

HANOVER INSURANCE GROUP, INC.
Form 10-Q
August 03, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 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 1-13754

THE HANOVER INSURANCE GROUP, INC.

(Exact name of registrant as specified in its charter)

Delaware 04-3263626
(State or other jurisdiction of (I.R.S. Employer

incorporation or organization) Identification No.)

440 Lincoln Street, Worcester, Massachusetts 01653

(Address of principal executive offices) (Zip Code)

(508) 855-1000

(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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company) 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

The number of shares outstanding of the registrant's common stock was 42,535,767 as of July 31, 2018.

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PART I - FINANCIAL INFORMATION

ITEM 1 - FINANCIAL STATEMENTS

THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF INCOME (UNAUDITED)

(In millions, except per share data)	Three Months		Six Months Ended	
	Ended June 30, 2018	2017	June 30, 2018	2017
Revenues				
Premiums	\$1,272.9	\$1,181.2	\$2,536.5	\$2,362.5
Net investment income	78.7	72.3	161.6	143.4
Net realized and unrealized investment gains (losses):				
Net realized gains (losses) from sales and other	(0.4)	7.7	(0.1)	11.0
Net change in fair value of equity securities	6.0	—	(17.0)	—
Net other-than-temporary impairment losses on investments recognized in earnings	(1.9)	(1.8)	(2.6)	(3.2)
Total net realized and unrealized investment gains (losses)	3.7	5.9	(19.7)	7.8
Fees and other income	7.5	6.7	15.3	13.3
Total revenues	1,362.8	1,266.1	2,693.7	2,527.0
Losses and expenses				
Losses and loss adjustment expenses	783.6	725.0	1,569.4	1,491.5
Amortization of deferred acquisition costs	288.9	264.6	576.9	531.0
Interest expense	11.6	12.2	24.0	24.2
Other operating expenses	158.8	153.3	322.9	310.3
Total losses and expenses	1,242.9	1,155.1	2,493.2	2,357.0
Income before income taxes	119.9	111.0	200.5	170.0
Income tax expense (benefit):				
Current	17.3	4.9	37.5	38.8
Deferred	3.4	27.7	(4.0)	7.6
Total income tax expense	20.7	32.6	33.5	46.4
Income from continuing operations	99.2	78.4	167.0	123.6
Net gain from discontinued operations (net of tax benefit of \$0.1 for the six months ended June 30, 2018)	0.1	—	—	—
Net income	\$99.3	\$78.4	\$167.0	\$123.6
Earnings per common share:				
Basic:				
Income from continuing operations	\$2.33	\$1.85	\$3.93	\$2.91

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Net gain from discontinued operations	0.01	—	—	—
Net income per share	\$2.34	\$1.85	\$3.93	\$2.91
Weighted average shares outstanding	42.5	42.5	42.5	42.5
Diluted:				
Income from continuing operations	\$2.30	\$1.83	\$3.88	\$2.88
Net gain from discontinued operations	0.01	—	—	—
Net income per share	\$2.31	\$1.83	\$3.88	\$2.88
Weighted average shares outstanding	43.1	42.8	43.1	42.9

The accompanying notes are an integral part of these interim consolidated financial statements.

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THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (UNAUDITED)

(In millions)	Three Months		Six Months	
	Ended June 30, 2018	2017	Ended June 30, 2018	2017
Net income	\$99.3	\$78.4	\$167.0	\$123.6
Other comprehensive income (loss), net of tax:				
Available-for-sale securities:				
Net (depreciation) appreciation during the period	(49.0)	19.4	(172.9)	38.3
Change in other-than-temporary impairment losses				
recognized in other comprehensive income (loss)	(0.1)	0.4	0.3	0.5
Total available-for-sale securities	(49.1)	19.8	(172.6)	38.8
Pension and postretirement benefits:				
Net change in net actuarial loss and prior service cost	0.9	2.4	(1.4)	4.7
Cumulative foreign currency translation adjustment:				
Amount recognized as cumulative foreign currency				
translation during the period	(0.5)	(4.5)	(1.0)	0.6
Total other comprehensive (loss) income, net of tax	(48.7)	17.7	(175.0)	44.1
Comprehensive income (loss)	\$50.6	\$96.1	\$(8.0)	\$167.7

The accompanying notes are an integral part of these interim consolidated financial statements.

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THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS (UNAUDITED)

(In millions, except share data)	June 30, 2018	December 31, 2017
Assets		
Investments:		
Fixed maturities, at fair value (amortized cost of \$7,847.8 and \$7,688.8)	\$7,729.9	\$7,779.7
Equity securities, at fair value	554.0	576.5
Other investments	736.8	685.5
Total investments	9,020.7	9,041.7
Cash and cash equivalents	244.9	376.4
Accrued investment income	62.7	62.7
Premiums and accounts receivable, net	1,773.4	1,567.6
Reinsurance recoverable on paid and unpaid losses and unearned premiums	2,832.3	3,057.0
Deferred acquisition costs	564.5	550.2
Deferred income taxes	71.2	29.2
Goodwill	192.1	192.6
Other assets	539.2	504.2
Assets of discontinued operations	102.6	88.0
Total assets	\$15,403.6	\$15,469.6
Liabilities		
Loss and loss adjustment expense reserves	\$7,506.4	\$7,745.0
Unearned premiums	2,958.5	2,763.6
Expenses and taxes payable	643.3	716.2
Reinsurance premiums payable	452.9	344.8
Debt	787.1	786.9
Liabilities of discontinued operations	115.6	115.4
Total liabilities	\$12,463.8	12,471.9
Commitments and contingencies		
Shareholders' Equity		
Preferred stock, par value \$0.01 per share; 20.0 million shares authorized; none issued	—	—
Common stock, par value \$0.01 per share; 300.0 million shares authorized;		
60.5 million shares issued	0.6	0.6
Additional paid-in capital	1,864.2	1,857.0
Accumulated other comprehensive income (loss)	(169.1)	107.6
Retained earnings	2,200.4	1,975.0
Treasury stock at cost (18.0 million shares)	(956.3)	(942.5)
Total shareholders' equity	2,939.8	2,997.7
Total liabilities and shareholders' equity	\$15,403.6	\$15,469.6

The accompanying notes are an integral part of these interim consolidated financial statements.

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THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (UNAUDITED)

(In millions)	Six Months Ended	
	June 30, 2018	2017
Preferred Stock		
Balance at beginning and end of period	\$—	\$—
Common Stock		
Balance at beginning and end of period	0.6	0.6
Additional Paid-in Capital		
Balance at beginning of period	1,857.0	1,846.7
Employee and director stock-based awards and other	7.2	5.3
Balance at end of period	1,864.2	1,852.0
Accumulated Other Comprehensive Income (Loss), net of tax		
Net Unrealized Appreciation (Depreciation) on Investments:		
Balance at beginning of period	205.4	186.0
Net appreciation (depreciation) on available-for-sale securities	(172.6)	38.8
Adoption of Accounting Standards Update 2016-01 and 2018-02	(81.6)	—
Balance at end of period	(48.8)	224.8
Defined Benefit Pension and Postretirement Plans:		
Balance at beginning of period	(79.5)	(102.5)
Net change in net actuarial loss and prior service cost	(1.4)	4.7
Adoption of Accounting Standards Update 2018-02	(16.2)	—
Balance at end of period	(97.1)	(97.8)
Cumulative Foreign Currency Translation Adjustment:		
Balance at beginning of period	(18.3)	(20.7)
Amount recognized as cumulative foreign currency translation during the period	(1.0)	0.6
Adoption of Accounting Standards Update 2018-02	(3.9)	—
Balance at end of period	(23.2)	(20.1)
Total accumulated other comprehensive income (loss)	(169.1)	106.9
Retained Earnings		
Balance at beginning of period	1,975.0	1,875.6
Cumulative effect of accounting change, net of taxes	104.3	—
Balance at beginning of period, as adjusted	2,079.3	1,875.6
Net income	167.0	123.6
Dividends to shareholders	(45.9)	(42.6)
Balance at end of period	2,200.4	1,956.6
Treasury Stock		
Balance at beginning of period	(942.5)	(928.2)
Shares purchased at cost	(25.3)	(28.0)
Net shares reissued at cost under employee stock-based compensation plans	11.5	12.6
Balance at end of period	(956.3)	(943.6)
Total shareholders' equity	\$2,939.8	\$2,972.5

The accompanying notes are an integral part of these interim consolidated financial statements.

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THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

(In millions)	Six Months Ended June 30, 2018	2017
Cash Flows From Operating Activities		
Net income	\$ 167.0	\$ 123.6
Adjustments to reconcile net income to net cash provided by operating activities:		
Net realized and unrealized investment losses (gains)	19.4	(7.8)
Net amortization and depreciation	14.1	15.4
Stock-based compensation expense	7.6	7.3
Amortization of defined benefit plan costs	4.8	7.0
Deferred income tax (benefit) expense	(4.0)	7.6
Change in deferred acquisition costs	(14.3)	(29.6)
Change in premiums receivable, net of reinsurance premiums payable	(100.6)	(73.8)
Change in loss, loss adjustment expense and unearned premium reserves	249.3	384.7
Change in reinsurance recoverable	(53.3)	(72.7)
Change in expenses and taxes payable	(62.4)	(74.1)
Other, net	(48.1)	(37.8)
Net cash provided by operating activities	179.5	249.8

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Cash Flows From Investing Activities		
Proceeds from disposals and maturities of fixed maturities	637.8	578.8
Proceeds from disposals of equity securities and other investments	51.2	65.8
Purchase of fixed maturities	(822.6)	(668.4)
Purchase of equity securities and other investments	(92.8)	(113.5)
Capital expenditures	(7.8)	(8.6)
Net cash used in investing activities	(234.2)	(145.9)
Cash Flows From Financing Activities		
Proceeds from exercise of employee stock options	11.1	10.3
Change in cash collateral related to securities lending program	(12.7)	(3.4)
Dividends paid to shareholders	(45.9)	(42.6)
Repurchases of common stock	(25.3)	(28.0)
Other financing activities	(3.2)	(2.8)
Net cash used in financing activities	(76.0)	(66.5)
Effect of exchange rate changes on cash	(0.8)	1.6
Net change in cash and cash equivalents	(131.5)	39.0
Net change in cash related to discontinued operations	-	(3.8)
Cash and cash equivalents, beginning of period	376.4	282.6
Cash and cash equivalents, end of period	\$ 244.9	\$ 317.8

The accompanying notes are an integral part of these interim consolidated financial statements.

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THE HANOVER INSURANCE GROUP, INC. AND SUBSIDIARIES

NOTES TO INTERIM CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. Basis of Presentation and Principles of Consolidation

The accompanying unaudited consolidated financial statements of The Hanover Insurance Group, Inc. and subsidiaries (“THG” or the “Company”) have been prepared in accordance with generally accepted accounting principles in the United States of America (“U.S. GAAP”) for interim financial information and with the requirements of Form 10-Q. Certain financial information that is provided in annual financial statements, but is not required in interim reports, has been omitted.

The interim consolidated financial statements of THG include the accounts of The Hanover Insurance Company (“Hanover Insurance”) and Citizens Insurance Company of America, THG’s principal U.S.-domiciled property and casualty companies; Chaucer Holdings Limited (“Chaucer”), a specialist insurance underwriting group which operates through the Society and Corporation of Lloyd’s (“Lloyd’s”) and certain other insurance and non-insurance subsidiaries. These legal entities conduct their operations through several business segments discussed in Note 8 – “Segment Information”. Additionally, the interim consolidated financial statements include the Company’s discontinued operations, consisting primarily of the Company’s accident and health and former life insurance businesses. All intercompany accounts and transactions have been eliminated.

The preparation of financial statements in conformity with U.S. GAAP requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Actual results could differ from those estimates. In the first quarter, the effect of the adoption of new accounting standards ASC Update No. 2016-01 and ASC Update No. 2018-02 was incorrectly reflected in the presentation of other comprehensive income. The presentation of the adoption has been revised to only be presented in the Statement of Shareholders' Equity for the six months ended June 30, 2018. The revision decreased the Company's previously reported three months ended March 31, 2018 total other comprehensive loss, net of tax of \$228.0 million and comprehensive loss of \$160.3 million, by \$101.7 million. The six months ended June 30, 2018 total other comprehensive loss, net of tax and comprehensive loss, reflecting the correction to the prior quarter, are \$175.0 million and \$8.0 million, respectively. The Company evaluated the significance of this item and concluded that it was not material to its previously issued interim financial statements. The associated corrections are reflected in this Form 10-Q report for all periods presented and will be reflected in the Company's future filings.

In the opinion of the Company’s management, the accompanying interim consolidated financial statements reflect all adjustments, consisting of normal recurring items, necessary for a fair presentation of the financial position and results of operations. The results of operations for the three and six months ended June 30, 2018 are not necessarily indicative of the results to be expected for the full year. These financial statements should be read in conjunction with the Company’s 2017 Annual Report on Form 10-K filed with the Securities and Exchange Commission (“SEC”) on February 27, 2018.

2. New Accounting Pronouncements

Recently Implemented Standards

In February 2018, the Financial Accounting Standards Board (“FASB”) issued ASC Update No. 2018-02 (Topic 220) Income Statement – Reporting Comprehensive Income: Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income. This ASC update allows for a reclassification into retained earnings of the stranded tax effects in accumulated other comprehensive income (“AOCI”) resulting from the enactment of the Tax Cuts and Jobs Act (“TCJA”). Current guidance requires the effect of a change in tax laws or rates on deferred tax balances to be reported in income from continuing operations in the accounting period that includes the period of enactment, even if the related income tax effects were originally charged or credited directly to AOCI. The amount of the reclassification would include the effect of the change in the U.S. federal corporate income tax rate on the gross deferred tax amounts at the date of the enactment of the TCJA related to items in AOCI. The updated guidance is effective for interim and annual periods beginning after December 15, 2018. Early adoption is permitted. The Company early adopted this guidance effective January 1, 2018 with a cumulative effect adjustment, which reclassified \$6.5 million of benefits from AOCI to retained earnings with no overall impact on the Company’s financial position.

In March 2017, the FASB issued ASC Update No. 2017-07, (Topic 715) Compensation – Retirement Benefits: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. This guidance requires that an employer report in its income statement the service cost component of both net periodic pension and net periodic postretirement benefit cost in the same line item or items as other compensation costs arising from services rendered by pertinent employees during the period, and present in the income statement separately from the other components of benefit cost, if appropriate under the company’s current presentation of its income statement. Additionally, the guidance allows only the service cost component to be eligible for capitalization when applicable. The updated guidance is effective for annual and interim periods beginning after December 15, 2017, and should be applied retrospectively for the presentation of the service cost component and other components of net periodic pension cost and net periodic postretirement benefit cost in the income statement, and prospectively for the capitalization of the service cost component of net periodic cost in assets. The Company implemented this guidance effective January 1, 2018. The effect of

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implementing this guidance was not material to the Company's financial position or results of operations as the Company does not have any service cost remaining related to its pension and postretirement plans.

In January 2017, the FASB issued ASC Update No. 2017-01, (Topic 805) Business Combinations – Clarifying the Definition of a Business. The amendments in this update provide a more robust framework to use in determining when a set of assets and activities constitute a business. This guidance narrows the definition of a business by providing specific requirements that contribute to the creation of outputs that must be present to be considered a business. The guidance further clarifies the appropriate accounting when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or a group of similar identifiable assets is that of an acquisition (disposition) of assets, not a business. This framework will reduce the number of transactions that an entity must further evaluate to determine whether transactions are business combinations or asset acquisitions. The updated guidance is effective for interim and annual periods beginning after December 15, 2017, and should be applied on a prospective basis. Early adoption is permitted only for transactions that have not been reported in financial statements that have been issued. The Company implemented this guidance effective January 1, 2018. The implementation of this guidance did not have an effect on the Company's financial position or results of operations.

In November 2016, the FASB issued ASC Update No. 2016-18 (Topic 230) Statement of Cash Flows – Restricted Cash (a consensus of the FASB Emerging Issues Task Force). The amendments in this update require that restricted cash and restricted cash equivalents be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. Current GAAP does not include specific guidance on the cash flow classification and presentation of changes in restricted cash. The updated guidance is effective for interim and annual periods beginning after December 15, 2017 and is required to be applied using a retrospective transition method to each period presented. The Company implemented this guidance effective January 1, 2018. Implementing this guidance did not have an impact on the Company's statement of cash flows, as restricted cash, if any, has already been included in total cash and cash equivalents.

In October 2016, the FASB issued ASC Update No. 2016-16, (Topic 740) Income Taxes – Intra-Entity Transfers of Assets Other Than Inventory. Under current GAAP, the tax effects of intra-entity transfers of assets (intercompany sales) are deferred until the assets are sold to an outside party or otherwise recovered through use. This ASC update eliminates this deferral of taxes for assets other than inventory and requires the recognition of taxes when the transfer occurs. The updated guidance is effective for interim and annual periods beginning after December 15, 2017, and should be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings. Early adoption is permitted, but this election must be made in the first interim period of the adoption year. The Company implemented this guidance effective January 1, 2018. Implementation of this guidance did not have a net impact on the Company's financial position or results of operations.

In August 2016, the FASB issued ASC Update No. 2016-15, (Topic 230) Classification of Certain Cash Receipts and Cash Payments. This ASC update provides specific guidance on the presentation of certain cash flow items where there is currently diversity in practice, including, but not limited to, debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, and distributions received from equity method investees. The updated guidance is effective for interim and annual periods beginning after December 15, 2017, and should be applied retrospectively unless impracticable. The Company implemented this guidance effective January 1, 2018. The adoption of ASC Update No. 2016-15 did not have a significant impact on the Company's statement of cash flows.

In January 2016, the FASB issued ASC Update No. 2016-01, (Subtopic 825-10) Financial Instruments – Overall: Recognition and Measurement of Financial Assets and Financial Liabilities (“ASU No. 2016-01”). This ASC update

requires unconsolidated equity investments to be measured at fair value with changes in the fair value recognized in net income, except for those accounted for under the equity method. This update eliminates the cost method for equity investments without readily determinable fair values, replacing it with other methods, including the use of Net Asset Value (“NAV”). Additionally, when a public entity is required to measure fair value for disclosure purposes and holds financial instruments measured at amortized cost, the updated guidance requires these instruments to be measured using exit price. It also requires financial assets and financial liabilities to be presented separately in the notes to the financial statements, grouped by measurement category and form of financial asset. The updated guidance is effective for annual periods beginning after December 15, 2017. In February 2018, the FASB issued ASC Update No. 2018-03, (Subtopic 825-10) Technical Corrections and Improvements to Financial Instruments – Overall. This ASC update clarifies the transition method for equity investments without readily determinable fair values. Specifically, if an entity elects to measure these investments at cost, less impairment, adjusted for changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer (the “measurement alternative”), then transition is prospective. For all others, transition is modified retrospective, requiring a cumulative effect adjustment. This ASU is effective for annual periods beginning after December 15, 2017, and interim periods within those years beginning after June 15, 2018. Early adoption is permitted for interim periods beginning after December 15, 2017 as long as ASU No. 2016-01 has been adopted. The Company implemented this guidance effective January 1, 2018 concurrent with ASU No. 2016-01 for certain limited partnerships without readily determinable fair values. The implementation of these standards resulted in a benefit to retained earnings, through a cumulative effect adjustment, of \$97.8 million, including a reclassification of after-tax unrealized gains of \$95.2 million from AOCI and an adjustment of \$2.6 million of gains to record partnership investments at NAV.

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In May 2014, the FASB issued ASC Update No. 2014-09, (Topic 606) Revenue from Contracts with Customers. This ASC was issued to clarify the principles for recognizing revenue. Insurance contracts and financial instrument transactions are not within the scope of this updated guidance, and; therefore, only an insignificant amount of the Company's revenue is subject to this updated guidance. In August 2015, the FASB issued ASC Update No. 2015-14, (Topic 606) Revenue from Contracts with Customers, which deferred the effective date of ASC Update No. 2014-09 by one year. Accordingly, the updated guidance is effective for periods beginning after December 15, 2017. The Company implemented this guidance effective January 1, 2018. The effect of implementing this guidance was not material to the Company's financial position or results of operations.

