophes represent our best estimate of losses based upon information currently available. Our estimate for these losses is based on preliminary industry loss estimates, output from both industry and proprietary models as well as a review of in-force contracts, and for Hurricane Dorian, claims received to date and detailed policy level reviews. Early industry loss estimates for Typhoon Faxai have a wide range of variability. While we believe our reserves for the 2019 Catastrophes as of September 30, 2019 are adequate, we continue to closely monitor industry loss estimates and reported claims and will adjust our estimates of gross and net losses as new information becomes available.

Underwriting results for the quarter and nine months ended September 30, 2018 included \$75.7 million of underwriting loss from Hurricane Florence and Typhoon Jebi (2018 Catastrophes). Estimated net losses and loss adjustment expenses on the 2018 Catastrophes were net of estimated ceded losses of \$28.6 million.

The following table summarizes, by segment, the components of the underwriting losses related to the 2019 and 2018 Catastrophes for the quarter and nine months ended September 30, 2019 and 2018, respectively.

<i>(dollars in thousands)</i>	Quarter and Nine Months Ended September 30,					
	2019			2018		
	Insurance	Reinsurance	Consolidated	Insurance	Reinsurance	Consolidated
Losses and loss adjustment expenses	\$ 13,868	\$ 31,253	\$ 45,121	\$ 39,200	\$ 38,622	\$ 77,822
Ceded (assumed) reinstatement premiums	—	(2,475)	(2,475)	397	(2,500)	(2,103)
Underwriting loss	\$ 13,868	\$ 28,778	\$ 42,646	\$ 39,597	\$ 36,122	\$ 75,719
Impact on quarter to date combined ratio	1%	12%	3%	4%	16%	6%
Impact on year to date combined ratio	—%	4%	1%	1%	5%	2%

The decrease in the consolidated combined ratio for the quarter ended September 30, 2019 was primarily attributable to lower catastrophe losses and more favorable development on prior accident years' loss reserves within our Insurance segment in 2019 compared to 2018. The increase in the consolidated combined ratio for the nine months ended September 30, 2019 was driven primarily by less favorable development on prior accident years' loss reserves in 2019 compared to 2018 within our Insurance segment.

Insurance Segment

The combined ratio for the Insurance segment was 92% (including one point for the underwriting loss on the 2019 Catastrophes) for the quarter ended September 30, 2019 compared to 96% (including four points for the underwriting loss on the 2018 Catastrophes) for the same period of 2018.

For the quarter ended September 30, 2019, the decrease in the combined ratio was driven by lower catastrophe losses in the third quarter of 2019 compared to 2018 and more favorable development on prior accident years' loss reserves. Higher earned premiums in 2019 compared to 2018 had a favorable impact on our expense ratio and an unfavorable impact on the prior years' loss ratio.

- The Insurance segment's combined ratio for the quarter ended September 30, 2019 included \$135.0 million of favorable development on prior years' loss reserves compared to \$111.1 million for the same period of 2018. The impact of more favorable development on prior years' loss reserves was partially offset by the unfavorable impact of higher earned premiums on the prior years' loss ratio. The increase in favorable development was primarily due to more favorable development on our professional liability and general liability product lines in 2019 compared to 2018, partially offset by less favorable development on our marine and energy product lines in 2019 compared to 2018. For the quarter ended September 30, 2019, favorable development was most significant on our general liability product lines, primarily on the 2014 to 2018 accident years, workers' compensation product lines, primarily on the 2016 to 2018 accident years, and professional liability product lines, primarily on the 2017 and 2018 accident years. The favorable development on prior years' loss reserves in the third quarter of 2018 was most significant on our general liability, workers' compensation and marine and energy product lines.
- The expense ratio for the quarter ended September 30, 2019 was flat compared to the same period of the prior year. The favorable impact from higher earned premiums in 2019 compared to 2018 was offset by a lower benefit from ceding commissions in 2019 compared to 2018 due to recent changes in our outwards reinsurance treaty structures. In late 2018, we shifted from buying proportional reinsurance coverages towards excess of loss coverages for our general liability and professional liability product lines.

The combined ratio for the Insurance segment was 94% for the nine months ended September 30, 2019 compared to 92% (including one point for the underwriting loss on the 2018 Catastrophes) for the same period of 2018.

For the nine months ended September 30, 2019, the increase in the combined ratio was driven by less favorable development on prior accident years' loss reserves, partially offset by lower catastrophe losses in 2019 compared to 2018. Higher earned premiums in 2019 compared to 2018 had a favorable impact on our expense ratio and an unfavorable impact on the prior years' loss ratio.

- The current accident year loss ratio for the nine months ended September 30, 2019 decreased compared to the prior period, primarily due to lower catastrophe losses in 2019 compared to 2018.
- The Insurance segment's combined ratio for the nine months ended September 30, 2019 included \$309.3 million of favorable development on prior years' loss reserves compared to \$369.8 million for the same period in 2018. The decrease in favorable development was primarily due to less favorable development on our marine and energy and programs products lines in 2019 compared to 2018 and adverse development on our property product lines in 2019 compared to favorable development in 2018. These unfavorable changes were partially offset by more favorable development on our general liability product lines. The adverse development on our property product lines in 2019 was due to adverse development on our brokerage property product line resulting from higher than expected losses, primarily on the 2018 accident year, as well as modest adverse development on prior year catastrophes. Additionally, the benefit of favorable development on the combined ratio was reduced in 2019 as a result of higher earned premiums in 2019 compared to 2018. For the nine months ended September 30, 2019, favorable development was most significant on our general liability product lines, primarily on the 2013 to 2017 accident years, workers' compensation product lines, primarily on the 2015 to 2018 accident years, and professional liability product lines, primarily on the 2017 and 2018 accident years. The favorable development on prior years' loss reserves in 2018 was most significant on our general liability, workers' compensation, marine and energy and professional liability product lines.
- The expense ratio for the nine months ended September 30, 2019 decreased compared to the same period of 2018, primarily due to the favorable impact of higher earned premiums, partially offset by a lower benefit from ceding commissions due to changes in our outwards reinsurance treaty structures, as described above.

Reinsurance Segment

The combined ratio for the Reinsurance segment was 103% (including 12 points for the underwriting loss on the 2019 Catastrophes) for the quarter ended September 30, 2019 compared to 115% (including 16 points for the underwriting loss on the 2018 Catastrophes) for the same period of 2018.

For the quarter ended September 30, 2019, the decrease in the combined ratio was driven by a lower current accident year loss ratio and a lower expense ratio in 2019 compared to 2018.

- The current accident year loss ratio for the quarter ended September 30, 2019 decreased compared to the same period in 2018. The decrease in the current year loss ratio was attributable to the beneficial impact of more favorable premium adjustments in 2019 compared to 2018, primarily on our workers' compensation and credit and surety product lines, partially offset by an unfavorable impact arising from changes in our outwards property reinsurance treaty structures in 2019 related to the elimination of our proportional property reinsurance treaty and the purchase of additional excess of loss property and catastrophe reinsurance coverage. The decrease in the current accident year loss ratio was also attributable to lower catastrophe losses in 2019 compared to 2018.
- The Reinsurance segment's combined ratio for the quarter ended September 30, 2019 included \$13.8 million of favorable development on prior accident years' loss reserves compared to \$12.7 million for the same period of 2018. For the quarter ended September 30, 2019, favorable development was most significant on our property product lines across several accident years. The favorable development on prior years' loss reserves in the third quarter of 2018 was most significant on our credit and surety, marine and energy and workers' compensation product lines.
- The expense ratio for the quarter ended September 30, 2019 decreased compared to the same period of 2018 primarily due lower general expenses, the favorable impact of higher earned premiums and lower profit sharing expenses in 2019 compared to 2018.

The combined ratio for the Reinsurance segment was 99% (including four points for the underwriting loss on the 2019 Catastrophes) for the nine months ended September 30, 2019 compared to 100% (including five points for the underwriting loss on the 2018 Catastrophes) for the same period of 2018.

