
**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, 2018**
- 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)

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

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

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

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 23, 2018 : 13,884,649

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, 2018	December 31, 2017
	(unaudited)	
ASSETS		
Investments, at estimated fair value:		
Fixed maturities, available-for-sale (amortized cost of \$9,946,656 in 2018 and \$9,551,153 in 2017)	\$ 9,952,053	\$ 9,940,670
Equity securities, available-for-sale (cost of \$2,667,661 in 2017)	—	5,967,847
Equity securities (cost of \$2,871,203 in 2018)	6,549,848	—
Short-term investments, available-for-sale (estimated fair value approximates cost)	1,918,691	2,160,974
Total Investments	18,420,592	18,069,491
Cash and cash equivalents	2,347,040	2,198,459
Restricted cash and cash equivalents	279,902	302,387
Receivables	1,817,637	1,567,453
Reinsurance recoverable on unpaid losses	4,836,271	4,619,336
Reinsurance recoverable on paid losses	137,364	126,054
Deferred policy acquisition costs	518,853	465,569
Prepaid reinsurance premiums	1,361,044	1,099,757
Goodwill	1,783,784	1,777,464
Intangible assets	1,241,108	1,355,681
Other assets	1,214,710	1,223,365
Total Assets	\$ 33,958,305	\$ 32,805,016
LIABILITIES AND EQUITY		
Unpaid losses and loss adjustment expenses	\$ 13,888,489	\$ 13,584,281
Life and annuity benefits	1,028,696	1,072,112
Unearned premiums	3,816,249	3,308,779
Payables to insurance and reinsurance companies	453,132	324,304
Senior long-term debt and other debt (estimated fair value of \$3,037,000 in 2018 and \$3,351,000 in 2017)	2,993,243	3,099,230
Other liabilities	1,839,603	1,748,460
Total Liabilities	24,019,412	23,137,166
Redeemable noncontrolling interests	158,739	166,269
Commitments and contingencies		
Shareholders' equity:		
Common stock	3,392,322	3,381,834
Retained earnings	6,576,562	3,776,743
Accumulated other comprehensive income (loss)	(184,892)	2,345,571
Total Shareholders' Equity	9,783,992	9,504,148
Noncontrolling interests	(3,838)	(2,567)
Total Equity	9,780,154	9,501,581
Total Liabilities and Equity	\$ 33,958,305	\$ 32,805,016

See accompanying notes to consolidated financial statements.

MARKEL CORPORATION AND SUBSIDIARIES

Consolidated Statements of Income (Loss) and Comprehensive Income (Loss) (Unaudited)

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
<i>(dollars in thousands, except per share data)</i>				
OPERATING REVENUES				
Earned premiums	\$ 1,185,323	\$ 1,099,862	\$ 3,484,528	\$ 3,116,038
Net investment income	106,307	104,489	319,710	304,156
Net investment gains (losses):				
Other-than-temporary impairment losses	—	(3,444)	—	(7,261)
Net realized investment gains (losses), excluding other-than-temporary impairment losses	(496)	11,814	(9,084)	31,826
Change in fair value of equity securities	426,571	(48,377)	417,410	(26,080)
Net investment gains (losses)	426,075	(40,007)	408,326	(1,515)
Other revenues	518,244	341,804	1,585,869	980,713
Total Operating Revenues	2,235,949	1,506,148	5,798,433	4,399,392
OPERATING EXPENSES				
Losses and loss adjustment expenses	736,846	1,075,432	1,951,142	2,210,129
Underwriting, acquisition and insurance expenses	441,961	396,972	1,317,921	1,171,520
Amortization of intangible assets	27,795	18,654	86,259	53,450
Other expenses	473,742	344,996	1,471,215	926,385
Total Operating Expenses	1,680,344	1,836,054	4,826,537	4,361,484
Operating Income (Loss)	555,605	(329,906)	971,896	37,908
Interest expense	37,961	31,814	114,722	97,013
Net foreign exchange gains	(1,383)	(1,772)	(65,427)	(2,746)
Income (Loss) Before Income Taxes	519,027	(359,948)	922,601	(56,359)
Income tax expense (benefit)	109,999	(98,913)	299,580	(17,791)
Net Income (Loss)	409,028	(261,035)	623,021	(38,568)
Net income (loss) attributable to noncontrolling interests	(410)	(1,894)	(342)	1,044
Net Income (Loss) to Shareholders	\$ 409,438	\$ (259,141)	\$ 623,363	\$ (39,612)
OTHER COMPREHENSIVE INCOME (LOSS)				
Change in net unrealized gains (losses) on available-for-sale investments, net of taxes:				
Net holding gains (losses) arising during the period	\$ (91,002)	\$ 227,447	\$ (306,069)	\$ 577,796
Reclassification adjustments for net gains (losses) included in net income (loss)	10,573	(5,207)	5,496	(14,598)
Change in net unrealized gains (losses) on available-for-sale investments, net of taxes	(80,429)	222,240	(300,573)	563,198
Change in foreign currency translation adjustments, net of taxes	(14,471)	16,263	(19,968)	19,770
Change in net actuarial pension loss, net of taxes	509	773	1,741	2,391
Total Other Comprehensive Income (Loss)	(94,391)	239,276	(318,800)	585,359
Comprehensive Income (Loss)	314,637	(21,759)	304,221	546,791
Comprehensive income (loss) attributable to noncontrolling interests	(469)	(1,890)	(382)	1,064
Comprehensive Income (Loss) to Shareholders	\$ 315,106	\$ (19,869)	\$ 304,603	\$ 545,727
NET INCOME (LOSS) PER SHARE				
Basic	\$ 28.56	\$ (18.82)	\$ 44.29	\$ (4.52)
Diluted	\$ 28.50	\$ (18.82)	\$ 44.21	\$ (4.52)

See accompanying notes to consolidated financial statements.

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

<i>(in thousands)</i>	Common Shares	Common Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
December 31, 2016	13,955	\$ 3,368,666	\$ 3,526,395	\$ 1,565,866	\$ 8,460,927	\$ 6,484	\$ 8,467,411	\$ 73,678
Net income (loss)			(39,612)	—	(39,612)	(493)	(40,105)	1,537
Other comprehensive income			—	585,339	585,339	—	585,339	20
Comprehensive Income (Loss)					545,727	(493)	545,234	1,557
Issuance of common stock	24	359	—	—	359	—	359	—
Repurchase of common stock	(85)	—	(84,436)	—	(84,436)	—	(84,436)	—
Restricted stock units expensed	—	13,389	—	—	13,389	—	13,389	—
Acquisition of Costa Farms	—	—	—	—	—	—	—	66,600
Adjustment of redeemable noncontrolling interests	—	—	(23,582)	—	(23,582)	—	(23,582)	23,582
Purchase of noncontrolling interest	—	(2,910)	—	—	(2,910)	(8,109)	(11,019)	(6,179)
Other	—	(348)	(241)	—	(589)	77	(512)	(5,928)
September 30, 2017	13,894	\$ 3,379,156	\$ 3,378,524	\$ 2,151,205	\$ 8,908,885	\$ (2,041)	\$ 8,906,844	\$ 153,310
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	—	—	—	—
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)					304,928	(1,269)	303,659	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,	
	2018	2017
	<i>(dollars in thousands)</i>	
OPERATING ACTIVITIES		
Net income (loss)	\$ 623,021	\$ (38,568)
Adjustments to reconcile net income (loss) to net cash provided by operating activities	140,155	637,271
Net Cash Provided By Operating Activities	763,176	598,703
INVESTING ACTIVITIES		
Proceeds from sales of fixed maturities and equity securities	361,768	360,327
Proceeds from maturities, calls and prepayments of fixed maturities	459,517	948,756
Cost of fixed maturities and equity securities purchased	(1,409,263)	(1,162,438)
Net change in short-term investments	257,288	406,138
Additions to property and equipment	(78,886)	(50,099)
Acquisitions, net of cash acquired	(11,314)	(592,045)
Other	(32,325)	(4,864)
Net Cash Used By Investing Activities	(453,215)	(94,225)
FINANCING ACTIVITIES		
Additions to senior long-term debt and other debt	145,813	42,638
Repayment of senior long-term debt and other debt	(246,049)	(224,516)
Repurchases of common stock	(30,829)	(84,436)
Purchase of noncontrolling interests	(13,523)	(18,068)
Distributions to noncontrolling interests	(7,964)	(5,929)
Other	(19,217)	(9,004)
Net Cash Used By Financing Activities	(171,769)	(299,315)
Effect of foreign currency rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents	(12,096)	65,338
Increase in cash, cash equivalents, restricted cash and restricted cash equivalents	126,096	270,501
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of period	2,500,846	2,085,164
CASH, CASH EQUIVALENTS, RESTRICTED CASH AND RESTRICTED CASH EQUIVALENTS AT END OF PERIOD	\$ 2,626,942	\$ 2,355,665

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 and programs. 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, 2018 and the related consolidated statements of income (loss) and comprehensive income (loss) for the quarters and nine months ended September 30, 2018 and 2017 , and the consolidated statements of changes in equity and cash flows for the nine months ended September 30, 2018 and 2017 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, 2017 was derived from Markel Corporation's audited annual consolidated financial statements.

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. 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 2017 Annual Report on Form 10-K for a more complete description of the Company's business and accounting policies.

b) Foreign Currency Transactions. The U.S. Dollar is the Company's reporting currency and the primary functional currency of its foreign underwriting operations. The functional currencies of the Company's other foreign operations are the currencies of the primary economic environments in which the majority of their business is transacted.

Foreign currency transaction gains and losses are the result of exchange rate changes on transactions denominated in currencies other than the functional currency at each foreign entity. Monetary assets and liabilities are remeasured to the functional currency at current exchange rates, with resulting gains and losses included in net foreign exchange losses (gains) within net income. Non-monetary assets and liabilities are remeasured to the functional currency at historic exchange rates. Available-for-sale securities are recorded at fair value with resulting gains and losses, including the portion attributable to movements in exchange rates, included in the change in net unrealized gains on available-for-sale investments, net of taxes within other comprehensive income. While we attempt to naturally hedge our exposure to foreign currency fluctuations by matching assets and liabilities in currency, there is a financial statement mismatch between the gains or losses recorded in net income related to insurance reserves denominated in non-functional currencies and the gains or losses recorded in other comprehensive income related to the available-for-sale securities supporting the reserves.

Assets and liabilities of foreign operations denominated in a functional currency other than the U.S. Dollar are translated into the U.S. Dollar at current exchange rates, with resulting gains or losses included, net of taxes, in the change in foreign currency translation adjustments within other comprehensive income.

Historically, the Company also designated certain additional currencies, including the British Pound Sterling, the Euro, and the Canadian Dollar, as functional currencies within its foreign underwriting operations that were deemed to contain distinct and separable operations in those foreign economic environments. However, over time the Company's foreign underwriting operations have evolved and are now managed on a global basis. Effective January 1, 2018, management reassessed its functional currency determination as required by Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 830, *Foreign Currency Matters*, and concluded that its foreign underwriting operations have evolved to function as an extension, or integral component, of the Company's global underwriting operations, and are no longer deemed to contain distinct and separable operations. As a result, more foreign currency denominated transactions are designated as non-functional, with related remeasurement gains and losses included in net income. The change in the Company's functional currency determination has been applied on a prospective basis in accordance with ASC 830. Therefore, any translation gains and losses that were previously recorded in accumulated other comprehensive income through December 31, 2017 remain unchanged as of September 30, 2018.

c) Revenue Recognition. Effective January 1, 2018, the Company adopted FASB Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, and related amendments, which created a new comprehensive revenue recognition standard, ASC 606, that serves as a single source of revenue guidance for all contracts with customers to transfer goods or services or contracts for the transfer of nonfinancial assets, unless those contracts are within the scope of other standards, such as insurance contracts. ASC 606 is not applicable to the Company's insurance premium revenues or revenues from its investment portfolio but is applicable to most of the Company's other revenues, as described below. See note 2 for further discussion of the impact of adopting this standard.

Other revenues primarily relate to the Company's Market Ventures segment and consist of revenues from the sale of products and services. Revenues are recognized when, or as, control of the promised goods or services is transferred to the Company's customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. All contracts with customers either have an original expected length of one year or less or the Company recognizes revenue at the amount for which it has a right to invoice for the products delivered or services performed. Certain customers may receive volume rebates or credits for products and services, which are accounted for as variable consideration. The Company estimates these amounts based on the expected amount to be provided to the customer and reduces revenues recognized by a corresponding amount. The Company does not expect significant changes to its estimates of variable consideration over the term of the contracts.

Payment terms for products and services vary by the type of product or service offered and the location of the customer, and payment is typically received at or shortly after the point of sale. For certain products, the Company requires partial payment in the form of a deposit before the products are delivered to the customer, which is included in other liabilities on the Company's consolidated balance sheet.

Product revenues are primarily generated from the sale of ornamental plants, equipment used in baking systems, portable dredges, over the road transportation equipment, flooring for the trucking industry, and residential homes. Most of the Company's product revenues are recognized when the products are shipped to the customer or the products arrive at the agreed upon destination with the end customer. Some of the Company's contracts include multiple performance obligations. For such arrangements, revenues are allocated to each performance obligation based on the relative standalone selling price, which is derived from amounts stated in the contract.

Service revenues are primarily generated by delivering healthcare services, retail intelligence, consulting services and investment management services. Service revenues are generally recognized over the term of the contracts based on hours incurred or as services are provided. Investment management fee income is recognized over the period in which investment management services are provided and is calculated and recognized monthly based on the net asset value of the accounts managed. In connection with the investment management services provided, the Company is also entitled to participate, on a fixed-percentage basis, in any net income generated in excess of an agreed-upon threshold as established by the underlying investment management agreements. In general, net income is calculated at the end of each calendar year and performance fees are payable annually. Performance fee income is recognized at the conclusion of the contractual performance period, when the uncertainty related to performance has been resolved.