Recently Issued Standards

In March 2017, the FASB issued ASC Update No. 2017-08, (Subtopic 310-20) Receivables – Nonrefundable Fees and Other Costs: Premium Amortization on Purchased Callable Debt Securities. This guidance shortens the amortization period of premiums on certain purchased callable debt securities to the earliest call date. The updated guidance is effective for annual and interim periods beginning after December 15, 2018, and should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. Early adoption is permitted, including adoption in an interim period. The Company does not expect the adoption of ASC Update No. 2017-08 to have a material impact on its financial position or results of operations.

In January 2017, the FASB issued ASC Update No. 2017-04, (Topic 350) Intangibles – Goodwill and Other: Simplifying the Test for Goodwill Impairment. This guidance eliminates step 2 from the goodwill impairment test. Instead, an entity should perform its goodwill impairment test by comparing the fair value of the reporting unit with its carrying amount, including any applicable income tax effects, and recognize an impairment for the amount by which the carrying amount exceeds the reporting unit's fair value. However, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. The updated guidance is effective for annual or interim goodwill impairment tests performed in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company does not expect the adoption of ASC Update No. 2017-04 to have a material impact on its financial position or results of operations.

In June 2016, the FASB issued ASC Update No. 2016-13, (Topic 326) Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments. This ASC update introduces new guidance for the accounting for credit losses on financial instruments within its scope. A new model, referred to as the current expected credit losses model, requires an entity to determine credit-related impairment losses for financial instruments held at amortized cost and to estimate these expected credit losses over the life of an exposure (or pool of exposures). The estimate of expected credit losses should consider both historical and current information, reasonable and supportable forecasts, as well as estimates of prepayments. The estimated credit losses and subsequent adjustment to such loss estimates, will be recorded through an allowance account which is deducted from the amortized cost of the financial instrument, with the offset recorded in current earnings. ASC No. 2016-13 also modifies the impairment model for available-for-sale debt securities. The new model will require an estimate of expected credit losses only when the fair value is below the amortized cost of the asset, thus the length of time the fair value of an available-for-sale debt security has been below the amortized cost will no longer affect the determination of whether a credit loss exists. In addition, credit losses on available-for-sale debt securities will be limited to the difference between the security's amortized cost basis and its fair value. The updated guidance is effective for interim and annual periods beginning after December 15, 2019. Early adoption is permitted for periods beginning after December 15, 2018. The Company is evaluating the impact of the adoption of ASC Update No. 2016-13 on its financial position and results of operations.

In February 2016, the FASB issued ASC Update No. 2016-02, (Topic 842) Leases. This ASC update requires a lessee to recognize a right-of-use asset, which represents the lessee's right to use a specified asset for the lease term, and a corresponding lease liability, which represents a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis, for all leases that extend beyond 12 months. For finance or capital leases, interest on the lease liability will be recognized separately from amortization of the right-of-use asset in the statements of income and comprehensive income. In addition, the repayment of the principal portion of the lease liability will be classified as a financing activity while the interest component will be included in the operating section of the statement of cash flows. For operating leases, the asset and liability will be amortized as a single lease cost, such that the cost of the lease is allocated over the lease term, on a generally straight-line basis, with all cash flows included within operating activities in the statement of cash flows. ASC Update No. 2016-02 requires that implementation of this guidance be through a modified retrospective transition approach. In July 2018, the FASB issued ASC Update No. 2018-11, (Topic 842) Leases Targeted Improvements, which provides entities with an additional transition method to adopt ASC Update No. 2016-02. Under this optional transition method, an entity can initially apply the new guidance at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The updated guidance in ASC Update No. 2016-02 is effective for interim and annual periods beginning after December 15, 2018 and the Company expects to adopt the guidance using the optional transition method provided in ASC Update No. 2018-11. The Company is continuing to evaluate the impact of the adoption of ASC Update No. 2016-02 on its results of operations. It is expected that assets and liabilities will increase based on the present value of remaining lease payments for leases in place at the adoption date; however, the impact is not expected to be significant to the Company's financial position.

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3. Income Taxes

Income tax expense for the six months ended June 30, 2018 and 2017 has been computed using estimated annual effective tax rates. These rates reflect the change in the U.S. statutory tax rate from 35% to 21%, effective January 1, 2018. These rates are revised, if necessary, at the end of each successive interim period to reflect current estimates of the annual effective tax rates.

For the six months ended June 30, 2018, the tax provision was comprised of a \$25.7 million U.S. federal income tax expense and a \$7.8 million foreign income tax expense. For the six months ended June 30, 2017, the tax provision was comprised of a \$44.3 million U.S. federal income tax expense and a \$2.1 million foreign income tax expense.

The Company or its subsidiaries files income tax returns in the U.S. federal jurisdiction and various state jurisdictions, as well as foreign jurisdictions. The Company and its subsidiaries are subject to U.S. federal and state income tax examinations and foreign examinations for years after 2013.

4. Investments

A. Fixed maturities

The amortized cost and fair value of available-for-sale fixed maturity securities were as follows:

(in millions)	June 30, 2018				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	OTTI Unrealized	
				Fair Value	Losses
U.S. Treasury and government agencies	\$595.1	\$ 1.7	\$ 16.3	\$580.5	\$ —
Foreign government	209.6	2.1	2.2	209.5	—
Municipal	1,035.3	17.9	15.5	1,037.7	—
Corporate	4,278.7	38.9	101.3	4,216.3	6.6
Residential mortgage-backed	1,026.7	1.8	31.5	997.0	—
Commercial mortgage-backed	624.0	1.0	13.4	611.6	—
Asset-backed	78.4	-	1.1	77.3	—
Total fixed maturities	\$7,847.8	\$ 63.4	\$ 181.3	\$7,729.9	\$ 6.6

(in millions)	December 31, 2017				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	OTTI Unrealized	
				Fair Value	Losses
U.S. Treasury and government agencies	\$513.6	\$ 3.4	\$ 5.6	\$511.4	\$ —
Foreign government	240.8	3.2	1.3	242.7	—
Municipal	1,053.3	29.8	7.1	1,076.0	—
Corporate	4,238.9	95.0	26.4	4,307.5	6.9

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Residential mortgage-backed	990.6	6.5	11.1	986.0	—
Commercial mortgage-backed	591.7	7.2	2.5	596.4	—
Asset-backed	59.9	0.1	0.3	59.7	—
Total fixed maturities	\$7,688.8	\$ 145.2	\$ 54.3	\$7,779.7	\$ 6.9

Other-than-temporary impairments (“OTTI”) unrealized losses in the tables above represent OTTI recognized in accumulated other comprehensive income (“AOCI”). This amount excludes net unrealized gains on impaired securities relating to changes in the value of such securities subsequent to the impairment measurement date of \$9.1 million and \$11.5 million as of June 30, 2018 and December 31, 2017, respectively.

In accordance with Lloyd’s operating guidelines, the Company deposits funds at Lloyd’s to support underwriting operations. These funds are available only to fund claim obligations. These assets consisted of \$596.4 million of fixed maturities and \$7.1 million of cash and cash equivalents as of June 30, 2018. The Company also deposits funds with various state and governmental authorities in the U.S. For a discussion of the Company’s deposits with state and governmental authorities, see also Note 3 – “Investments” of the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

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The amortized cost and fair value by maturity periods for fixed maturities are shown below. Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties, or the Company may have the right to put or sell the obligations back to the issuers.

(in millions)	June 30, 2018	
	Amortized Cost	Fair Value
Due in one year or less	\$408.2	\$409.7
Due after one year through five years	2,789.5	2,784.6
Due after five years through ten years	2,589.6	2,515.2
Due after ten years	331.4	334.5
	6,118.7	6,044.0
Mortgage-backed and asset-backed securities	1,729.1	1,685.9
Total fixed maturities	\$7,847.8	\$7,729.9

B. Fixed maturity securities in an unrealized loss position

The following tables provide information about the Company's available-for-sale fixed maturity securities that were in an unrealized loss position at June 30, 2018 and December 31, 2017 including the length of time the securities have been in an unrealized loss position:

(in millions)	June 30, 2018					
	12 months or less		Greater than 12 months		Total	
	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value
Investment grade:						
U.S. Treasury and government agencies	\$10.0	\$393.6	\$6.3	\$103.2	\$16.3	\$496.8
Foreign governments	1.3	86.6	0.9	52.5	2.2	139.1
Municipal	8.5	390.7	7.0	126.6	15.5	517.3
Corporate	57.2	2,343.5	33.1	480.1	90.3	2,823.6
Residential mortgage-backed	13.1	512.5	18.4	347.4	31.5	859.9
Commercial mortgage-backed	10.4	445.6	3.0	61.2	13.4	506.8
Asset-backed	1.0	56.6	0.1	1.6	1.1	58.2
Total investment grade	101.5	4,229.1	68.8	1,172.6	170.3	5,401.7
Below investment grade:						
Municipal	—	0.9	—	—	—	0.9
Corporate	4.6	151.0	6.4	38.1	11.0	189.1
Total below investment grade	4.6	151.9	6.4	38.1	11.0	190.0

Total fixed maturities	\$106.1	\$4,381.0	\$75.2	\$1,210.7	\$181.3	\$5,591.7
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(in millions)	December 31, 2017					
	12 months or less		Greater than 12 months		Total	
	Gross		Gross		Gross	
	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value
Investment grade:						
U.S. Treasury and government agencies						
	\$2.1	\$282.1	\$3.5	\$103.1	\$5.6	\$385.2
Foreign governments	0.9	99.4	0.4	22.8	1.3	122.2
Municipal	2.1	257.5	5.0	133.1	7.1	390.6
Corporate	5.6	799.6	12.3	481.3	17.9	1,280.9
Residential mortgage-backed	2.0	272.9	9.1	362.4	11.1	635.3
Commercial mortgage-backed	0.9	139.3	1.6	63.2	2.5	202.5
Asset-backed	0.3	34.5	—	2.5	0.3	37.0
Total investment grade	13.9	1,885.3	31.9	1,168.4	45.8	3,053.7
Below investment grade:						
Corporate	1.7	53.2	6.8	43.5	8.5	96.7
Total fixed maturities	\$15.6	\$1,938.5	\$38.7	\$1,211.9	\$54.3	\$3,150.4

The Company views gross unrealized losses on fixed maturities as being temporary since it is its assessment that these securities will recover in the near term, allowing the Company to realize the anticipated long-term economic value. The Company employs a systematic methodology to evaluate declines in fair value below amortized cost for fixed maturity securities. In determining OTTI, the Company evaluates several factors and circumstances, including the issuer's overall financial condition; the issuer's credit and financial strength ratings; the issuer's financial performance, including earnings trends and asset quality; any specific events which may influence the operations of the issuer; the general outlook for market conditions in the industry or geographic region in which the issuer operates; and the length of time and the degree to which the fair value of an issuer's securities remains below the Company's amortized cost. The Company also considers any factors that might raise doubt about the issuer's ability to make contractual payments as they come due and whether the Company expects to recover the entire amortized cost basis of the security.

C. Proceeds from sales

The proceeds from sales of available-for-sale securities and gross realized gains and gross realized losses on those sales were as follows:

(in millions)	Three Months Ended June 30,					
	2018			2017		
	Proceeds	Gross Gains	Gross Losses	Proceeds	Gross Gains	Gross Losses
Fixed maturities	\$164.6	\$ 1.7	\$ 2.5	\$132.5	\$ 3.1	\$ 0.4

(in millions)	Six Months Ended June 30,					
	2018			2017		
	Proceeds	Gross	Gross	Proceeds	Gross	Gross
	Sales	Gains	Losses	Sales	Gains	Losses
Fixed maturities	\$ 292.4	\$ 2.3	\$ 4.8	\$ 230.1	\$ 5.2	\$ 1.4

D. Other-than-temporary impairments

For the three months ended June 30, 2018, total OTTI of \$1.9 million, which consisted of other invested assets and fixed maturities, was recognized in earnings. For the six months ended June 30, 2018, total OTTI was \$2.9 million, consisting primarily of fixed maturities and other invested assets. Of this amount, \$2.6 million was recognized in earnings and the remaining \$0.3 million was recorded as unrealized losses in AOCI.

For the three months ended June 30, 2017, total OTTI was \$2.0 million, consisting primarily of equity securities. Of this amount, \$1.8 million was recognized in earnings and the remaining \$0.2 million was recorded as unrealized losses in AOCI. For the six months ended June 30, 2017, total OTTI was \$3.4 million, consisting primarily of equity securities and other invested assets. Of this amount, \$3.2 million was recognized in earnings and the remaining \$0.2 million was recorded as unrealized losses in AOCI.

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The methodology and significant inputs used to measure the amount of credit losses on fixed maturities in 2018 and 2017 were as follows:

Corporate bonds – the Company utilized a financial model that derives expected cash flows based on probability-of-default factors by credit rating and asset duration and loss-given-default factors based on security type. These factors are based on historical data provided by an independent third-party rating agency. In addition, other market data relevant to the realizability of contractual cash flows may be considered.

The following table provides rollforwards of the cumulative amounts related to the Company's credit loss portion of the OTTI losses on fixed maturity securities for which the non-credit portion of the loss is included in other comprehensive income.

(in millions)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Credit losses at beginning of period	\$3.3	\$9.9	\$3.9	\$10.0
Credit losses for which an OTTI was not previously recognized	0.7	0.2	0.9	0.2
Additional credit losses on securities for which an OTTI was previously recognized	0.1	0.1	0.1	0.1
Reductions for securities sold, matured or called	(0.1)	(0.6)	(0.9)	(0.7)
Credit losses at end of period	\$4.0	\$9.6	\$4.0	\$9.6

E. Equity securities

Equity securities are carried at fair value. Effective January 1, 2018, all increases or decreases in fair value on equity securities are reported in net realized and unrealized investment gains (losses) on the Consolidated Statements of Income. Previously, equity securities were categorized as available-for-sale and unrealized gains and losses were reported in AOCI, a separate component of shareholders' equity. As of December 31, 2017, we held equity securities with a fair value of \$576.5 million and a cost of \$433.7 million. On January 1, 2018, the Company recorded a cumulative effect adjustment which included the reclassification of net unrealized gains on equities of \$142.8 million, pre-tax, from AOCI to retained earnings.

The following table provides pre-tax realized and unrealized gains (losses) on equity securities recognized in net income during the three and six months ended June 30, 2018:

(in millions)	Three Months Ended	Six Months Ended
Net gains (losses) recognized during the period	\$ 6.0	\$ (17.0)

Less: net losses recognized on equity securities sold during the period (1.3) (0.8)

Net unrealized gains (losses) recognized during the period on equity securities still held \$ 7.3 \$(16.2)

During the three and six months ended June 30, 2017, there were net unrealized gains on equity securities of \$7.9 million and \$29.4 million, respectively, recognized in AOCI and net realized gains from sales of equity securities of \$3.4 million and \$5.8 million, respectively, recognized in earnings. Proceeds from the sale of equities for the three and six months ended June 30, 2017 were \$32.7 million and \$46.3 million, respectively.

5. Fair Value

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability, i.e., exit price, in an orderly transaction between market participants. The Company emphasizes the use of observable market data whenever available in determining fair value. Fair values presented for certain financial instruments are estimates which, in many cases, may differ significantly from the amounts that could be realized upon immediate liquidation. A hierarchy of the three broad levels of fair value are as follows, with the highest priority given to Level 1 as these are the most observable, and the lowest priority given to Level 3:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 – 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, or other inputs that are observable or can be corroborated by observable market data, including model-derived valuations.

Level 3 – Unobservable inputs that are supported by little or no market activity.

When more than one level of input is used to determine fair value, the financial instrument is classified as Level 2 or 3 according to the lowest level input that has a significant impact on the fair value measurement.

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The following methods and assumptions were used to estimate the fair value of each class of financial instruments and have not changed since last year.

Cash and Cash Equivalents

The carrying amount approximates fair value. Cash equivalents primarily consist of money market instruments, which are generally valued using unadjusted quoted prices in active markets that are accessible for identical assets and are classified as Level 1.

Fixed Maturities

Level 1 securities generally include U.S. Treasury issues and other securities that are highly liquid and for which quoted market prices are available. Level 2 securities are valued using pricing for similar securities and pricing models that incorporate observable inputs including, but not limited to yield curves and issuer spreads. Level 3 securities include issues for which little observable data can be obtained, primarily due to the illiquid nature of the securities, and for which significant inputs used to determine fair value are based on the Company's own assumptions.

The Company utilizes a third party pricing service for the valuation of the majority of its fixed maturity securities and receives one quote per security. When quoted market prices in an active market are available, they are provided by the pricing service as the fair value and such values are classified as Level 1. Since fixed maturities other than U.S. Treasury securities generally do not trade on a daily basis, the pricing service prepares estimates of fair value for those securities using pricing techniques based on a market approach. Inputs into the fair value pricing common to all asset classes include: benchmark U.S. Treasury security yield curves; reported trades of identical or similar fixed maturity securities; broker/dealer quotes of identical or similar fixed maturity securities and structural characteristics such as maturity date, coupon, mandatory principal payment dates, frequency of interest and principal payments, and optional redemption features. Inputs into the fair value applications that are unique by asset class include, but are not limited to:

- U.S. government agencies – determination of direct versus indirect government support and whether any contingencies exist with respect to the timely payment of principal and interest.
- Foreign government – estimates of appropriate market spread versus underlying related sovereign treasury curve(s) dependent on liquidity and direct or contingent support.
- Municipals – overall credit quality, including assessments of the level and variability of: sources of payment such as income, sales or property taxes, levies or user fees; credit support such as insurance; state or local economic and political base; natural resource availability; and susceptibility to natural or man-made catastrophic events such as hurricanes, earthquakes or acts of terrorism.
- Corporate fixed maturities – overall credit quality, including assessments of the level and variability of: economic sensitivity; liquidity; corporate financial policies; management quality; regulatory environment; competitive position; ownership; restrictive covenants; and security or collateral.
- Residential mortgage-backed securities – estimates of prepayment speeds based upon: historical prepayment rate trends; underlying collateral interest rates; geographic concentration; vintage year; borrower credit quality characteristics; interest rate and yield curve forecasts; government or monetary authority support programs; tax policies; delinquency/default trends; and, in the case of non-agency collateralized mortgage obligations, severity of loss upon default and length of time to recover proceeds following default.
- Commercial mortgage-backed securities – overall credit quality, including assessments of the value and supply/demand characteristics of: collateral type such as office, retail, residential, lodging, or other; geographic concentration by region, state, metropolitan statistical area and locale; vintage year; historical collateral performance

including defeasance, delinquency, default and special servicer trends; and capital structure support features.

•Asset-backed securities – overall credit quality, including assessments of the underlying collateral type such as credit card receivables, auto loan receivables and equipment lease receivables; geographic diversification; vintage year; historical collateral performance including delinquency, default and casualty trends; economic conditions influencing use rates and resale values; and contract structural support features.

Generally, all prices provided by the pricing service, except actively traded securities with quoted market prices, are reported as Level 2.

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The Company holds privately placed fixed maturity securities and certain other fixed maturity securities that do not have an active market and for which the pricing service cannot provide fair values. The Company determines fair values for these securities using either matrix pricing utilizing the market approach or broker quotes. The Company will use observable market data as inputs into the fair value techniques, as discussed in the determination of Level 2 fair values, to the extent it is available, but is also required to use a certain amount of unobservable judgment due to the illiquid nature of the securities involved. Unobservable judgment reflected in the Company's matrix model accounts for estimates of additional spread required by market participants for factors such as issue size, structural complexity, high bond coupon or other unique features. These matrix-priced securities are reported as Level 2 or Level 3, depending on the significance of the impact of unobservable judgment on the security's value. Additionally, the Company may obtain non-binding broker quotes which are reported as Level 3.