For the nine months ended September 30, 2019, the decrease in the combined ratio was driven by lower catastrophe losses, partially offset by a higher expense ratio in 2019 compared to 2018.

- Excluding the impact of 2019 and 2018 Catastrophes, the current accident year loss ratio for the nine months ended September 30, 2019 was flat compared to the prior year. Changes in our outwards property reinsurance treaty structures in 2019 as described above resulted in a higher net attritional loss ratio. The impact of these changes was offset by the favorable impact of reinstatement premiums and more favorable premium adjustments in 2019 compared to 2018, primarily on our workers' compensation and professional liability product lines.
- The Reinsurance segment's combined ratio for the nine months ended September 30, 2019 included \$20.7 million of favorable development on prior accident years' loss reserves compared to \$18.1 million for the same period in 2018. In both periods, the favorable development on prior years' loss reserves was partially offset by adverse development on prior year catastrophes. For the nine months ended September 30, 2019, favorable development was most significant on our aviation and whole account product lines across several accident years and on our auto product lines, primarily on the 2012 to 2015 accident years. The favorable development on prior years' loss reserves in 2018 was most significant on our credit and surety and marine and energy product lines.
- The expense ratio for the nine months ended September 30, 2019 increased compared to the same period of 2018 due to an unfavorable impact from higher ceded earned premiums resulting from changes in our outwards property reinsurance treaty structures, as described above.

Premiums and Net Retentions

The following tables summarize gross premium volume, net written premiums and earned premiums.

Gross Premium Volume

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Insurance	\$ 1,418,363	\$ 1,248,150	\$ 3,979,559	\$ 3,575,340
Reinsurance	226,387	234,360	963,145	935,498
Other underwriting	516	(7)	12	(1)
Total Underwriting	1,645,266	1,482,503	4,942,716	4,510,837
Program Services and other	619,226	561,268	1,823,965	1,577,251
Total	\$ 2,264,492	\$ 2,043,771	\$ 6,766,681	\$ 6,088,088

Gross premium volume in our underwriting operations for the quarter and nine months ended September 30, 2019 increased 11% and 10%, respectively, compared to the same periods of 2018. The increase in gross premium volume for the quarter ended September 30, 2019 was attributable to an increase in gross premium volume within our Insurance segment. The increase in gross premium volume for the nine months ended September 30, 2019 was attributable to an increase in gross premium volume within both our Insurance and Reinsurance segments. Also impacting consolidated gross premium volume were gross premiums written from our program services business and other fronting arrangements, which increased 10% and 16% for the quarter and nine months ended September 30, 2019, respectively. Substantially all gross premiums from our program services business and other fronting arrangements were ceded to third parties for the quarter and nine months ended September 30, 2019 and 2018.

Gross premium volume in our Insurance segment increased 14% and 11% for the quarter and nine months ended September 30, 2019, respectively. The increase in gross premium volume for both the quarter and nine months ended September 30, 2019 was primarily driven by growth within our professional liability, general liability and personal lines product lines.

Gross premium volume in our Reinsurance segment decreased 3% for the quarter ended September 30, 2019 and increased 3% for the nine months ended September 30, 2019 compared to the same periods of 2018. The decrease in gross premium volume for the quarter ended September 30, 2019 was driven by certain contracts that were not renewed and lower gross premiums on multi-year contracts, primarily in our property product lines. These decreases were partially offset by higher gross premium volume within our workers' compensation product lines, due to favorable premium adjustments on a significant treaty. The increase in gross premium volume for the nine months ended September 30, 2019 was driven by higher gross premiums within our workers' compensation product lines, primarily due to favorable premium adjustments on a significant treaty, and general liability product lines, primarily due to a favorable impact from the timing of renewals. These increases were partially offset by lower gross premiums in our property and aviation product lines, primarily due to non-renewals. Lower gross premiums in our property product lines were also due to lower gross premiums from multi-year contracts. Significant variability in gross premium volume can be expected in our Reinsurance segment due to individually significant contracts and multi-year contracts.

Following the high level of natural catastrophes that have occurred over the last three years, and based on general market conditions, we have seen more favorable rates, particularly on our catastrophe-exposed and loss-affected business. We are also seeing improved pricing on many of our other product lines, the primary exception being workers' compensation, where we continue to see rate decreases given favorable experience in recent years. Overall, the market remains competitive. When we believe the prevailing market price will not support our underwriting profit targets, the business is not written. As a result of our underwriting discipline, gross premium volume may vary when we alter our product offerings to maintain or improve underwriting profitability.

Net Written Premiums

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Insurance	\$ 1,181,919	\$ 1,021,684	\$ 3,306,447	\$ 2,935,789
Reinsurance	187,180	195,349	844,949	795,136
Other underwriting	556	(1,318)	99	(1,214)
Total Underwriting	1,369,655	1,215,715	4,151,495	3,729,711
Program Services and other	729	556	1,620	1,968
Total	\$ 1,370,384	\$ 1,216,271	\$ 4,153,115	\$ 3,731,679

Net retention of gross premium volume for our underwriting operations for the quarter and nine months ended September 30, 2019 was 83% and 84%, respectively, compared to 82% and 83% for the same periods of 2018. The increase in net retention for the quarter and nine months ended September 30, 2019 compared to the same periods of 2018 was driven by an increase in net retention within the Insurance segment resulting from recent changes in our outwards reinsurance treaty structures. In late 2018, we shifted from buying proportional reinsurance coverages towards excess of loss coverages for our general liability and professional liability product lines, which resulted in higher retentions. These increases in net retention were partially offset by lower retention on our personal lines product lines.

Earned Premiums

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Insurance	\$ 1,058,869	\$ 961,062	\$ 3,023,865	\$ 2,782,107
Reinsurance	240,144	225,277	678,382	702,854
Other underwriting	556	(1,318)	99	(1,214)
Total Underwriting	1,299,569	1,185,021	3,702,346	3,483,747
Program Services and other	463	302	1,124	781
Total	\$ 1,300,032	\$ 1,185,323	\$ 3,703,470	\$ 3,484,528

Earned premiums for the quarter and nine months ended September 30, 2019 increased 10% and 6%, respectively, compared to the same periods of 2018. The increase in earned premiums for both the quarter and nine months ended September 30, 2019 was attributable to an increase in earned premiums within our Insurance segment.

The increase in earned premiums in our Insurance segment for both the quarter and nine months ended September 30, 2019 was primarily due to the increase in gross premium volume within our general liability and professional liability product lines, as described above. The increase in earned premiums in our Reinsurance segment for the quarter ended September 30, 2019 was primarily due to the increase in gross premium volume within our workers' compensation product lines, as described above, partially offset by higher ceded earned premiums resulting from changes in our outwards property reinsurance treaty structures. The decrease in earned premiums in our Reinsurance segment for the nine months ended September 30, 2019 was driven by the non-renewal of two large specialty quota share treaties and higher ceded earned premiums resulting from changes in our outwards property reinsurance treaty structures, partially offset by favorable premium adjustments, primarily within our workers' compensation and professional liability product lines.

Investing Results

Our business strategy recognizes the importance of both consistent underwriting and operating profits and superior investment returns to build shareholder value. We rely on sound underwriting practices to produce investable funds while minimizing underwriting risk. We measure investing results by our net investment income and net investment gains as well as our taxable equivalent total investment return.

The following table summarizes our investment performance.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net investment income	\$ 113,382	\$ 106,307	\$ 339,395	\$ 319,710
Net investment gains	\$ 32,144	\$ 426,075	\$ 1,069,988	\$ 408,326
Change in net unrealized investment gains (losses) on available-for-sale securities	\$ 92,904	\$ (101,666)	\$ 511,307	\$ (383,937)
Investment yield ⁽¹⁾	0.7%	0.7%	2.3%	2.0%
Taxable equivalent total investment return, before foreign currency effect			11.3%	2.3%
Taxable equivalent total investment return			10.9%	2.1%

⁽¹⁾ Investment yield reflects net investment income as a percentage of monthly average invested assets at cost.