2 . Recent Accounting Pronouncements

Effective January 1, 2018, the Company adopted ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and several other ASU's that were issued as amendments to ASU No. 2014-09, which apply to all contracts with customers to transfer goods or services or for the transfer of nonfinancial assets, unless those contracts are within the scope of other standards. ASU No. 2014-09's core principle is that a company recognizes revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. In adopting this standard, the Company is required to use more judgment and make more estimates than under the previous guidance, including identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. The Company adopted ASU No. 2014-09 using the modified retrospective method. Prior periods were not restated and a cumulative-effect adjustment of applying the new standard to all open contracts at January 1, 2018 was \$0.3 million, and is included as an adjustment to 2018 beginning retained earnings. The Company's other revenues for the quarter and nine months ended September 30, 2018 and its receivables, other assets and other liabilities as of September 30, 2018 were not materially different from the amounts that would have been recognized under the previous guidance. ASU No. 2014-09 also requires expanded revenue disclosures which are included in note 8.

Effective January 1, 2018, the Company adopted ASU No. 2016-01, *Financial Instruments (Topic 825): Recognition and Measurement of Financial Assets and Financial Liabilities*. As a result of adoption of this ASU, equity instruments that do not result in consolidation and are not accounted for under the equity method are measured at fair value and any changes in fair value are recognized in net income. Previously, the Company's equity securities were classified as available-for-sale and changes in fair value were recorded in other comprehensive income. Upon adoption of this ASU, cumulative net unrealized gains on equity securities of \$2.6 billion, net of deferred income taxes of \$684.4 million, were reclassified from accumulated other comprehensive income into retained earnings. Prior periods have not been restated to conform to the current presentation. See note 4(e) for details regarding the change in net unrealized gains on equity securities included in net income for the quarter and nine months ended September 30, 2018 and included in other comprehensive income for the quarter and nine months ended September 30, 2017.

Effective January 1, 2018, the Company early adopted ASU No. 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. The ASU provides an option to reclassify tax effects remaining in accumulated other comprehensive income as a result of the Tax Cuts and Jobs Act (TCJA) to retained earnings. Upon enactment of the TCJA, the U.S. corporate tax rate was reduced from 35% to 21% and the Company's U.S. deferred tax balances were remeasured to the lower enacted U.S. corporate tax rate. U.S. GAAP requires the effects of changes in tax rates and laws on deferred tax balances to be recorded as a component of income tax expense in the period of enactment, even if the assets and liabilities relate to items of accumulated other comprehensive income. 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.

The following ASUs relate to topics relevant to the Company's operations and were adopted effective January 1, 2018. These ASUs did not have a material impact on the Company's financial position, results of operations or cash flows:

- ASU No. 2016-16, *Income Taxes (Topic 740): Intra-entity Transfers of Assets Other Than Inventory*
- ASU No. 2017-07, *Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*
- ASU No. 2017-09, *Stock Compensation (Topic 718): Scope of Modification Accounting*

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*. The ASU requires lessees to record most leases on their balance sheets as a lease liability with a corresponding right-of-use asset, but continue to recognize the related leasing expense within net income. The FASB subsequently issued ASUs with improvements to the guidance, including ASU No. 2018-11, *Leases (Topic 842): Targeted Improvements*, which provides entities with an additional transition method to apply the new standard. Under the new optional transition method, an entity initially applies ASC 842 at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The ASUs become effective for the Company during the first quarter of 2019 and will be applied using a modified retrospective approach. The Company intends to elect the new transition method permitted by ASU No. 2018-11. The Company's future minimum lease payments, which represent minimum annual rental commitments excluding taxes, insurance and other operating costs for noncancelable operating leases, and which will be subject to this new guidance, totaled \$311.7 million at December 31, 2017. Adoption of this standard will impact the Company's consolidated balance sheets but is not expected to have a material impact on the Company's results of operations or cash flows. The Company is currently evaluating ASU No. 2016-02 to determine the magnitude of the impact that adopting this standard will have on its consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The ASU replaces the current incurred loss model used to measure impairment losses with an expected loss model for trade, reinsurance, and other receivables as well as financial instruments measured at amortized cost. For available-for-sale debt securities, 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 the beginning of the first reporting period in which the guidance is effective. 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 new expected loss model for measuring impairment losses will not impact the Company's investment portfolio, none of which is measured at amortized cost, but will impact the Company's other financial assets, including its reinsurance recoverables. Upon adoption of this ASU, any impairment losses on the Company's available-for-sale debt securities 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. ASU No. 2018-12 becomes effective for the Company during the first quarter of 2021. The ASU 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 capitalized 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 ASU No. 2018-15 to determine the impact that adopting this standard will have on its consolidated financial statements.

The following ASUs 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. 2017-08, *Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities*
- 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*

3 . Acquisitions

State National Acquisition

In November 2017, the Company completed its acquisition of 100% of the issued and outstanding common stock of State National Companies, Inc. (State National). Results attributable to State National's collateral protection insurance coverages are included in the Insurance segment, which was redefined during the first quarter of 2018. Results attributable to State National's program services (fronting) business are not included in a reportable segment. Total consideration for this acquisition was \$918.8 million , all of which was cash consideration.

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As of December 31, 2017, the purchase price was preliminarily allocated to the acquired assets and liabilities of State National based on estimated fair value at the acquisition date. During the first quarter of 2018, the Company completed the process of determining the fair value of the assets and liabilities acquired with State National. The Company recognized goodwill of \$379.2 million, none of which is expected to be deductible for income tax purposes. The Company also recognized indefinite lived intangible assets of \$32.0 million and other intangible assets of \$338.5 million, which are being amortized over a weighted average period of 13 years.

The following table summarizes the intangible assets recorded in connection with the acquisition, and as of September 30, 2018.

<i>(dollars in thousands)</i>	Amount	Economic Useful Life
Customer relationships	\$ 289,000	13 years
Trade names	22,500	13 years
Technology	27,000	Nine years
Insurance licenses	32,000	Indefinite
Intangible assets, before amortization, as of the acquisition date	370,500	
Amortization (from the acquisition date through September 30, 2018)	25,407	
Net intangible assets as of September 30, 2018	<u>\$ 345,093</u>	

Nephila Acquisition

In August 2018, the Company entered into a definitive agreement to acquire all of the outstanding shares of Nephila Holdings Limited (Nephila), a Bermuda-based investment manager offering a broad range of investment products, including insurance-linked securities, catastrophe bonds, insurance swaps and weather derivatives. Nephila has more than \$12 billion of assets under management and generates revenue primarily through management and incentive fees. Total consideration for this acquisition is estimated to be \$975.0 million, all of which is expected to be paid in cash. Upon completion of the transaction, Nephila will continue to operate as a separate business unit and its operating results will not be included in a reportable segment. See note 6 for further discussion of the Company's reportable segments. The transaction remains subject to customary closing conditions and is expected to close in the fourth quarter of 2018.

Brahmin Acquisition

In October 2018, the Company acquired 90% of Brahmin Leather Works (Brahmin), a Massachusetts-based privately held creator of fashion leather handbags. Total consideration for the acquisition was \$194.0 million, which included cash consideration of \$173.3 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. The purchase price allocation for Brahmin will be performed in the fourth quarter of 2018. Results attributable to Brahmin will be included within the Company's Market Ventures 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, 2018				
<i>(dollars in thousands)</i>	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Unrealized Other-Than- Temporary Impairment Losses	Estimated Fair Value
Fixed maturities:					
U.S. Treasury securities	\$ 241,485	\$ 20	\$ (3,360)	\$ —	\$ 238,145
U.S. government-sponsored enterprises	359,348	3,612	(8,081)	—	354,879
Obligations of states, municipalities and political subdivisions	4,289,636	73,456	(50,246)	—	4,312,846
Foreign governments	1,463,626	105,158	(17,047)	—	1,551,737
Commercial mortgage-backed securities	1,672,438	13	(70,603)	—	1,601,848
Residential mortgage-backed securities	898,169	1,058	(31,136)	—	868,091
Asset-backed securities	24,819	—	(309)	—	24,510
Corporate bonds	997,135	20,351	(17,489)	—	999,997
Total fixed maturities	9,946,656	203,668	(198,271)	—	9,952,053
Short-term investments	1,918,495	649	(453)	—	1,918,691
Investments, available-for-sale	\$ 11,865,151	\$ 204,317	\$ (198,724)	\$ —	\$ 11,870,744

	December 31, 2017				
<i>(dollars in thousands)</i>	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Unrealized Other-Than- Temporary Impairment Losses	Estimated Fair Value
Fixed maturities:					
U.S. Treasury securities	\$ 162,378	\$ 54	\$ (1,819)	\$ —	\$ 160,613
U.S. government-sponsored enterprises	352,455	11,883	(818)	—	363,520
Obligations of states, municipalities and political subdivisions	4,381,358	193,120	(7,916)	—	4,566,562
Foreign governments	1,341,628	150,010	(2,410)	—	1,489,228
Commercial mortgage-backed securities	1,244,777	6,108	(16,559)	—	1,234,326
Residential mortgage-backed securities	846,916	14,115	(4,863)	—	856,168
Asset-backed securities	34,942	8	(222)	—	34,728
Corporate bonds	1,186,699	51,563	(2,737)	—	1,235,525
Total fixed maturities	9,551,153	426,861	(37,344)	—	9,940,670
Equity securities: ⁽¹⁾					
Insurance, banks and other financial institutions	899,324	1,209,162	(5,453)	—	2,103,033
Industrial, consumer and all other	1,768,337	2,110,959	(14,482)	—	3,864,814
Total equity securities	2,667,661	3,320,121	(19,935)	—	5,967,847
Short-term investments	2,161,017	26	(69)	—	2,160,974
Investments, available-for-sale	\$ 14,379,831	\$ 3,747,008	\$ (57,348)	\$ —	\$ 18,069,491

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and equity securities are no longer classified as available-for-sale. Prior periods have not been restated to conform to the current presentation. See note 2.

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, 2018					
	Less than 12 months		12 months or longer		Total	
	Estimated Fair Value	Gross Unrealized Holding and Other-Than-Temporary Impairment Losses	Estimated Fair Value	Gross Unrealized Holding and Other-Than-Temporary Impairment Losses	Estimated Fair Value	Gross Unrealized Holding and Other-Than-Temporary Impairment Losses
<i>(dollars in thousands)</i>						
Fixed maturities:						
U.S. Treasury securities	\$ 120,072	\$ (1,338)	\$ 117,487	\$ (2,022)	\$ 237,559	\$ (3,360)
U.S. government-sponsored enterprises	117,344	(4,545)	93,453	(3,536)	210,797	(8,081)
Obligations of states, municipalities and political subdivisions	1,384,033	(26,815)	411,317	(23,431)	1,795,350	(50,246)
Foreign governments	455,170	(9,425)	84,395	(7,622)	539,565	(17,047)
Commercial mortgage-backed securities	1,049,350	(29,512)	550,006	(41,091)	1,599,356	(70,603)
Residential mortgage-backed securities	665,021	(22,760)	128,067	(8,376)	793,088	(31,136)
Asset-backed securities	10,493	(147)	13,964	(162)	24,457	(309)
Corporate bonds	411,153	(12,506)	134,322	(4,983)	545,475	(17,489)
Total fixed maturities	4,212,636	(107,048)	1,533,011	(91,223)	5,745,647	(198,271)
Short-term investments	1,792,510	(453)	—	—	1,792,510	(453)
Total	\$ 6,005,146	\$ (107,501)	\$ 1,533,011	\$ (91,223)	\$ 7,538,157	\$ (198,724)

At September 30, 2018, the Company held 1,221 fixed maturities with a total estimated fair value of \$7.5 billion and gross unrealized losses of \$198.7 million. Of these 1,221 securities, 284 securities had been in a continuous unrealized loss position for one year or longer and had a total estimated fair value of \$1.5 billion and gross unrealized losses of \$91.2 million. The Company does not intend to sell or believe it will be required to sell these fixed maturities before recovery of their amortized cost.

	December 31, 2017					
	Less than 12 months		12 months or longer		Total	
	Estimated Fair Value	Gross Unrealized Holding and Other-Than-Temporary Impairment Losses	Estimated Fair Value	Gross Unrealized Holding and Other-Than-Temporary Impairment Losses	Estimated Fair Value	Gross Unrealized Holding and Other-Than-Temporary Impairment Losses
<i>(dollars in thousands)</i>						
Fixed maturities:						
U.S. Treasury securities	\$ 78,756	\$ (659)	\$ 78,298	\$ (1,160)	\$ 157,054	\$ (1,819)
U.S. government-sponsored enterprises	11,593	(79)	89,194	(739)	100,787	(818)
Obligations of states, municipalities and political subdivisions	80,654	(789)	404,814	(7,127)	485,468	(7,916)
Foreign governments	31,752	(452)	63,406	(1,958)	95,158	(2,410)
Commercial mortgage-backed securities	253,936	(1,980)	481,216	(14,579)	735,152	(16,559)
Residential mortgage-backed securities	157,508	(1,345)	148,960	(3,518)	306,468	(4,863)
Asset-backed securities	14,263	(123)	15,165	(99)	29,428	(222)
Corporate bonds	149,345	(863)	187,754	(1,874)	337,099	(2,737)
Total fixed maturities	777,807	(6,290)	1,468,807	(31,054)	2,246,614	(37,344)
Equity securities: ⁽¹⁾						
Insurance, banks and other financial institutions	60,848	(4,843)	1,291	(610)	62,139	(5,453)
Industrial, consumer and all other	78,552	(11,798)	11,243	(2,684)	89,795	(14,482)
Total equity securities	139,400	(16,641)	12,534	(3,294)	151,934	(19,935)
Short-term investments	369,104	(69)	—	—	369,104	(69)
Total	\$ 1,286,311	\$ (23,000)	\$ 1,481,341	\$ (34,348)	\$ 2,767,652	\$ (57,348)

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and equity securities are no longer classified as available-for-sale. Prior periods have not been restated to conform to the current presentation. See note 2.

At December 31, 2017, the Company held 739 securities with a total estimated fair value of \$2.8 billion and gross unrealized losses of \$57.3 million. Of these 739 securities, 272 securities had been in a continuous unrealized loss position for one year or longer and had a total estimated fair value of \$1.5 billion and gross unrealized losses of \$34.3 million. Of these securities, 258 securities were fixed maturities and 14 were equity securities.

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. The discount rate used to calculate the estimated present value of the cash flows expected to be collected is the effective interest rate implicit for the security at the date of purchase. When assessing whether it intends to sell a fixed maturity or if it is likely to be required to sell a fixed maturity before recovery of its amortized cost, the Company evaluates facts and circumstances including decisions to reposition the investment portfolio, potential sales of investments to meet cash flow needs and, ultimately, current market prices.