Equity Securities

Level 1 consists of publicly traded securities, including exchange traded funds, valued at quoted market prices. Level 2 includes securities that are valued using pricing for similar securities and pricing models that incorporate observable inputs. Level 3 consists of common or preferred stock of private companies for which observable inputs are not available.

The Company utilizes a third party pricing service for the valuation of the majority of its equity securities and receives one quote for each equity security. When quoted market prices in an active market are available, they are provided by the pricing service as the fair value and such values are classified as Level 1. The Company holds certain equity securities that have been issued by privately-held entities that do not have an active market and for which the pricing service cannot provide fair values. Generally, the Company estimates fair value for these securities based on the issuer's book value and market multiples and reports them as Level 3. Additionally, the Company may obtain non-binding broker quotes which are reported as Level 3.

Other Investments

Other investments primarily include mortgage participations, limited partnerships not subject to equity method of accounting, and overseas trust funds required in connection with the Company's Lloyd's business. Fair values of mortgage participations are estimated by discounting the contractual cash flows using the rates at which similar loans would be made to borrowers with comparable credit ratings and are reported as Level 3. The fair values of limited partnerships not subject to the equity method of accounting are based on the net asset value provided by the general partner adjusted for recent financial information and are excluded from the fair value hierarchy. Fair values of overseas trust funds are provided by the investment manager based on quoted prices for similar instruments in active markets and are reported as Level 2.

Debt

The fair value of debt is estimated based on quoted market prices for identical or similar issuances. If a quoted market price is not available, fair values are estimated using discounted cash flows that are based on current interest rates and yield curves for debt issuances with maturities and credit risks consistent with the debt being valued. Debt is reported as Level 2.

The estimated fair value of the financial instruments were as follows:

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(in millions)	June 30, 2018		December 31, 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Financial Assets carried at ⁽¹⁾ :				
Fair Value through AOCI:				
Fixed maturities	\$7,729.9	\$7,729.9	\$7,779.7	\$7,779.7
Equity securities	—	—	576.5	576.5
Other investments	—	—	3.6	3.6
Fair Value through Net Income:				
Equity securities	554.0	554.0	—	—
Other investments	286.8	286.8	122.8	122.8
Amortized Cost/Cost:				
Other investments	393.0	394.4	512.8	518.3
Cash and cash equivalents	244.9	244.9	376.4	376.4
	\$9,208.6	\$9,210.0	\$9,371.8	\$9,377.3
Financial Liabilities carried at:				
Amortized Cost:				
Debt	\$787.1	\$838.6	\$786.9	\$865.7

(1) Due to the adoption of ASU No. 2016-01, certain classifications are not comparable to the prior year. See Note 2 – “New Accounting Pronouncements”.

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The Company has processes designed to ensure that the values received from its third party pricing service are accurately recorded, that the data inputs and valuation approaches and techniques utilized are appropriate and consistently applied, and that the assumptions are reasonable and consistent with the objective of determining fair value. The Company performs a review of the fair value hierarchy classifications and of prices received from its pricing service on a quarterly basis. The Company reviews the pricing services' policies describing its methodology, processes, practices and inputs, including various financial models used to value securities. Also, the Company reviews the portfolio pricing, including a process for which securities with changes in prices that exceed a defined threshold are verified to independent sources, if available. If upon review, the Company is not satisfied with the validity of a given price, a pricing challenge would be submitted to the pricing service along with supporting documentation for its review. The Company does not adjust quotes or prices obtained from the pricing service unless the pricing service agrees with the Company's challenge. During 2018 and 2017, the Company did not adjust any prices received from its pricing service.

Changes in the observability of valuation inputs may result in a reclassification of certain financial assets or liabilities within the fair value hierarchy. Reclassifications between levels of the fair value hierarchy are reported as of the beginning of the period in which the reclassification occurs. As previously discussed, the Company utilizes a third party pricing service for the valuation of the majority of its fixed maturities and equity securities. The pricing service has indicated that it will only produce an estimate of fair value if there is objectively verifiable information to produce a valuation. If the pricing service discontinues pricing an investment, the Company will use observable market data to the extent it is available, but may also be required to make assumptions for market based inputs that are unavailable due to market conditions.

The following tables provide, for each hierarchy level, the Company's assets that were measured at fair value on a recurring basis.

(in millions)	June 30, 2018			
	Total	Level 1	Level 2	Level 3
Fixed maturities:				
U.S. Treasury and government agencies	\$580.5	\$235.4	\$345.1	\$ —
Foreign government	209.5	21.1	188.4	—
Municipal	1,037.7	—	1,013.3	24.4
Corporate	4,216.3	—	4,215.5	0.8
Residential mortgage-backed, U.S. agency backed	993.8	—	993.8	—
Residential mortgage-backed, non-agency	3.2	—	3.2	—
Commercial mortgage-backed	611.6	—	598.3	13.3
Asset-backed	77.3	—	77.3	—
Total fixed maturities	7,729.9	256.5	7,434.9	38.5
Equity securities	554.0	552.9	—	1.1
Other investments	128.5	—	124.9	3.6
Total investment assets at fair value	\$8,412.4	\$809.4	\$7,559.8	\$43.2

(in millions)	December 31, 2017		
	Total	Level 2	Level 3

	Level 1			
Fixed maturities:				
U.S. Treasury and government agencies	\$511.4	\$227.6	\$283.8	\$ —
Foreign government	242.7	50.1	192.6	—
Municipal	1,076.0	—	1,049.2	26.8
Corporate	4,307.5	—	4,306.6	0.9
Residential mortgage-backed, U.S. agency backed	956.4	—	956.4	—
Residential mortgage-backed, non-agency	29.6	—	29.6	—
Commercial mortgage-backed	596.4	—	582.2	14.2
Asset-backed	59.7	—	59.7	—
Total fixed maturities	7,779.7	277.7	7,460.1	41.9
Equity securities	568.1	567.0	—	1.1
Other investments	126.4	—	122.8	3.6
Total investment assets at fair value	\$8,474.2	\$844.7	\$7,582.9	\$ 46.6

Limited partnerships measured at fair value using NAV based on an ownership interest in partners' capital have not been included in the tables above. At June 30, 2018 and December 31, 2017, the fair values of these investments were \$158.3 million and \$149.4 million, respectively, which are less than 2% of total investment assets.

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The following tables provide, for each hierarchy level, the Company's estimated fair values of financial instruments that were not carried at fair value:

(in millions)	June 30, 2018			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	\$244.9	\$244.9	\$—	\$—
Other investments	394.4	—	8.8	385.6
Liabilities:				
Debt	\$838.6	\$—	\$838.6	\$—

(in millions)	December 31, 2017			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	\$376.4	\$376.4	\$—	\$—
Equity securities	8.4	—	8.4	—
Other investments	368.9	—	—	368.9
Liabilities:				
Debt	\$865.7	\$—	\$865.7	\$—

The tables below provide a reconciliation for all assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3).

(in millions)	Fixed Maturities		Commercial		Equity and Other	Total Assets
	Municipal	Corporate	mortgage-backed	Total		
Three Months Ended						
June 30, 2018						
Balance April 1, 2018	\$25.3	\$ 0.8	\$ 13.5	\$39.6	\$ 4.7	\$44.3
Total losses:						
Included in other comprehensive						
income-net depreciation						
on available-for-sale securities	(0.1)	—	(0.1)	(0.2)	—	(0.2)
Sales	(0.8)	—	(0.1)	(0.9)	—	(0.9)

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Balance June 30, 2018	\$24.4	\$ 0.8	\$ 13.3	\$38.5	\$ 4.7	\$43.2
Three Months Ended						
June 30, 2017						
Balance April 1, 2017	\$30.8	\$ 3.9	\$ 14.6	\$49.3	\$ 5.6	\$54.9
Total gains (losses):						
Included in total net realized and unrealized						
investment gains	—	0.3	—	0.3	—	0.3
Included in other comprehensive						
income-net appreciation (depreciation)						
on available-for-sale securities	0.2	(0.2)	0.1	0.1	—	0.1
Sales	(0.9)	(3.0)	(0.1)	(4.0)	—	(4.0)
Balance June 30, 2017	\$30.1	\$ 1.0	\$ 14.6	\$45.7	\$ 5.6	\$51.3

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(in millions)	Fixed Maturities		Commercial		Equity and Other	Total Assets
	Municipal	Corporate	mortgage-backed	Total		
Six Months Ended						
June 30, 2018						
Balance January 1, 2018	\$26.8	\$ 0.9	\$ 14.2	\$41.9	\$ 4.7	\$46.6
Total gains (losses):						
Included in total net realized and unrealized						
investment gains	0.1	—	—	0.1	—	0.1
Included in other comprehensive						
income-net depreciation						
on available-for-sale securities	(0.6)	—	(0.3)	(0.9)	—	(0.9)
Sales	(1.9)	(0.1)	(0.6)	(2.6)	—	(2.6)
Balance June 30, 2018	\$24.4	\$ 0.8	\$ 13.3	\$38.5	\$ 4.7	\$43.2
Six Months Ended						
June 30, 2017						
Balance January 1, 2017	\$31.0	\$ 4.2	\$ 15.0	\$50.2	\$ 5.6	\$55.8
Total gains (losses):						
Included in total net realized and unrealized						
investment gains	—	0.3	—	0.3	—	0.3
Included in other comprehensive						
income-net appreciation (depreciation)						
on available-for-sale securities	0.4	(0.2)	0.1	0.3	—	0.3
Sales	(1.3)	(3.3)	(0.5)	(5.1)	—	(5.1)
Balance June 30, 2017	\$30.1	\$ 1.0	\$ 14.6	\$45.7	\$ 5.6	\$51.3

During the three and six months ended June 30, 2018 and 2017, there were no transfers in or out of Level 3, nor were there any transfers between Level 1 and Level 2. There were no Level 3 liabilities held by the Company for the six months ended June 30, 2018 and 2017.

The following table provides quantitative information about the significant unobservable inputs used by the Company in the fair value measurements of Level 3 assets. Where discounted cash flows were used in the valuation of fixed maturities, the internally-developed discount rate was adjusted by the significant unobservable inputs shown in the table.

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(in millions)	Valuation Technique	Significant Unobservable Inputs	June 30, 2018		December 31, 2017	
			Fair Value	Range (Wtd Average)	Fair Value	Range (Wtd Average)
Fixed maturities:						
Municipal	Discounted cash flow	Discount for: Small issue size	\$24.4	0.7 -6.8% (3.2%)	\$26.8	0.7 - 6.8% (3.3%)
		Credit stress		1.3% (1.3%)		0.9 - 1.5% (1.2%)
		Above-market coupon		0.3 - 0.5% (0.4%)		0.3 - 0.5% (0.4%)
Corporate	Discounted cash flow	Discount for: Small issue size	0.8	2.5% (2.5%)	0.9	2.5% (2.5%)
		Above-market coupon		0.3% (0.3%)		0.3% (0.3%)
Commercial mortgage-backed	Discounted cash flow	Discount for: Small issue size	13.3	1.9 - 3.1% (2.7%)	14.2	1.9 - 3.1% (2.6%)
		Above-market coupon		0.5% (0.5%)		0.5% (0.5%)
		Lease structure		0.3% (0.3%)		0.3% (0.3%)
Equity securities	Market comparables	Net tangible asset market multiples	1.1	1.0X (1.0X)	1.1	1.0X (1.0X)
Other	Discounted cash flow	Discount rate	3.6	18.0% (18.0%)	3.6	18.0% (18.0%)

Significant increases (decreases) in any of the above inputs in isolation would result in a significantly lower (higher) fair value measurement. There were no interrelationships between these inputs which might magnify or mitigate the effect of changes in unobservable inputs on the fair value measurement.

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6. Pension and Other Postretirement Benefit Plans

The components of net periodic pension cost for defined benefit pension and other postretirement benefit plans included in the Company's results of operations are as follows:

(in millions)	Three Months Ended June 30,			
	2018	2017	2018	2017
	Pension Plans		Postretirement Plans	
Service cost - benefits earned during the period	\$—	\$—	\$—	\$—
Interest cost	5.9	6.5	0.1	0.1
Expected return on plan assets	(6.8)	(6.8)	—	—
Recognized net actuarial loss	2.4	3.8	—	0.1
Amortization of prior service cost	—	—	(0.1)	(0.4)
Net periodic pension cost (benefit)	\$1.5	\$3.5	\$—	\$ (0.2)

(in millions)	Six Months Ended June 30,			
	2018	2017	2018	2017
	Pension Plans		Postretirement Plans	
Service cost - benefits earned during the period	\$—	\$—	\$—	\$—
Interest cost	11.8	12.9	0.2	0.2
Expected return on plan assets	(13.7)	(13.6)	—	—
Recognized net actuarial loss	4.9	7.6	0.1	0.1
Amortization of prior service cost	—	—	(0.2)	(0.7)
Net periodic pension cost (benefit)	\$3.0	\$6.9	\$0.1	\$ (0.4)

7. Other Comprehensive Income

The following tables provide changes in other comprehensive income.

(in millions)	Three Months Ended June 30,					
	2018	2017		2017		
	Tax	Benefit	Net of	Tax	Net	
	Pre-Tax	(Expense)	Tax	Pre-Tax	(Expense)	Tax
Unrealized gains (losses) on available-for-sale securities:						
Unrealized gains (losses) arising during period	\$(58.1)	\$ 12.4	\$(45.7)	\$41.0	\$ (14.5)	\$26.5
Amount of realized gains (losses) from sales	—	(3.3)	(3.3)	(7.2)	(0.7)	(7.9)

and other						
Portion of other-than-temporary impairment						
losses recognized in earnings	(0.1)	—	(0.1)	1.8	(0.6)	1.2
Net unrealized gains (losses)	(58.2)	9.1	(49.1)	35.6	(15.8)	19.8
Pension and postretirement benefits:						
Net change in net actuarial loss and prior						
service cost	1.1	(0.2)	0.9	3.5	(1.1)	2.4
Cumulative foreign currency translation adjustment:						
Foreign currency translation recognized during						
the period	(0.6)	0.1	(0.5)	(6.9)	2.4	(4.5)
Other comprehensive income (loss)	\$(57.7)	\$ 9.0	\$(48.7)	\$32.2	\$ (14.5)	\$17.7

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(in millions)	Six Months Ended June 30, 2018			2017		
	Pre-Tax	Tax Benefit (Expense)	Net of Tax	Pre-Tax	Tax Benefit (Expense)	Net of Tax
Unrealized gains (losses) on available-for-sale securities:						
Unrealized gains (losses) arising during period	\$(211.8)	\$ 44.5	\$(167.3)	\$79.0	\$ (27.8)	\$51.2
Amount of realized gains (losses) from sales and other	0.2	(5.8)	(5.6)	(11.3)	(2.4)	(13.7)
Portion of other-than-temporary impairment losses recognized in earnings	0.4	(0.1)	0.3	2.0	(0.7)	1.3
Net unrealized gains (losses)	(211.2)	38.6	(172.6)	69.7	(30.9)	38.8
Pension and postretirement benefits:						
Net change in net actuarial loss and prior service cost	(1.8)	0.4	(1.4)	7.0	(2.3)	4.7
Cumulative foreign currency translation adjustment:						
Foreign currency translation recognized during the period	(1.2)	0.2	(1.0)	0.9	(0.3)	0.6
Other comprehensive income (loss)	\$(214.2)	\$ 39.2	\$(175.0)	\$77.6	\$ (33.5)	\$44.1

Reclassifications out of accumulated other comprehensive income were as follows:

(in millions)	Three Months Ended June 30, 2018		Six Months Ended June 30, 2017		Amount Reclassified from Accumulated Other Comprehensive Income	Affected Line Item in the Statement Where Net Income is Presented
	2018	2017	2018	2017		
Details about Accumulated Other Comprehensive Income Components						
Unrealized gains on available-for-sale securities	\$—	\$7.2	\$(0.2)	\$11.3		Net realized gains (losses) from sales and other

					Net other-than-temporary impairment losses on investments recognized
	0.1	(1.8)	(0.4)	(2.0)	in earnings
	0.1	5.4	(0.6)	9.3	Total before tax
	3.3	1.3	5.9	3.1	Tax benefit
	3.4	6.7	5.3	12.4	Net of tax
Amortization of defined benefit pension and postretirement plans					Loss adjustment expenses and other operating expenses
	(2.3)	(3.5)	(4.8)	(7.0)	operating expenses
	0.5	1.1	1.0	2.3	Tax benefit
	(1.8)	(2.4)	(3.8)	(4.7)	Net of tax
Total reclassifications for the period	\$1.6	\$4.3	\$1.5	\$7.7	Benefit to income, net of tax

The amount reclassified from accumulated other comprehensive income for the pension and postretirement benefits was allocated approximately 40% to loss adjustment expenses and 60% to other operating expenses for the three and six months ended June 30, 2018 and 2017.

8. Segment Information

The Company's primary business operations include insurance products and services provided through four operating segments. The domestic operating segments are Commercial Lines, Personal Lines and Other, and the Company's international operating segment is Chaucer. Commercial Lines includes commercial multiple peril, commercial automobile, workers' compensation, and other commercial coverages, such as inland marine, specialty program business, management and professional liability, surety and specialty property. Personal Lines includes personal automobile, homeowners and other personal coverages. Chaucer includes marine, aviation and political, casualty (which includes international liability, specialist coverages, and run-off syndicate participations), energy, property, and assumed reinsurance treaty business ("treaty"). Included in the Other segment are Opus Investment Management, Inc.,

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which markets investment management services to institutions, pension funds and other organizations; earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to the Company's former life insurance employees and agents; and, a run-off voluntary pools business. The separate financial information is presented consistent with the way results are regularly evaluated by the chief operating decision maker in deciding how to allocate resources and in assessing performance.

The Company reports interest expense related to debt separately from the earnings of its operating segments. This consists of interest on the Company's senior debentures, subordinated debentures, collateralized borrowings with the Federal Home Loan Bank of Boston, and letter of credit facility. Management evaluates the results of the aforementioned segments based on operating income before taxes, excluding interest expense on debt. Operating income before taxes excludes certain items which are included in net income, such as net realized and unrealized investment gains and losses. Such gains and losses are excluded since they are determined by interest rates, financial markets and the timing of sales. Also, operating income before taxes excludes net gains and losses on disposals of businesses, gains and losses related to the repayment of debt, discontinued operations, costs to acquire businesses, restructuring costs, the cumulative effect of accounting changes and certain other items. Although the items excluded from operating income before taxes may be important components in understanding and assessing the Company's overall financial performance, management believes that the presentation of operating income before taxes enhances an investor's understanding of the Company's results of operations by highlighting net income attributable to the core operations of the business. However, operating income before taxes should not be construed as a substitute for income before income taxes and operating income should not be construed as a substitute for net income.

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Summarized below is financial information with respect to the Company's business segments.