The increase in net investment income for the quarter and nine months ended September 30, 2019 compared to the same periods of 2018 was driven primarily by higher dividend income due to increased equity holdings and dividend rates. The increase in net investment income for the quarter ended September 30, 2019 was partially offset by a decrease in interest income on our fixed maturity portfolio, primarily due to decreased holdings of fixed maturities compared to 2018. The increase in net investment income for the nine months ended September 30, 2019 was also driven by higher short-term investment income, primarily due to higher short-term interest rates. See note 4(d) of the notes to consolidated financial statements for details regarding the components of net investment income.

Net investment gains for both the quarter and nine months ended September 30, 2019 were primarily attributable to an increase in the fair value of equity securities, which was driven by market value movements. See note 4(e) of the notes to consolidated financial statements for further details on the components of net investment gains.

We also evaluate our investment performance by analyzing taxable equivalent total investment return, which is a non-GAAP financial measure. Taxable equivalent total investment return includes items that impact net income, such as coupon interest on fixed maturities, changes in fair value of equity securities, dividends on equity securities and realized investment gains or losses on available-for-sale securities, as well as changes in unrealized gains or losses on available-for-sale securities, which do not impact net income. Certain items that are included in net investment income have been excluded from the calculation of taxable equivalent total investment return, such as amortization and accretion of premiums and discounts on our fixed maturity portfolio, to provide a comparable basis for measuring our investment return against industry investment returns. The calculation of taxable equivalent total investment return also includes the current tax benefit associated with income on certain investments that is either taxed at a lower rate than the statutory income tax rate or is not fully included in U.S. taxable income. We believe the taxable equivalent total investment return is a better reflection of the economics of our decision to invest in certain asset classes. We focus on our long-term investment return, understanding that the level of investment gains or losses may vary from one period to the next.

The following table reconciles investment yield to taxable equivalent total investment return.

	Nine Months Ended September 30,	
	2019	2018
Investment yield ⁽¹⁾	2.3 %	2.0 %
Adjustment of investment yield from amortized cost to fair value	(0.5)%	(0.4)%
Net amortization of net premium on fixed maturities	0.3 %	0.3 %
Net investment gains and change in net unrealized investment gains on available-for-sale securities	8.4 %	0.4 %
Taxable equivalent effect for interest and dividends ⁽²⁾	0.1 %	0.1 %
Other ⁽³⁾	0.3 %	(0.3)%
Taxable equivalent total investment return	10.9 %	2.1 %

(1) Investment yield reflects net investment income as a percentage of monthly average invested assets at amortized cost.

(2) Adjustment to tax-exempt interest and dividend income to reflect a taxable equivalent basis.

(3) Adjustment to reflect the impact of changes in foreign currency exchange rates and time-weighting the inputs to the calculation of taxable equivalent total investment return.

Markel Ventures

Operating revenues and expenses associated with our Markel Ventures segment are included in products revenues and services and other revenues and products expenses and services and other expenses in the consolidated statements of income and comprehensive income. We measure Markel Ventures' results, by its operating income and net income, as well as earnings before interest, income taxes, depreciation and amortization (EBITDA). We consolidate our Markel Ventures subsidiaries on a one-month lag, with the exception of any significant transactions or events that occur in the intervening period.

The following table summarizes the operating revenues, operating income, EBITDA and net income to shareholders from our Markel Ventures segment.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Operating revenues	\$ 496,243	\$ 469,414	\$ 1,568,443	\$ 1,440,541
Operating income	\$ 35,467	\$ 23,633	\$ 147,056	\$ 60,429
EBITDA	\$ 58,716	\$ 45,804	\$ 219,131	\$ 128,266
Net income to shareholders	\$ 19,877	\$ 20,198	\$ 84,878	\$ 34,374

Operating revenues from our Markel Ventures segment increased \$26.8 million and \$127.9 million for the quarter and nine months ended September 30, 2019, respectively, compared to the same periods of 2018. The increase in operating revenues for both periods was driven by higher revenues in our products businesses, primarily due to the contribution of revenues from Brahmin, which was acquired in the fourth quarter of 2018, and higher sales volumes at one of our transportation-related businesses. These increases were partially offset by lower sales volumes at one of our equipment manufacturing businesses compared to the same periods of 2018. The increase in operating revenues for the nine months ended September 30, 2019 was also attributable to growth within one of our consulting services businesses.

The increase in operating income and EBITDA for the quarter ended September 30, 2019 was primarily due to higher operating revenues at one of our transportation-related businesses in 2019, as described above. The increase in operating income and EBITDA for the nine months ended September 30, 2019 was primarily due to \$33.5 million of expense incurred in 2018 related to an investigation and remediation associated with the manufacture of products at one of our businesses. We also recorded an impairment charge of \$14.9 million related to intangible assets at this reporting unit in 2018. The increase in operating income and EBITDA for the nine months ended September 30, 2019 was also attributable to improved operating results at one of our consumer and building products businesses in 2019.

Markel Ventures EBITDA is a non-GAAP financial measure. We use Markel Ventures EBITDA as an operating performance measure in conjunction with U.S. GAAP measures, including operating revenues, operating income and net income to shareholders, to monitor and evaluate the performance of our Markel Ventures segment. Because EBITDA excludes interest, income taxes, depreciation and amortization, it provides an indicator of economic performance that is useful to both management and investors in evaluating our Markel Ventures businesses as it is not affected by levels of debt, interest rates, effective tax rates or levels of depreciation or amortization resulting from purchase accounting. The following table reconciles Markel Ventures operating income to Markel Ventures EBITDA.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Markel Ventures operating income	35,467	23,633	147,056	60,429
Depreciation expense	12,892	13,032	40,401	38,505
Amortization of intangible assets	10,357	9,139	31,674	29,332
Markel Ventures EBITDA	\$ 58,716	\$ 45,804	\$ 219,131	\$ 128,266

Net income to shareholders from our Markel Ventures operations decreased slightly for the quarter ended September 30, 2019 compared to the same period of 2018 as higher operating income was more than offset by higher income tax and interest expenses. Net income to shareholders increased for the nine months ended September 30, 2019 compared to the same period of 2018, primarily due to higher operating income, partially offset by higher income tax and interest expenses.

Other Operations

The following tables present the components of operating revenues and operating expenses that are not included in a reportable segment.

(dollars in thousands)	Quarter Ended September 30,					
	2019			2018		
	Services and other revenues	Services and other expenses	Amortization of intangible assets	Services and other revenues	Services and other expenses	Amortization of intangible assets
Other operations						
Insurance-linked securities	\$ 54,947	\$ 46,123	\$ 9,612	\$ 18,258	\$ 18,007	\$ 1,991
Program services	28,844	3,422	5,235	22,621	4,506	5,235
Life and annuity	378	1,789	—	396	6,235	—
Other	7,250	6,009	650	7,698	8,352	737
	91,419	57,343	15,497	48,973	37,100	7,963
Underwriting operations			9,841			10,693
Total	\$ 91,419	\$ 57,343	\$ 25,338	\$ 48,973	\$ 37,100	\$ 18,656

(dollars in thousands)	Nine Months Ended September 30,					
	2019			2018		
	Services and other revenues	Services and other expenses	Amortization of intangible assets	Services and other revenues	Services and other expenses	Amortization of intangible assets
Other operations						
Insurance-linked securities	\$ 158,570	\$ 159,006	\$ 33,748	\$ 52,965	\$ 53,254	\$ 5,973
Program services	79,395	14,300	15,704	67,402	22,164	15,704
Life and annuity	1,145	14,284	—	1,273	21,141	—
Other	24,868	20,425	2,019	24,145	23,876	1,831
	263,978	208,015	51,471	145,785	120,435	23,508
Underwriting operations			29,518			33,419
Total	\$ 263,978	\$ 208,015	\$ 80,989	\$ 145,785	\$ 120,435	\$ 56,927

Insurance-Linked Securities

The increase in operating revenues and operating expenses in our insurance-linked securities operations for the quarter and nine months ended September 30, 2019 compared to the same periods of 2018 reflects the contribution of Nephila, which was acquired in the fourth quarter of 2018. The contribution of revenues from Nephila was partially offset by lower revenues from our Markel CATCo operations, due to lower assets under management during the quarter and nine months ended September 30, 2019 compared to the same periods of 2018 and, effective January 1, 2019, a reduction in management fees charged on sidepocket shares, which represent shares that are restricted following the occurrence of catastrophic loss events for which uncertainty still exists around the ultimate incurred losses on the underlying reinsurance contracts. Additionally, operating expenses for the quarter and nine months ended September 30, 2019 were impacted by costs associated with the internal review of matters at our Markel CATCo operations and related litigation costs, the effects of which were more than offset by lower retention and incentive compensation costs in our Markel CATCo operations in 2019 compared to 2018. See note 18 of the notes to consolidated financial statements for further details around recent developments in our Markel CATCo operations.