Prior to the adoption of ASU No. 2016-01, equity securities were considered available-for-sale and were included in the analysis of other than temporary impairments. For equity securities, the ability and intent to hold the security for a period of time sufficient to allow for anticipated recovery was considered. A decline in fair value of equity securities that was considered to be other-than-temporary was 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.

c) The amortized cost and estimated fair value of fixed maturities at September 30, 2018 are shown below by contractual maturity.

<i>(dollars in thousands)</i>	Amortized Cost	Estimated Fair Value
Due in one year or less	\$ 213,805	\$ 212,952
Due after one year through five years	1,426,784	1,433,680
Due after five years through ten years	1,884,581	1,902,186
Due after ten years	3,826,060	3,908,786
	7,351,230	7,457,604
Commercial mortgage-backed securities	1,672,438	1,601,848
Residential mortgage-backed securities	898,169	868,091
Asset-backed securities	24,819	24,510
Total fixed maturities	\$ 9,946,656	\$ 9,952,053

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,	
	2018	2017	2018	2017
Interest:				
Municipal bonds (tax-exempt)	\$ 19,588	\$ 21,486	\$ 60,810	\$ 66,616
Municipal bonds (taxable)	18,634	17,732	54,487	53,030
Other taxable bonds	40,932	36,337	117,949	107,521
Short-term investments, including overnight deposits	13,719	7,779	36,224	18,562
Dividends on equity securities	21,721	21,467	66,202	61,090
Income (loss) from equity method investments	(3,556)	4,239	(3,268)	10,634
Other	255	(315)	242	(520)
	111,293	108,725	332,646	316,933
Investment expenses	(4,986)	(4,236)	(12,936)	(12,777)
Net investment income	\$ 106,307	\$ 104,489	\$ 319,710	\$ 304,156

e) The following table presents net investment gains (losses) 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,	
	2018	2017	2018	2017
Realized gains:				
Sales of fixed maturities	\$ 2,916	\$ 3,426	\$ 3,748	\$ 4,189
Sales of equity securities ⁽¹⁾	—	9,276	—	25,806
Sales of short-term investments	1,447	8	1,624	19
Other	171	1,121	1,008	5,960
Total realized gains	4,534	13,831	6,380	35,974
Realized losses:				
Sales of fixed maturities	(1,003)	(657)	(2,652)	(1,265)
Sales of equity securities ⁽¹⁾	—	(578)	—	(1,791)
Sales of short-term investments	(3,997)	(207)	(10,044)	(499)
Other-than-temporary impairments	—	(3,444)	—	(7,261)
Other	(30)	(575)	(2,768)	(593)
Total realized losses	(5,030)	(5,461)	(15,464)	(11,409)
Net realized investment gains (losses)	(496)	8,370	(9,084)	24,565
Change in fair value of equity securities: ⁽¹⁾				
Change in fair value of equity securities sold during the period ⁽¹⁾	151	—	10,230	—
Change in fair value of equity securities held at the end of the period	426,420	(48,377)	407,180	(26,080)
Change in fair value of equity securities ⁽¹⁾	426,571	(48,377)	417,410	(26,080)
Net investment gains (losses)	\$ 426,075	\$ (40,007)	\$ 408,326	\$ (1,515)
Change in net unrealized gains (losses) on available-for-sale investments included in other comprehensive income:				
Fixed maturities	\$ (103,083)	\$ 20,428	\$ (384,176)	\$ 104,488
Equity securities ⁽¹⁾	—	308,324	—	731,748
Short-term investments	1,417	16	239	22
Net increase (decrease)	\$ (101,666)	\$ 328,768	\$ (383,937)	\$ 836,258

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01. As a result, equity securities are no longer classified as available-for-sale with unrealized gains and losses recognized in other comprehensive income; rather, all changes in the fair value of equity securities are now recognized in net income. Prior periods have not been restated to conform to the current presentation. See note 2.

5 . Fair Value Measurements

ASC 820-10, *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.

Investments available-for-sale and equity securities. Equity securities and available-for-sale investments 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 investments available-for-sale 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 insurance-linked securities funds (ILS Funds) that are not traded on an active exchange, as further described in note 11 , and are valued using unobservable inputs.

Fair value for investments available-for-sale 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 ILS Funds, these investments are classified as Level 3 within the fair value hierarchy. Changes in fair value of the ILS Funds are included in the change in fair value of equity securities in net income. 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 ILS Funds invest. Generally, the Company's investments in the ILS 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, certain investments may be restricted from redemption 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, which includes the price of a comparable security and an insurance-linked security index.

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.

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, 2018			
<i>(dollars in thousands)</i>	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Fixed maturities, available-for-sale:				
U.S. Treasury securities	\$ —	\$ 238,145	\$ —	\$ 238,145
U.S. government-sponsored enterprises	—	354,879	—	354,879
Obligations of states, municipalities and political subdivisions	—	4,312,846	—	4,312,846
Foreign governments	—	1,551,737	—	1,551,737
Commercial mortgage-backed securities	—	1,601,848	—	1,601,848
Residential mortgage-backed securities	—	868,091	—	868,091
Asset-backed securities	—	24,510	—	24,510
Corporate bonds	—	999,997	—	999,997
Total fixed maturities, available-for-sale	—	9,952,053	—	9,952,053
Equity securities:				
Insurance, banks and other financial institutions	2,110,953	—	122,093	2,233,046
Industrial, consumer and all other	4,316,802	—	—	4,316,802
Total equity securities	6,427,755	—	122,093	6,549,848
Short-term investments, available-for-sale	1,825,777	92,914	—	1,918,691
Total investments	\$ 8,253,532	\$ 10,044,967	\$ 122,093	\$ 18,420,592

	December 31, 2017			
<i>(dollars in thousands)</i>	Level 1	Level 2	Level 3	Total
Assets:				
Investments available-for-sale:				
Fixed maturities:				
U.S. Treasury securities	\$ —	\$ 160,613	\$ —	\$ 160,613
U.S. government-sponsored enterprises	—	363,520	—	363,520
Obligations of states, municipalities and political subdivisions	—	4,566,562	—	4,566,562
Foreign governments	—	1,489,228	—	1,489,228
Commercial mortgage-backed securities	—	1,234,326	—	1,234,326
Residential mortgage-backed securities	—	856,168	—	856,168
Asset-backed securities	—	34,728	—	34,728
Corporate bonds	—	1,235,525	—	1,235,525
Total fixed maturities	—	9,940,670	—	9,940,670
Equity securities: ⁽¹⁾				
Insurance, banks and other financial institutions	1,934,224	—	168,809	2,103,033
Industrial, consumer and all other	3,864,814	—	—	3,864,814
Total equity securities	5,799,038	—	168,809	5,967,847
Short-term investments	2,065,749	95,225	—	2,160,974
Total investments available-for-sale ⁽¹⁾	\$ 7,864,787	\$ 10,035,895	\$ 168,809	\$ 18,069,491

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and equity securities are no longer classified as available-for-sale. Prior periods have not been restated to conform to the current presentation. See note 2.

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,	
	2018	2017	2018	2017
Equity securities, beginning of period	\$ 119,675	\$ 183,913	\$ 168,809	\$ 191,203
Purchases	—	49,000	28,900	56,250
Sales	—	—	(34,653)	(26,674)
Total gains (losses) included in net income (loss)	2,418	(51,639)	(40,963)	(39,505)
Transfers into Level 3	—	—	—	—
Transfers out of Level 3	—	—	—	—
Equity securities, end of period	\$ 122,093	\$ 181,274	\$ 122,093	\$ 181,274
Change in fair value of equity securities included in net income (loss) relating to assets held at September 30, 2018 and 2017	\$ 2,418	\$ (51,639)	\$ (40,963)	\$ (39,505)

Net realized investment losses for the nine months ended September 30, 2018 included losses of \$41.0 million on the Company's investment in the ILS Funds. Net realized investment losses for the quarter and nine months ended September 30, 2017 included losses of \$51.6 million and \$39.5 million, respectively, on the Company's investment in the ILS Funds. In 2018 and 2017, these losses resulted from decreases in the NAV of the ILS Funds.

There were no transfers into or out of Level 1 and Level 2 during the quarter and nine months ended September 30, 2018 and 2017.

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, 2018 and 2017.

6. Segment Reporting Disclosures

In conjunction with the Company's continued growth and diversification, beginning in the first quarter of 2018 the Company's chief operating decision maker changed the way it reviews the Company's ongoing underwriting results. Effective January 1, 2018, 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.

Also during the first quarter of 2018, the Company's chief operating decision maker changed the way it assesses the performance of and allocates resources to its Markel Ventures operations. Historically, the Company's chief operating decision maker reviewed and assessed the performance of each Markel Ventures business separately with no single business being individually significant. Following the continued growth in the Company's Markel Ventures operations, effective in the first quarter of 2018, the chief operating decision maker reviews and assesses Markel Ventures' performance in the aggregate, as a single operating segment. The Markel Ventures segment primarily consists of controlling interests in a diverse portfolio of businesses that operate in various industries.

The following table summarizes revenue from the Markel Ventures segment by major product grouping.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Markel Ventures:				
Products	\$ 362,577	\$ 233,895	\$ 1,129,036	\$ 648,134
Services	106,694	98,853	311,048	285,146
Total Markel Ventures	\$ 469,271	\$ 332,748	\$ 1,440,084	\$ 933,280

The Company's other operations include the results of the Company's legal and professional consulting services and the results of the Company's investment management services attributable to Markel CATCo Investment Management Ltd. Also included in the Company's other operations are results attributable to the run-off of acquired managing general agent operations and underwriting results for lines of business discontinued prior to, or in conjunction with, acquisitions, including run-off of life and annuity reinsurance business, which are monitored separately from the Company's ongoing underwriting operations. Effective November 17, 2017, the Company's other operations also include the results of the program services business acquired as part of the State National transaction. For purposes of segment reporting, none of the Company's other operations are considered to be reportable segments.

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

a) The following tables summarize the Company's segment disclosures. Prior year amounts have been recast for consistency with the current year presentation.

	Quarter Ended September 30, 2018					
<i>(dollars in thousands)</i>	Insurance	Reinsurance	Investing	Markel Ventures	Other ⁽¹⁾	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
Other revenues	—	—	—	469,271	48,973	518,244
Other expenses ⁽²⁾	—	—	—	(436,642)	(37,100)	(473,742)
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) Other segment profit (loss) 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.

(2) Other expenses for the Markel Ventures segment include depreciation expense of \$13.0 million for the quarter ended September 30, 2018.

(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, 2017					
<i>(dollars in thousands)</i>	Insurance	Reinsurance	Investing	Markel Ventures	Other ⁽¹⁾	Consolidated
Gross premium volume	\$ 1,098,237	\$ 230,077	\$ —	\$ —	\$ (186)	\$ 1,328,128
Net written premiums	908,296	189,636	—	—	(178)	1,097,754
Earned premiums	840,439	259,601	—	—	(178)	1,099,862
Losses and loss adjustment expenses:						
Current accident year	(808,243)	(418,297)	—	—	—	(1,226,540)
Prior accident years	128,353	21,164	—	—	1,591	151,108
Amortization of policy acquisition costs	(177,383)	(53,440)	—	—	—	(230,823)
Other operating expenses	(142,667)	(23,402)	—	—	(80)	(166,149)
Underwriting profit (loss)	(159,501)	(214,374)	—	—	1,333	(372,542)
Net investment income	—	—	104,387	102	—	104,489
Net investment losses	—	—	(40,007)	—	—	(40,007)
Other revenues	—	—	—	332,748	9,056	341,804
Other expenses ⁽²⁾	—	—	—	(319,317)	(25,679)	(344,996)
Amortization of intangible assets ⁽³⁾	—	—	—	(6,917)	(11,737)	(18,654)
Segment profit (loss)	\$ (159,501)	\$ (214,374)	\$ 64,380	\$ 6,616	\$ (27,027)	\$ (329,906)
Interest expense						(31,814)
Net foreign exchange gains						1,772
Loss before income taxes						\$ (359,948)
U.S. GAAP combined ratio ⁽⁴⁾	119%	183%			NM ⁽⁵⁾	134%

(1) Other segment profit (loss) 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.

(2) Other expenses for the Markel Ventures segment include depreciation expense of \$9.7 million for the quarter ended September 30, 2017.

(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	Other ⁽¹⁾	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
Other revenues	—	—	—	1,440,084	145,785	1,585,869
Other expenses ⁽²⁾	—	—	—	(1,350,780)	(120,435)	(1,471,215)
Amortization of intangible assets ⁽³⁾	—	—	—	(29,332)	(56,927)	(86,259)
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⁾	<u>92%</u>	<u>100%</u>			<u>NM ⁽⁵⁾</u>	<u>94%</u>

(1) Other segment profit (loss) 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.

(2) Other expenses for the Markel Ventures segment include depreciation expense of \$38.5 million for the nine months ended September 30, 2018.