(in millions)	Three Months		Six Months Ended	
	Ended June 30, 2018	2017	June 30, 2018	2017
Operating revenues:				
Commercial Lines	\$681.7	\$634.5	\$1,358.3	\$1,265.0
Personal Lines	444.5	411.5	879.4	813.3
Chaucer	228.8	211.2	468.2	435.9
Other	4.1	3.0	7.5	5.0
Total	1,359.1	1,260.2	2,713.4	2,519.2
Net realized and unrealized investment gains (losses)	3.7	5.9	(19.7)	7.8
Total revenues	\$1,362.8	\$1,266.1	\$2,693.7	\$2,527.0
Operating income (loss) before interest expense and income taxes:				
Commercial Lines:				
Underwriting income (loss)	\$37.7	\$2.3	\$54.1	\$(0.4)
Net investment income	44.8	41.3	90.1	81.6
Other expense	(0.5)	(0.4)	(0.7)	(0.6)
Commercial Lines operating income	82.0	43.2	143.5	80.6
Personal Lines:				
Underwriting income	8.0	29.5	22.7	21.1
Net investment income	18.1	17.4	36.5	34.5
Other income	1.2	1.0	2.5	2.2
Personal Lines operating income	27.3	47.9	61.7	57.8
Chaucer:				
Underwriting income	9.3	18.0	15.5	31.8
Net investment income	12.5	11.3	28.9	23.7
Other income (expense)	0.1	0.4	0.4	(0.9)
Chaucer operating income	21.9	29.7	44.8	54.6
Other:				
Underwriting loss	(1.4)	(0.9)	(2.7)	(1.8)
Net investment income	3.3	2.3	6.1	3.6
Other expense	(3.3)	(3.3)	(7.0)	(6.8)
Other operating (loss) gain	(1.4)	(1.9)	(3.6)	5.0
Operating income before interest expense and income taxes	129.8	118.9	246.4	188.0
Interest on debt	(11.6)	(12.2)	(24.0)	(24.2)
Operating income before income taxes	118.2	106.7	222.4	163.8
Non-operating income items:				
Net realized and unrealized investment gains (losses)	3.7	5.9	(19.7)	7.8
Other non-operating items	(2.0)	(1.6)	(2.2)	(1.6)
Income before income taxes	\$119.9	\$111.0	\$200.5	\$170.0

The Company recognized approximately \$2 million in net foreign exchange gains and \$3 million in net foreign exchange losses in the Statements of Income during the three months ended June 30, 2018 and 2017, respectively. The Company recognized approximately \$1 million in net foreign exchange gains and \$4 million in net foreign exchange losses in the Statements of Income during the six months ended June 30, 2018 and 2017, respectively.

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The following table provides identifiable assets for the Company's business segments and discontinued operations:

	June 30, 2018	December 31, 2017
(in millions)	Identifiable Assets	
U.S. Companies	\$11,049.8	\$10,909.2
Chaucer	4,251.2	4,472.4
Discontinued operations	102.6	88.0
Total	\$15,403.6	\$15,469.6

The Company reviews the assets of its U.S. Companies collectively and does not allocate them between the Commercial Lines, Personal Lines and Other segments.

9. Stock-based Compensation

As of June 30, 2018, there were 4,075,328 shares, 2,378,832 shares and 680,810 shares available for grant under The Hanover Insurance Group 2014 Long-Term Incentive Plan, The Hanover Insurance Group 2014 Employee Stock Purchase Plan and the Chaucer Share Incentive Plan, respectively.

Compensation cost for the Company's stock-based awards and the related tax benefits were as follows:

(in millions)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Stock-based compensation expense	\$4.6	\$4.1	\$7.6	\$7.3
Tax benefit	(1.0)	(1.4)	(1.6)	(2.5)
Stock-based compensation expense, net of taxes	\$3.6	\$2.7	\$6.0	\$4.8

Stock Options

Information on the Company's stock option activity for the six months ended June 30, 2018 and 2017 is summarized below.

(in whole shares and dollars)	Six Months Ended June 30, 2018		2017	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Outstanding, beginning of period	1,062,177	\$ 75.53	1,396,152	\$ 68.63

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Granted	294,603	110.68	460,610	90.85
Exercised	(149,043)	71.74	(180,940)	59.50
Forfeited or cancelled	(50,491)	88.48	(16,567)	80.40
Outstanding, end of period	1,157,246	84.40	1,659,255	75.68

Restricted Stock Units

The following tables summarize activity information about employee restricted stock units:

	Six Months Ended June 30,		2017	
	2018			2017
		Weighted Average		Weighted Average
		Grant Date		Grant Date
(in whole shares and dollars)	Shares	Fair Value	Shares	Fair Value
Time-based restricted stock units:				
Outstanding, beginning of period	298,528	\$ 83.45	269,063	\$ 73.91
Granted	143,565	111.21	128,235	90.51
Vested	(71,556)	72.56	(70,590)	59.29
Forfeited	(16,890)	89.89	(13,830)	84.30
Outstanding, end of period	353,647	96.61	312,878	83.55
Performance-based and market-based restricted stock units:				
Outstanding, beginning of period	102,586	\$ 81.21	115,057	\$ 78.82
Granted	34,280	117.65	60,101	79.48
Vested	(14,032)	70.24	(17,642)	58.16
Forfeited	(7,625)	81.91	(2,180)	95.36
Outstanding, end of period	115,209	93.34	155,336	81.19

accelerated repurchase programs or other transactions. The Company is not required to purchase any specific number of shares or to make purchases by any certain date under this program. During the first six months of 2018, the Company purchased approximately 0.2 million shares of the Company's common stock at a cost of \$25.3 million.

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11. Liabilities for Outstanding Claims, Losses and Loss Adjustment Expenses

Reserve Rollforward and Prior Year Development

The Company regularly updates its reserve estimates as new information becomes available and further events occur which may impact the resolution of unsettled claims. Reserve adjustments are reflected in results of operations as adjustments to losses and LAE. Often these adjustments are recognized in periods subsequent to the period in which the underlying policy was written and loss event occurred. These types of subsequent adjustments are described as “prior years’ loss reserves”. Such development can be either favorable or unfavorable to the Company’s financial results and may vary by line of business. In this section, all amounts presented include catastrophe losses and LAE, unless otherwise indicated.

The table below provides a reconciliation of the gross beginning and ending reserve for unpaid losses and loss adjustment expenses.

(in millions)	Six Months Ended	
	June 30,	
	2018	2017
Gross loss and LAE reserves, beginning of period	\$7,745.0	\$6,949.4
Reinsurance recoverable on unpaid losses	2,608.4	2,274.8
Net loss and LAE reserves, beginning of period	5,136.6	4,674.6
Net incurred losses and LAE in respect of losses occurring in:		
Current year	1,603.5	1,516.0
Prior years	(34.1)	(24.5)
Total incurred losses and LAE	1,569.4	1,491.5
Net payments of losses and LAE in respect of losses		
occurring in:		
Current year	504.9	491.2
Prior years	944.1	799.7
Total payments	1,449.0	1,290.9
Effect of foreign exchange rate changes	(14.1)	25.8
Net reserve for losses and LAE, end of period	5,242.9	4,901.0
Reinsurance recoverable on unpaid losses	2,263.5	2,261.4
Gross reserve for losses and LAE, end of period	\$7,506.4	\$7,162.4

As a result of continuing trends in the Company’s business, reserves including catastrophes have been re-estimated for all prior accident years and were decreased by \$34.1 million in 2018 in comparison to a decrease of \$24.5 million in 2017.

2018

For the six months ended June 30, 2018, net favorable loss and LAE development was \$34.1 million, primarily as a result of net favorable development of \$27.4 million for Chaucer.

Chaucer's favorable development during the six months ended June 30, 2018 was primarily the result of lower loss estimates in the political, marine and aviation lines of \$27.2 million and in the energy line, partially offset by higher than expected losses in the casualty line and the U.S. casualty business within the treaty line. Also partially offsetting Chaucer's favorable development was the unfavorable impact of foreign exchange rate movements on prior years' loss reserves.

Additionally, lower than expected losses in other commercial, commercial multiple peril and workers' compensation lines was partially offset by higher than expected losses in our commercial and personal automobile lines. Within other commercial lines, lower than expected losses in our professional and management liability and monoline general liability lines was partially offset by higher than expected losses in AIX programs and business classes which have been terminated.

2017

For the six months ended June 30, 2017, net favorable loss and LAE development was \$24.5 million, primarily as a result of net favorable development of \$24.3 million for Chaucer.

Chaucer's favorable development during the six months ended June 30, 2017 was primarily the result of lower loss estimates in the energy line of \$15.5 million and in the treaty line. Partially offsetting Chaucer's favorable development was the unfavorable impact of foreign exchange rate movements on prior years' loss reserves.

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12. Commitments and Contingencies

Legal Proceedings

Durand Litigation

On March 12, 2007, a putative class action suit captioned Jennifer A. Durand v. The Hanover Insurance Group, Inc., and The Allmerica Financial Cash Balance Pension Plan, was filed in the United States District Court for the Western District of Kentucky. The named plaintiff, a former employee of the Company's former life insurance and annuity business who received a lump sum distribution from the Company's Cash Balance Plan (the "Plan") at or about the time of her separation from the company, claims that she and others similarly situated did not receive the appropriate lump sum distribution because in computing the lump sum, the Company and the Plan understated the accrued benefit in the calculation. The plaintiff claims that the Plan underpaid her distributions and those of similarly situated participants by failing to pay an additional so-called "whipsaw" amount reflecting the present value of an estimate of future interest credits from the date of the lump sum distribution to each participant's retirement age of 65 ("whipsaw claim").

The plaintiff filed an Amended Complaint adding two new named plaintiffs and additional claims on December 11, 2009. Two of the three new claims set forth in the Amended Complaint were dismissed by the District Court, which action was upheld in November 2015 by the U.S. Court of Appeals, Sixth Circuit. The District Court, however, did allow to stand the portion of the Amended Complaint which set forth claims against the Company for breach of fiduciary duty and failure to meet notice requirements arising under the Employee Retirement Income Security Act of 1974 ("ERISA") from the various interest crediting and lump sum distribution matters of which plaintiffs complain, but only as to plaintiffs' "whipsaw" claim that remained in the case. On December 17, 2013, the Court entered an order certifying a class to bring "whipsaw" and related breach of fiduciary duty claims consisting of all persons who received a lump sum distribution between March 1, 1997 and December 31, 2003. The Company filed a summary judgment motion, prior to the decision on the appeal, that was based on the statute of limitations and seeks to dismiss the subclass of plaintiffs who received lump sum distributions prior to March 13, 2002. This summary judgment motion has been stayed pending additional discovery.

On November 2, 2017, plaintiffs filed a motion conceding that the statutory "whipsaw" claims, but not the breach of fiduciary duty or failure to meet ERISA notice requirement claims, of participants who received lump sum distributions prior to March 13, 2002 are time-barred. Consequently, on February 16, 2018, the Court entered an order limiting the claims of those participants to alleged violations of ERISA's disclosure requirements and breaches of fiduciary duty. After the Court denied plaintiffs' motion for reconsideration of the Court's February 16, 2018 order, the parties entered into settlement discussions and have reached a settlement in principle on major terms, which is subject to agreement on certain other terms, written documentation, and Court approval. Provided the parties are able to finalize such settlement on substantially the terms agreed upon in principle and obtain the necessary court approval, we do not believe the resulting settlement amount will be material to the Company's financial position or have a material effect on its results of operations.

Other Matters

The Company has been named a defendant in various other legal proceedings arising in the normal course of business. In addition, the Company is involved, from time to time, in examinations, investigations and proceedings by governmental and self-regulatory agencies. The potential outcome of any such action or regulatory proceedings in which the Company has been named a defendant or the subject of an inquiry or investigation, and its ultimate liability, if any, from such action or regulatory proceedings, is difficult to predict at this time. The ultimate resolutions of such

proceedings are not expected to have a material effect on its financial position, although they could have a material effect on the results of operations for a particular quarter or annual period.

Residual Markets

The Company is required to participate in residual markets in various states, which generally pertain to high risk insureds, disrupted markets or lines of business or geographic areas where rates are regarded as excessive. The results of the residual markets are not subject to the predictability associated with the Company's own managed business, and are significant to both the personal and commercial automobile lines of business and the workers' compensation line of business.

13. Subsequent Events

There were no subsequent events requiring adjustment to the financial statements and no additional disclosures required in the notes to the interim consolidated financial statements.

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PART I

ITEM 2

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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Introduction

The following Management's Discussion and Analysis of Financial Condition and Results of Operations is intended to assist readers in understanding the interim consolidated results of operations and financial condition of The Hanover Insurance Group, Inc. and its subsidiaries ("THG"). Consolidated results of operations and financial condition are prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP"). This discussion should be read in conjunction with the interim consolidated financial statements and related footnotes included elsewhere in this Quarterly Report on Form 10-Q and Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our 2017 Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 27, 2018.

Results of operations include the accounts of The Hanover Insurance Company ("Hanover Insurance") and Citizens Insurance Company of America ("Citizens"), our principal U.S.-domiciled property and casualty companies; Chaucer Holdings Limited ("Chaucer"), our United Kingdom ("U.K.") domiciled specialist insurance underwriting group which operates through the Society and Corporation of Lloyd's ("Lloyd's"); and certain other insurance and non-insurance subsidiaries. Results of operations include our discontinued operations, consisting primarily of our accident and health and former life insurance businesses.

Executive Overview

Business operations consist of four operating segments: Commercial Lines, Personal Lines, Chaucer and Other.

Net income was \$167.0 million during the six months ended June 30, 2018, compared to \$123.6 million for the six months ended June 30, 2017, an increase of \$43.4 million, primarily due to an increase in operating income before interest expense and income taxes (a non-GAAP financial measure; see also "Results of Operations – Consolidated – Non-GAAP Financial Measures" and operating income discussion below for further details).

Operating income before interest expense and income taxes was \$246.4 million for the six months ended June 30, 2018, compared to \$188.0 million for the six months ended June 30, 2017, an increase of \$58.4 million. This increase is primarily due to higher net investment income, the favorable change in reinsurance reinstatement premiums, earned premium growth, and lower catastrophe losses. Reinsurance reinstatement premium, net of ceding commissions, had a favorable impact of \$1.5 million for the six months ended June 30, 2018, compared to an unfavorable impact of \$15.8 million for the six months ended June 30, 2017, a favorable change of \$17.3 million. The unusually high level of reinstatement premiums recorded for the six months ended June 30, 2017 was due to several large losses above our reinsurance retention level in our commercial multiple peril, inland marine, and surety lines. The reinstatement premiums represent the pro-rata reinsurance premium charged for reinstating the amount of reinsurance coverage utilized as a result of the incurred losses that are reimbursable under our reinsurance treaties. Pre-tax catastrophe losses were \$134.8 million for the six months ended June 30, 2018, compared to \$141.2 million during the same period of 2017. Net favorable development on prior years' loss and loss adjustment expense ("LAE") reserves ("prior years' loss reserves") was \$18.8 million for the six months ended June 30, 2018, compared to \$17.3 million during the same period of 2017.

Our strategy reinforces our commitment to our agency partners and is designed to generate profitable growth by leveraging the strengths of our agent-centered distribution strategy, including expansion of our agency footprint in underpenetrated geographies as warranted. We also plan to increase our capabilities in specialty markets and increase investments designed to develop growth solutions for our agency distribution channel. Subject to the announcement described in the next paragraph with respect to Chaucer, our goal is to grow responsibly in all of our businesses, while

managing volatility.

As was announced on March 28, 2018, we are undertaking a strategic review process of our Chaucer business, including a possible sale.

Commercial Lines

We believe our approach to the small commercial market, distinctiveness in the middle market, and continued development of specialty lines provides us with a diversified portfolio of products and delivers significant value to agents and policyholders. Each of these businesses is expected to contribute to premium growth in Commercial Lines over the next several years as we continue to pursue our core strategy of developing strong partnerships with agents, enhanced franchise value through limited distribution, distinctive products and coverages, and continued investment in industry segmentation.

We believe these efforts have driven, and will continue to drive, improvement in our overall mix of business and our underwriting profitability. Commercial Lines net premiums written grew by 7.0% in the first six months of 2018, driven by growth in small commercial, middle market, and the professional lines within our specialty businesses. This was due to rate and exposure increases, strong retention and targeted new business expansion, collectively generating growth of 5.0%. In addition, reinsurance reinstatement activity increased net written and earned premiums in the six months ended June 30, 2018, compared to a decrease in net written and earned premiums for the six months ended June 30, 2017.

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Underwriting results improved in the first six months of 2018, primarily due to the favorable change in reinsurance reinstatement premiums, driven by prior year large loss activity, lower catastrophe losses, favorable development on prior years' loss reserves, and lower expenses. The competitive nature of the Commercial Lines market requires us to be highly disciplined in our underwriting process to ensure that we write business at acceptable margins, and we continue to seek rate increases across our lines of business.

Personal Lines

Personal Lines focuses on partnering with high quality, value-oriented agencies that deliver consultative selling and stress the importance of account rounding (the conversion of single policy customers to accounts with multiple policies and additional coverages, to address customers' broader objectives). Approximately 83% of our policies in force are account business. We are focused on seeking profitable growth opportunities, building a distinctive position in the market, and diversifying geographically.

Net premiums written grew by 8.7% in the first six months of 2018, primarily due to higher renewal premium, driven by rate increases and improved retention, as well as new business growth. Underwriting results improved in the first six months of 2018, primarily due to earned premium growth, lower non-catastrophe current accident year losses and lower expenses, partially offset by higher unfavorable development on prior years' loss reserves and higher catastrophe losses. We continue to seek rate increases in excess of underlying loss cost trends, subject to regulatory and competitive considerations.

Chaucer

Chaucer deploys specialist underwriters in over 30 major insurance and reinsurance classes, including marine, aviation and political, casualty, energy, and property coverages, written on a direct, facultative and treaty basis. We obtain business through Lloyd's, the leading international insurance and reinsurance market, which provides us with access to specialist business in over 200 countries and territories worldwide through its international licenses, brand reputation and strong security rating. Our underwriting strength, diverse portfolio and Lloyd's membership underpin our ability to actively manage the scale, composition and profitable development of this business.

Chaucer's net written premiums increased by 2.7% during the first six months of 2018, due to new business growth initiatives, partially offset by a planned increase in ceded reinsurance premiums. Underwriting results declined in the first six months of 2018, primarily due to higher current accident year losses.

Description of Operating Segments

Primary business operations include insurance products and services currently provided through four operating segments. Our domestic operating segments are Commercial Lines, Personal Lines, and Other. Our international operating segment is Chaucer. Commercial Lines includes commercial multiple peril, commercial automobile, workers' compensation and other commercial coverages, such as inland marine, specialty program business, management and professional liability, surety and specialty property. Personal Lines includes personal automobile, homeowners and other personal coverages. Chaucer underwriting divisions include marine, aviation and political, casualty (which includes international liability, specialist coverages, and run-off syndicate participations), energy, property and assumed reinsurance treaty business ("treaty"). Included in the "Other" segment are Opus Investment Management, Inc., which markets investment management services to institutions, pension funds and other organizations; earnings on holding company assets; holding company and other expenses, including certain costs associated with retirement benefits due to our former life insurance employees and agents; and a run-off voluntary

pools business. We present the separate financial information of each segment consistent with the manner in which our chief operating decision maker evaluates results in deciding how to allocate resources and in assessing performance.

We report interest expense on debt separately from the earnings of our operating segments. This consists of interest on our senior debentures, subordinated debentures, collateralized borrowings with the Federal Home Loan Bank of Boston ("FHLBB"), and letter of credit facility.

Results of Operations – Consolidated

Consolidated net income for the three months ended June 30, 2018 was \$99.3 million, compared to \$78.4 million for the three months ended June 30, 2017, an increase of \$20.9 million. Operating income before interest expense and income taxes for the three months ended June 30, 2018 increased \$10.9 million primarily due to the favorable change in reinsurance reinstatement premiums, driven by prior year large loss activity, earned premium growth and higher net investment income, partially offset by higher catastrophe losses. Additionally, income tax expense on operating income for the three months ended June 30, 2018 decreased \$10.8 million, primarily driven by a decrease in the U.S. statutory tax rate from 35% to 21% effective January 1, 2018.

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Consolidated net income for the six months ended June 30, 2018 was \$167.0 million, compared to \$123.6 million for the six months ended June 30, 2017, an increase of \$43.4 million. Operating income before interest expense and income taxes for the six months ended June 30, 2018 increased \$58.4 million primarily due to higher net investment income, the favorable change in reinsurance reinstatement premiums, driven by prior year large loss activity, earned premium growth and lower catastrophe losses. Additionally, income tax expense on operating income for the six months ended June 30, 2018 decreased \$6.9 million, primarily driven by the aforementioned decrease in the U.S. statutory tax rate. These were partially offset by net realized and unrealized losses, principally related to the change in fair value of equity securities. Effective January 1, 2018, we implemented ASU 2016-01, which requires that the changes in fair value of equity securities be presented in net income. Prior to then, these changes were recognized through accumulated other comprehensive income (see also Note 2 – “New Accounting Pronouncements” in the Notes to Interim Consolidated Financial Statements”), and therefore are not reflected in prior period net income.