Interest Expense, Loss on Early Extinguishment of Debt and Income Taxes

Interest Expense

Interest expense was \$47.5 million and \$129.0 million for the quarter and nine months ended September 30, 2019, respectively, compared to \$38.0 million and \$114.7 million for the same periods of 2018. The increase in interest expense for both periods of 2019 was due to interest expense associated with our 5.0% unsecured senior notes which were issued in the second quarter of 2019.

Loss on Early Extinguishment of Debt

In September 2019, we purchased \$125.2 million of principal on our 6.25% unsecured senior notes due September 30, 2020 and \$97.8 million of principal on our 5.35% unsecured senior notes due June 1, 2021 through a tender offer at a total purchase price of \$130.1 million and \$103.0 million, respectively. In connection with the tender offer and purchase, we recognized a loss on early extinguishment of debt of \$6.7 million during the quarter and nine months ended September 30, 2019. See "Financial Condition" for further discussion of our 2019 senior long-term debt transactions.

Income Taxes

The effective tax rate was 22% and 32% for the nine months ended September 30, 2019 and 2018, respectively. In 2018, we decided to elect to treat our two most significant United Kingdom (U.K.) subsidiaries as domestic corporations for U.S. tax purposes. Therefore, the earnings and profits from those subsidiaries are no longer considered to be indefinitely reinvested, and during the nine months ended September 30, 2018, we recorded a one-time deferred tax charge of \$102.0 million related to the book and tax basis differences attributable to those subsidiaries.

We use the estimated annual effective tax rate method for calculating our tax provision in interim periods. This method applies our best estimate of the effective tax rate expected for the full year to year-to-date earnings before income taxes. Certain items, including those deemed to be unusual, infrequent or that cannot be reliably estimated (discrete items), are excluded from the estimated annual effective tax rate, and the related tax expense or benefit is reported in the same period as the related item. Therefore, we also analyzed our estimated annual effective tax rate, which excludes the impact of these items. The following table summarizes our effective tax rate and estimated annual effective tax rate for the nine months ended September 30, 2019 and 2018.

	Nine Months Ended September 30,	
	2019	2018
Effective tax rate	22 %	32 %
Impact of election to treat U.K. subsidiaries as U.S. taxpayers	—	(11)
Impact of other discrete items	(1)	(1)
Estimated annual effective tax rate	21 %	20 %

Comprehensive Income to Shareholders

The following table summarizes the components of comprehensive income to shareholders.

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
<i>(dollars in thousands)</i>				
Net income to shareholders	\$ 205,637	\$ 409,438	\$ 1,279,362	\$ 623,363
Other comprehensive income (loss)				
Change in net unrealized gains (losses) on available-for-sale investments, net of taxes	48,518	(80,429)	329,873	(300,573)
Other, net of taxes	(4,144)	(13,962)	(3,640)	(18,227)
Other comprehensive income attributable to noncontrolling interest	58	59	49	40
Other comprehensive income (loss) to shareholders	44,432	(94,332)	326,282	(318,760)
Comprehensive income to shareholders	\$ 250,069	\$ 315,106	\$ 1,605,644	\$ 304,603

Financial Condition

Investments, cash and cash equivalents and restricted cash and cash equivalents (invested assets) were \$21.9 billion at September 30, 2019 compared to \$19.2 billion at December 31, 2018. Equity securities were \$7.0 billion, or 32% of invested assets, at September 30, 2019, compared to \$5.7 billion, or 30% of invested assets, at December 31, 2018.

Net cash provided by operating activities was \$712.0 million for the nine months ended September 30, 2019 compared to \$763.2 million for the same period of 2018. Net cash flows from operating activities for the nine months ended September 30, 2019 reflected higher claims settlement activity in both of our underwriting segments and higher income tax payments compared to the same period of 2018. Also reflected in net cash provided by operating activities for 2019 were higher premiums in our Insurance segment compared to the same period of 2018.

Net cash used by investing activities was \$657.2 million for the nine months ended September 30, 2019 compared to \$453.2 million for the same period of 2018. During the nine months ended September 30, 2019, net cash used by investing activities included \$212.5 million of cash used to acquire a minority ownership interest in The Hagerty Group, LLC (Hagerty Group). Cash flows from investing activities are affected by various factors such as anticipated payment of claims, financing activity, acquisition opportunities and individual buy and sell decisions made in the normal course of our investment portfolio management.

Net cash provided by financing activities was \$770.6 million for the nine months ended September 30, 2019 compared to net cash used by financing activities of \$171.8 million for the same period of 2018. During the nine months ended September 30, 2019, we issued unsecured senior notes with net proceeds of \$1.4 billion, before expenses. We used a portion of these proceeds to repay the remaining outstanding balance of our 7.125% unsecured senior notes due September 30, 2019 (\$234.8 million aggregate principal outstanding at December 31, 2018). We used an additional portion of these proceeds to purchase \$223.0 million of principal on two additional series of our other unsecured senior notes through a tender offer at a total purchase price of \$233.1 million. See note 11 of the notes to consolidated financial statements for more details regarding the components of senior long-term debt. During the nine months ended September 30, 2018, we repaid \$37.5 million of the outstanding note payable that was delivered as part of the consideration provided for the investment held by the Markel Diversified Fund as well as \$44.5 million of debt assumed in connection with the 2017 acquisition of State National Companies, Inc. Cash of \$82.0 million and \$30.8 million was used to repurchase shares of our common stock during the first nine months of 2019 and 2018, respectively.

In August 2019, our Board of Directors approved a new share repurchase program (the 2019 Program) to replace the previous share repurchase program. Consistent with the previous program, the 2019 Program provides for the repurchase of up to \$300 million of common stock and has no expiration date but may be terminated by the Board of Directors at any time. As of September 30, 2019, we had repurchased 4,620 shares of common stock under the 2019 program at a cost of \$5.4 million.

We seek to maintain prudent levels of liquidity and financial leverage for the protection of our policyholders, creditors and shareholders. Our debt to capital ratio was 27% at September 30, 2019 and 25% at December 31, 2018.

In October 2019, we redeemed an additional \$377.0 million of principal on two series of our unsecured senior notes for a total purchase price of \$393.6 million.

We have access to various capital sources, including dividends from certain of our insurance and Markel Ventures subsidiaries, holding company invested assets, undrawn capacity under our revolving credit facility and access to the debt and equity capital markets. We believe that we have sufficient liquidity to meet our capital needs. However, the availability and terms of future financings will depend on a variety of factors, and could be adversely affected by, among other things, risks and uncertainties related to recent developments at our Markel CATCo operations. See note 18 of the notes to consolidated financial statements for more details regarding the Markel CATCo developments.

In April 2019, we entered into a credit agreement for a new revolving credit facility, which provides up to \$300 million of capacity for future acquisitions, investments and stock repurchases and for other working capital and general corporate purposes. At our discretion, up to \$200 million of the total capacity may be used for letters of credit. This facility replaced our previous \$300 million revolving credit facility and expires in April 2024. See note 11 of the notes to consolidated financial statements for more details regarding the new revolving credit facility.

Our holding company had \$3.3 billion and \$2.6 billion of invested assets at September 30, 2019 and December 31, 2018, respectively. The increase in invested assets is primarily due to the net proceeds from the issuance of our new unsecured senior notes during the nine months ended September 30, 2019, partially offset by the repayment and purchase of certain unsecured senior notes, as described above, and cash used to acquire a minority ownership interest in Hagerty Group.