(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, 2017					
<i>(dollars in thousands)</i>	Insurance	Reinsurance	Investing	Markel Ventures	Other ⁽¹⁾	Consolidated
Gross premium volume	\$ 3,120,512	\$ 1,025,716	\$ —	\$ —	\$ (185)	\$ 4,146,043
Net written premiums	2,596,099	899,698	—	—	(157)	3,495,640
Earned premiums	2,401,477	714,718	—	—	(157)	3,116,038
Losses and loss adjustment expenses:						
Current accident year	(1,839,378)	(710,093)	—	—	—	(2,549,471)
Prior accident years	353,767	(22,248)	—	—	7,823	339,342
Amortization of policy acquisition costs	(485,460)	(163,385)	—	—	—	(648,845)
Other operating expenses	(452,544)	(69,752)	—	—	(379)	(522,675)
Underwriting profit (loss)	(22,138)	(250,760)	—	—	7,287	(265,611)
Net investment income	—	—	303,951	205	—	304,156
Net investment losses	—	—	(1,515)	—	—	(1,515)
Other revenues	—	—	—	933,280	47,433	980,713
Other expenses ⁽²⁾	—	—	—	(841,674)	(84,711)	(926,385)
Amortization of intangible assets ⁽³⁾	—	—	—	(20,777)	(32,673)	(53,450)
Segment profit (loss)	\$ (22,138)	\$ (250,760)	\$ 302,436	\$ 71,034	\$ (62,664)	\$ 37,908
Interest expense						(97,013)
Net foreign exchange gains						2,746
Loss before income taxes						\$ (56,359)
U.S. GAAP combined ratio ⁽⁴⁾	101%	135%			NM ⁽⁵⁾	108%

- (1) Other segment profit (loss) 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.
- (2) Other expenses for the Markel Ventures segment include depreciation expense of \$28.7 million for the nine months ended September 30, 2017.
- (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, 2018	December 31, 2017
Segment assets:		
Investing	\$ 20,956,369	\$ 20,317,160
Underwriting	6,501,069	6,828,048
Markel Ventures	2,027,782	1,900,728
Total segment assets	29,485,220	29,045,936
Other operations	4,473,085	3,759,080
Total assets	\$ 33,958,305	\$ 32,805,016

7. 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,	
	2018	2017
Net reserves for losses and loss adjustment expenses, beginning of year	\$ 8,964,945	\$ 8,108,717
Foreign currency movements	(35,754)	158,360
Adjusted net reserves for losses and loss adjustment expenses, beginning of year	8,929,191	8,267,077
Incurred losses and loss adjustment expenses:		
Current accident year	2,340,868	2,549,471
Prior accident years	(389,740)	(335,494)
Total incurred losses and loss adjustment expenses	1,951,128	2,213,977
Payments:		
Current accident year	390,245	342,055
Prior accident years	1,438,224	1,185,689
Total payments	1,828,469	1,527,744
Effect of foreign currency rate changes	368	10,582
Net reserves for losses and loss adjustment expenses of acquired insurance companies	—	12,702
Net reserves for losses and loss adjustment expenses, end of period	9,052,218	8,976,594
Reinsurance recoverable on unpaid losses	4,836,271	2,466,554
Gross reserves for losses and loss adjustment expenses, end of period	\$ 13,888,489	\$ 11,443,148

Effective March 31, 2017, reserves of \$69.1 million, were formally transferred to a third party by way of a Part VII transfer pursuant to the Financial Services and Markets Act 2000 of the United Kingdom. Upon completion of the transfer in the first quarter of 2017, the Company recognized a previously deferred gain of \$3.9 million, which is included in losses and loss adjustment expenses on the consolidated statement of income (loss) and comprehensive income (loss) for the nine months ended September 30, 2017. This amount is excluded from the prior years' incurred losses and loss adjustment expenses for the nine months ended September 30, 2017 in the above table as the deferred gain was included in other liabilities on the consolidated balance sheet as of December 31, 2016, rather than unpaid losses and loss adjustment expenses.

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, professional liability, worker's compensation and marine and energy product lines within the Insurance segment, and surety and marine and energy product lines within the Reinsurance segment.

Underwriting results for the nine months ended September 30, 2018 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 net losses and loss adjustment expenses partially offset by \$2.1 million of net assumed reinstatement premiums. The estimated net 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.

For the nine months ended September 30, 2017, incurred losses and loss adjustment expenses included \$335.5 million of favorable development on prior years' loss reserves, which included \$302.5 million of favorable development on the Company's general liability, professional liability, marine and energy, personal lines business and worker's compensation product lines within the Insurance segment and property and whole account product lines within the Reinsurance segment. Favorable development for the nine months ended September 30, 2017 were partially offset by \$85.0 million of adverse development resulting from a decrease in the discount rate, known as the Ogden Rate, used to calculate lump sum awards in U.K. bodily injury cases.

Underwriting results for the nine months ended September 30, 2017 included \$503.0 million of underwriting loss from Hurricanes Harvey, Irma and Maria as well as the earthquakes in Mexico (2017 Catastrophes). The underwriting loss on the 2017 Catastrophes was comprised of \$521.2 million of estimated net losses and loss adjustment expenses partially offset by \$18.2 million of net assumed reinstatement premiums. The estimated net losses and loss adjustment expenses on the 2017 Catastrophes for the nine months ended September 30, 2017 were net of estimated ceded losses of \$464.4 million .

During the nine months ended September 30, 2017 , the Company recorded net reserves for losses and loss adjustment expenses of \$12.7 million as a result of the acquisition of SureTec.

8 . Other Revenues

The amount of revenues from contracts with customers included in other revenues on the consolidated statements of income (loss) and comprehensive income (loss) is \$472.2 million and \$319.0 million for the quarters ended September 30, 2018 and 2017 , respectively, and \$1.5 billion and \$911.0 million for the nine months ended September 30, 2018 and 2017 , respectively.

The following tables disaggregate revenues from contracts with customers by type.

<i>(dollars in thousands)</i>	Quarter Ended September 30,					
	2018			2017		
	Markel Ventures	Other	Total	Markel Ventures	Other	Total
Products	\$ 350,981	\$ —	\$ 350,981	\$ 222,280	\$ —	\$ 222,280
Services	95,071	7,841	102,912	88,082	7,381	95,463
Investment management	—	18,258	18,258	—	1,248	1,248
Total revenues from contracts with customers	446,052	26,099	472,151	310,362	8,629	318,991
Program services	—	22,478	22,478	—	—	—
Other	23,219	396	23,615	22,386	427	22,813
Total Other Revenues	\$ 469,271	\$ 48,973	\$ 518,244	\$ 332,748	\$ 9,056	\$ 341,804

<i>(dollars in thousands)</i>	Nine Months Ended September 30,					
	2018			2017		
	Markel Ventures	Other	Total	Markel Ventures	Other	Total
Products	\$ 1,095,461	\$ —	\$ 1,095,461	\$ 611,852	\$ —	\$ 611,852
Services	276,548	25,737	302,285	253,311	25,915	279,226
Investment management	—	52,965	52,965	—	19,884	19,884
Total revenues from contracts with customers	1,372,009	78,702	1,450,711	865,163	45,799	910,962
Program services	—	65,810	65,810	—	—	—
Other	68,075	1,273	69,348	68,117	1,634	69,751
Total Other Revenues	\$ 1,440,084	\$ 145,785	\$ 1,585,869	\$ 933,280	\$ 47,433	\$ 980,713

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

<i>(dollars in thousands)</i>	September 30, 2018	December 31, 2017
Receivables	\$ 208,117	\$ 176,865
Customer deposits	60,220	61,546

9 . Reinsurance

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

(dollars in thousands)	Quarter Ended September 30,							
	2018				2017			
	Direct	Assumed	Ceded	Net Premiums	Direct	Assumed	Ceded	Net Premiums
Underwriting:								
Written	\$ 1,207,605	\$ 274,898	\$ (266,788)	\$ 1,215,715	\$ 1,035,705	\$ 292,423	\$ (230,374)	\$ 1,097,754
Earned	1,113,763	313,378	(242,120)	1,185,021	966,735	356,529	(223,402)	1,099,862
Program Services:								
Written	529,958	31,310	(560,712)	556	—	—	—	—
Earned	480,694	13,046	(493,438)	302	—	—	—	—
Consolidated:								
Written	1,737,563	306,208	(827,500)	1,216,271	1,035,705	292,423	(230,374)	1,097,754
Earned	\$ 1,594,457	\$ 326,424	\$ (735,558)	\$ 1,185,323	\$ 966,735	\$ 356,529	\$ (223,402)	\$ 1,099,862

(dollars in thousands)	Nine Months Ended September 30,							
	2018				2017			
	Direct	Assumed	Ceded	Net Premiums	Direct	Assumed	Ceded	Net Premiums
Underwriting:								
Written	\$ 3,429,666	\$ 1,081,171	\$ (781,126)	\$ 3,729,711	\$ 2,932,022	\$ 1,214,021	\$ (650,403)	\$ 3,495,640
Earned	3,221,946	965,586	(703,785)	3,483,747	2,743,970	976,636	(604,568)	3,116,038
Program Services:								
Written	1,537,412	39,839	(1,575,283)	1,968	—	—	—	—
Earned	1,374,443	16,784	(1,390,446)	781	—	—	—	—
Consolidated:								
Written	4,967,078	1,121,010	(2,356,409)	3,731,679	2,932,022	1,214,021	(650,403)	3,495,640
Earned	\$ 4,596,389	\$ 982,370	\$ (2,094,231)	\$ 3,484,528	\$ 2,743,970	\$ 976,636	\$ (604,568)	\$ 3,116,038

Substantially all of the premium written and earned in the Company's fee-based program services business, which was acquired as part of the State National acquisition in November 2017, for the quarter and nine months ended September 30, 2018 was ceded to third parties. The percentage of ceded earned premiums to gross earned premiums was 38% for both the quarter and nine months ended September 30, 2018 , and 17% and 16% for the quarter and nine months ended September 30, 2017 , respectively. The percentage of assumed earned premiums to net earned premiums was 28% for both the quarter and nine months ended September 30, 2018 , and 32% and 31% , for the quarter and nine months ended September 30, 2017 , respectively.

Substantially all of the incurred losses and loss adjustment expenses in the Company's program services business, which totaled \$329.9 million and \$959.5 million for the quarter and nine months ended September 30, 2018 , respectively, were ceded to third parties. Incurred losses and loss adjustment expenses for the Company's underwriting operations were net of ceded incurred losses and loss adjustment expenses of \$171.1 million and \$540.1 million for the quarters ended September 30, 2018 and 2017 , respectively, and \$394.9 million and \$748.7 million for the nine months ended September 30, 2018 and 2017 , respectively. Ceded incurred losses and loss adjustment expenses for both the quarter and nine months ended September 30, 2018 included estimated ceded losses on the 2018 Catastrophes of \$28.6 million . Ceded incurred losses and loss adjustment expenses for both the quarter and nine months ended September 30, 2017 included estimated ceded losses on the 2017 Catastrophes of \$464.4 million .

10 . Income Taxes

The effective tax rate was 32% for both the nine months ended September 30, 2018 and 2017 . During the first quarter of 2018, the Company decided to make the election to have two of its most significant U.K. subsidiaries treated as domestic corporations for U.S. tax purposes. As a result, during the nine months ended September 30, 2018, the Company recorded a \$102.0 million provision for deferred U.S. income taxes on the book and tax basis differences attributable to those subsidiaries, which added 11% to the effective tax rate. The Company continues to be indefinitely reinvested in its other foreign subsidiaries, with the exception of certain Bermuda-based subsidiaries.

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), 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, which excludes the tax attributable to the change in tax status of the two U.K. subsidiaries, was 20% and 28% for the nine months ended September 30, 2018 and 2017 , respectively. For the nine months ended September 30, 2018 and 2017 , the estimated annual effective tax rate differs from the U.S. statutory tax rate of 21% and 35% , respectively, primarily as a result of tax-exempt investment income. The decrease in the estimated annual effective tax rate in 2018 compared to 2017 was primarily attributable to the TCJA, which reduced the U.S. corporate tax rate from 35% to 21% , partially offset by the impact of having higher pre-tax income for the nine months ended September 30, 2018, which reduced the net favorable impact of certain tax adjustments.

11 . Variable Interest Entities

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

MCIM manages a mutual fund company and reinsurance company, both of which were organized under Bermuda law. The mutual fund company issues multiple classes of nonvoting, redeemable preference shares to investors through its funds (the Funds) and the Funds are primarily invested in nonvoting shares of the reinsurance company. The underwriting results of the reinsurance company are attributed to the Funds through the issuance of nonvoting preference shares.

The Funds and the reinsurance company 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 Funds or the reinsurance company, 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 fees earned by the Company from unconsolidated Funds were \$18.3 million and \$1.2 million for the quarters ended September 30, 2018 and 2017 , respectively, and \$53.0 million and \$19.9 million for the nine months ended September 30, 2018 and 2017 , respectively. The Company is the sole investor in one of the Funds, the Markel Diversified Fund, and consolidates that fund as its primary beneficiary. The Company also holds an investment in another one of the Funds (\$27.4 million as of September 30, 2018) but does not have the obligation to absorb losses or right to receive benefits from the VIE that could potentially be significant to the VIE, and therefore does not consolidate that Fund.

As of September 30, 2018 , total assets of the Markel Diversified Fund were \$96.1 million and total liabilities were \$25.1 million . As of December 31, 2017 , total assets of the Markel Diversified Fund were \$170.3 million and total liabilities were \$62.7 million . 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. Total assets of the Markel Diversified Fund include an investment in one of the unconsolidated Funds totaling \$94.7 million as of September 30, 2018 and \$168.2 million as of December 31, 2017 , which represents 2% of the outstanding preference shares of that fund as of September 30, 2018 and 7% as of December 31, 2017 . This investment is included in equity securities on the Company's consolidated balance sheets. At September 30, 2018 and December 31, 2017 , total liabilities of the Markel Diversified Fund included a \$24.9 million and \$62.5 million note payable, delivered as part of the consideration provided for its investment. The Company repaid \$37.5 million of the note payable in January 2018. 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 holds an investment in CATCo Reinsurance Opportunities Fund Ltd. (CROF), a limited liability closed-end fund listed on the London and Bermuda Stock Exchanges, which is not a VIE. This investment is included in equity securities on the Company's consolidated balance sheets. CROF is managed by MCIM and invests substantially all of its assets in one of the unconsolidated Funds. At September 30, 2018 and December 31, 2017, the fair value of the Company's investment in CROF was \$11.7 million and \$20.5 million, respectively.

The Company's exposure to risk from the unconsolidated Funds and the reinsurance company is generally limited to its investment and any earned but uncollected fees. The Company has not issued any investment performance guarantees to these VIEs or their investors. As of September 30, 2018, total investment and insurance assets under management of MCIM for unconsolidated VIEs were \$6.6 billion, which includes funds held that will be used to settle claims for incurred losses.

12 . Shareholders' Equity

a) In May 2018, the Company's Board of Directors approved a new share repurchase program (the 2018 Program) to replace the previous share repurchase program that was approved by the Board of Directors in November 2013 (the 2013 Program). The 2018 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, 2018, the Company repurchased an aggregate of 24,584 shares of common stock at a cost of \$27.8 million, including 15,509 shares repurchased under the 2013 Program at a cost of \$17.6 million, and 9,075 shares repurchased under the 2018 Program at a cost of \$10.2 million. In total, the Company repurchased 199,244 shares of common stock under the 2013 Program at a cost of \$175.6 million.

b) Net income (loss) per share was determined by dividing adjusted net income (loss) to shareholders by the applicable weighted average shares outstanding. Diluted net income (loss) per share is computed by dividing adjusted net income (loss) 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,	
	2018	2017	2018	2017
Net income (loss) to shareholders	\$ 409,438	\$ (259,141)	\$ 623,363	\$ (39,612)
Adjustment of redeemable noncontrolling interests	(12,035)	(3,298)	(6,621)	(23,582)
Adjusted net income (loss) to shareholders	\$ 397,403	\$ (262,439)	\$ 616,742	\$ (63,194)
Basic common shares outstanding	13,917	13,947	13,925	13,974
Dilutive potential common shares from conversion of options	—	1	—	2
Dilutive potential common shares from conversion of restricted stock units and restricted stock	26	42	24	42
Diluted shares outstanding	13,943	13,990	13,949	14,018
Basic net income (loss) per share ⁽¹⁾	\$ 28.56	\$ (18.82)	\$ 44.29	\$ (4.52)
Diluted net income (loss) per share ⁽¹⁾	\$ 28.50	\$ (18.82)	\$ 44.21	\$ (4.52)

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and 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. Prior periods have not been restated to conform to the current presentation. See note 2.