The following table reflects operating income before interest expense and income taxes for each operating segment and a reconciliation to consolidated net income from operating income before interest expense and income taxes (a non-GAAP measure).

(in millions)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Operating income (loss) before interest expense and income taxes:				
Commercial Lines	\$82.0	\$43.2	\$143.5	\$80.6
Personal Lines	27.3	47.9	61.7	57.8
Chaucer	21.9	29.7	44.8	54.6
Other	(1.4)	(1.9)	(3.6)	(5.0)
Operating income before interest expense and income taxes	129.8	118.9	246.4	188.0
Interest expense on debt	(11.6)	(12.2)	(24.0)	(24.2)
Operating income before income taxes	118.2	106.7	222.4	163.8
Income tax expense on operating income	(23.6)	(34.4)	(43.8)	(50.7)
Operating income	94.6	72.3	178.6	113.1
Non-operating items:				
Net realized and unrealized investment gains (losses)	3.7	5.9	(19.7)	7.8
Other	(2.0)	(1.6)	(2.2)	(1.6)
Income tax benefit on non-operating items	2.9	1.8	10.3	4.3
Income from continuing operations, net of taxes	99.2	78.4	167.0	123.6
Net gain from discontinued operations, net of taxes	0.1	—	—	—
Net income	\$99.3	\$78.4	\$167.0	\$123.6

Non-GAAP Financial Measures

In addition to consolidated net income, discussed above, we assess our financial performance based upon pre-tax “operating income,” and we assess the operating performance of each of our four operating segments based upon the pre-tax operating income (loss) generated by each segment. As reflected in the table above, operating income before taxes excludes interest expense on debt and certain other items which we believe are not indicative of our core operations, such as net realized and unrealized investment gains and losses. Such gains and losses are excluded since they are determined by interest rates, financial markets and the timing of sales. Also, operating income before taxes

excludes net gains and losses on disposals of businesses, gains and losses related to the repayment of debt, discontinued operations, costs to acquire businesses, restructuring costs, the cumulative effect of accounting changes and certain other items. Although the items excluded from operating income before taxes are important components in understanding and assessing our overall financial performance, we believe a discussion of operating income before taxes enhances an investor's understanding of our results of operations by highlighting net income attributable to the core operations of the business. However, operating income before taxes, which is a non-GAAP measure, should not be construed as a substitute for income before income taxes and operating income should not be construed as a substitute for net income.

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Catastrophe losses and prior years' reserve development are significant components in understanding and assessing the financial performance of our business. Management reviews and evaluates catastrophes and prior years' reserve development separately from the other components of earnings. References to "current accident year underwriting results" exclude catastrophes and prior accident year reserve development. Catastrophes and prior years' reserve development are not predictable as to timing or the amount that will affect the results of our operations and have an effect on each year's operating and net income. Management believes that providing certain financial metrics and trends excluding the effects of catastrophes and prior years' reserve development helps investors to understand the variability in periodic earnings and to evaluate the underlying performance of our operations. Discussion of catastrophe losses in this Management's Discussion and Analysis of Financial Condition and Results of Operations includes development on prior years' catastrophe reserves and, unless otherwise indicated, such development is excluded from discussions on prior year loss and LAE reserve development.

Results of Operations – Segments

The following is our discussion and analysis of the results of operations by business segment. The operating results are presented before interest expense, taxes and other items which management believes are not indicative of our core operations, including net realized and unrealized investment gains and losses and the results of discontinued operations.

The following table summarizes the results of operations for the periods indicated:

(in millions)	Three Months		Six Months Ended	
	Ended June 30, 2018	2017	June 30, 2018	2017
Operating revenues				
Net premiums written	\$1,363.7	\$1,275.7	\$2,628.3	\$2,462.5
Net premiums earned	1,272.9	1,181.2	2,536.5	2,362.5
Net investment income	78.7	72.3	161.6	143.4
Other income	7.5	6.7	15.3	13.3
Total operating revenues	1,359.1	1,260.2	2,713.4	2,519.2
Losses and operating expenses				
Losses and LAE	783.6	725.0	1,569.4	1,491.5
Amortization of deferred acquisition costs	288.9	264.6	576.9	531.0
Other operating expenses	156.8	151.7	320.7	308.7
Total losses and operating expenses	1,229.3	1,141.3	2,467.0	2,331.2
Operating income before interest expense and income taxes	\$129.8	\$118.9	\$246.4	\$188.0

Three Months Ended June 30, 2018 Compared to Three Months Ended June 30, 2017

Operating income before interest expense and income taxes was \$129.8 million in the three months ended June 30, 2018, compared to \$118.9 million for the three months ended June 30, 2017, an increase of \$10.9 million. This increase was primarily due to the favorable change in reinsurance reinstatement premiums, driven by prior year large loss activity, earned premium growth, higher net investment income, and lower expenses, partially offset by higher

catastrophe losses and lower favorable prior year development.

Net premiums written increased by \$88.0 million in the three months ended June 30, 2018 compared to the three months ended June 30, 2017. This improvement was primarily due to growth in our domestic lines.

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Production and Underwriting Results

The following table summarizes premiums written on a gross and net basis, net premiums earned and loss, LAE, expense and combined ratios for the Commercial Lines, Personal Lines and Chaucer segments. Loss, LAE, catastrophe loss and combined ratios shown below include prior year reserve development. These items are not meaningful for our Other segment.

Three Months Ended June 30, 2018							
	Gross	Net	Net				
	Premiums	Premiums	Premiums	Catastrophe	Loss & LAE	Expense	Combined
(dollars in millions)	Written	Written	Earned	Loss Ratios	Ratios	Ratios	Ratios
Commercial Lines	\$717.7	\$629.6	\$634.6	3.9	59.1	34.8	93.9
Personal Lines	489.1	464.6	423.6	8.0	69.9	27.7	97.6
Chaucer	383.7	269.5	214.7	2.2	52.4	43.3	95.7
Total	\$1,590.5	\$1,363.7	\$1,272.9	5.0	61.6	33.9	95.5

Three Months Ended June 30, 2017							
	Gross	Net	Net				
	Premiums	Premiums	Premiums	Catastrophe	Loss & LAE	Expense	Combined
(dollars in millions)	Written	Written	Earned	Loss Ratios	Ratios	Ratios	Ratios
Commercial Lines	\$685.2	\$591.6	\$591.2	7.2	64.0	35.4	99.4
Personal Lines	453.5	430.5	391.3	3.4	63.6	28.2	91.8
Chaucer	340.3	253.6	198.7	0.6	49.0	42.0	91.0
Total	\$1,479.0	\$1,275.7	\$1,181.2	4.8	61.4	34.2	95.6

The following table summarizes net premiums written, and loss and LAE and catastrophe loss ratios by line of business for the Commercial Lines and Personal Lines segments. Loss and LAE and catastrophe loss ratios include prior year reserve development.

Three Months Ended June 30,						
	2018			2017		
	Net			Net		
	Premium	Loss & LAE	Catastrophe	Premium	Loss & LAE	Catastrophe
(dollars in millions)	Written	Ratios	Loss Ratios	Written	Ratios	Loss Ratios
Commercial Lines:						
Commercial multiple peril	\$201.4	60.2	5.3	\$191.4	66.6	13.7

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Commercial automobile	83.9	74.6	2.2	78.5	67.8	1.2
Workers' compensation	74.6	57.2	—	70.9	62.1	—
Other commercial	269.7	53.9	4.6	250.8	61.3	6.2
Total Commercial Lines	\$629.6	59.1	3.9	\$591.6	64.0	7.2
Personal Lines:						
Personal automobile	\$293.2	70.6	1.1	\$269.6	69.4	0.7
Homeowners	160.4	70.4	21.3	150.6	54.9	8.3
Other personal	11.0	42.9	—	10.3	41.7	2.1
Total Personal Lines	\$464.6	69.9	8.0	\$430.5	63.6	3.4

The following table summarizes premiums written on a gross and net basis and net premiums earned by line of business for the Chaucer segment.

(in millions)	Three Months Ended June 30,					
	2018			2017		
	Gross	Net	Net	Gross	Net	Net
	Premium	Premiums	Premiums	Premium	Premiums	Premiums
	Written	Written	Earned	Written	Written	Earned
Chaucer:						
Treaty	\$136.8	\$92.5	\$65.0	\$124.2	\$91.3	\$61.0
Marine, aviation and political	78.1	57.0	53.8	65.4	51.6	52.5
Casualty	77.7	60.0	58.3	65.4	52.6	46.6
Energy	62.3	41.4	24.7	57.6	41.5	26.1
Property	28.8	18.6	12.9	27.7	16.6	12.5
Total Chaucer	\$383.7	\$269.5	\$214.7	\$340.3	\$253.6	\$198.7

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The following table summarizes underwriting results for the Commercial Lines, Personal Lines, Chaucer and Other segments and reconciles it to operating income (loss) before interest expense and income taxes.

(in millions)	Three Months Ended June 30, 2018					2017				
	Commercial Lines	Personal Lines	Chaucer	Other	Total	Commercial Lines	Personal Lines	Chaucer	Other	Total
Underwriting profit (loss), excluding prior year reserve										
development and catastrophes	\$54.5	\$49.8	\$3.6	\$(1.1)	\$106.8	\$44.9	\$42.8	\$3.6	\$(0.6)	\$90.7
Prior year favorable (unfavorable)										
loss and LAE reserve										
development on										
non-catastrophe losses	8.0	(7.8)	10.5	(0.3)	10.4	—	—	15.6	(0.3)	15.3
Prior year favorable										
catastrophe development	0.3	—	5.5	—	5.8	0.8	—	1.0	—	1.8
Current year catastrophe losses	(25.1)	(34.0)	(10.3)	—	(69.4)	(43.4)	(13.3)	(2.2)	—	(58.9)
Underwriting profit (loss)	37.7	8.0	9.3	(1.4)	53.6	2.3	29.5	18.0	(0.9)	48.9
Net investment income	44.8	18.1	12.5	3.3	78.7	41.3	17.4	11.3	2.3	72.3
Fees and other income	2.3	2.8	1.6	0.8	7.5	2.0	2.8	1.2	0.7	6.7
Other operating expenses	(2.8)	(1.6)	(1.5)	(4.1)	(10.0)	(2.4)	(1.8)	(0.8)	(4.0)	(9.0)
Operating income (loss) before										
interest expense and										
income taxes	\$82.0	\$27.3	\$21.9	\$(1.4)	\$129.8	\$43.2	\$47.9	\$29.7	\$(1.9)	\$118.9
Commercial Lines										

Commercial Lines net premiums written were \$629.6 million in the three months ended June 30, 2018, compared to \$591.6 million in the three months ended June 30, 2017. This \$38.0 million increase was primarily driven by pricing increases, strong retention, and targeted new business expansion, in addition to the favorable change in reinsurance

reinstatement premiums. Reinsurance reinstatement activity decreased net written and earned premiums by \$0.9 million for the three months ended June 30, 2018, compared to a \$13.0 million decrease for the three months ended June 30, 2017, a favorable change of \$12.1 million. The unusually high level of reinstatement premiums recorded for the three months ended June 30, 2017 was due to several large property losses above our reinsurance retention level in our inland marine and commercial multiple peril lines. The reinstatement premiums represent the pro-rata reinsurance premium charged for reinstating the amount of reinsurance coverage utilized as a result of the incurred losses that are reimbursable under our reinsurance treaties.

Commercial Lines underwriting profit for the three months ended June 30, 2018 was \$37.7 million, compared to \$2.3 million for the three months ended June 30, 2017, an increase of \$35.4 million. Catastrophe-related losses for the three months ended June 30, 2018 were \$24.8 million, compared to \$42.6 million for the three months ended June 30, 2017, a decrease of \$17.8 million. Favorable development on prior years' loss reserves for the three months ended June 30, 2018 was \$8.0 million, compared to de minimus development for the three months ended June 30, 2017.

Commercial Lines current accident year underwriting profit, excluding catastrophes, was \$54.5 million for the three months ended June 30, 2018, compared to \$44.9 million for the three months ended June 30, 2017. This \$9.6 million increase was primarily due to the favorable change in large loss-related reinsurance reinstatement premiums and to lower expenses, partially offset by higher non-catastrophe current accident year losses driven by large property loss activity in our commercial multiple peril line. The favorable change in reinsurance reinstatement premiums, net of ceding commissions, increased non-catastrophe current accident year underwriting profit by \$8.3 million compared to the prior period.

We are continuing our efforts to improve underwriting results through increased rates, pricing segmentation, specific underwriting actions and targeted new business growth. Our ability to achieve overall rate increases is affected by the current competitive pricing environment, particularly for larger middle market accounts, which may hamper our ability to grow in this portion of our business.

Personal Lines

Personal Lines net premiums written were \$464.6 million in the three months ended June 30, 2018, compared to \$430.5 million in the three months ended June 30, 2017, an increase of \$34.1 million. This was primarily due to higher renewal premiums driven by rate increases.

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Net premiums written in the personal automobile line of business for the three months ended June 30, 2018 were \$293.2 million compared to \$269.6 million for the three months ended June 30, 2017, an increase of \$23.6 million. This was primarily due to rate increases and an increase in policies in force of 3.3%. Net premiums written in the homeowners line of business for the three months ended June 30, 2018 were \$160.4 million compared to \$150.6 million for the three months ended June 30, 2017, an increase of \$9.8 million. This is attributable to rate increases and an increase in policies in force of 3.6%.

Personal Lines underwriting profit for the three months ended June 30, 2018 was \$8.0 million, compared to \$29.5 million for the three months ended June 30, 2017, a decline of \$21.5 million. Catastrophe losses for the three months ended June 30, 2018 were \$34.0 million, compared to \$13.3 million for the three months ended June 30, 2017, an increase of \$20.7 million. Unfavorable development on prior years' loss reserves for the three months ended June 30, 2018 was \$7.8 million, compared to de minimus development for the three months ended June 30, 2017.

Personal Lines current accident year underwriting profit, excluding catastrophes, was \$49.8 million in the three months ended June 30, 2018, compared to \$42.8 million for the three months ended June 30, 2017. This \$7.0 million improvement was primarily due to earned premium growth and lower expenses.

We have been able to obtain rate increases in our Personal Lines markets and we will continue to seek rate increases to meet or exceed loss cost trends. However, our ability to maintain Personal Lines net premiums written may be affected by price competition, our exposure management actions, and regulatory and legal developments. Additionally, these factors, along with weather-related loss volatility, may affect our ability to maintain and improve underwriting results. We monitor these trends and consider them in our rate actions.

Chaucer

Chaucer's net premiums written were \$269.5 million for the three months ended June 30, 2018, compared to \$253.6 million for the three months ended June 30, 2017. This increase of \$15.9 million, or 6.3%, is primarily due to new business growth in our political and casualty lines, partially offset by a planned increase in ceded reinsurance premiums, as a result of current market conditions.

Chaucer's underwriting profit for the three months ended June 30, 2018 was \$9.3 million, compared to \$18.0 million for the three months ended June 30, 2017, a decline of \$8.7 million. This decline is primarily due to lower favorable prior year development and higher catastrophe losses. Favorable development on prior years' loss reserves for the three months ended June 30, 2018 was \$10.5 million, compared to \$15.6 million for the three months ended June 30, 2017, a decrease of \$5.1 million. Catastrophe losses for the three months ended June 30, 2018 were \$4.8 million, compared to \$1.2 million for the three months ended June 30, 2017, an increase of \$3.6 million.

Chaucer's current accident year underwriting profit, excluding catastrophes, was \$3.6 million for both the three months ended June 30, 2018 and 2017.

We continue to experience significant competition across the international insurance industry, with current pricing conditions in all markets being affected by high industry capacity and competition. Also, losses in many of our product lines are inherently volatile.

Other

Other operating loss was \$1.4 million for the three months ended June 30, 2018, compared to \$1.9 million for the three months ended June 30, 2017, a change of \$0.5 million.

Six Months Ended June 30, 2018 Compared to Six Months Ended June 30, 2017

Operating income before interest expense and income taxes was \$246.4 million in the six months ended June 30, 2018, compared to \$188.0 million for the six months ended June 30, 2017, an increase of \$58.4 million. This increase is primarily due to higher net investment income, the favorable change in reinsurance reinstatement premiums, driven by prior year large loss activity, earned premium growth and lower catastrophe losses.

Net premiums written increased by \$165.8 million in the six months ended June 30, 2018, compared to the six months ended June 30, 2017. This improvement was primarily due to growth in our domestic lines.

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Production and Underwriting Results

The following table summarizes premiums written on a gross and net basis, net premiums earned and loss, LAE, expense and combined ratios for the Commercial Lines, Personal Lines and Chaucer segments. Loss, LAE, catastrophe loss and combined ratios shown below include prior year reserve development. These items are not meaningful for our Other segment.

	Six Months Ended June 30, 2018						
	Gross	Net	Net				
	Premiums	Premiums	Premiums	Catastrophe	Loss & LAE	Expense	Combined
(dollars in millions)	Written	Written	Earned	Loss Ratios	Ratios	Ratios	Ratios
Commercial Lines	\$1,476.7	\$1,301.5	\$1,263.6	5.0	60.5	35.0	95.5
Personal Lines	908.7	861.4	837.1	7.3	68.9	27.8	96.7
Chaucer	774.2	465.4	435.8	2.4	52.2	44.2	96.4
Total	\$3,159.6	\$2,628.3	\$2,536.5	5.3	61.9	34.3	96.2

	Six Months Ended June 30, 2017						
	Gross	Net	Net				
	Premiums	Premiums	Premiums	Catastrophe	Loss & LAE	Expense	Combined
(dollars in millions)	Written	Written	Earned	Loss Ratios	Ratios	Ratios	Ratios
Commercial Lines	\$1,403.2	\$1,216.9	\$1,179.5	6.7	63.9	35.9	99.8
Personal Lines	836.7	792.6	773.1	6.9	68.2	28.5	96.7
Chaucer	693.8	453.0	409.9	2.1	51.2	41.0	92.2
Total	\$2,933.7	\$2,462.5	\$2,362.5	6.0	63.1	34.4	97.5

The following table summarizes net premiums written, and loss and LAE and catastrophe loss ratios by line of business for the Commercial Lines and Personal Lines segments. Loss and LAE and catastrophe loss ratios include prior year reserve development.

	Six Months Ended June 30, 2018			2017		
	Net			Net		
	Premiums	Loss & LAE	Catastrophe	Premiums	Loss & LAE	Catastrophe
(dollars in millions)	Written	Ratios	Loss Ratios	Written	Ratios	Loss Ratios
Commercial Lines:						
Commercial multiple peril	\$417.3	64.2	9.1	\$394.4	67.7	12.6
Commercial automobile	173.6	73.6	1.3	161.5	68.9	0.9

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Workers' compensation	167.7	57.3	—	160.1	62.7	—
Other commercial	542.9	54.4	4.4	500.9	59.6	5.8
Total Commercial Lines	\$1,301.5	60.5	5.0	\$1,216.9	63.9	6.7
Personal Lines:						
Personal automobile	\$555.7	70.6	0.8	\$509.2	70.3	0.7
Homeowners	286.0	67.4	19.7	265.0	66.3	18.5
Other personal	19.7	44.4	3.1	18.4	40.0	1.6
Total Personal Lines	\$861.4	68.9	7.3	\$792.6	68.2	6.9

The following table summarizes premiums written on a gross and net basis and net premiums earned by line of business for the Chaucer segment.