Shareholders' equity increased to \$10.6 billion at September 30, 2019 from \$9.1 billion at December 31, 2018. Book value per share increased to \$768.98 at September 30, 2019 from \$653.85 at December 31, 2018, primarily due to \$1.6 billion of comprehensive income to shareholders for the nine months ended September 30, 2019.

Brexit Developments

On June 23, 2016, the U.K. voted to exit the European Union (E.U.) (Brexit), which was originally set to occur on March 29, 2019. The effects of Brexit will depend in part on agreements, if any, the U.K. makes to retain access to E.U. markets. For over two years the U.K. and E.U. have been negotiating the future terms of the U.K.'s relationship with the E.U., including the terms of trade between the U.K. and the E.U. On April 10, 2019, the E.U. granted the U.K. an extension until October 31, 2019 to allow the U.K. to ratify a proposed agreement between the E.U. and the U.K. for the orderly exit of the U.K. from the E.U.

A renegotiated agreement was agreed between the U.K. government and the E.U. in October 2019. The U.K. Parliament approved the agreement in principle, but requested an additional extension to allow the U.K. Parliament to consider the proposed agreement further. The E.U. granted a further extension to January 31, 2020. The U.K. Parliament must fully ratify this new proposed agreement or the U.K. will leave the E.U. without an agreement when the extension expires. Under the proposed agreement, the final terms of the future relationship between the U.K. and the E.U. remain to be negotiated. Ultimately, all Brexit terms also must be ratified by the legislative bodies of the 27 E.U. member states.

Brexit could impair or end the ability of both Markel International Insurance Company Limited (MIICL) and our Lloyd's syndicate to transact business in E.U. countries from our U.K. offices and MIICL's ability to maintain its current branches in E.U. member states. In order to continue transacting E.U. business if U.K. access to E.U. markets ceases or is materially impaired, we have established a regulated insurance carrier, Markel Insurance SE (MISE), in Munich, Germany. From its offices in Germany, MISE can transact business in all remaining E.U. member states and throughout the European Economic Area (EEA). MISE has established branches in Ireland, the Netherlands, Spain, and the U.K. In addition, the Society of Lloyd's has organized a new insurance company in Brussels, Belgium, in order to maintain access to E.U. business for Lloyd's syndicates. We expect that the new Lloyd's Brussels insurance company will supplement, or serve as an alternative to, MISE for access to E.U. markets.

Without a Brexit agreement, U.K. based insurers may be prohibited from administering policies for, or paying claims to, EEA policyholders post Brexit. In order to provide certainty for its EEA policyholders, MIICL transferred its legacy EEA exposures, claims and policies to MISE. This transfer was approved by the U.K. High Court and became effective on March 29, 2019. Lloyd's also has commenced its transfer of legacy EEA exposures. However, that transfer is not expected to be completed prior to January 31, 2020, and there is no assurance that approval of that transfer will be granted or on what terms and conditions. Lloyd's has indicated that it intends to honor contractual commitments, including the payment of valid claims, and expects that its approach will be respected by EEA regulators pending the completion of its transfer of legacy EEA exposures. The European Insurance and Occupational Pensions Authority has issued its recommendation to E.U. member states that they adopt legislation to permit the orderly run-off of legacy EEA exposures, claims and policies by U.K. insurers. While some E.U. member states have adopted such legislation, no E.U. member state is obligated to do so, and the terms of any such legislation may vary significantly among the E.U. member states. Without an orderly run-off regime for legacy business in every E.U. member state, Lloyd's, and in turn, our Lloyd's syndicate, may be impaired in running-off business, including paying claims, in the E.U. member states.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market Risk Disclosures

Market risk is the risk of economic losses due to adverse changes in the estimated fair value of a financial instrument as the result of changes in equity prices, interest rates, foreign currency exchange rates and commodity prices. Our consolidated balance sheets include assets and liabilities with estimated fair values that are subject to market risk. Our primary market risks have been equity price risk associated with investments in equity securities, interest rate risk associated with investments in fixed maturities and foreign currency exchange rate risk associated with our international operations. Some businesses within our Market Ventures operations are exposed to commodity price risk resulting from changes in the price of raw materials, parts and other components necessary to manufacture products, however, this risk is not material to the Company. The operating results of these businesses could be adversely impacted should they be unable to obtain price increases from customers in response to significant increases in raw materials, parts and other component prices.

During the nine months ended September 30, 2019, there were no material changes to the market risk components described in our Annual Report on Form 10-K for the year ended December 31, 2018.

The estimated fair value of our investment portfolio at September 30, 2019 was \$21.9 billion, 68% of which was invested in fixed maturities, short-term investments, cash and cash equivalents and restricted cash and cash equivalents and 32% of which was invested in equity securities. At December 31, 2018, the estimated fair value of our investment portfolio was \$19.2 billion, 70% of which was invested in fixed maturities, short-term investments, cash and cash equivalents and restricted cash and cash equivalents and 30% of which was invested in equity securities.

Credit risk exists within our fixed maturity portfolio from the potential for loss resulting from adverse changes in an issuer's ability to repay its debt obligations. We monitor our investment portfolio to ensure that credit risk does not exceed prudent levels. We have consistently invested in high credit quality, investment grade securities. Our fixed maturity portfolio has an average rating of "AA," with 98% rated "A" or better by at least one nationally recognized rating organization. Our policy is to invest in investment grade securities and to minimize investments in fixed maturities that are unrated or rated below investment grade. At September 30, 2019, less than 1% of our fixed maturity portfolio was unrated or rated below investment grade. Our fixed maturity portfolio includes securities issued with financial guaranty insurance. We purchase fixed maturities based on our assessment of the credit quality of the underlying assets without regard to insurance.

Our fixed maturity portfolio includes securities issued by foreign governments and non-sovereign foreign institutions. General concern exists about the financial difficulties facing certain foreign countries in light of the adverse economic conditions experienced over the past several years. We monitor developments in foreign countries, currencies and issuers that could pose risks to our fixed maturity portfolio, including ratings downgrades, political and financial changes and the widening of credit spreads. We believe that our fixed maturity portfolio is highly diversified and is comprised of high quality securities. During the nine months ended September 30, 2019, there were no material changes in our foreign government fixed maturity holdings.

General concern exists about municipalities that experience financial difficulties during periods of adverse economic conditions. We manage the exposure to credit risk in our municipal bond portfolio by investing in high quality securities and by diversifying our holdings, which are typically either general obligation or revenue bonds related to essential products and services.

Our fixed maturities, equity securities and short-term investments are recorded at fair value, which is measured based upon quoted prices in active markets, if available. We determine fair value for these investments after considering various sources of information, including information provided by a third party pricing service. The pricing service provides prices for substantially all of our fixed maturities and equity securities. In determining fair value, we generally do not adjust the prices obtained from the pricing service. We obtain an understanding of the pricing service's valuation methodologies and related inputs, which include, but are not limited to, reported trades, benchmark yields, issuer spreads, bids, offers, duration, credit ratings, estimated cash flows and prepayment speeds. We validate prices provided by the pricing service by reviewing prices from other pricing sources and analyzing pricing data in certain instances.

Item 4. Controls and Procedures

As of the end of the period covered by this quarterly report, we carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Securities Exchange Act Rule 13a-15 (Disclosure Controls). This evaluation was conducted under the supervision and with the participation of our management, including the Co-Principal Executive Officers (Co-PEOs) and the Principal Financial Officer (PFO).

Our management, including the Co-PEOs and PFO, does not expect that our Disclosure Controls will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of simple error or mistake. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

Based upon our controls evaluation, the Co-PEOs and PFO concluded that effective Disclosure Controls were in place to ensure that the information required to be disclosed in reports we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.

There were no changes in our internal control over financial reporting during the third quarter of 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Safe Harbor and Cautionary Statement

This report contains statements concerning or incorporating our expectations, assumptions, plans, objectives, future financial or operating performance and other statements that are not historical facts. These statements are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements may use words such as "anticipate," "believe," "estimate," "expect," "intend," "predict," "project" and similar expressions as they relate to us or our management.