13 . Other Comprehensive Income (Loss)

Other comprehensive income (loss) includes net holding gains (losses) 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 (losses) included in net income (loss). Other comprehensive income (loss) 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, 2018 and 2017 .

<i>(dollars in thousands)</i>	Unrealized Holding Gains (Losses) on Available-for-Sale Securities	Foreign Currency	Net Actuarial Pension Loss	Total
December 31, 2016	\$ 1,714,930	\$ (84,406)	\$ (64,658)	\$ 1,565,866
Other comprehensive income before reclassifications	577,796	19,750	—	597,546
Amounts reclassified from accumulated other comprehensive income	(14,598)	—	2,391	(12,207)
Total other comprehensive income	563,198	19,750	2,391	585,339
September 30, 2017	\$ 2,278,128	\$ (64,656)	\$ (62,267)	\$ 2,151,205
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
Other comprehensive income (loss) before reclassifications	(306,069)	(19,928)	1,741	(324,256)
Amounts reclassified from accumulated other comprehensive loss ⁽¹⁾	5,496	—	—	5,496
Total other comprehensive income (loss)	(2,514,768)	(17,436)	1,741	(2,530,463)
September 30, 2018	\$ (36,795)	\$ (91,439)	\$ (56,658)	\$ (184,892)

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and 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. Prior periods have not been restated to conform to the current presentation. See note 2.

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,	
	2018	2017	2018	2017
Change in net unrealized gains (losses) on available-for-sale investments: ⁽¹⁾				
Net holding gains (losses) arising during the period	\$ (24,047)	\$ 109,338	\$ (84,825)	\$ 278,266
Reclassification adjustments for net gains (losses) included in net income (loss)	2,810	(2,810)	1,461	(5,206)
Change in net unrealized gains (losses) on available-for-sale investments	(21,237)	106,528	(83,364)	273,060
Change in foreign currency translation adjustments	6,594	656	3,072	153
Change in net actuarial pension loss	135	159	463	492
Total	\$ (14,508)	\$ 107,343	\$ (79,829)	\$ 273,705

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and 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. Prior periods have not been restated to conform to the current presentation. See note 2.

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

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Unrealized holding gains (losses) on available-for-sale investments: ⁽¹⁾				
Other-than-temporary impairment losses	\$ —	\$ (3,444)	\$ —	\$ (7,261)
Net realized investment gains (losses), excluding other-than-temporary impairment losses	(13,383)	11,461	(6,957)	27,065
Total before income taxes	(13,383)	8,017	(6,957)	19,804
Income taxes	2,810	(2,810)	1,461	(5,206)
Reclassification of unrealized holding gains (losses), net of taxes	\$ (10,573)	\$ 5,207	\$ (5,496)	\$ 14,598
Net actuarial pension loss:				
Underwriting, acquisition and insurance expenses	\$ (644)	\$ (932)	\$ (2,204)	\$ (2,883)
Income taxes	135	159	463	492
Reclassification of net actuarial pension loss, net of taxes	\$ (509)	\$ (773)	\$ (1,741)	\$ (2,391)

(1) Effective January 1, 2018, the Company adopted ASU No. 2016-01 and 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. Prior periods have not been restated to conform to the current presentation. See note 2.

14. Contingencies

Aspen Holdings. In October 2010, the Company completed its 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 the Company believes it is required to pay under the CVR agreement.

Prior to the December 31, 2017 maturity date, the CVR holder representative, Thomas Yeransian, had disputed the Company's estimation of the value of the CVRs. On September 15, 2016, Mr. Yeransian filed a suit alleging, among other things, that the Company is in default under the CVR agreement. The holder representative seeks: \$47.3 million in damages, which represents the unadjusted value of the CVRs; plus interest (\$13.4 million through September 30, 2018) and default interest (up to an additional \$11.5 million through September 30, 2018 , depending on the date any default occurred); and an unspecified amount of punitive damages, costs, and attorneys' fees.

Management believes the holder representative's suit to be without merit and will vigorously defend against it. Further, management believes that any material loss resulting from the holder representative's suit to be remote.

Markel Ventures. The Company has been reviewing 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, reviewing the business's operations and developing remediation plans. Upon completion of its review during the second quarter of 2018, the Company recorded an expense of \$33.5 million in its results of operations. This amount represented management's best estimate of amounts currently 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. The Company also recorded an impairment charge of \$14.9 million during the second quarter of 2018 which reduced the carrying value of intangible assets at this reporting unit to zero .

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.

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.

15 . Subsequent Events

In early October 2018, the Gulf Coast and southeastern regions of the United States sustained losses from Hurricane Michael. Based on information currently available, the Company estimates its range of net incurred losses on this event is between \$60 million and \$120 million before income taxes. This estimated range of losses was derived based on initial industry loss estimates, policy level reviews and direct contact with insureds and brokers when possible. However, the Company is still gathering preliminary loss data and few losses have been reported at this time. Potential losses associated with business interruption are also not yet clear. The Company continues to closely monitor reported claims and will refine its initial estimate of losses, which will be recorded in the fourth quarter of 2018, as the actual level of claims becomes more certain.

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 U.S. generally accepted accounting principles (U.S. 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 operations, which include the run-off of underwriting operations that were discontinued in conjunction with acquisitions
- 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 in various industries
- Program Services - our program services business serves as a fronting platform that provides other insurance companies access to the U.S. property and casualty insurance market
- Markel CATCo - our Markel CATCo operations include an investment fund manager that offers insurance-linked securities to investors

In conjunction with the continued growth and diversification of our business, beginning the first quarter of 2018 we changed the way we review our ongoing underwriting operations. Effective January 1, 2018, 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, unique and hard-to-place risks that must be written on an admitted basis due to marketing and regulatory reasons as well as our syndicate at Lloyd's of London (Lloyd's). 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 risks, on an excess and surplus lines basis as well as admitted and non-admitted basis, using a network of brokers managed on a regional 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 from our London-based platform, which includes our syndicate at Lloyd's.

In November 2017, we completed the acquisition of State National Companies, Inc. (State National), a leading specialty provider of property and casualty insurance. The acquisition of State National adds a premier fronting platform to our insurance operations through which insurance products can be offered throughout the United States. State National also offers collateral protection insurance (CPI) to credit unions and regional banks. Results attributable to CPI business are included in the Insurance segment. Results attributable to the fee-based program services (fronting) operations are reported within our other operations, which are not included in a reportable segment.

In April 2017, we completed the acquisition of SureTec Financial Corp. (SureTec), a Texas-based privately held surety company primarily offering contract, commercial and court bonds. Results attributable to SureTec are included in the Insurance segment.

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 primarily by our Global Reinsurance division.

Through our wholly-owned subsidiary Markel Ventures, Inc. (Markel Ventures), we own interests in various businesses that, effective January 1, 2018, 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, dorm furniture, wall systems, medical casework and marine panels, storage and transportation equipment for specialty gas, ornamental plants and residential homes. The services group offers consumer and business services, such as leasing and management of manufactured housing communities, behavioral healthcare, concierge health programs, retail intelligence and management and technology consulting.

In August 2017, we acquired 81% of Costa Farms, a Florida-based privately held grower of house and garden plants. Results attributable to Costa Farms are included with our Markel Ventures segment.

Our other operations also include our Markel CATCo operations, which are conducted through Markel CATCo Investment Management Ltd. (MCIM). MCIM is an insurance-linked securities investment fund manager and reinsurance manager headquartered in Bermuda focused on building and managing highly diversified, collateralized retrocession and reinsurance portfolios covering global property catastrophe risks.

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.

We review the following critical accounting estimates and assumptions quarterly: evaluating the adequacy of reserves for unpaid losses and loss adjustment expenses, life and annuity reinsurance benefit reserves, the reinsurance allowance for doubtful accounts and income tax liabilities, as well as analyzing the recoverability of deferred tax assets, estimating reinsurance premiums written and earned and evaluating the investment portfolio for other-than-temporary declines in estimated fair value. Critical accounting estimates and assumptions for goodwill and intangible assets are reviewed in conjunction with an acquisition and goodwill and indefinite-lived intangible assets are reassessed at least annually for impairment. Actual results may differ materially from the estimates and assumptions used in preparing the consolidated financial statements.

Readers are urged to review our 2017 Annual Report on Form 10-K for a more complete description of our critical accounting estimates.

Recent Changes to Significant Accounting Policies

Effective January 1, 2018, as a result of recent significant changes in economic facts and circumstances, management reassessed its functional currency determination as required by Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 830, *Foreign Currency Matters*. As a result of the reassessment, the U.S. Dollar is the only functional currency for most of our foreign underwriting operations. Consequently, more foreign currency denominated transactions are designated as non-functional, with related remeasurement gains and losses included in net foreign exchange gains (losses) within net income. However, available-for-sale securities denominated in non-functional currencies are recorded at fair value with resulting gains and losses, including the portion attributable to movements in exchange rates, included in the change in net unrealized gains on available-for-sale investments, net of taxes, within other comprehensive income. As a result, while we attempt to naturally hedge our exposure to foreign currency fluctuations by matching assets and liabilities in currency, there is a financial statement mismatch between the gains or losses recorded in net income related to insurance reserves denominated in non-functional currencies and the gains or losses recorded in other comprehensive income related to the available-for-sale securities supporting the reserves. The change in our functional currency determination has been applied on a prospective basis in accordance with ASC 830. Therefore, any translation gains and losses that were previously recorded in accumulated other comprehensive income remain unchanged through December 31, 2017. See note 1 of the notes to consolidated financial statements for further details. The quarter ended September 30, 2018 included a pre-tax foreign exchange gain of \$1.4 million (\$1.1 million, net of taxes) compared to a pre-tax foreign exchange gain of \$1.8 million for the quarter ended September 30, 2017. The nine months ended September 30, 2018 included a pre-tax foreign exchange gain of \$65.4 million (\$51.6 million, net of taxes) compared to a pre-tax foreign exchange gain of \$2.7 million for the nine months ended September 30, 2017.

Recent Accounting Pronouncements

The FASB issued several accounting standards updates (ASUs) that became effective January 1, 2018.

The adoption of ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and several other ASUs that were issued as amendments to ASU No. 2014-09 did not have a material impact on our consolidated financial position, results of operations or cash flows.

As a result of adopting ASU No. 2016-01, *Financial Instruments (Topic 825): Recognition and Measurement of Financial Assets and Financial Liabilities*, changes in the fair value of equity securities are now recognized in net income rather than other comprehensive income. With this accounting change, we expect more volatility in net income. However, this accounting change does not impact total comprehensive income. On January 1, 2018, cumulative net unrealized gains on equity securities of \$2.6 billion, net of deferred income taxes of \$684.4 million, were reclassified from accumulated other comprehensive income into retained earnings.

As a result of early adopting ASU No. 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, we elected to reclassify tax effects remaining in accumulated other comprehensive income as a result of the Tax Cuts and Jobs Act (TCJA) to retained earnings. Upon enactment of the TCJA, the U.S. corporate tax rate was reduced from 35% to 21% and our U.S. deferred tax balances were remeasured to the lower enacted U.S. corporate tax rate. U.S. GAAP requires the effects of changes in tax rates and laws on deferred tax balances to be recorded as a component of income tax expense in the period of enactment, even if the assets and liabilities relate to items of accumulated other comprehensive income. As a result of adopting the ASU, on January 1, 2018, previously recognized deferred taxes of \$401.5 million were reclassified from accumulated other comprehensive income into retained earnings.

Other ASUs that we expect have the most potential to significantly impact our consolidated financial position, results of operations or cash flows upon adoption and are currently evaluating are as follows:

- ASU No. 2016-02, *Leases (Topic 842)*
- 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 the expected effects on our consolidated financial position, results of operations and cash flows.

Key Performance Indicators

An important measure of our financial success is our ability to grow book value per share at a high rate of return over a long period of time. To mitigate the effects of short-term volatility, we measure ourselves over a five-year period. We believe that growth in book value per share is a comprehensive measure of our success because it includes all underwriting, investing and operating results. We measure underwriting results by our underwriting profit or loss and combined ratio. We measure investing results by our net investment income and net investment gains as well as our taxable equivalent total investment return. We measure Market Ventures' results, by its operating income and net income, as well as earnings before interest, income taxes, depreciation and amortization (EBITDA). These measures are discussed in greater detail under "Results of Operations."

As we have continued to expand and diversify our operations beyond underwriting and investing, we recognize that book value per share does not capture all of the economic value in our business, as a growing portion of our operations are not recorded at fair value or otherwise captured in book value. As a result, we also measure our financial success through the growth in the market price of a share of our stock, or total shareholder return. For the nine months ended September 30, 2018, our share price increased 4%.

Results of Operations

The following table presents the components of net income (loss) to shareholders.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Insurance segment underwriting profit (loss)	\$ 42,453	\$ (159,501)	\$ 219,268	\$ (22,138)
Reinsurance segment underwriting loss	(33,663)	(214,374)	(2,940)	(250,760)
Other underwriting profit (loss)	(2,274)	1,333	(863)	7,287
Net investment income	106,307	104,489	319,710	304,156
Net investment gains (losses) ⁽¹⁾	426,075	(40,007)	408,326	(1,515)
Other revenues	518,244	341,804	1,585,869	980,713
Other expenses	(473,742)	(344,996)	(1,471,215)	(926,385)
Amortization of intangible assets	(27,795)	(18,654)	(86,259)	(53,450)
Interest expense	(37,961)	(31,814)	(114,722)	(97,013)
Foreign exchange gain	1,383	1,772	65,427	2,746
Income tax benefit (expense)	(109,999)	98,913	(299,580)	17,791
Net (income) loss attributable to noncontrolling interests	410	1,894	342	(1,044)
Net income (loss) to shareholders	\$ 409,438	\$ (259,141)	\$ 623,363	\$ (39,612)

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and 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. Prior periods have not been restated to conform to the current presentation. See note 2 of the notes to consolidated financial statements.