(in millions)	Six Months Ended June 30,					
	2018			2017		
	Gross	Net	Net	Gross	Net	Net
	Premium	Premiums	Premiums	Premium	Premiums	Premiums
	Written	Written	Earned	Written	Written	Earned
Chaucer:						
Treaty	\$313.6	\$ 167.4	\$ 125.2	\$274.4	\$ 174.0	\$ 120.8
Marine, aviation and political	158.1	108.5	117.4	150.5	105.7	112.7
Casualty	148.7	116.3	115.7	118.8	92.1	91.2
Energy	102.0	51.2	53.8	99.2	53.4	60.1
Property	51.8	22.0	23.7	50.9	27.8	25.1
Total Chaucer	\$774.2	\$ 465.4	\$ 435.8	\$693.8	\$ 453.0	\$ 409.9

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The following table summarizes underwriting results for the Commercial Lines, Personal Lines, Chaucer and Other segments and reconciles it to operating income.

(in millions)	Six Months Ended June 30, 2018					2017				
	Commercial Lines	Personal Lines	Chaucer	Other	Total	Commercial Lines	Personal Lines	Chaucer	Other	Total
Underwriting profit (loss), excluding prior year reserve										
development and catastrophes	\$107.3	\$93.6	\$6.8	\$(2.1)	\$205.6	\$78.5	\$74.9	\$22.4	\$(1.2)	\$174.6
Prior year favorable (unfavorable)										
loss and LAE reserve										
development on non-catastrophe losses	9.6	(9.4)	19.2	(0.6)	18.8	0.1	(0.1)	17.9	(0.6)	17.3
Prior year favorable catastrophe development	6.9	0.2	8.2	—	15.3	0.8	—	6.4	—	7.2
Current year catastrophe losses	(69.7)	(61.7)	(18.7)	—	(150.1)	(79.8)	(53.7)	(14.9)	—	(148.4)
Underwriting profit (loss)	54.1	22.7	15.5	(2.7)	89.6	(0.4)	21.1	31.8	(1.8)	50.7
Net investment income	90.1	36.5	28.9	6.1	161.6	81.6	34.5	23.7	3.6	143.4
Fees and other income	4.6	5.8	3.5	1.4	15.3	3.9	5.7	2.3	1.4	13.3
Other operating expenses	(5.3)	(3.3)	(3.1)	(8.4)	(20.1)	(4.5)	(3.5)	(3.2)	(8.2)	(19.4)
Operating income (loss) before interest expense and income taxes	\$143.5	\$61.7	\$44.8	\$(3.6)	\$246.4	\$80.6	\$57.8	\$54.6	\$(5.0)	\$188.0
Commercial Lines										

Commercial Lines net premiums written were \$1,301.5 million in the six months ended June 30, 2018, compared to \$1,216.9 million in the six months ended June 30, 2017. This \$84.6 million increase was primarily driven by pricing increases, strong retention, and targeted new business expansion, in addition to the favorable change in reinsurance

reinstatement premiums. Reinsurance reinstatement activity increased net written and earned premiums by \$2.4 million for the six months ended June 30, 2018, compared to a \$20.2 million decrease for the six months ended June 30, 2017, a favorable change of \$22.6 million. The unusually high level of reinstatement premiums recorded for the six months ended June 30, 2017 was due to several large losses above our reinsurance retention level in our commercial multiple peril, inland marine and surety lines.

Commercial Lines underwriting profit for the six months ended June 30, 2018 was \$54.1 million, compared to underwriting loss of \$0.4 million for the six months ended June 30, 2017, a change of \$54.5 million.

Catastrophe-related losses for the six months ended June 30, 2018 were \$62.8 million, compared to \$79.0 million for the six months ended June 30, 2017, a decrease of \$16.2 million. Favorable development on prior years' loss reserves for the six months ended June 30, 2018 was \$9.6 million, compared to \$0.1 million for the six months ended June 30, 2017.

Commercial Lines current accident year underwriting profit, excluding catastrophes, was \$107.3 million for the six months ended June 30, 2018, compared to \$78.5 million for the six months ended June 30, 2017. This \$28.8 million increase was primarily due to the favorable change in large loss-related reinsurance reinstatement premiums and to lower expenses. The favorable change in reinsurance reinstatement premiums, net of ceding commissions, increased non-catastrophe current accident year underwriting profit by \$17.3 million compared to the prior period.

Personal Lines

Personal Lines net premiums written were \$861.4 million in the six months ended June 30, 2018, compared to \$792.6 million in the six months ended June 30, 2017, an increase of \$68.8 million. This was primarily due to higher renewal premium driven by rate increases and improved retention, as well as new business growth.

Net premiums written in the personal automobile line of business for the six months ended June 30, 2018 were \$555.7 million, compared to \$509.2 million for the six months ended June 30, 2017, an increase of \$46.5 million. This was primarily due to rate increases and an increase in policies in force of 3.3%. Net premiums written in the homeowners line of business for the six months ended June 30, 2018 were \$286.0 million compared to \$265.0 million for the six months ended June 30, 2017, an increase of \$21.0 million. This is attributable to rate increases and an increase in policies in force of 3.6%.

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Personal Lines underwriting profit for the six months ended June 30, 2018 was \$22.7 million, compared to \$21.1 million for the six months ended June 30, 2017, an improvement of \$1.6 million. Catastrophe losses for the six months ended June 30, 2018 were \$61.5 million, compared to \$53.7 million for the six months ended June 30, 2017, an increase of \$7.8 million. Unfavorable development on prior years' loss reserves for the six months ended June 30, 2018 was \$9.4 million, compared to \$0.1 million for the six months ended June 30, 2017.

Personal Lines current accident year underwriting profit, excluding catastrophes, was \$93.6 million in the six months ended June 30, 2018, compared to \$74.9 million for the six months ended June 30, 2017. This \$18.7 million improvement was primarily due to earned premium growth, lower non-catastrophe current accident year losses, and lower expenses.

Chaucer

Chaucer's net premiums written were \$465.4 million for the six months ended June 30, 2018, compared to \$453.0 million for the six months ended June 30, 2017, an increase of \$12.4 million, or 2.7%. This was primarily due to new business growth in our casualty and political lines, partially offset by declines in our treaty, property, and marine lines. Partially offsetting the new business growth is a planned increase in ceded reinsurance premiums, as a result of current market conditions.

Chaucer's underwriting profit for the six months ended June 30, 2018 was \$15.5 million, compared to \$31.8 million for the six months ended June 30, 2017, a decline of \$16.3 million. This decline is primarily due to higher current accident year losses. Catastrophe losses for the six months ended June 30, 2018 were \$10.5 million, compared to \$8.5 million for the six months ended June 30, 2017, an increase of \$2.0 million. Favorable development on prior years' loss reserves for the six months ended June 30, 2018 was \$19.2 million, compared to \$17.9 million for the six months ended June 30, 2017, an increase of \$1.3 million.

Partially offsetting favorable development on prior years' loss reserves was unfavorable development in the U.S. casualty business within the treaty lines for years of account 2015 and 2016 of approximately \$7 million for the six months ended June 30, 2018 and approximately \$3 million for the six months ended June 30, 2017. The whole account aggregate excess of loss reinsurance contract into which we cede losses from this business reflects the deposit method of accounting, whereby loss recoveries under this reinsurance contract are deferred and recognized as net investment income over the estimated reinsurance contract term. For the six months ended June 30, 2018, net investment income includes \$5.2 million due to the recognition of expected recoveries from this reinsurance contract, compared to \$2.7 million similarly recognized for the six months ended June 30, 2017.

Chaucer's current accident year underwriting profit, excluding catastrophes, was \$6.8 million in the six months ended June 30, 2018, compared to \$22.4 million for the six months ended June 30, 2017. This \$15.6 million decline was primarily due to higher current accident year losses.

Other

Other operating loss was \$3.6 million for the six months ended June 30, 2018, compared to \$5.0 million for the six months ended June 30, 2017, a change of \$1.4 million.

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Foreign Exchange

Most of Chaucer's transactions are denominated in the currencies that we use to settle transactions with Lloyd's, specifically the U.S. Dollar, the U.K. Pound Sterling ("GBP") and the Canadian Dollar. These are Chaucer's functional currencies under U.S. GAAP. A portion of Chaucer's transactions and its assets and liabilities are denominated in other currencies, such as the Euro, the Swiss Franc, the Australian Dollar and the Japanese Yen. Changes in the value of these currencies versus the functional currencies, particularly versus the GBP, cause transactional gains and losses during each reporting period. The following table summarizes the total effect of Chaucer's foreign exchange transactional gains and losses on comprehensive income:

in millions	Three Months		Six Months	
	Ended	Ended	Ended	Ended
	June 30,	June 30,	June 30,	June 30,
	2018	2017	2018	2017
Effect of revaluing loss and LAE reserves	\$(1.8)	\$(0.1)	\$2.9	\$(4.1)
Effect of revaluing overseas deposits and cash	1.3	(2.0)	(2.1)	0.3
Effect of revaluing premium receivables	2.2	(0.5)	0.5	-
Total FX effect on operating income	1.7	(2.6)	1.3	(3.8)
FX gains reflected in net realized investment gains	0.1	-	0.3	-
Total FX effect on income before income taxes	1.8	(2.6)	1.6	(3.8)
Unrealized FX gains (losses) from investment securities	0.4	1.9	(0.7)	1.7
Total pre-tax effect of transactional FX gains (losses) on comprehensive income	2.2	(0.7)	0.9	(2.1)
Tax (expense) benefit	(0.5)	0.2	(0.2)	0.7
Total effect of transactional FX gains (losses) on comprehensive income	\$1.7	\$(0.5)	\$0.7	\$(1.4)

During the three and six months ended June 30, 2018, foreign exchange gains, on a net basis, increased pre-tax segment income by approximately \$1.8 million and \$1.6 million, respectively, compared to foreign exchange losses in pre-tax segment income of approximately \$2.6 million and \$3.8 million, respectively, for the three and six months ended June 30, 2017, although the impact on various individual components was more significant. These items result primarily from the revaluation of loss and LAE reserves in various currencies, partially offset by the revaluation of investments in overseas deposits and cash. For the three and six months ended June 30, 2018, these items resulted primarily from foreign exchange movements against the South African Rand, the Euro and the Swiss Franc. For the three and six months ended June 30, 2017, these items resulted primarily from foreign exchange movements against the Euro, the Australian Dollar and the Japanese Yen. During the three and six months ended June 30, 2018, pre-tax unrealized foreign exchange gains and losses from Euro-denominated investment securities were approximately \$0.4 and \$0.7 million, respectively, which were reflected as an increase to accumulated other comprehensive income. During the three and six months ended June 30, 2017, pre-tax unrealized foreign exchange gains from Euro-denominated investment securities were approximately \$1.9 million and \$1.7 million, respectively, which were reflected as an increase to accumulated other comprehensive income.

Although we endeavor to balance assets and liabilities for our foreign currencies, a certain level of net exposure to exchange rate fluctuations persists. We monitor and seek to limit the extent of this exposure. Although these transactional foreign exchange gains and losses are unlikely to be material to our financial position, they may be more significant to our financial results of operations in any one period.

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Reserve for Losses and Loss Adjustment Expenses

The table below provides a reconciliation of the gross beginning and ending reserve for unpaid losses and loss adjustment expenses.

(in millions)	Six Months Ended	
	June 30,	
	2018	2017
Gross loss and LAE reserves, beginning of period	\$7,745.0	\$6,949.4
Reinsurance recoverable on unpaid losses	2,608.4	2,274.8
Net loss and LAE reserves, beginning of period	5,136.6	4,674.6
Net incurred losses and LAE in respect of losses occurring in:		
Current year	1,603.5	1,516.0
Prior year non-catastrophe loss development	(18.8)	(17.3)
Prior year catastrophe development	(15.3)	(7.2)
Total incurred losses and LAE	1,569.4	1,491.5
Net payments of losses and LAE in respect of losses		
occurring in:		
Current year	504.9	491.2
Prior years	944.1	799.7
Total payments	1,449.0	1,290.9
Effect of foreign exchange rate changes	(14.1)	25.8
Net reserve for losses and LAE, end of period	5,242.9	4,901.0
Reinsurance recoverable on unpaid losses	2,263.5	2,261.4
Gross reserve for losses and LAE, end of period	\$7,506.4	\$7,162.4

The table below summarizes the gross reserve for losses and LAE by line of business.

(in millions)	December	
	June 30,	31,
	2018	2017
Commercial multiple peril	\$1,040.9	\$1,012.5
Workers' compensation	649.1	628.3
Commercial automobile	381.1	380.2
Other commercial lines:		
AIX program business	469.0	475.4
Other	889.2	904.1
Total other commercial lines	1,358.2	1,379.5
Total Commercial Lines	3,429.3	3,400.5
Personal automobile	1,466.5	1,471.7
Homeowners and other personal	182.4	147.6

Total Personal	1,648.9	1,619.3
Total Chaucer	2,390.0	2,686.5
Total Other Segment	38.2	38.7
Total loss and LAE reserves	\$7,506.4	\$ 7,745.0

“Other commercial lines – Other” in the table above, is primarily comprised of monoline general liability, management and professional general liability, umbrella, surety, fidelity, marine, miscellaneous property, and healthcare lines. Loss and LAE reserves in our “Total Other Segment” relate to our run-off voluntary assumed reinsurance pools business. Also included in the above table, are \$58.3 million and \$59.4 million of asbestos and environmental reserves as of June 30, 2018 and December 31, 2017, respectively. Included in the Chaucer segment are \$101.6 million and \$100.9 million of reserves as of June 30, 2018 and December 31, 2017, respectively, related to Chaucer’s financial and professional liability lines written in 2008 and prior periods.

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The following table summarizes prior year (favorable) unfavorable development for the periods indicated:

(in millions)	Six Months Ended June 30,			2017		
	2018			Loss		
	&			&		
	LAE	Catastrophe	Total	LAE	Catastrophe	Total
Commercial Lines	\$(9.6)	\$ (6.9)	\$(16.5)	\$(0.1)	\$ (0.8)	\$(0.9)
Personal Lines	9.4	(0.2)	9.2	0.1	—	0.1
Chaucer	(19.2)	(8.2)	(27.4)	(17.9)	(6.4)	(24.3)
Other Segment	0.6	—	0.6	0.6	—	0.6
Total prior year favorable development	\$(18.8)	\$ (15.3)	\$(34.1)	\$(17.3)	\$ (7.2)	\$(24.5)

It is not possible to know whether the factors that affected loss reserves in the first six months of 2018 will also occur in future periods. As discussed in detail in our Form 10-K for the year ended December 31, 2017, due to the highly specialized nature of the Lloyd's business, many of our business classes at Chaucer result in claims experience and development patterns that are less predictable and more volatile than most of our Personal and Commercial Lines businesses. We encourage you to read our Form 10-K for more information about our reserving process and the judgments, uncertainties and risks associated therewith.

Catastrophe Loss Development

In the six months ended June 30, 2018 and 2017, favorable catastrophe development was \$15.3 million and \$7.2 million, respectively. The favorable catastrophe development during the six months ended June 30, 2018 was driven by lower than expected losses related to the 2017 hurricanes and California wildfires. The favorable catastrophe development during the six months ended June 30, 2017 was driven by lower than expected losses for Chaucer's treaty business.

2018 Loss and LAE Development, excluding catastrophes

For the six months ended June 30, 2018, net favorable loss and LAE development, excluding catastrophes was \$18.8 million, primarily due to lower than expected losses in Chaucer's political, marine and aviation lines of \$26.9 million, partially offset by higher than expected losses in the casualty line and the U.S. casualty business within the treaty line. Also contributing to Chaucer's favorable development was the favorable impact of foreign exchange rate movements on prior years' loss reserves.

Additionally, lower than expected losses in other commercial and workers' compensation lines was partially offset by higher than expected losses in our commercial and personal automobile lines, both of which were driven by bodily injury severity, primarily in the 2016 accident year. Within other commercial lines, lower than expected losses in our professional and management liability and monoline general liability lines was partially offset by higher than expected losses in AIX programs and business classes which have since been terminated.

2017 Loss and LAE Development, excluding catastrophes

For the six months ended June 30, 2017, net favorable loss and LAE development, excluding catastrophes, was \$17.3 million, primarily due to lower than expected losses in Chaucer's energy line of \$15.4 million. Partially offsetting

Chaucer's favorable development was the unfavorable impact of foreign exchange rate movements on prior years' loss reserves.

Reinsurance

As discussed in Item 1 – Business, “Reinsurance – Commercial and Personal Lines” in our Annual Report on Form 10-K for the year ended December 31, 2017, a large portion of our domestic catastrophe program renews on July 1. We renewed the expiring portion of our 3-year domestic catastrophe reinsurance program, our annual property per risk excess of loss treaty and our surety and fidelity bond treaty at similar structure, terms, and conditions.

Additionally, effective July 1, we have complemented our catastrophe program with a top and aggregate feature, which provides for \$75 million of coverage in excess of \$300 million in aggregate domestic losses, or against a single extreme event on the top of our expiring reinsurance treaty limit that previously exhausted at \$1.1 billion.

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Investments

Investment Results

Net investment income before income taxes was as follows:

(dollars in millions)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Fixed maturities	\$64.7	\$61.4	\$129.3	\$122.3
Equity securities	4.6	5.0	8.5	9.3
Limited partnerships	5.8	3.7	13.1	6.0
Other investments	6.5	5.1	16.2	11.4
Investment expenses	(2.9)	(2.9)	(5.5)	(5.6)
Net investment income	\$78.7	\$72.3	\$161.6	\$143.4
Earned yield, fixed maturities	3.32%	3.37%	3.31 %	3.37 %
Earned yield, total portfolio	3.43%	3.35%	3.44 %	3.31 %

The increase in net investment income for the three and six months ended June 30, 2018 was primarily due to the investment of higher operational cash flows and to increased income from limited partnerships. Net investment income also benefitted from income on certain reinsurance contracts subject to deposit accounting. These increases were partially offset by the impact of lower new money yields.

Investment Portfolio

We held cash and investment assets diversified across several asset classes, as follows:

(dollars in millions)	June 30, 2018		December 31, 2017		
	Carrying Value	% of Total	Carrying Value	% of Total	
Fixed maturities, at fair value	\$7,729.9	83.4	% \$7,779.7	82.6	%
Equity securities, at fair value	554.0	6.0	576.5	6.1	
Mortgage and other loans	384.2	4.2	365.8	3.9	
Other investments	352.6	3.8	319.7	3.4	
Cash and cash equivalents	244.9	2.6	376.4	4.0	
Total cash and investments	\$9,265.6	100.0	% \$9,418.1	100.0	%

Cash and Investments

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Total cash and investments decreased \$152.5 million, or 1.6%, for the six months ended June 30, 2018, primarily due to market value depreciation and the funding of financing activities, including dividend payments and stock repurchases, partially offset by operational cashflows.

The following table provides information about the investment types of our fixed maturities portfolio:

(in millions)	June 30, 2018		Change in Net	
	Amortized Cost	Fair Value	Net Unrealized Gains (Losses)	Unrealized For the Year
U.S. Treasury and government agencies	\$595.1	\$ 580.5	\$ (14.6)	\$ (12.4)
Foreign government	209.6	209.5	(0.1)	(2.0)
Municipals:				
Taxable	972.8	975.6	2.8	(19.5)
Tax-exempt	62.5	62.1	(0.4)	(0.8)
Corporate	4,278.7	4,216.3	(62.4)	(131.0)
Asset-backed:				
Residential mortgage-backed	1,026.7	997.0	(29.7)	(25.1)
Commercial mortgage-backed	624.0	611.6	(12.4)	(17.1)
Asset-backed	78.4	77.3	(1.1)	(0.9)
Total fixed maturities	\$7,847.8	\$ 7,729.9	\$ (117.9)	\$ (208.8)

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The decrease in net unrealized gains (losses) on fixed maturities was primarily due to higher prevailing interest rates and wider credit spreads.