There are risks and uncertainties that may cause actual results to differ materially from predicted results in forward-looking statements. Factors that may cause actual results to differ are often presented with the forward-looking statements themselves. Additional factors that could cause actual results to differ from those predicted are set forth under "Business Overview," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Safe Harbor and Cautionary Statement" in our 2018 Annual Report on Form 10-K and under "Risk Factors" in this report, or are included in the items listed below:

- our expectations about future results of our underwriting, investing, Markel Ventures and other operations are based on current knowledge and assume no significant man-made or natural catastrophes, no significant changes in products or personnel and no adverse changes in market conditions;
- the effect of cyclical trends on our underwriting, investing, Markel Ventures and other operations, including demand and pricing in the insurance, reinsurance and other markets in which we operate;
- actions by competitors, including the application of new or "disruptive" technologies or business models and consolidation, and the effect of competition on market trends and pricing;
- the frequency and severity of man-made and natural catastrophes (including earthquakes, fires and weather-related catastrophes) may exceed expectations, are unpredictable and, in the case of fires and weather-related catastrophes, may be exacerbated if, as many forecast, conditions in the oceans and atmosphere result in increased hurricane, flood, drought or other adverse weather-related activity;
- we offer insurance and reinsurance coverage against terrorist acts in connection with some of our programs, and in other instances we are legally required to offer terrorism insurance; in both circumstances, we actively manage our exposure, but if there is a covered terrorist attack, we could sustain material losses;
- emerging claim and coverage issues, changing legal and social trends, and inherent uncertainties in the loss estimation process can adversely impact the adequacy of our loss reserves and our allowance for reinsurance recoverables;
- reinsurance reserves are subject to greater uncertainty than insurance reserves, primarily because of reliance upon the original underwriting decisions made by ceding companies and the longer lapse of time from the occurrence of loss events to their reporting to the reinsurer for ultimate resolution;
- changes in the assumptions and estimates used in establishing reserves for our life and annuity reinsurance book (which is in runoff), for example, changes in assumptions and estimates of mortality, longevity, morbidity and interest rates, could result in material increases in our estimated loss reserves for such business;
- adverse developments in insurance coverage litigation or other legal or administrative proceedings could result in material increases in our estimates of loss reserves;
- initial estimates for catastrophe losses are often based on limited information, are dependent on broad assumptions about the nature and extent of losses, coverage, liability and reinsurance, and those losses may ultimately differ materially from our expectations;
- changes in the availability, costs and quality of reinsurance coverage, which may impact our ability to write or continue to write certain lines of business;
- the ability or willingness of reinsurers to pay balances due may be adversely affected by industry and economic conditions, deterioration in reinsurer credit quality and coverage disputes, and collateral we hold, if any, may not be sufficient to cover a reinsurer's obligation to us;
- after the commutation of ceded reinsurance contracts, any subsequent adverse development in the re-assumed loss reserves will result in a charge to earnings;
- regulatory actions can impede our ability to charge adequate rates and efficiently allocate capital;

- general economic and market conditions and industry specific conditions, including extended economic recessions or expansions; prolonged periods of slow economic growth; inflation or deflation; fluctuations in foreign currency exchange rates, commodity and energy prices and interest rates; volatility in the credit and capital markets; and other factors;
- economic conditions, actual or potential defaults in municipal bonds or sovereign debt obligations, volatility in interest and foreign currency exchange rates and changes in market value of concentrated investments can have a significant impact on the fair value of our fixed maturity and equity securities, as well as the carrying value of our other assets and liabilities, and this impact may be heightened by market volatility;
- economic conditions may adversely affect our access to capital and credit markets;
- the effects of government intervention, including material changes in the monetary policies of central banks, to address financial downturns and economic and currency concerns;
- the impacts that political and civil unrest and regional conflicts may have on our businesses and the markets they serve or that any disruptions in regional or worldwide economic conditions generally arising from these situations may have on our businesses, industries or investments;
- the impacts that health epidemics and pandemics may have on our business operations and claims activity;
- the impact on our businesses in the event of a repeal, in part or in whole, or modification of U.S. health care reform legislation and regulations;
- changes in U.S. tax laws, regulations or interpretations, including those relating to the Tax Cuts and Jobs Act, or in the tax laws, regulations or interpretations of other jurisdictions in which we operate and adjustments we may make in our operations or tax strategies in response to those changes;
- a failure of our enterprise information technology systems and those maintained by third parties upon which we may rely, or a failure to comply with data protection or privacy regulations;
- our acquisitions may increase our operational and control risks for a period of time;
- we may not realize the contemplated benefits, including cost savings and synergies, of our acquisitions;
- any determination requiring the write-off of a significant portion of our goodwill and intangible assets;
- the failure or inadequacy of any loss limitation methods we employ;
- the loss of services of any executive officer or other key personnel could adversely impact one or more of our operations;
- our substantial international operations and investments expose us to increased political, operational and economic risks, including foreign currency exchange rate and credit risk;
- the political, legal, regulatory, financial, tax and general economic impacts, and other impacts we cannot anticipate, related to the vote by the United Kingdom to leave the European Union (Brexit), which could have adverse consequences for our businesses, particularly our London-based international insurance operations;
- our ability to obtain additional capital for our operations on terms favorable to us;
- our compliance, or failure to comply, with covenants and other requirements under our revolving credit facility, senior debt and other indebtedness;
- our ability to maintain or raise third party capital for existing or new investment vehicles and risks related to our management of third party capital;
- the effectiveness of our procedures for compliance with existing and future guidelines, policies and legal and regulatory standards, rules, laws and regulations;
- the impact of economic and trade sanctions and embargo programs on our businesses, including instances in which the requirements and limitations applicable to the global operations of U.S. companies and their affiliates are more restrictive than, or conflict with, those applicable to non-U.S. companies and their affiliates;
- regulatory changes, or challenges by regulators, regarding the use of certain issuing carrier or fronting arrangements;
- our dependence on a limited number of brokers for a large portion of our revenues and third-party capital;
- adverse changes in our assigned financial strength or debt ratings could adversely impact us, including our ability to attract and retain business, the amount of capital our insurance subsidiaries must hold and the availability and cost of capital;
- changes in the amount of statutory capital our insurance subsidiaries are required to hold, which can vary significantly and is based on many factors outside our control;

- losses from litigation and regulatory investigations and actions; and
- a number of additional factors may adversely affect our Markel Ventures operations, and the markets they serve, and negatively impact their revenues and profitability, including, among others: adverse weather conditions, plant disease and other contaminants; changes in government support for education, healthcare and infrastructure projects; changes in capital spending levels; changes in the housing market; liability for environmental matters; volatility in the market prices for their products; and volatility in commodity prices and interest and foreign currency exchange rates.

Our premium volume, underwriting and investment results and results from our other operations have been and will continue to be potentially materially affected by these factors. In addition, with respect to previously reported developments at MCIM and the decision to place both the Markel CATCo Funds and Markel CATCo Re into run-off:

- the inquiries by the U.S. Department of Justice, U.S. Securities and Exchange Commission and Bermuda Monetary Authority into loss reserves recorded in late 2017 and early 2018 at Markel CATCo Re (the Markel CATCo Inquiries) may result in adverse findings, reputational damage, the imposition of sanctions, increased costs, litigation and other negative consequences; and
- management time and resources may be diverted to address the Markel CATCo Inquiries, as well as related litigation.

By making forward-looking statements, we do not intend to become obligated to publicly update or revise any such statements whether as a result of new information, future events or other changes. Readers are cautioned not to place undue reliance on any forward-looking statements, which speak only as at their dates.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

Markel CATCo Inquiries

We previously reported that the U.S. Department of Justice, U.S. Securities and Exchange Commission and Bermuda Monetary Authority (together, the Governmental Authorities) are conducting inquiries into loss reserves recorded in late 2017 and early 2018 at our Markel CATCo operations. Those reserves are held at Markel CATCo Re, an unconsolidated subsidiary of MCIM. The Markel CATCo Inquiries are limited to MCIM and its subsidiaries and do not involve other Markel subsidiaries.