The components of net income (loss) to shareholders are discussed in detail under "Underwriting Results," "Investing Results," "Other Revenues and Other Expenses" and "Interest Expense and Income Taxes."

Underwriting Results

Underwriting profits are a key component of our strategy to grow book value per share. 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 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.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Gross premium volume ⁽¹⁾	\$ 1,482,503	\$ 1,328,128	\$ 4,510,837	\$ 4,146,043
Net written premiums	1,216,271	1,097,754	3,731,679	3,495,640
Net retention ⁽¹⁾	82%	83%	83%	84%
Earned premiums	1,185,323	1,099,862	3,484,528	3,116,038
Losses and loss adjustment expenses	736,846	1,075,432	1,951,142	2,210,129
Underwriting, acquisition and insurance expenses	441,961	396,972	1,317,921	1,171,520
Underwriting profit (loss)	6,516	(372,542)	215,465	(265,611)

U.S. GAAP Combined Ratios

Insurance	96%	119%	92%	101%
Reinsurance	115%	183%	100%	135%
Markel Corporation (Consolidated)	99%	134%	94%	108%

(1) Gross premium volume and net retention for the quarter and nine months ended September 30, 2018 exclude \$561.3 million and \$1.6 billion, respectively, of gross written premium attributable to our program services business, substantially all of which was ceded.

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). The underwriting loss on the 2018 Catastrophes was comprised of \$77.8 million of estimated net losses partially offset by \$2.1 million of net assumed reinstatement premiums, or six points and two points on the combined ratio for the quarter and nine months ended September 30, 2018, respectively. The estimated net losses and loss adjustment expenses on the 2018 Catastrophes were net of estimated ceded losses of \$28.6 million. Both the gross and net loss estimates on the 2018 Catastrophes represent our best estimate of losses based upon information currently available. Our estimate for these losses is based on claims received to date and detailed policy level reviews, industry loss estimates, output from both industry and proprietary models as well as a review of in-force contracts. While we believe our reserves for the 2018 Catastrophes as of September 30, 2018 are adequate, we continue to closely monitor 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, 2017 included \$503.0 million of underwriting loss from Hurricanes Harvey, Irma and Maria as well as the earthquakes in Mexico (2017 Catastrophes). The underwriting loss on the 2017 Catastrophes was comprised of \$521.2 million of estimated net losses partially offset by \$18.2 million of net assumed reinstatement premiums, or 46 points and 16 points on the combined ratio for the quarter and nine months ended September 30, 2017, respectively.

The following table summarizes, by segment, the components of the underwriting losses related to the 2018 and 2017 Catastrophes for the quarter and nine months ended September 30, 2018 and 2017, respectively.

<i>(dollars in thousands)</i>	Quarter and Nine Months Ended September 30,					
	2018			2017		
	Insurance	Reinsurance	Consolidated	Insurance	Reinsurance	Consolidated
Losses and loss adjustment expenses	\$ 39,200	\$ 38,622	\$ 77,822	\$ 248,137	\$ 273,073	\$ 521,210
Ceded (assumed) reinstatement premiums	397	(2,500)	(2,103)	12,544	(30,756)	(18,212)
Underwriting loss	\$ 39,597	\$ 36,122	\$ 75,719	\$ 260,681	\$ 242,317	\$ 502,998
Impact on quarter to date combined ratio	4%	16%	6%	31%	95%	46%
Impact on year to date combined ratio	1%	5%	2%	11%	34%	16%

The decrease in the consolidated combined ratio for the quarter and nine months ended September 30, 2018 was primarily attributable to lower catastrophe losses in 2018 compared to 2017. The decrease for the quarter was partially offset by less favorable development on prior years' loss reserves within both of our underwriting segments and a higher expense ratio in our Reinsurance segment.

Insurance Segment

The combined ratio for the Insurance segment was 96% (including four points for the underwriting loss on the 2018 Catastrophes) and 92% (including one point for the underwriting loss on the 2018 Catastrophes) for the quarter and nine months ended September 30, 2018, respectively, compared to 119% (including 31 points for the underwriting loss on the 2017 Catastrophes) and 101% (including 11 points for the underwriting loss on the 2017 Catastrophes) for the same periods of 2017.

For the quarter ended September 30, 2018, the decrease in the combined ratio was driven by lower catastrophe losses in the third quarter of 2018 compared to 2017 and a decrease in the expense ratio, partially offset by less favorable development on prior years' loss reserves.

- The Insurance segment's combined ratio for the quarter ended September 30, 2018 included \$111.1 million of favorable development on prior accident years' loss reserves compared to \$128.4 million for the same period in 2017. Additionally, the benefit of favorable development on the combined ratio was further reduced in 2018 as a result of higher earned premium in 2018 compared to 2017. The decrease in favorable development was primarily due to less favorable development on our professional liability and property product lines, partially offset by more favorable development on our workers' compensation and marine and energy product lines. For the quarter ended September 30, 2018, favorable development was most significant on our general liability and marine and energy product lines across several accident years and on our workers' compensation product lines, primarily on the 2015 to 2017 accident years. The favorable development on prior years' loss reserves in the third quarter of 2017 was most significant on our general liability, professional liability and workers' compensation product lines.
- The expense ratio decreased compared to the prior year, primarily due to the favorable impact of higher earned premiums in the third quarter of 2018 compared to the same period of 2017 and higher acquisition-related expenses in 2017 compared to 2018. These favorable impacts were partially offset by higher profit sharing in the third quarter of 2018 compared to 2017.

For the nine months ended September 30, 2018, the decrease in the combined ratio was driven by lower catastrophe losses and lower attritional losses in 2018 compared to 2017, partially offset by a less favorable prior accident years' loss ratio.

- Excluding the impact of the 2018 and 2017 Catastrophes, the current accident year loss ratio for the nine months ended September 30, 2018 decreased compared to the prior year period primarily due to lower attritional losses across most product lines, partially offset by higher attritional losses on our marine and energy product lines.
- The Insurance segment's combined ratio for the nine months ended September 30, 2018 included \$369.8 million of favorable development on prior accident years' loss reserves compared to \$353.8 million for the same period in 2017. Despite more favorable development on prior years' loss reserves in 2018, the benefit to our prior years' loss ratio was reduced given the impact of higher earned premiums. The increase in favorable development was primarily due to more favorable development on our workers' compensation and marine and energy product lines, partially offset by less favorable development on our professional liability and property product lines in 2018 compared to 2017. The increase in favorable development on the marine and energy product lines was largely attributable to favorable development in 2018 related to the 2017 Catastrophes. For the nine months ended September 30, 2018, favorable development was most significant on our general liability and workers compensation product lines across several accident years, marine and energy product lines, primarily on the 2015 to 2017 accident years and on our professional liability product lines, primarily on the 2016 and 2017 accident years. The favorable development on prior years' loss reserves in 2017 was most significant on our general liability, professional liability, workers' compensation and marine and energy product lines.
- The expense ratio was flat compared to the prior year. The favorable impact from higher earned premiums was offset by an unfavorable impact from our new surety business, which carries a higher expense ratio than other products in the segment, and higher acquisition-related expenses in 2018 compared to 2017.

Reinsurance Segment

The combined ratio for the Reinsurance segment was 115% (including 16 points for the underwriting loss on the 2018 Catastrophes) and 100% (including five points for the underwriting loss on the 2018 Catastrophes) for the quarter and nine months ended September 30, 2018, respectively, compared to 183% (including 95 points for the underwriting loss on the 2017 Catastrophes) and 135% (including 34 points for the underwriting loss on the 2017 Catastrophes) for the same periods of 2017.

For the quarter ended September 30, 2018 the decrease in the combined ratio was driven by lower catastrophe losses in 2018 compared to 2017, partially offset by a higher expense ratio, higher attritional losses and less favorable development on prior years' loss reserves in 2018 compared to 2017.

- Excluding the impact of the 2018 and 2017 Catastrophes, the current accident year loss ratio for the quarter ended September 30, 2018 increased compared to the same period of 2017 due to higher attritional losses, primarily on our whole account product line.
- The Reinsurance segment's combined ratio for the quarter ended September 30, 2018 included \$12.7 million of favorable development on prior accident years' loss reserves compared to \$21.2 million of favorable development in 2017. The decrease in favorable development was primarily due to less favorable development on our property product lines and more adverse development on our general liability product lines, partially offset by more favorable development on our workers' compensation product lines in the third quarter of 2018 compared to the same period of 2017. We also experienced favorable development on our surety product lines in the third quarter of 2018 compared to slightly adverse development in the same period of 2017. Favorable development in 2018 was most significant on our surety product lines, primarily on the 2016 and 2017 accident years, marine and energy product lines, primarily on the 2013 and 2014 accident years and workers' compensation product lines, primarily on the 2013 and 2017 accident years. Favorable development on prior years' loss reserves in 2017 was most significant on our property product lines.
- The expense ratio increased for the quarter ended September 30, 2018 compared to the same period of 2017, primarily due to the impact of lower assumed reinstatement premiums related to catastrophes, resulting in lower earned premiums, in the third quarter of 2018 compared to the third quarter of 2017.

For the nine months ended September 30, 2018 the decrease in the combined ratio was driven by lower catastrophe losses in 2018 compared to 2017 and favorable development on prior accident years' loss reserves, partially offset by a higher expense ratio.

- The Reinsurance segment's combined ratio for the nine months ended September 30, 2018 included \$18.1 million of favorable development on prior accident years' loss reserves compared to \$22.2 million of adverse development in 2017. In 2018, prior years' loss reserves included \$18.4 million of adverse development, or three points on the Reinsurance segment combined ratio, related to the 2017 Catastrophes. In 2017, prior years' loss reserves included \$85.0 million of adverse development, or 12 points on the Reinsurance segment combined ratio, related to the decrease in the discount rate, known as the Ogden Rate, used to calculate lump sum awards in United Kingdom (U.K.) bodily injury cases. We also experienced less favorable development on our whole account product lines in 2018 compared to 2017, adverse development on our property product lines in 2018 compared to favorable development on these lines in 2017 and more adverse development on our general liability product lines in 2018. This unfavorable activity was partially offset by favorable development on our surety product lines in 2018 compared to adverse development in 2017. Favorable development in 2018 was most significant on our surety and marine and energy product lines across several accident years. Favorable development on prior years' loss reserves in 2017 was most significant on our whole account product line and on our property product lines.
- The expense ratio increased for the nine months ended September 30, 2018 compared to the same period of 2017. The impact of lower assumed reinstatement premiums related to catastrophes in 2018 compared to 2017 and higher earned premiums on our quota share business, which carries higher commission rates than other business in the Reinsurance segment, was partially offset by lower profit sharing expenses in 2018 compared to 2017.

Premiums and Net Retentions

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

Gross Premium Volume

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Insurance	\$ 1,248,150	\$ 1,098,237	\$ 3,575,340	\$ 3,120,512
Reinsurance	234,360	230,077	935,498	1,025,716
Other	(7)	(186)	(1)	(185)
Total Underwriting	1,482,503	1,328,128	4,510,837	4,146,043
Other - Program Services	561,268	—	1,577,251	—
Total	\$ 2,043,771	\$ 1,328,128	\$ 6,088,088	\$ 4,146,043

Gross premium volume in our underwriting operations for the quarter and nine months ended September 30, 2018 increased 12% and 9%, respectively, compared to the same periods of 2017. The increase in gross premium volume for the both the quarter and nine months ended September 30, 2018 was attributable to an increase in gross premium volume within our Insurance segment. Also impacting consolidated gross premium volume for the quarter and nine months ended September 30, 2018 was \$561.3 million and \$1.6 billion, respectively, of gross premiums written through our program services business acquired as part of the State National transaction in 2017, which is not included in our underwriting operations. Substantially all gross premiums written in our program services business were ceded to third parties for both the quarter and nine months ended September 30, 2018.

Gross premium volume in our Insurance segment increased 14% and 15% for the quarter and nine months ended September 30, 2018, respectively. The increase in gross premium volume for the both the quarter and nine months ended September 30, 2018 was driven by growth within our general liability, professional liability and personal lines product lines, as well as increased premiums from our new surety and collateral protection businesses which were acquired in 2017.

Gross premium volume in our Reinsurance segment increased 2% for the quarter ended September 30, 2018 and decreased 9% for the nine months ended September 30, 2018 compared to the same periods of 2017. The increase in gross premium volume for the quarter ended September 30, 2018 was driven by higher gross premium volume in our general liability product line resulting from favorable premium adjustments and multi-year contracts, partially offset by the impact of higher assumed reinstatement premiums in 2017 related to the 2017 Catastrophes. The decrease in gross premium volume for the nine months ended September 30, 2018 was driven by a large specialty quota share treaty entered into in the first quarter of 2017 that did not renew in 2018, as well as lower gross premium volume in our property product lines, primarily due to contracts that did not renew. These decreases were partially offset by higher gross premium volume in our credit and surety, professional liability, workers' compensation and general liability product lines. 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 occurred in the third and fourth quarters of 2017, beginning in the first quarter of 2018 and continuing through the third quarter of 2018, we saw more favorable rates, particularly on our catastrophe exposed and loss affected business. We are also seeing more stabilized pricing on our other product lines and continue to see improved pricing in most reinsurance lines of business. Despite stabilization of prices on certain product lines during the last several years, we are also seeing rate decreases on other product lines and still consider the overall property and casualty insurance market to be soft. 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

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
<i>(dollars in thousands)</i>				
Insurance	\$ 1,021,684	\$ 908,296	\$ 2,935,789	\$ 2,596,099
Reinsurance	195,349	189,636	795,136	899,698
Other	(1,318)	(178)	(1,214)	(157)
Total Underwriting	1,215,715	1,097,754	3,729,711	3,495,640
Other - Program Services	556	—	1,968	—
Total	\$ 1,216,271	\$ 1,097,754	\$ 3,731,679	\$ 3,495,640

Net retention of gross premium volume for our underwriting operations for the quarter and nine months ended September 30, 2018 was 82% and 83%, respectively, compared to 83% and 84% for the same periods of 2017. The decrease in net retention for the quarter and nine months ended September 30, 2018 compared to the same periods of 2017 was primarily driven by lower retention on our personal lines business within the Insurance segment. The decrease in net retention for the nine months ended September 30, 2018 compared to the same period of 2017 was also attributable to a decrease in net retention in the Reinsurance segment, primarily driven by higher cessions on our property product lines and a decrease in gross premium volume on our whole account product line which carries a higher retention rate.