Amortized cost and fair value by rating category were as follows:

(dollars in millions)	Rating Agency	June 30, 2018			December 31, 2017		
		Amortized	Fair	% of Total	Amortized	Fair	% of Total
NAIC Designation	Equivalent Designation	Cost	Value	Fair Value	Cost	Value	Fair Value
1	Aaa/Aa/A	\$5,537.8	\$5,453.9	70.6 %	\$5,333.5	\$5,381.2	69.2 %
2	Baa	1,953.8	1,917.6	24.8	1,996.0	2,026.7	26.0
3	Ba	186.1	188.2	2.4	183.7	191.5	2.5
4	B	154.1	154.1	2.0	166.6	171.1	2.2
5	Caa and lower	15.7	15.8	0.2	8.7	8.9	0.1
6	In or near default	0.3	0.3	—	0.3	0.3	—
Total fixed maturities		\$7,847.8	\$7,729.9	100.0 %	\$7,688.8	\$7,779.7	100.0 %

Based on ratings by the National Association of Insurance Commissioners (“NAIC”), approximately 95% of the fixed maturity portfolio consisted of investment grade securities at June 30, 2018 and December 31, 2017. The quality of our fixed maturity portfolio remains strong based on ratings, capital structure position, support through guarantees, underlying security, issuer diversification and yield curve position.

Our investment portfolio primarily consists of fixed maturity securities whose fair value is susceptible to market risk, including interest rate changes. See also “Quantitative and Qualitative Disclosures about Market Risk” included in Management’s Discussion and Analysis of Financial Condition and Results of Operations contained in our 2017 Annual Report on Form 10-K. Duration is a measurement used to quantify our inherent interest rate risk and analyze invested assets relative to our reserve liabilities.

The duration of our fixed maturity portfolio was as follows:

(dollars in millions)	June 30, 2018			December 31, 2017		
	Amortized	Fair	% of Total	Amortized	Fair	% of Total
Duration	Cost	Value	Fair Value	Cost	Value	Fair Value
0-2 years	\$1,359.9	\$1,369.9	17.7 %	\$1,352.3	\$1,375.1	17.7 %
2-4 years	2,211.4	2,205.3	28.5	2,260.5	2,303.6	29.6
4-6 years	2,173.8	2,129.6	27.6	2,099.5	2,121.3	27.3
6-8 years	1,917.2	1,840.2	23.8	1,684.8	1,682.3	21.6
8-10 years	113.3	113.4	1.5	215.3	218.0	2.8
10+ years	72.2	71.5	0.9	76.4	79.4	1.0

Total fixed maturities	\$7,847.8	\$7,729.9	100.0 %	\$7,688.8	\$7,779.7	100.0 %
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Weighted average duration:	4.3	4.3
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Our fixed maturity and equity securities are carried at fair value. Financial instruments whose value was determined using significant management judgment or estimation constituted less than 1% of the total assets we measured at fair value. See also Note 5 – “Fair Value” in the Notes to Interim Consolidated Financial Statements.

Equity securities primarily consist of U.S. income-oriented large capitalization common stocks and developed market equity index exchange-traded funds.

Mortgage and other loans consist primarily of commercial mortgage loan participations which represent our interest in commercial mortgage loans originated by a third party. We share, on a pro-rata basis, in all related cash flows of the underlying mortgage loans, which are investment-grade quality and diversified by geographic area and property type.

Other investments consist primarily of investments in private equity limited partnerships and overseas deposits. Our investments in limited partnerships include interests in middle market mezzanine, private equity and credit funds. Overseas deposits are foreign and U.S. dollar-denominated investments maintained in overseas funds and managed exclusively by Lloyd’s. These funds are required in order to protect policyholders in overseas markets and enable Chaucer to operate in those markets. Access to those funds is restricted, and we have no control over the investment strategy.

Although we expect to invest new funds primarily in investment grade fixed maturities, we have invested, and expect to continue to invest, a portion of funds in limited partnerships, common equity securities, below investment grade fixed maturities and other investment assets.

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Other-than-Temporary Impairments

For the three and six months ended June 30, 2018, we recognized in earnings \$1.9 million and \$2.6 million, respectively, of other-than-temporary impairments (“OTTI”) on corporate fixed maturity securities and other invested assets. For the three months ended June 30, 2017, we recognized in earnings \$1.8 million of OTTI, primarily on equity securities. For the six months ended June 30, 2017, we recognized in earnings \$3.2 million of OTTI, primarily on equity securities and other invested assets.

The carrying values of fixed maturity securities on non-accrual status at June 30, 2018 and December 31, 2017 were not material. The effects of non-accruals, compared with amounts that would have been recognized in accordance with the original terms of the fixed maturities for the six months ended June 30, 2018 and 2017, were also not material. Any defaults in the fixed maturities portfolio in future periods may negatively affect investment income.

Unrealized Losses

Gross unrealized losses on fixed maturities at June 30, 2018 were \$181.3 million, an increase of \$127.0 million compared to December 31, 2017, primarily attributable to higher prevailing interest rates and wider credit spreads. At June 30, 2018, gross unrealized losses consisted primarily of \$101.3 million on corporate fixed maturities, \$31.5 million on residential mortgage-backed securities, \$16.3 million on U.S. government securities and \$15.5 million on municipal securities. See Note 4 – “Investments” in the Notes to Interim Consolidated Financial Statements.

We view gross unrealized losses on fixed maturities as temporary since it is our assessment that these securities will recover in the near term, allowing us to realize their anticipated long-term economic value. Further, we do not intend to sell, nor is it more likely than not we will be required to sell, such debt securities before this expected recovery of amortized cost (See also “Liquidity and Capital Resources” in Management’s Discussion and Analysis of Financial Condition and Results of Operations of this Form 10-Q). Inherent in our assessment are the risks that market factors may differ from our expectations; the global economic recovery reverts to recessionary trends; we may decide to subsequently sell a security for unforeseen business needs; or changes in the credit assessment from our original assessment may lead us to determine that a sale at the current value would maximize recovery on such investments. To the extent that there are such adverse changes, an OTTI would be recognized as a realized loss. Although unrealized losses are not reflected in the results of financial operations until they are realized or deemed “other-than-temporary,” the fair value of the underlying investment, which does reflect the unrealized loss, is reflected in our Consolidated Balance Sheets.

The following table sets forth gross unrealized losses for fixed maturities by maturity period at June 30, 2018 and December 31, 2017. Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations, with or without call or prepayment penalties, or we may have the right to put or sell the obligations back to the issuers.

	June 30, 2018	December 31, 2017
(in millions)		
Due in one year or less	\$1.2	\$ 0.2
Due after one year through five years	36.0	12.3
Due after five years through ten years	88.5	22.6

Due after ten years	9.6	5.3
	135.3	40.4
Mortgage-backed and asset-backed securities	46.0	13.9
Total fixed maturities	\$181.3	\$ 54.3

As of January 1, 2018, we adopted ASC Update No. 2016-01, (Subtopic 825-10) Financial Instruments – Overall: Recognition and Measurement of Financial Assets and Financial Liabilities (“ASU No. 2016-01”), which resulted in a cumulative effect adjustment of \$97.8 million, net of tax, recorded to retained earnings. See Note 2 – “New Accounting Pronouncements” in the Notes to Interim Consolidated Financial Statements. Beginning in 2018, our equity securities are carried at fair value with increases and decreases in fair value recorded in net income. Previously, changes in fair value on equity securities were recorded in accumulated other comprehensive income, a component of shareholders’ equity.

Our investment portfolio and shareholders’ equity can be significantly impacted by changes in market values of our securities. Market volatility could increase and defaults on fixed income securities could occur. As a result, we could incur additional realized and unrealized losses in future periods, which could have a material adverse impact on our results of operations and/or financial position.

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Monetary policies in the developed economies, particularly in the United States, Europe and Japan, are supportive of moderate economic growth, while fiscal policies are more divergent and subject to change. Major central banks continue to closely monitor developments in global financial markets and the outlook for growth and are committed to adjust monetary policy as required to provide liquidity, support growth and achieve inflation targets. In the United States, the Federal Reserve (the “Fed”) increased its target for the federal funds rate by 0.25% in June 2018 and raised its range to 1.75% to 2.00%. The Fed expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate and steady reductions in the size of its balance sheet. This is supported by its view that economic activity will expand at a moderate pace, labor conditions will remain strong and inflation will rise and stabilize around its 2 percent objective over the medium term. The Fed has communicated that the timing and size of future adjustments to the federal funds rate will depend on the realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. While the Fed believes near-term risks to the economic outlook appear roughly balanced, it continues to closely monitor inflation indicators and global economic and financial developments. One such development being watched carefully is the trade/tariff negotiations between the United States and its various trade partners. Should these negotiations lead to a shift or break-down in global trade patterns, there could be negative implications for certain issuers, sectors, or the economy at large.

While the United States, Canada and the United Kingdom have reduced their extraordinary measures and begun to tighten monetary policy, other major central banks continue with their stimulus policies as they seek higher growth and confront inflation and inflation expectations running below target. The removal, modification or suggestion of changes in these policies could have an adverse effect on prevailing market interest rates and on issuers’ level of business activity or liquidity. Fundamental conditions in the corporate sector generally remain sound. While we may experience defaults on fixed income securities, particularly with respect to non-investment grade debt securities, it is difficult to foresee which issuers, industries or markets will be affected. As a result, the value of our fixed maturity portfolio could change rapidly in ways we cannot currently anticipate, and we could incur additional realized and unrealized losses in future periods.

Other Items

Net income also included the following items:

(in millions)	Three Months Ended June 30,					Total
	Commercial	Personal	Chaucer	Other	Discontinued Operations	
2018	Lines	Lines				
Net realized and unrealized investment gains (losses)	\$3.1	\$ 1.6	\$ (2.2)	\$1.2	\$ —	\$3.7
Other non-operating items	—	—	—	(2.0)	—	(2.0)
Discontinued operations, net of taxes	—	—	—	—	0.1	0.1
2017						
Net realized investment gains (losses)	\$5.9	\$ 2.6	\$ 1.1	\$(3.7)	\$ —	\$5.9
Other non-operating items	(1.1)	(0.7)	0.2	—	—	(1.6)

Six Months Ended June 30,

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(in millions)	Commercial		Personal		Discontinued		Total
	Lines	Lines	Chaucer	Other	Operations		
2018							
Net realized and unrealized investment (losses) gains	\$(13.0)	\$ (4.8)	\$ (2.8)	\$0.9	\$ —		\$(19.7)
Other non-operating items	—	—	—	(2.2)	—		(2.2)
2017							
Net realized investment gains (losses)	\$7.7	\$ 3.8	\$ 0.6	\$(4.3)	\$ —		\$7.8
Other non-operating items	(1.1)	(0.7)	0.2	—	—		(1.6)

We manage investment assets for our Commercial Lines, Personal Lines, and Other segments based on the requirements of our U.S. combined property and casualty companies. We allocate the investment income, expenses and net realized and unrealized investment gains and losses to our Commercial Lines, Personal Lines and Other segments based on actuarial information related to the underlying businesses. We manage investment assets separately for our Chaucer segment.

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Net realized and unrealized gains on investments were \$3.7 million for the three months ended June 30, 2018 and net realized gains were \$5.9 million for the three months ended June 30, 2017. Net realized and unrealized gains in 2018 were primarily due to changes in the fair value of equity securities of \$6.0 million that are now required to be reflected in net income, due to the implementation of ASU 2016-01 effective January 1, 2018. (See also Note 2 – “New Accounting Pronouncements” in the Notes to Interim Consolidated Financial Statements). These gains were partially offset by \$1.9 million of OTTI losses. Net realized gains in 2017 were primarily due to \$7.3 million of net gains recognized from the sale of fixed maturities and equity securities. These gains were partially offset by \$1.8 million of OTTI losses. During the three months ended June 30, 2017, there were net unrealized gains of \$7.8 million from our equity portfolio included in AOCI.

Net realized and unrealized losses on investments were \$19.7 million for the six months ended June 30, 2018 and net realized gains were \$7.8 million for the six months ended June 30, 2017. Net realized and unrealized losses in 2018 were primarily due to changes in the fair value of equity securities of \$17.0 million that are now required to be reflected in net income, due to the implementation of ASU 2016-01 effective January 1, 2018. (See also Note 2 – “New Accounting Pronouncements” in the Notes to Interim Consolidated Financial Statements). Net realized and unrealized losses in 2018 also included \$2.6 million of OTTI losses. Net realized gains in 2017 were primarily due to \$11.4 million of net gains recognized from the sale of equity securities and fixed maturities. These gains were partially offset by \$3.2 million of OTTI losses. During the six months ended June 30, 2017, there were net unrealized gains of \$29.3 million from our equity portfolio included in AOCI.

Income Taxes

We are subject to the tax laws and regulations of the U.S. and foreign countries in which we operate. We file a consolidated U.S. federal income tax return that includes the holding company and its U.S. subsidiaries. Generally, taxes are accrued at the U.S. statutory tax rate for income from the U.S. operations. In December 2017, the U.S. statutory rate decreased from 35% to 21%, effective January 1, 2018. Our primary non-U.S. jurisdiction is in the U.K. In November 2015, the U.K. statutory tax rate decreased from 20% to 19% effective April 1, 2017. A further decrease in the U.K. tax rate was enacted in September 2016 to reduce the U.K. statutory rate to 17% effective April 1, 2020. We accrue taxes on certain non-U.S. income that is subject to U.S. tax at the enacted U.S. tax rate. Foreign tax credits, where available, are utilized to offset U.S. tax as permitted.

Three Months Ended June 30, 2018 Compared to Three Months Ended June 30, 2017

The provision for income taxes from continuing operations was an expense of \$20.7 million in the three months ended June 30, 2018, compared to an expense of \$32.6 million during the same period in 2017. These provisions resulted in consolidated effective federal tax rates of 17.3% and 29.4% for the three months ended June 30, 2018 and 2017, respectively. These provisions reflect benefits related to tax planning strategies implemented in prior years of \$3.3 million during the three months ended June 30, 2018 and 2017. In addition, these provisions also included excess tax benefits related to stock-based compensation of \$0.5 million and \$0.2 million during the three months ended June 30, 2018 and 2017, respectively. Absent these items, the provision for income taxes would have been an expense of \$24.5 million or 20.4% and \$36.1 million or 32.5% for the three months ended June 30, 2018 and 2017, respectively. The decrease in the income tax rate for the three months ended June 30, 2018 is primarily driven by the aforementioned decrease in the U.S. statutory tax rate.

The income tax provision on operating income was an expense of \$23.6 million during the three months ended June 30, 2018, compared to \$34.4 million during the same period in 2017. These provisions resulted in effective tax rates for operating income of 20.0% and 32.2% in 2018 and 2017, respectively. The decrease in the income tax rate for the

three months ended June 30, 2018 is primarily affected by the aforementioned decrease in the U.S. statutory tax rate.

Six Months Ended June 30, 2018 Compared to Six Months Ended June 30, 2017

The provision for income taxes from continuing operations was an expense of \$33.5 million in the six months ended June 30, 2018, compared to an expense of \$46.4 million during the same period in 2017. These provisions resulted in consolidated effective federal tax rates of 16.7% and 27.3% for the six months ended June 30, 2018 and 2017, respectively. These provisions reflect benefits related to tax planning strategies implemented in prior years of \$5.8 million and \$6.4 million during the six months ended June 30, 2018 and 2017, respectively. In addition, these provisions also included excess tax benefits related to stock-based compensation of \$1.8 million and \$2.5 million during the six months ended June 30, 2018 and 2017, respectively. Absent these items, the provision for income taxes would have been \$41.1 million or 20.5% and \$55.3 million or 32.5% for the six months ended June 30, 2018 and 2017, respectively. The decrease in the income tax rate for the six months ended June 30, 2018 is primarily driven by the aforementioned decrease in the U.S. statutory tax rate.

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The income tax provision on operating income was an expense of \$43.8 million during the six months ended June 30, 2018, compared to \$50.7 million during the same period in 2017. These provisions resulted in effective tax rates for operating income of 19.7% and 31.0% in 2018 and 2017, respectively. These provisions included the aforementioned excess tax benefits related to stock-based compensation of \$1.8 million and \$2.5 million during the six months ended June 30, 2018 and 2017, respectively. Absent this item, the provision for income taxes would have been an expense of \$45.6 million, or 20.5% and \$53.2 million, or 32.5% for the six months ended June 30, 2018 and 2017, respectively. The decrease in the income tax rate for the six months ended June 30, 2018 is primarily affected by the aforementioned decrease in the U.S. statutory tax rate.

Critical Accounting Estimates

Interim consolidated financial statements have been prepared in conformity with U.S. GAAP and include certain accounting policies that we consider to be critical due to the amount of judgment and uncertainty inherent in the application of those policies. While we believe that the amounts included in our consolidated financial statements reflect our best judgment, the use of different assumptions could produce materially different accounting estimates. As disclosed in our Annual Report on Form 10-K for the year ended December 31, 2017, we believe the following accounting estimates are critical to our operations and require the most subjective and complex judgment:

- Reserve for losses and loss expenses
- Reinsurance recoverable balances
- Pension benefit obligations
- Other-than-temporary impairments on fixed maturity securities
- Deferred tax assets

For a more detailed discussion of these critical accounting estimates, see our Annual Report on Form 10-K for the year ended December 31, 2017.

Statutory Surplus of U.S. Insurance Subsidiaries

The following table reflects statutory surplus for our U.S. insurance subsidiaries:

(in millions)	June 30, 2018	December 31, 2017
Total Statutory Capital and Surplus—U.S. Insurance Subsidiaries	\$2,075.7	\$2,077.1

The statutory capital and surplus for our U.S. insurance subsidiaries decreased \$1.4 million during the first six months of 2018. This decrease was primarily due to a \$140 million dividend paid by Hanover Insurance to THG in the second quarter of 2018, as well as lower admitted deferred tax assets and unrealized losses. These decreases in statutory capital and surplus were almost entirely offset by operating results.

The NAIC prescribes an annual calculation regarding risk based capital (“RBC”). RBC ratios for regulatory purposes are expressed as a percentage of the capital required to be above the Authorized Control Level (the “Regulatory Scale”); however, in the insurance industry, RBC ratios are widely expressed as a percentage of the Company Action Level. The following table reflects the Company Action Level, the Authorized Control Level and RBC ratios for Hanover

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Insurance (which includes Citizens and other U.S. insurance subsidiaries), as of June 30, 2018, expressed both on the Industry Scale (Total Adjusted Capital divided by the Company Action Level) and Regulatory Scale (Total Adjusted Capital divided by Authorized Control Level):

	Company	Authorized	RBC Ratio	RBC Ratio
(dollars in millions)	Action Level	Control Level	Industry Scale	Regulatory Scale
The Hanover Insurance Company	\$ 1,021.7	\$ 510.9	202 %	405 %

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Funds at Lloyd's

Chaucer through its corporate member, operates in the Lloyd's market, which requires that each member deposit funds, referred to as "Funds at Lloyd's", to support their underwriting interests. Lloyd's sets required capital annually for all participating syndicates based on each syndicate's business plans, the rating and reserving environment, and discussions with regulatory and rating agencies. Although the minimum capital levels are set by Lloyd's, it is the responsibility of Chaucer to continually monitor the risk profiles of its managed syndicates to ensure that the level of funding remains appropriate. Such capital can be comprised of investments, undrawn letters of credit provided by various banks, and cash and cash equivalents.

We have the following securities, letters of credit and cash and cash equivalents pledged to Lloyd's to satisfy these capital requirements at June 30, 2018. At that date, we were in compliance with the capital requirements and expect to be able to meet these capital requirements in the future.

(in millions)	
Fixed maturities, at fair value	\$596.4
Letters of credit	290.5
Cash and cash equivalents	7.1
Total pledged to Lloyd's	\$894.0

Liquidity and Capital Resources

Liquidity is a measure of our ability to generate sufficient cash flows to meet the cash requirements of business operations. As a holding company, our primary ongoing source of cash is dividends from our insurance subsidiaries. However, dividend payments to us by our U.S. insurance subsidiaries are subject to limitations imposed by regulators, such as prior notice periods and the requirement that dividends in excess of a specified percentage of statutory surplus or prior year's statutory earnings receive prior approval (so called "extraordinary dividends"). Dividends of \$140.0 million were paid to the holding company by Hanover Insurance in the second quarter of 2018.