We retained outside counsel to conduct an internal review of Markel CATCo's loss reserving in late 2017 and early 2018. The internal review was completed in April 2019 and found no evidence that Markel CATCo personnel acted in bad faith in exercising business judgment in the setting of reserves and making related disclosures during late 2017 and early 2018. Our outside counsel has met with the Governmental Authorities and reported the findings from the internal review.

The Markel CATCo Inquiries are ongoing and we continue to fully cooperate with the Governmental Authorities. At this time, we are unable to predict the duration, scope or result of the Markel CATCo Inquiries.

Markel Securities Litigation

Between January 11, 2019 and March 7, 2019, several related putative class actions were filed in the U.S. District Court for the Southern District of New York against Markel Corporation and certain present or former officers and directors alleging violations of the federal securities laws relating to the matters that are the subject of the Markel CATCo Inquiries. Plaintiffs sought to represent a class of persons or entities that purchased Markel securities between July 26, 2017 and December 6, 2018. The actions were consolidated. The plaintiff in the consolidated action voluntarily dismissed that action without prejudice on August 6, 2019.

Belisle Arbitration

On February 21, 2019, Anthony Belisle filed a lawsuit, Anthony Belisle v. Markel CATCo Investment Management Ltd and Markel Corp. (U.S. District Court for the District of New Hampshire), which suit was amended on March 29, 2019. As amended, the complaint alleged claims for, among other things, breach of contract, defamation, invasion of privacy, indemnification, intentional interference with contractual relations and deceptive and unfair acts and sought relief of, among other things, \$66.0 million in incentive compensation, enhanced compensatory damages, consequential damages, damages for emotional distress and injury to reputation, exemplary damages and attorneys' fees. In June 2019, MCIM, Markel Corporation, and Mr. Belisle agreed to commence binding arbitration to finally, fully and confidentially resolve the claims and counterclaims alleged in the action, and the Belisle suit was dismissed with prejudice in July 2019. The arbitrators have been selected and the arbitration proceeding has commenced. We believe that Mr. Belisle's claims are without merit.

Thomas Yeransian v. Markel Corporation

In October 2010, we completed the acquisition of Aspen Holdings, Inc. (Aspen). As part of the consideration for that acquisition, Aspen shareholders received contingent value rights (CVRs). Based on a valuation of the CVRs as of their December 31, 2017 maturity date, we paid \$9.9 million to the CVR holders on June 5, 2018, which represents 90% of the undisputed portion of the final amount we believe we are required to pay under the CVR agreement.

Prior to the December 31, 2017 CVR maturity date, the CVR holder representative, Thomas Yeransian, had disputed our prior estimation of the value of the CVRs. On September 15, 2016, Mr. Yeransian filed a suit, Thomas Yeransian v. Markel Corporation (U.S. District Court for the District of Delaware), alleging, among other things, that we are in default under the CVR agreement. The suit seeks: \$47.3 million in damages, which represents the unadjusted value of the CVRs; plus interest (\$16.4 million through September 30, 2019) and default interest (up to an additional \$13.6 million through September 30, 2019, depending on the date any default occurred); and an unspecified amount of punitive damages, costs, and attorneys' fees.

At the initial hearing held February 21, 2017, the court stayed the proceedings and ordered the parties to discuss resolving the dispute pursuant to the independent CVR valuation procedure under the CVR agreement. The parties met on April 5, 2017, but were unsuccessful in reaching agreement on a process for resolving the dispute. We subsequently filed a motion to stay the litigation and compel arbitration, and, on July 31, 2017, the court issued an order granting that motion.

On September 20, 2018, a new judge was assigned to the case. On October 12, 2018, the court denied both Mr. Yeransian's motion to reconsider the order staying the litigation and compelling arbitration and our motion for sanctions against Mr. Yeransian for violating the confidentiality of mediation proceedings. The court subsequently (1) on December 3, 2018 ordered Mr. Yeransian to provide the court and us with the identity of an actuarial firm to participate in the selection of independent experts for the CVR valuation process under the CVR agreement and (2) on December 11, 2018 denied Mr. Yeransian's motion for judgment that we had waived our right to require Mr. Yeransian's participation in the CVR valuation process. On July 8, 2019, the Court granted our motion for instructions as to how the independent experts are to conduct the CVR valuation process and denied Mr. Yeransian's motion to have a hearing officer appointed to oversee the valuation process. The independent experts, who were jointly selected by the parties, have been engaged for the valuation process.

On November 13, 2018, Mr. Yeransian filed a second suit, Thomas Yeransian v. Markel Corporation (U.S. District Court for the District of Delaware), which also alleges that the Company is in default under the CVR agreement. The second suit seeks the same damages and relief as the original suit. We filed a motion to stay this suit until the arbitration for the original suit has concluded and the CVR holders have received the remainder of the final amount due under the CVR Agreement. The court granted that motion on August 6, 2019.

We believe Mr. Yeransian's suits to be without merit. We further believe that any material loss resulting from the suits to be remote. We do not believe the contractual contingent consideration payments related to the CVRs will have a material impact on the Company's liquidity.

Additional information regarding legal proceedings can be found under "Legal Proceedings" in our 2018 Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q for the quarters ended June 30, 2019 and March 31, 2019.

Item 1A. Risk Factors

Other than the risk factor discussed below, or as discussed in note 18 (Commitments and Contingencies) of the notes to consolidated financial statements or under "Brexite Developments" or "Legal Proceedings" in this report, there have been no material changes with regard to the risk factors previously disclosed in our 2018 Annual Report on Form 10-K.

The effects of emerging claim and coverage issues on our business are uncertain. As industry practices and legal, judicial, social and other environmental conditions change, unexpected and unintended issues related to claims and coverage may emerge. These issues may have a material adverse effect on our business by either broadening coverage beyond our underwriting intent or by increasing the number or size of claims. In some instances, these changes may not become apparent until after we have issued insurance or reinsurance contracts that are affected by the changes. As a result, the full extent of liability under our insurance or reinsurance contracts may not be known for many years after a contract is issued. For example, many states have recently extended the statute of limitations for certain victims of sexual abuse. This may result in a higher frequency of claims over a more extended reporting period than originally expected.

For other factors that may cause actual results to differ materially from those indicated in any forward-looking statement contained in this report, see "Safe Harbor and Cautionary Statement".

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The following table summarizes our common stock repurchases for the quarter ended September 30, 2019.

Issuer Purchases of Equity Securities				
Period	(a) Total Number of Shares Purchased	(b) Average Price Paid per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ⁽¹⁾	(d) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in thousands)
July 1, 2019 through July 31, 2019	4,072	\$ 1,098.99	4,072	\$ 205,413
August 1, 2019 through August 31, 2019	3,615	\$ 1,130.05	3,615	\$ 298,495
September 1, 2019 through September 30, 2019	3,300	\$ 1,169.58	3,300	\$ 294,636
Total	10,987	\$ 1,130.41	10,987	\$ 294,636

- ⁽¹⁾ The Board of Directors approved the repurchase of up to \$300 million of our common stock pursuant to a share repurchase program publicly announced on August 21, 2019 (the 2019 Program). The 2019 Program terminated and replaced a similar \$300 million program authorized on May 14, 2018 (the 2018 Program). Under the 2019 Program, as under the 2018 Program, we may repurchase outstanding shares of our common stock from time to time in privately negotiated or open market transactions, including under plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934. The 2019 Program has no expiration date, but may be terminated by the Board of Directors at any time. As of August 21, 2019, no further share repurchases may be made under the 2018 Program; future share repurchases will be made pursuant to the 2019 Program.