Earned Premiums

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Insurance	\$ 961,062	\$ 840,439	\$ 2,782,107	\$ 2,401,477
Reinsurance	225,277	259,601	702,854	714,718
Other	(1,318)	(178)	(1,214)	(157)
Total Underwriting	1,185,021	1,099,862	3,483,747	3,116,038
Other - Program Services	302	—	781	—
Total	\$ 1,185,323	\$ 1,099,862	\$ 3,484,528	\$ 3,116,038

Earned premiums for the quarter and nine months ended September 30, 2018 increased 8% and 12%, respectively, compared to the same periods of 2017. The increase in earned premiums for both the quarter and nine months ended September 30, 2018 was primarily attributable to an increase in earned premiums within our Insurance segment. The increase in earned premiums in our Insurance segment for both periods was primarily due to the increase in gross premium volume as described above. The decrease in earned premiums in our Reinsurance segment for the quarter and nine months ended September 30, 2018 was primarily due to the impact of lower assumed reinstatement premiums related to catastrophes in 2018 compared to 2017.

Investing Results

The following table summarizes our investment performance.

<i>(dollars in thousands)</i>	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net investment income	\$ 106,307	\$ 104,489	\$ 319,710	\$ 304,156
Net investment gains (losses) ⁽¹⁾	\$ 426,075	\$ (40,007)	\$ 408,326	\$ (1,515)
Change in net unrealized investment gains (losses) on available-for-sale securities ⁽¹⁾	\$ (101,666)	\$ 328,768	\$ (383,937)	\$ 836,258
Investment yield ⁽²⁾	0.7%	0.7%	2.0%	1.9%
Taxable equivalent total investment return, before foreign currency effect			2.3%	6.7%
Taxable equivalent total investment return			2.1%	8.1%

⁽¹⁾ Effective January 1, 2018, the Company adopted ASU No. 2016-01 and 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. Prior periods have not been restated to conform to the current presentation. See note 2 of the notes to consolidated financial statements.

⁽²⁾ 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, 2018 compared to the same periods of 2017 was driven by an increase in short-term investment income, primarily due to higher short-term interest rates. We also recognized higher dividend income due to increased equity holdings and dividend rates and higher interest income on our fixed maturity portfolio, primarily due to increased holdings of fixed maturities. See note 4 (d) of the notes to consolidated financial statements for details regarding the components of net investment income.

As a result of adopting ASU No. 2016-01, net investment gains for the quarter and nine months ended September 30, 2018 included an increase in the fair value of equity securities of \$426.6 million and \$417.4 million, respectively.

For the quarter and nine months ended September 30, 2017, the increase in the fair value of equity securities, which totaled \$308.3 million and \$731.7 million, respectively, was included in the change in net unrealized investment gains in other comprehensive income. See note 4 (e) of the notes to consolidated financial statements for details regarding the components of net investment gains and the change in net unrealized gains on investments.

Net realized investment losses for the nine months ended September 30, 2018 included losses of \$41.0 million on our investment in insurance-linked securities funds (ILS Funds). Net realized investment losses for the quarter and nine months ended September 30, 2017 included losses of \$51.6 million and \$39.5 million, respectively, on our investment in the ILS Funds. These losses resulted from decreases in the net asset value of the ILS Funds, which were driven by the impact of losses from Hurricanes Harvey, Irma and Maria on the underlying reinsurance contracts in which the ILS Funds are invested. Net realized investment losses for the quarter and nine months ended September 30, 2017 also included write downs for other-than-temporary declines in the estimated fair value of investments of \$3.4 million and \$7.3 million, respectively, all of which were attributable to equity securities. There were no write downs for other-than-temporary declines in the estimated fair value of investments for the quarter and nine months ended September 30, 2018. We complete 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. At September 30, 2018, we held fixed maturities with gross unrealized losses of \$198.7 million, or less than 1% of invested assets. All available-for-sale securities with unrealized losses were reviewed, and we believe that there were no securities with indications of declines in estimated fair value that were other-than-temporary at September 30, 2018. However, given the volatility in the debt market, we caution readers that further declines in fair value could be significant and may result in additional other-than-temporary impairment charges in future periods. Variability in the timing of realized and unrealized gains and losses is to be expected.

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 (loss), such as coupon interest on fixed maturities, dividends on equity securities and realized investment gains or losses, 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 federal 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 realized and unrealized 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,	
	2018	2017
Investment yield ⁽¹⁾	2.0 %	1.9 %
Adjustment of investment yield from amortized cost to fair value	(0.4)%	(0.4)%
Net amortization of net premium on fixed maturities	0.3 %	0.3 %
Net investment gains (losses) and change in net unrealized investment gains on available-for-sale securities	0.4 %	4.4 %
Taxable equivalent effect for interest and dividends ⁽²⁾	0.1 %	0.3 %
Other ⁽³⁾	(0.3)%	1.6 %
Taxable equivalent total investment return	2.1 %	8.1 %

⁽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.

Other Revenues and Other Expenses

Markel Ventures Segment

Operating revenues and expenses associated with our Markel Ventures segment are included in other revenues and other expenses in the consolidated statements of income (loss) and comprehensive income (loss). We consolidate our Markel Ventures operations 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,	
	2018	2017	2018	2017
Operating revenues	\$ 469,414	\$ 332,850	\$ 1,440,541	\$ 933,485
Operating income	\$ 23,633	\$ 6,616	\$ 60,429	\$ 71,034
EBITDA	\$ 45,804	\$ 23,263	\$ 128,266	\$ 120,555
Net income to shareholders	\$ 20,198	\$ 3,822	\$ 34,374	\$ 37,567

Revenues from our Markel Ventures segment increased \$136.6 million and \$507.1 million for the quarter and nine months ended September 30, 2018 , respectively, compared to the same periods of 2017 . In both periods, the increase in revenues was primarily due to the acquisition of Costa Farms in the third quarter of 2017. The increase in both periods was also attributable to higher sales volumes from certain of our products and services businesses.

Operating income and EBITDA from our Markel Ventures operations increased for the quarter ended September 30, 2018 compared to the same period of 2017 . Operating expenses for the quarter ended September 30, 2017 included \$20.0 million of inventory losses arising from Hurricane Irma, for which the related insurance recoveries were not received or recognized in operating income until the fourth quarter of 2017.

Operating income decreased for the nine months ended September 30, 2018 compared to the same period of 2017 primarily due to \$33.5 million in expense related to an investigation and remediation associated with the manufacture of products at one of our businesses and an impairment charge of \$14.9 million related to intangible assets at this reporting unit. Operating expenses for the nine months ended September 30, 2017 included inventory losses arising from Hurricane Irma as described above.

Markel Ventures EBITDA increased for the nine months ended September 30, 2018 compared to the same period of 2017 primarily due to the contribution of EBITDA attributable to Costa Farms in 2018 and the impact of inventory losses arising from Hurricane Irma in 2017. These increases were partially offset by the investigation and remediation expense and the impairment charge in 2018 related to one of our products businesses as described above.

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 revenues and net income, 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 and 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,	
	2018	2017	2018	2017
Markel Ventures operating income	23,633	6,616	60,429	71,034
Depreciation expense	13,032	9,730	38,505	28,744
Amortization of intangible assets	9,139	6,917	29,332	20,777
Markel Ventures EBITDA - Total	\$ 45,804	\$ 23,263	\$ 128,266	\$ 120,555
Markel Ventures EBITDA - Products	\$ 29,044	\$ 8,842	\$ 76,381	\$ 70,814
Markel Ventures EBITDA - Services	16,760	14,421	51,885	49,741
Markel Ventures EBITDA - Total	\$ 45,804	\$ 23,263	\$ 128,266	\$ 120,555

Net income to shareholders from our Markel Ventures operations increased for the quarter ended September 30, 2018 compared to the same period of 2017 . Higher operating income and a favorable impact from the decrease in the U.S. tax rate from 35% to 21% attributable to the TCJA were partially offset by higher interest expense. Net income to shareholders decreased slightly for the nine months ended September 30, 2018 compared to the same periods of 2017 . Lower operating income and higher interest expense were largely offset by a favorable impact from the decrease in the U.S. tax rate.

Interest Expense and Income Taxes

Interest Expense

Interest expense was \$38.0 million and \$114.7 million for the quarter and nine months ended September 30, 2018, respectively, compared to \$31.8 million and \$97.0 million for the same periods of 2017. The increase in interest expense for both periods was primarily due to interest associated with our 4.30% unsecured senior notes and our 3.50% unsecured senior notes issued in the fourth quarter of 2017. For the nine months ended September 30, 2018, the increase was partially offset by the repayment of our 7.20% unsecured notes in the second quarter of 2017.

Income Taxes

The effective tax rate was 32% for both the nine months ended September 30, 2018 and 2017. The effective tax rate for the nine months ended September 30, 2018 reflects the impact of a change in tax status related to certain of our U.K. based operations. During the first quarter of 2018, after further evaluating opportunities provided by the TCJA, we decided to make the election to have two of our most significant U.K. subsidiaries treated as domestic corporations for U.S. tax purposes, which will enable us to manage our global capital in a more tax efficient manner. As a result, we no longer consider earnings and profits from those subsidiaries to be indefinitely reinvested and for the nine months ended September 30, 2018 we recorded a \$102.0 million provision for deferred U.S. income taxes on the book and tax basis differences attributable to those subsidiaries. We continue to be indefinitely reinvested in our other foreign subsidiaries, with the exception of certain Bermuda-based 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, 2018 and 2017.

	Nine Months Ended September 30,	
	2018	2017
Effective tax rate	32 %	32 %
Impact of election to tax U.K. subsidiaries as U.S. taxpayers on effective tax rate	(11)	—
Impact of other discrete items on effective tax rate	(1)	(4)
Estimated annual effective tax rate	20 %	28 %

For the nine months ended September 30, 2018, the estimated annual effective tax rate was 20%. This differs from the U.S. statutory tax rate of 21% primarily as a result of tax-exempt investment income. For the nine months ended September 30, 2017, the estimated annual effective tax rate of 28% differs from the U.S. statutory tax rate of 35% primarily as a result of tax-exempt investment income. The decrease in the estimated annual effective tax rate for the nine months ended September 30, 2018 compared to the same period of 2017 was primarily attributable to the decrease in the U.S. corporate tax rate from 35% to 21% resulting from the TCJA, partially offset by the impact of having higher pre-tax income for the nine months ended September 30, 2018, which reduced the net favorable impact of certain tax adjustments.

Comprehensive Income (Loss) to Shareholders

Comprehensive income to shareholders was \$315.1 million and \$304.6 million for the quarter and nine months ended September 30, 2018, respectively. The Company had comprehensive loss to shareholders of \$19.9 million for the quarter ended September 30, 2017 and comprehensive income to shareholders of \$545.7 million for the nine months ended September 30, 2017.

Comprehensive income to shareholders for the quarter ended September 30, 2018 included net income to shareholders of \$409.4 million and an increase in net unrealized losses on available-for-sale investments, net of taxes, of \$80.4 million. Comprehensive loss to shareholders for the quarter ended September 30, 2017 included net loss to shareholders of \$259.1 million and an increase in net unrealized gains on investments, net of taxes, of \$222.2 million.

Comprehensive income to shareholders for the nine months ended September 30, 2018 included net income to shareholders of \$623.4 million and an increase in net unrealized losses on available-for-sale investments, net of taxes, of \$300.6 million. Comprehensive income to shareholders for the nine months ended September 30, 2017 included an increase in net unrealized gains on investments, net of taxes, of \$563.2 million and net loss to shareholders of \$39.6 million.

Effective January 1, 2018, the Company adopted ASU No. 2016-01 and equity securities are no longer classified as available-for-sale with unrealized gains and losses recognized in other comprehensive income. Rather, all changes in fair value of equity securities are now recognized in net income. For the quarter and nine months ended September 30, 2018, the change in fair value of equity securities included in net income was a gain of \$426.6 million and \$417.4 million, respectively, compared to gains of \$308.3 million and \$731.7 million for the quarter and nine months ended September 30, 2017, respectively, included in other comprehensive income. This change in presentation has no impact on comprehensive income to shareholders.

Financial Condition

Investments, cash and cash equivalents and restricted cash and cash equivalents (invested assets) were \$21.0 billion at September 30, 2018 compared to \$20.6 billion at December 31, 2017. Net unrealized gains on investments were \$3.7 billion at both September 30, 2018 and December 31, 2017. Equity securities were \$6.5 billion, or 31% of invested assets, at September 30, 2018, compared to \$6.0 billion, or 29% of invested assets, at December 31, 2017.

Net cash provided by operating activities was \$763.2 million for the nine months ended September 30, 2018 compared to \$598.7 million for the same period of 2017. Net cash flows from operating activities for the nine months ended September 30, 2018 reflected higher net premium collections in both of our underwriting segments, lower payments for employee profit sharing and lower income tax payments compared to the same period of 2017. Also reflected in net cash provided by operating activities for 2018 was higher claims settlement activity in both of our underwriting segments, due in part to the 2017 Catastrophes. Net cash provided by operating activities for the nine months ended September 30, 2018 was net of a \$29.9 million cash payment made in connection with the termination of a contractual arrangement with a reinsurer during the period. Net cash provided by operating activities for the nine months ended September 30, 2017 was net of a \$45.8 million cash payment made in connection with a commutation that was completed during the period.

Net cash used by investing activities was \$453.2 million for the nine months ended September 30, 2018 compared to \$94.2 million for the same period of 2017. During the first nine months of 2018 we were a net purchaser of equity securities and fixed maturities. During the first nine months of 2017, a greater number of securities matured, were called or were sold than purchased. Cash flows from investing activities are affected by various factors such as anticipated payment of claims, financing activity, acquisition opportunities, the timing of maturities of fixed maturities and individual buy and sell decisions made in the normal course of our investment portfolio management.