Dividend payments to the holding company by Chaucer are regulated by U.K. law. Dividends from Chaucer are dependent on dividends from its subsidiaries. Annual dividend payments from Chaucer are limited to retained earnings that are not restricted by capital and other requirements for business at Lloyd's. In addition, Chaucer must provide advance notice to the U.K.'s Prudential Regulation Authority ("PRA"), of certain proposed dividends or other payments from PRA regulated entities. Dividends of \$85.0 million were paid to the holding company by Chaucer in the second quarter of 2018.

In connection with an intercompany borrowing arrangement between Chaucer and a wholly owned non-insurance subsidiary of the holding company, interest on a \$300 million note is paid by Chaucer on a quarterly basis to this affiliate, which is ultimately available to provide dividends to the holding company. For the six months ended June 30, 2018, Chaucer paid \$11.2 million of interest related to this note, of which \$11.0 million was then dividended to the holding company. For the six months ended June 30, 2017, Chaucer paid \$9.4 million of interest related to this note, of which \$9.1 million was then dividended to the holding company.

Sources of cash for our insurance subsidiaries primarily consist of premiums collected, investment income and maturing investments. Primary cash outflows are paid claims, losses and loss adjustment expenses, policy and contract acquisition expenses, other underwriting expenses and investment purchases. Cash outflows related to losses and loss adjustment expenses can be variable because of uncertainties surrounding settlement dates for liabilities for unpaid losses and because of the potential for large losses either individually or in the aggregate. We periodically adjust our investment policy to respond to changes in short-term and long-term cash requirements.

Net cash provided by operating activities was \$179.5 million during the first six months of 2018, as compared to \$249.8 million during the first six months of 2017. The \$70.3 million decrease in cash provided was primarily the result of higher loss payments during the first six months of 2018, partially offset by higher net premiums collected during the first six months of 2018.

Net cash used in investing activities was \$234.2 million during the first six months of 2018, as compared to \$145.9 million during the first six months of 2017. During 2018 and 2017, cash used in investing activities primarily related to net purchases of fixed maturities, equity securities and other investments.

Net cash used in financing activities was \$76.0 million during the first six months of 2018, as compared to \$66.5 million during the first six months of 2017. During 2018, cash used in financing activities primarily resulted from the payment of dividends to shareholders, repurchases of common stock, and changes in cash collateral related to securities lending, partially offset by cash inflows related to option exercises. During 2017, cash used in financing activities primarily resulted from the payment of dividends to shareholders and repurchases of common stock, partially offset by cash inflows related to option exercises.

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Dividends to common shareholders are subject to quarterly board approval and declaration. During the first six months of 2018, as declared by the Board, we paid two quarterly dividends, each for \$0.54 per share to our shareholders totaling \$45.9 million. We believe that our holding company assets are sufficient to provide for future shareholder dividends should the Board of Directors declare them.

At June 30, 2018, THG, as a holding company, held \$457.1 million of fixed maturities and cash. We believe our holding company assets will be sufficient to meet our current year obligations, which consist primarily of dividends to our shareholders (as and to the extent declared), interest on our senior and subordinated debentures, certain costs associated with benefits due to our former life employees and agents, and, to the extent required, payments related to indemnification of liabilities associated with the sale of various subsidiaries. As discussed below, we have, and opportunistically may continue to, repurchase our common stock and debt. We may decide to provide funds to the holding company for these or other opportunities through dividends or short-term intercompany lending arrangements.

We expect to continue to generate sufficient positive operating cash to meet all short-term and long-term cash requirements relating to current operations, including the funding of our qualified defined benefit pension plan and the Chaucer pension plan. The ultimate payment amounts for our benefit plans are based on several assumptions, including but not limited to, the rate of return on plan assets, the discount rate for benefit obligations, mortality experience, interest crediting rates, inflation and the ultimate valuation and determination of benefit obligations. Since differences between actual plan experience and our assumptions are almost certain, changes both positive and negative to our current funding status and ultimately our obligations in future periods are likely.

Our insurance subsidiaries maintain a high degree of liquidity within their respective investment portfolios in fixed maturity and short-term investments. We believe that the quality of the assets we hold will allow us to realize the long-term economic value of our portfolio, including securities that are currently in an unrealized loss position. We do not anticipate the need to sell these securities to meet our insurance subsidiaries' cash requirements since we expect our insurance subsidiaries to generate sufficient operating cash to meet all short-term and long-term cash requirements relating to current operations. However, there can be no assurance that unforeseen business needs or other items will not occur causing us to have to sell those securities in a loss position before their values fully recover, thereby causing us to recognize impairment charges in that time period.

Our Board of Directors has authorized aggregate repurchases of our common stock of up to \$900 million. Under the repurchase authorizations, the Company may repurchase, from time to time, common shares in amounts, at prices and at such times as the Company deems appropriate, subject to market conditions and other considerations. Repurchases may be executed using open market purchases, privately negotiated transactions, accelerated repurchase programs or other transactions. We are not required to purchase any specific number of shares or to make purchases by any certain date under this program. During the first six months of 2018, we repurchased approximately 0.2 million shares of our common stock at a cost of \$25.3 million. As of June 30, 2018, we have approximately \$121 million available for repurchases under these repurchase authorizations.

We have a \$200.0 million credit agreement which expires in May 2019, with an option to increase the facility to \$300.0 million assuming no default and satisfaction of certain other conditions. Borrowings, if any, under the agreement are unsecured and incur interest at a rate per annum equal to, the higher of (a) the prime commercial lending rate of the administrative agent, (b) the Federal Funds Rate plus half a percent, or (c) the one month Adjusted LIBOR plus one percent and any applicable margin. The agreement contains financial covenants including, but not limited to, maintaining at least a certain level of consolidated equity, maximum consolidated leverage ratios and requires certain of our subsidiaries to maintain a minimum RBC ratio. We had no borrowings under this agreement

during the first six months of 2018.

Membership in FHLBB provides us with access to additional liquidity based on our stock holdings and pledged collateral. At June 30, 2018, we had additional borrowing capacity of \$100.2 million. There were no borrowings outstanding under this short-term facility at June 30, 2018; however, we have and may continue, from time to time, to borrow through this facility to provide short term liquidity.

On October 27, 2017, we entered into a Standby Letter of Credit Facility Agreement (the “Facility Agreement”) not to exceed £220.0 million (or \$290.5 million) outstanding at any one time, with the option to increase the amount available for issuances of letters of credit to £300.0 million (or \$396.2 million) in the aggregate on one occasion only during the term of the Facility Agreement (subject to the consent of all lenders and assuming no default and satisfaction of other specified conditions). The Facility Agreement provides certain covenants including, but not limited to, the syndicates’ financial condition. The Facility Agreement provides regulatory capital supporting Chaucer’s underwriting activities for the 2018 and 2019 years of account and each prior open year of account. The Facility Agreement is generally renewed biennially to support new underwriting years.

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The Facility agreement is subject to a letter of credit commission fee on outstanding letters of credit, which is payable quarterly. The Facility Agreement fee ranges from 0.90% to 1.50% per annum, depending on our credit ratings for portions that are not cash collateralized, 0.25% per annum for portions that are cash collateralized, and 0.40% per annum for portions that are cash-equivalent collateralized. We may, from time to time, collateralize a portion of the outstanding letter of credit. In addition to the commission fee on the uncollateralized outstanding letter of credit, a commitment fee in respect of the unutilized commitments under the Facility Agreement is payable quarterly, and ranges from 0.315% to 0.525% per annum, depending on our credit ratings. Chaucer is also required to pay customary agency fees. We paid \$1.9 million and \$1.6 million in fees during the first six months of 2018 and 2017, respectively.

Simultaneous with the Facility Agreement, we entered into a Guaranty Agreement (the “Guaranty Agreement”) with Lloyds Bank plc, as Facility Agent and Security Agent, pursuant to which we unconditionally guarantee the obligations of Chaucer under the Facility Agreement. The Guaranty Agreement contains certain financial covenants that require us to maintain a minimum net worth and a maximum leverage ratio, and certain negative covenants that limit our ability, among other things, to incur or assume certain debt, grant liens on our property, merge or consolidate, dispose of assets, materially change the nature or conduct of our business and make restricted payments (except, in each case, as provided by certain exceptions). The Guaranty Agreement also contains certain customary representations and warranties.

For a discussion of our outstanding debt agreements, see Note 6 – “Debt and Credit Arrangements” in the Notes to Consolidated Financial Statements included in Financial Statements and Supplementary Data in our Annual Report on Form 10-K for the year ended December 31, 2017.

At June 30, 2018, we were in compliance with the covenants of our debt and credit agreements.

Off-Balance Sheet Arrangements

We currently do not have any material off-balance sheet arrangements that are reasonably likely to have an effect on our financial position, revenues, expenses, results of operations, liquidity, capital expenditures, or capital resources.

Contingencies and Regulatory Matters

Information regarding litigation, legal contingencies and regulatory matters appears in Part I – Note 12 “Commitments and Contingencies” in the Notes to Interim Consolidated Financial Statements.

Risks and Forward-Looking Statements

Information regarding risk factors and forward-looking information appears in Part II – Item 1A of this Quarterly Report on Form 10-Q and in Part I – Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017. This Management’s Discussion and Analysis should be read and interpreted in light of such factors.

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ITEM 3

QUANTITATIVE AND QUALITATIVE DISCLOSURES

ABOUT MARKET RISK

Our market risks, the ways we manage them, and sensitivity to changes in interest rates, equity price risk, and foreign currency exchange risk are summarized in Management's Discussion and Analysis of Financial Condition and Results of Operations as of December 31, 2017, included in our Annual Report on Form 10-K for the year ended December 31, 2017. There have been no material changes in the first six months of 2018 to these risks or our management of them.

ITEM 4

CONTROLS AND PROCEDURES

Disclosure Controls and Procedures Evaluation

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Limitations on the Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, do not expect that our disclosure controls over financial reporting will prevent all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be 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. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on 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. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Based on our controls evaluation, our Chief Executive Officer and Chief Financial Officer concluded that as of the end of the period covered by this quarterly report, our disclosure controls and procedures were effective to provide reasonable assurance that (i) the information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) material information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and the Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting, as required by Rule 13a-15(d) of the Exchange Act, to determine whether any changes occurred during the period covered by this quarterly report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that there were no such changes during the quarter ended June 30, 2018, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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PART II – OTHER INFORMATION

ITEM 1 – LEGAL PROCEEDINGS

Reference is made to the litigation matter captioned “Durand Litigation” under “Commitments and Contingencies – Legal Proceedings” in Note 12 in the Notes to Interim Consolidated Financial Statements.

ITEM 1A – RISK FACTORS

This document contains, and management may make, certain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, may be forward-looking statements. When used in our Management’s Discussion and Analysis, the words: “believes”, “anticipates”, “expects”, “projections”, “outlook”, “should”, “could”, “plan”, “guidance”, “likely”, “on track to”, “targeted” and other similar expressions are intended to identify forward-looking statements. We caution readers that accuracy with respect to forward-looking projections is difficult and risks and uncertainties, in some cases, have affected, and in the future could affect, our actual results and could cause our actual results for the remainder of 2018 and beyond to differ materially from historical results and from those expressed in any of our forward-looking statements. We operate in a business environment that is continually changing, and as such, new risk factors may emerge over time. Additionally, our business is conducted in competitive markets and, therefore, involves a higher degree of risk. We cannot predict these new risk factors nor can we assess the impact, if any, that they may have on our business in the future. Some of the factors that could cause actual results to differ include, but are not limited to, the following:

- changes in the demand for our products;
- risks and uncertainties with respect to our ability to retain profitable policies in force and attract profitable policies and to increase rates commensurate with, or in excess of, loss trends;
- changes in our estimates of loss and loss adjustment expense reserves, including with respect to catastrophes, which may result in lower current year underwriting income or adverse loss development, and could impact our carried reserves;
- uncertainties with respect to the long-term profitability of our products, including with respect to new products such as our Hanover Platinum Personal Lines, excess and surplus lines, trade credit coverage, or longer-tail products covering casualty losses;
- changes in frequency and loss severity trends;
- changes in regulation, economic, market and political conditions, particularly with respect to regions where we have geographical concentrations or with respect to Lloyd’s;
- the effect of the Brexit referendum and related consequences on (i) Chaucer’s licensing permissions in European Union member states if Lloyd’s does not obtain alternative licensing permissions; (ii) market conditions in the U.K. and the European market; and (iii) foreign exchange volatility;
- volatile and unpredictable developments, including severe weather and other natural physical events, catastrophes and terrorist actions;
- changes in weather patterns, whether as a result of global climate change, or otherwise, causing a higher level of losses from weather events to persist;
- the availability of sufficient information to accurately estimate a loss at a point in time;
- risks and uncertainties with respect to our ability to collect all amounts due from reinsurers and to maintain current levels of reinsurance in the future at commercially reasonable rates, or at all;
-

heightened volatility, fluctuations in interest rates (which have a significant impact on the market value of our investment portfolio and thus our book value), inflationary pressures, default rates and other factors that affect investment returns from our investment portfolio;

fluctuations in currencies which affect the values of financial information converted from an originating currency to our reporting currency;

risks and uncertainties associated with our participation in shared market mechanisms, mandatory reinsurance programs and mandatory and voluntary pooling arrangements;

an increase in mandatory assessments by state guaranty funds or by Lloyd's Central Fund;

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- actions by our competitors, many of which are larger or have greater financial resources than we do;

• loss or retirement of key employees;

• operating difficulties and other unintended consequences from acquisitions and integration of acquired businesses, the introduction of new products and related technology changes and new operating models;

• changes in our claims-paying and financial strength ratings;

• negative changes in our level of statutory surplus;

• risks and uncertainties with respect to our growth or operating strategies, or with respect to our expense and strategic initiatives;

• our ability to declare and pay dividends;

• changes in accounting principles and related financial reporting requirements;

• errors or omissions in connection with the administration of any of our products;

• risks and uncertainties with technology, data security, including cloud-based data information storage, and/or outsourcing relationships that may negatively impact our ability to conduct business;

• an inability to be compliant with recently implemented regulations such as Solvency II or existing regulation such as those relating to sanctions and Sarbanes-Oxley;

• unfavorable judicial or legislative developments;

• risks and uncertainties associated with THG's announcement that it is undertaking a review of strategic alternatives, including a possible sale, for Chaucer, including the potential for management distraction, and business and employee retention concerns; and

• other factors described in such forward-looking statements.

In addition, historical and future reported financial results include estimates with respect to premiums written and earned, reinsurance recoverables, current accident year "picks", loss and loss adjustment reserves and development, fair values of certain investments, other assets and liabilities, tax, contingent and other liabilities, and other items. These estimates are subject to change as more information becomes available.

Under the foreign sanctions regimes established by the United States, Chaucer, as a non-U.S. subsidiary of THG, is permitted to engage in certain transactions which would be prohibited if engaged in by U.S. citizens or persons acting within the jurisdiction of the U.S., including our U.S. subsidiaries. Under the Joint Comprehensive Plan of Action Regarding Iran's Nuclear Program (the "JCPOA") and General License H issued by the U.S. Treasury Department's Office of Foreign Assets Control, Chaucer, as a foreign subsidiary, previously was permitted to conduct business involving Iran and Iranian assets, subject to limitations and prescriptions. On May 8, 2018, President Donald Trump announced the decision for the United States to cease participation in the JCPOA. Consequently, subject to specified "wind-down" periods, General License H is being withdrawn and Chaucer will no longer be able to engage in previously permitted transactions with or involving Iran. However, prior to such announcement, Chaucer entered into a transaction in compliance with General License H and the following disclosure about such transaction is provided pursuant to Section 13(r) of the Securities Exchange Act of 1934, as amended:

During the applicable reporting period, January 1 through June 30, 2018, Chaucer syndicate 1084 maintained a 5% participation in an aviation reinsurance arrangement to reinsure Bimeh Iran ("Iran Insurance Company"), an insurer wholly-owned by the Government of Iran. The arrangement reinsures the hull, liability and cargo risks incurred by the underlying insured, Iran Air. Bimeh Markazi, another insurer wholly-owned by the Government of Iran, was an additional reinsured. This reinsurance arrangement, which was in effect for the period June 22, 2017 through June 21, 2018, was compliant with General License H. The insuring language of the reinsurance arrangement contained a "sanctions exclusion" clause which would terminate coverage in the event Chaucer was not permitted to provide coverage under applicable law, including any subsequent changes in U.S., U.K. or other laws or regulations which would make continuation of such coverage non-compliant. Estimated total gross revenues from this arrangement

were approximately \$275,000, and total revenues, net of brokerage expenses and estimated retrocession costs, were approximately \$179,500. It is not possible at this time to determine the net profit from the arrangement, although as of June 30, 2018, no claims have been paid by Chaucer to either of the reinsureds. The agreement expired on June 21, 2018 and was not renewed. As a result of the withdrawal of the United States from participation in the JCPOA and the subsequent revocation of General License H, Chaucer does not intend to enter into other such transactions in the future.

For a more detailed discussion of our risks and uncertainties, see also Item 1A – Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2017.

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ITEM 2 – UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Issuer Purchases of Equity Securities

Shares purchased in the second quarter of 2018 are as follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet be Purchased Under the Plans or Programs (in millions)
April 1 - 30, 2018 ⁽¹⁾	25,030	\$ 117.26	19,606	\$ 131
May 1 - 31, 2018 ⁽¹⁾	43,871	118.58	42,600	126
June 1 - 30, 2018 ⁽¹⁾	37,919	119.65	36,746	121
Total	106,820	\$ 118.65	98,952	\$ 121

(1) Includes 5,424, 1,271, and 1,173 shares withheld to satisfy tax withholding amounts due from employees related to the receipt of stock which resulted from the exercise or vesting of equity awards for the months ended April 30, May 31, and June 30, 2018, respectively.

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ITEM 6 – EXHIBITS

EX – Description of 2018-2019 Non-Employee Director Compensation.

10.1+

EX – Amendment No. 1 dated June 7, 2018 to Credit Agreement, dated November 12, 2013, among Registrant, as

10.2 borrower, and JP Morgan Chase Bank, N.A., as administrative agent, and various other lender parties.

EX – Certification of the Chief Executive Officer, pursuant to 15 U.S.C. 78m, 78o(d), as adopted pursuant to section

31.1 302 of the Sarbanes-Oxley Act of 2002.

EX – Certification of the Chief Financial Officer, pursuant to 15 U.S.C. 78m, 78o(d), as adopted pursuant to section

31.2 302 of the Sarbanes-Oxley Act of 2002.

EX – Certification of the Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to

32.1 section 906 of the Sarbanes-Oxley Act of 2002.

EX – Certification of the Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section

32.2 906 of the Sarbanes-Oxley Act of 2002.

EX – The following materials from The Hanover Insurance Group, Inc.'s Quarterly Report on Form 10-Q for the
101 quarter ended June 30, 2018 formatted in eXtensible Business Reporting Language (“XBRL”): (i) Consolidated
Statements of Income for the three and six months ended June 30, 2018 and 2017; (ii) Consolidated Statements
of Comprehensive Income for the three and six months ended June 30, 2018 and 2017; (iii) Consolidated
Balance Sheets at June 30, 2018 and December 31, 2017; (iv) Consolidated Statements of Shareholders' Equity
for the six months ended June 30, 2018 and 2017; (v) Consolidated Statements of Cash Flows for the six
months ended June 30, 2018 and 2017, and (vi) related notes to these financial statements.

+ Management contract or compensatory plan or arrangement.

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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.

The Hanover Insurance Group, Inc.
Registrant

August 3, 2018 /s/ John C. Roche
Date John C. Roche
President, Chief Executive Officer and Director

August 3, 2018 /s/ Jeffrey M. Farber
Date Jeffrey M. Farber
Executive Vice President and Chief Financial Officer