Item 6. Exhibits

<u>Exhibit No.</u>	<u>Document Description</u>
3(i)	Amended and Restated Articles of Incorporation (incorporated by reference from Exhibit 3.1 in the Registrant's report on Form 8-K filed with the Commission May 13, 2011)
3(ii)	Bylaws, as amended and restated May 14, 2018 (incorporated by reference from Exhibit 3(ii) in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2018)
4.1	Indenture dated as of June 5, 2001, between Markel Corporation and The Chase Manhattan Bank, as Trustee (incorporated by reference from Exhibit 4.1 in the Registrant's report on Form 8-K filed with the Commission June 5, 2001)
4.2	Form of Third Supplemental Indenture dated as of August 13, 2004 between Markel Corporation and JPMorgan Chase Bank (formerly known as The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission August 11, 2004)
4.3	Form of Seventh Supplemental Indenture dated as of July 2, 2012 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission June 29, 2012)
4.4	Form of Eighth Supplemental Indenture dated as of March 8, 2013 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission March 7, 2013)
4.5	Form of Ninth Supplemental Indenture dated as of March 8, 2013 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.3 in the Registrant's report on Form 8-K filed with the Commission March 7, 2013)
4.6	Form of Tenth Supplemental Indenture dated as of April 5, 2016 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission March 31, 2016)
4.7	Eleventh Supplemental Indenture dated as of November 2, 2017 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission November 2, 2017)
4.8	Twelfth Supplemental Indenture dated as of November 2, 2017 between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.3 in the Registrant's report on Form 8-K filed with the Commission November 2, 2017)
4.9	Thirteenth Supplemental Indenture, dated as of May 20, 2019, between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission May 20, 2019)
4.10	Fourteenth Supplemental Indenture, dated as of September 17, 2019, between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.2 in the Registrant's report on Form 8-K filed with the Commission September 17, 2019)
4.11	Fifteenth Supplemental Indenture, dated as of September 17, 2019, between Markel Corporation and The Bank of New York Mellon (as successor to The Chase Manhattan Bank), as Trustee, including form of the securities as Exhibit A (incorporated by reference from Exhibit 4.3 in the Registrant's report on Form 8-K filed with the Commission September 17, 2019)
The registrant hereby agrees to furnish to the Securities and Exchange Commission, upon request, a copy of all other instruments defining the rights of holders of long-term debt of the registrant and its subsidiaries.	
10.1	Amendment to Markel Corporation Voluntary Deferral Plan* **
31.1	Certification of Co-Principal Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a)**

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[31.2](#) [Certification of Co-Principal Executive Officer Pursuant to Rule 13a-14\(a\)/15d-14\(a\)**](#)

[31.3](#) [Certification of Principal Financial Officer Pursuant to Rule 13a-14\(a\)/15d-14\(a\)**](#)

[32.1](#) [Certification of Co-Principal Executive Officer furnished Pursuant to 18 U.S.C. Section 1350**](#)

[32.2](#) [Certification of Co-Principal Executive Officer furnished Pursuant to 18 U.S.C. Section 1350**](#)

[32.3](#) [Certification of Principal Financial Officer furnished Pursuant to 18 U.S.C. Section 1350**](#)

101 The following consolidated financial statements from Markel Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, filed on October 29, 2019, formatted in Inline XBRL: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Income and Comprehensive Income, (iii) Consolidated Statements of Changes in Equity, (iv) Condensed Consolidated Statements of Cash Flows and (v) Notes to Consolidated Financial Statements.**

104 Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Indicates management contract or compensatory plan or arrangement

** Filed with this report.

Signatures

Pursuant to the requirements 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, this 29th day of October 2019.

Markel Corporation

By: /s/ Thomas S. Gayner

Thomas S. Gayner
Co-Chief Executive Officer
(Co-Principal Executive Officer)

By: /s/ Richard R. Whitt, III

Richard R. Whitt, III
Co-Chief Executive Officer
(Co-Principal Executive Officer)

By: /s/ Jeremy A. Noble

Jeremy A. Noble
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

AMENDMENT TO THE MARKEL CORPORATION VOLUNTARY DEFERRAL PLAN

WHEREAS, Markel Corporation (the "Company") sponsors the Markel Corporation Voluntary Deferral Plan, effective as of April 1, 2016 (the "Plan");

WHEREAS, the Company has the power to amend the Plan and now wishes to do so;

NOW, THEREFORE, the Plan is hereby amended as follows, effective as of January 1, 2020:

1. Section 4.01(b)(ii) of the Adoption Agreement to the Plan is hereby amended in its entirety as follows:

(ii) Newly Eligible Participants

An employee who is first classified or designated as an Eligible Employee during the first six (6) months of the Plan Year shall, in accordance with Section 3.1 of the Plan, become eligible to participate in the Plan on July 1 of such Plan Year. Such an employee may elect to defer base salary (but not bonus) earned for the remainder of the Plan Year by completing a deferral agreement within a period to be determined by the Employer, which shall end no later than July 30 of such Plan Year. Any such election shall only apply to base salary earned after the date of the election.

2. Section 3.1 of the Plan is hereby amended in its entirety as follows:

3.1 Participation. The Participants in the Plan shall be those Directors and employees of the Employer who satisfy the requirements of Section 2.01 of the Adoption Agreement. An employee who first becomes an Eligible Employee during the first six (6) months of the Plan Year shall become eligible to participate in the Plan on July 1 of such Plan Year. An employee who first becomes an Eligible Employee during the second six (6) months of the Plan Year shall become eligible to participate in the Plan on January 1 of the following Plan Year.

3. Section 4.3 of the Plan is hereby amended in its entirety as follows:

Except as otherwise provided below, an employee who, in accordance with Section 3.1 of the Plan, becomes eligible to participate in the Plan on July 1 of any Plan Year, may elect to defer base salary (but not bonus) otherwise payable during the remainder of such Plan Year in accordance with the rules of this Section 4.3 by executing a deferral agreement within the period determined by the Employer, which may end no later than July 30 of such Plan Year, as permitted by Section 4.01(b)(ii) of the Adoption Agreement. The rules of this paragraph shall not apply unless the Eligible Employee can be treated as initially eligible in accordance with Reg. Sec. 1.409A-2(a)(7).

4. In all respects not amended, the Plan is hereby ratified and confirmed.

* * * *

IN WITNESS WHEREOF, the Company has caused this Amendment to be signed as of the effective date set forth above.

MARKEL CORPORATION

By: /s/ Linda V. Schreiner

Name: Linda V. Schreiner

Its: Senior VP, Strategic Management

**CERTIFICATION OF CO-PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a)/15d-14(a)**

I, Thomas S. Gayner, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Markel Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

October 29, 2019

/s/ Thomas S. Gayner

Thomas S. Gayner

Co-Chief Executive Officer

(Co-Principal Executive Officer)

**CERTIFICATION OF CO-PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a)/15d-14(a)**

I, Richard R. Whitt, III, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Markel Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

October 29, 2019

/s/ Richard R. Whitt, III

Richard R. Whitt, III

Co-Chief Executive Officer

(Co-Principal Executive Officer)

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a)/15d-14(a)**

I, Jeremy A. Noble, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Markel Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

October 29, 2019

/s/ Jeremy A. Noble

Jeremy A. Noble

Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATION OF CO-PRINCIPAL EXECUTIVE OFFICER
FURNISHED PURSUANT TO 18 U.S.C. SECTION 1350**

In connection with the Quarterly Report of Markel Corporation (the "Company") on Form 10-Q for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas S. Gayner, Co-Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Thomas S. Gayner

Thomas S. Gayner

Co-Chief Executive Officer

(Co-Principal Executive Officer)

October 29, 2019

**CERTIFICATION OF CO-PRINCIPAL EXECUTIVE OFFICER
FURNISHED PURSUANT TO 18 U.S.C. SECTION 1350**

In connection with the Quarterly Report of Markel Corporation (the "Company") on Form 10-Q for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Richard R. Whitt, III, Co-Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Richard R. Whitt, III

Richard R. Whitt, III

Co-Chief Executive Officer

(Co-Principal Executive Officer)

October 29, 2019

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
FURNISHED PURSUANT TO 18 U.S.C. SECTION 1350**

In connection with the Quarterly Report of Markel Corporation (the "Company") on Form 10-Q for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jeremy A. Noble, Senior Vice President and Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Jeremy A. Noble

Jeremy A. Noble

Senior Vice President and Chief Financial Officer

(Principal Financial Officer)

October 29, 2019