Net cash used by financing activities was \$171.8 million for the nine months ended September 30, 2018 compared to \$299.3 million for the same period of 2017. In January 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 discussed in note 11 of the notes to consolidated financial statements. During the first nine months of 2018, we also repaid \$44.5 million of debt assumed in connection with the acquisition of State National. During the first nine months of 2017, we used cash of \$90.6 million to repay the remaining outstanding balance of our 7.20% unsecured senior notes. Cash of \$30.8 million and \$84.4 million was used to repurchase shares of our common stock during the first nine months of 2018 and 2017, respectively.

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 23% at September 30, 2018 and 25% at December 31, 2017.

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.

In August 2018, we entered into a definitive agreement to acquire all of the outstanding shares of Nephila Holdings Limited (Nephila), a Bermuda-based investment manager offering a broad range of investment products, including insurance-linked securities, catastrophe bonds, insurance swaps and weather derivatives. Total consideration for this acquisition is estimated to be \$975.0 million, all of which is expected to be paid in cash. The transaction remains subject to customary closing conditions and is expected to close in the fourth quarter of 2018.

In October 2018, we acquired 90% of Brahmin Leather Works (Brahmin), a Massachusetts-based privately held creator of fashion leather handbags. Total consideration for the acquisition of Brahmin included cash consideration of \$173.3 million.

Our holding company had \$3.1 billion and \$2.7 billion of invested assets at September 30, 2018 and December 31, 2017 , respectively. The increase in invested assets is primarily due to dividends received from our subsidiaries, partially offset by interest payments associated with our unsecured senior notes and loans and capital contributions made to our subsidiaries.

Shareholders' equity increased to \$9.8 billion at September 30, 2018 from \$9.5 billion at December 31, 2017 . Book value per share increased to \$704.70 at September 30, 2018 from \$683.55 at December 31, 2017 , primarily due to \$304.6 million of comprehensive income to shareholders for the nine months ended September 30, 2018 .

Brexit Developments

On June 23, 2016, the U.K. voted to exit the European Union (E.U.) (Brexit), and on March 29, 2017, the U.K. government delivered formal notice to the other E.U. member states that it is leaving the E.U. A two-year period then commenced during which the U.K. and the E.U. are 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. Unless this period is extended, the U.K. will automatically exit the E.U., with or without an agreement in place, after two years on March 29, 2019. During this period the U.K. remains a part of the E.U. If Brexit terms are agreed and ratified, Brexit could be implemented in stages over a multi-year transitional period. No member state has left the E.U., and the rules for exit (contained in Article 50 of the Treaty on European Union) are brief. The U.K. and the E.U. have agreed to certain Brexit terms, including the financial settlement to be paid by the U.K. upon leaving the E.U. and a transitional period that would last until December 31, 2020 and provide the U.K. and the E.U. additional time to prepare for the post-Brexit period. However, the U.K. and the E.U. still must agree on the terms of the future relationship between the U.K. and the E.U., including matters such as trade, travel and security, and all Brexit terms must be ratified by the U.K. Parliament and the legislative bodies of the remaining 27 E.U. member states.

Accordingly, there are significant uncertainties related to the political, monetary and economic impacts of Brexit, including related tax, accounting and financial reporting implications. Brexit could also lead to legal uncertainty and potentially a large number of new and divergent national laws and regulations, including new tax rules, as the U.K. determines which E.U. laws to replace or replicate.

The effects of Brexit will depend in part on agreements, if any, the U.K. makes to retain access to E.U. markets either during a transitional period or more permanently. 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. member states from our U.K. offices and MIICL's ability to maintain its current branches in E.U. member states and in Switzerland.

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 is also establishing branches in Ireland, the Netherlands, Spain, Switzerland and the U.K. However, the regulatory regime for the MISE branch in the U.K. is uncertain and may impact our Brexit mitigation plans. 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.

MIICL intends to transfer its legacy EEA exposures, claims and policies to MISE to provide certainty for MIICL's policyholders if MIICL were to be prevented from paying claims and administering policies post Brexit. However, this transfer must be approved by the U.K. High Court, and there is no certainty that this approval will be granted or on what terms and conditions.

Disclosure of Certain Activities Relating to Iran

Under the Iran Threat Reduction and Syria Human Rights Act of 2012, non-U.S. entities owned or controlled by U.S. persons have been prohibited from engaging in activities, transactions or dealings with Iran to the same extent as U.S. persons. Effective January 16, 2016, the Office of Foreign Assets Control of the U.S. Department of the Treasury (OFAC) issued General License H, which authorized non-U.S. entities that are owned or controlled by a U.S. person to engage in most activities with Iran permitted for other non-U.S. entities so long as they met certain requirements.

On May 8, 2018, President Trump announced that the United States would no longer participate in the Joint Comprehensive Plan of Action, which was intended to ensure that Iran's nuclear program remains peaceful. As a result, all previously suspended sanctions will "snap back" into effect. On June 27, 2018, OFAC revoked General License H and, at the same time, issued a license authorizing, through November 4, 2018, foreign entities owned or controlled by a U.S. person to engage in "all transactions and activities that are ordinarily incident and necessary to the wind-down" of transactions previously authorized under General License H (the Wind-Down License).

Section 13(r) of the Securities Exchange Act of 1934 requires reporting of certain Iran-related activities, including underwriting, insuring and reinsuring certain activities previously permitted under General License H related to the importation of refined petroleum products by Iran and vessels involved in the transportation of crude oil from Iran.

Certain of our non-U.S. insurance operations underwrite global marine hull policies and global marine hull war policies that provide coverage for vessels or fleets navigating into and out of ports worldwide, potentially including Iran under policies entered into before May 8, 2018. Under a global marine hull war policy, the insured is required to give notice before entering designated areas, including Iran. During the quarter ended September 30, 2018, we received notice that one or more vessels covered by a global marine hull war policy were entering Iranian waters. However, no additional premium is required under global marine hull policies or global marine hull war policies for calling into Iran. During the quarter ended September 30, 2018, we were not asked to cover a specific voyage into or out of Iran that would result in a separate, allocable premium for that voyage.

Certain of our non-U.S. reinsurance operations underwrite marine, energy, aviation and trade credit liability treaties on a worldwide basis and, as a result, it is possible that the underlying insurance portfolios may have exposure to the Iranian petroleum industry and its related products and service providers under reinsurance treaties entered into before May 8, 2018.

Prior to May 8, 2018, we entered into two energy construction reinsurance contracts in Iran, two Iran-related marine liability contracts, two Iran-related marine cargo contracts and one Iran-related hull war contract. These contracts were underwritten through our syndicate at Lloyd's and one of our non-U.S. insurance companies. Our portion of the annual premium for these contracts was approximately \$1 million in the aggregate. Except for these contracts, we are not aware of any premium apportionment with respect to underwriting, insurance or reinsurance activities of our non-U.S. insurance subsidiaries reportable under Section 13(r). Should any such risks have entered into the stream of commerce covered by the insurance portfolios underlying our reinsurance treaties, we believe that the premiums associated with such business were immaterial.

Since May 8, 2018, our non-U.S. subsidiaries, including our non-U.S. insurance subsidiaries, have not entered into any new transactions that had previously been permitted under General License H. With respect to activities, transactions or dealings with Iran, our non-U.S. subsidiaries are now engaging only in "transactions and activities that are ordinarily incident and necessary to the wind-down" of transactions previously authorized under General License H in the manner permitted under, and in accordance with, the Wind-Down License or other applicable economic or trade sanctions requirements or licenses.

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. Various companies within our Market Ventures operations are subject to commodity price risk; however, this risk is not material to the Company.

We have foreign currency exchange rate risk associated with certain of our assets and liabilities. We manage this risk primarily by matching assets and liabilities in each foreign currency as closely as possible. However, the carrying value of non-monetary assets and liabilities, such as goodwill and intangible assets, of certain foreign operations is not matched or hedged. As of September 30, 2018 and December 31, 2017, the carrying value of goodwill and intangible assets related to these foreign operations was \$134.5 million and \$225.9 million, respectively. The decrease is due to the reassessment of our functional currency determination as of January 1, 2018, resulting in the U.S. Dollar being the only functional currency for most of our foreign underwriting operations. Consequently, goodwill and intangible assets of certain foreign operations denominated in a currency other than the U.S. Dollar are now remeasured into the U.S. Dollar at historic exchange rates and are no longer impacted by changes in foreign currency exchange rates.

During the nine months ended September 30, 2018, there were no other material changes to the market risk components described in our Annual Report on Form 10-K for the year ended December 31, 2017.

The estimated fair value of our investment portfolio at September 30, 2018 was \$21.0 billion, 69% of which was invested in fixed maturities, short-term investments, cash and cash equivalents and restricted cash and cash equivalents and 31% of which was invested in equity securities. At December 31, 2017, the estimated fair value of our investment portfolio was \$20.6 billion, 71% of which was invested in fixed maturities, short-term investments, cash and cash equivalents and restricted cash and cash equivalents and 29% 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, 2018, 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, 2018, there were no material changes in our foreign government fixed maturity holdings.

General concern also 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 2018 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 "Risk Factors" and "Safe Harbor and Cautionary Statement" in our 2017 Annual Report on Form 10-K or are included in the items listed below:

- our expectations about future results of our underwriting, investing 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 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;
- 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;
- 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;
- 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;
- the failure or inadequacy of any loss limitation methods we employ;
- 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 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 of the repeal, in part or in whole, or modification of U.S. health care reform legislation and regulations;
- changes in U.S. tax laws or in the tax laws of other jurisdictions in which we operate and adjustments we may make in our operations in response to those changes;
- a failure of our enterprise systems, or those of 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 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 vote by the United Kingdom to leave the European Union, which could have adverse consequences for our businesses, particularly our London-based international insurance operations;
- our ability to 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 ever increasing 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 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;
- 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;
- the political, legal, regulatory, financial, tax and general economic impacts, and others we cannot anticipate, of Brexit; 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. 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

Thomas Yeransian v. Markel Corporation (U.S. District Court for the District of Delaware)

In October 2010, we completed our 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 alleging, among other things, that we are in default under the CVR agreement. The holder representative seeks: \$47.3 million in damages, which represents the unadjusted value of the CVRs; plus interest (\$13.4 million through September 30, 2018) and default interest (up to an additional \$11.5 million through September 30, 2018 , 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. Mr. Yeransian has filed a motion requesting that the court reconsider that order.

On September 20, 2018, a new judge was assigned to the case. On October 12, 2018, the court denied both Yeransian's motion to reconsider the order staying the litigation and compelling arbitration and a motion by the Company for sanctions against Yeransian for violating the confidentiality of mediation proceedings. Two motions are pending before the court: the Company's motion to dismiss the case for Yeransian's violation of the order staying the litigation and compelling arbitration; and Yeransian's motion for judgment that the Company has waived its right to require Yeransian's participation in the arbitration.

We believe the holder representative's suit to be without merit and will vigorously defend against it. We further believe that any material loss resulting from the holder representative's suit to be remote. We do not believe the contractual contingent consideration payments related to the CVRs will have a material impact on our liquidity.

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, 2018.

Period	Issuer Purchases of Equity Securities			
	(a)	(b)	(c)	(d)
	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ⁽¹⁾	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in thousands)
July 1, 2018 through July 31, 2018	3,795	\$ 1,125.11	3,795	\$ 290,213
August 1, 2018 through August 31, 2018	330	\$ 1,153.99	330	\$ 289,832
September 1, 2018 through September 30, 2018	—	\$ —	—	289,832
Total	4,125	\$ 1,127.42	4,125	\$ 289,832

⁽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 May 14, 2018 (the Program). Under the 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 Program has no expiration date but may be terminated by the Board of Directors at any time.

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 3.1(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 Fifth Supplemental Indenture dated as of September 22, 2009 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 21, 2009)
4.4	Form of Sixth Supplemental Indenture dated as of June 1, 2011 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 31, 2011)
4.5	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)
4.6	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)
4.7	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)
4.8	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)
4.9	Form of 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)
4.10	Form of 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)
4.11	Indenture dated as of September 1, 2010, among Alterra Finance LLC, Alterra Capital Holdings Limited and The Bank of New York Mellon, as Trustee (incorporated by reference from Exhibit 4.14 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2013)
4.12	First Supplemental Indenture, dated as of September 27, 2010 between Alterra Finance LLC, Alterra Capital Holdings Limited and The Bank of New York Mellon, as Trustee, including the form of the securities as Exhibit A (incorporated by reference from Exhibit 4.15 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2013)
4.13	Form of Second Supplemental Indenture dated as of June 30, 2014 among Alterra Finance LLC, Alterra Capital Holdings Limited and the Bank of New York Mellon, as Trustee (incorporated by reference from Exhibit 4.16 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2014)

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4.14	Form of Guaranty Agreement by Markel Corporation dated as of June 30, 2014 in connection with the Alterra Finance LLC 6.25% Senior Notes due 2020 (incorporated by reference from Exhibit 4.17 in the Registrant's report on Form 10-Q filed with the Commission for the quarter ended June 30, 2014)
10.1	Amended and Restated Form of Executive Employment Agreement (incorporated by reference from Exhibit 10.1 in the Registrant's report on Form 8-K filed with the Commission August 21, 2018)*
10.2	Amended and Restated Executive Employment Agreement, dated as of August 15, 2018, between Markel Corporation and Thomas S. Gayner (incorporated by reference from Exhibit 10.2 in the Registrant's report on Form 8-K filed with the Commission August 21, 2018)*
10.3	Amended and Restated Executive Employment Agreement, dated as of August 15, 2018, between Markel Corporation and Richard R. Whitt, III (incorporated by reference from Exhibit 10.3 in the Registrant's report on Form 8-K filed with the Commission August 21, 2018)*
10.4	Executive Employment Agreement, dated as of August 15, 2018, between Markel Corporation and Jeremy A. Noble (incorporated by reference from Exhibit 10.4 in the Registrant's report on Form 8-K filed with the Commission August 21, 2018)*

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.

31.1	Certification of Co-Principal Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a)**
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, 2018, filed on October 30, 2018, formatted in XBRL: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Income (Loss) and Comprehensive Income (Loss), (iii) Consolidated Statements of Changes in Equity, (iv) Condensed Consolidated Statements of Cash Flows and (v) Notes to Consolidated Financial Statements.**
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* 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 30th day of October 2018 .

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)

**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 30, 2018

/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 30, 2018

/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 30, 2018

/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, 2018 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 30, 2018

**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, 2018 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 30, 2018

**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, 2018 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 30, 2018