

# MARKETAXESS HOLDINGS INC

## FORM 10-Q (Quarterly Report)

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Address	299 PARK AVENUE, 10TH FLOOR NEW YORK, NY, 10171
Telephone	212-831-6000
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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

**Washington, D.C. 20549**

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**FORM 10-Q**

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(Mark One)

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

For the quarterly period ended September 30, 2017

or

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number 001-34091

**MARKETAXESS HOLDINGS INC.**

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of  
incorporation or organization)

299 Park Avenue, 10th Floor New York, New York  
(Address of principal executive offices)

52-2230784  
(IRS Employer  
Identification No.)

10171  
(Zip Code)

(212) 813-6000

(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 website, 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, smaller reporting company, or an "emerging growth company". See definition of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

As of October 26, 2017, the number of shares of the Registrant's voting common stock outstanding was 37,536,939.

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**MARKETAXESS HOLDINGS INC.**  
**FORM 10-Q FOR THE QUARTERLY PERIOD ENDED SEPTEMBER 30, 2017**  
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**PART I — Financial Information**

**Item 1. Financial Statements**

**MARKETAXESS HOLDINGS INC.  
CONSOLIDATED STATEMENTS OF FINANCIAL CONDITION  
(Unaudited)**

	As of	
	September 30, 2017	December 31, 2016
(In thousands, except share and per share amounts)		
<b>ASSETS</b>		
Cash and cash equivalents	\$ 138,992	\$ 168,243
Investments, at fair value	237,221	194,404
Accounts receivable, net of allowance of \$71 and \$82 as of September 30, 2017 and December 31, 2016, respectively	63,027	50,668
Goodwill and intangible assets, net of accumulated amortization	63,155	63,443
Furniture, equipment, leasehold improvements and capitalized software, net of accumulated depreciation and amortization	35,321	31,104
Prepaid expenses and other assets	16,174	11,618
Deferred tax assets, net	8,457	8,562
<b>Total assets</b>	<b>\$ 562,347</b>	<b>\$ 528,042</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>Liabilities</b>		
Accrued employee compensation	\$ 31,027	\$ 34,783
Income and other tax liabilities	4,507	7,582
Deferred revenue	3,191	2,515
Accounts payable, accrued expenses and other liabilities	12,714	15,149
<b>Total liabilities</b>	<b>51,439</b>	<b>60,029</b>
Commitments and Contingencies (Note 10)		
<b>Stockholders' equity</b>		
Preferred stock, \$0.001 par value, 4,855,000 shares authorized, no shares issued and outstanding as of September 30, 2017 and December 31, 2016	—	—
Series A Preferred Stock, \$0.001 par value, 110,000 shares authorized, no shares issued and outstanding as of September 30, 2017 and December 31, 2016	—	—
Common stock voting, \$0.003 par value, 110,000,000 shares authorized, 40,296,774 shares and 40,106,360 shares issued and 37,547,951 shares and 37,543,775 shares outstanding as of September 30, 2017 and December 31, 2016, respectively	121	120
Common stock non-voting, \$0.003 par value, 10,000,000 shares authorized, no shares issued and outstanding as of September 30, 2017 and December 31, 2016	—	—
Additional paid-in capital	342,113	342,311
Treasury stock - Common stock voting, at cost, 2,748,823 and 2,562,585 shares as of September 30, 2017 and December 31, 2016, respectively	(153,682)	(117,330)
Retained earnings	332,506	255,140
Accumulated other comprehensive loss	(10,150)	(12,228)
<b>Total stockholders' equity</b>	<b>510,908</b>	<b>468,013</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 562,347</b>	<b>\$ 528,042</b>

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

**MARKETAXESS HOLDINGS INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(Unaudited)

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>
	<b>(In thousands, except share and per share amounts)</b>			
<b>Revenues</b>				
Commissions	\$ 86,270	\$ 81,456	\$ 267,307	\$ 246,788
Information and post-trade services	8,372	7,322	24,460	23,687
Investment income	964	534	2,551	1,469
Other	1,095	959	3,588	3,539
<b>Total revenues</b>	<u>96,701</u>	<u>90,271</u>	<u>297,906</u>	<u>275,483</u>
<b>Expenses</b>				
Employee compensation and benefits	25,595	23,914	78,417	74,256
Depreciation and amortization	4,583	4,325	14,066	13,546
Technology and communications	5,035	4,245	14,442	12,826
Professional and consulting fees	5,547	4,342	13,912	12,449
Occupancy	1,795	1,220	4,621	3,606
Marketing and advertising	2,089	2,140	6,757	5,742
Clearing costs	1,476	1,035	4,320	4,754
General and administrative	3,364	2,696	8,974	7,029
<b>Total expenses</b>	<u>49,484</u>	<u>43,917</u>	<u>145,509</u>	<u>134,208</u>
<b>Income before income taxes</b>	47,217	46,354	152,397	141,275
Provision for income taxes	13,087	15,436	37,781	48,268
<b>Net income</b>	<u>\$ 34,130</u>	<u>\$ 30,918</u>	<u>\$ 114,616</u>	<u>\$ 93,007</u>
Net income per common share				
Basic	\$ 0.93	\$ 0.84	\$ 3.11	\$ 2.52
Diluted	\$ 0.90	\$ 0.82	\$ 3.01	\$ 2.46
Cash dividends declared per common share	\$ 0.33	\$ 0.26	\$ 0.99	\$ 0.78
Weighted average shares outstanding				
Basic	36,865	36,889	36,856	36,847
Diluted	38,019	37,792	38,069	37,738

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

**MARKETAXESS HOLDINGS INC.**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**  
(Unaudited)

	<b>Three Months Ended September 30,</b>		<b>Nine Months Ended September 30,</b>	
	<b>2017</b>	<b>2016</b>	<b>2017</b>	<b>2016</b>
	<b>(In thousands)</b>			
<b>Net income</b>	\$ 34,130	\$ 30,918	\$ 114,616	\$ 93,007
Net cumulative translation adjustment and foreign currency exchange hedge, net of tax of \$(953), \$346, \$(2,586) and \$4,448, respectively	1,102	(1,052)	2,061	(5,093)
Net unrealized gain (loss) on securities available-for-sale, net of tax of \$16, \$(27), \$10 and \$109, respectively	26	(44)	17	177
<b>Comprehensive income</b>	<b>\$ 35,258</b>	<b>\$ 29,822</b>	<b>\$ 116,694</b>	<b>\$ 88,091</b>

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

**MARKETAXESS HOLDINGS INC.**  
**CONSOLIDATED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY**  
(Unaudited)

	Common Stock Voting	Additional Paid-In Capital	Treasury Stock - Common Stock Voting	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
(In thousands)						
<b>Balance at December 31, 2016</b>	\$ 120	\$ 342,311	\$ (117,330)	\$ 255,140	\$ (12,228)	\$ 468,013
Net income	—	—	—	114,616	—	114,616
Cumulative translation adjustment and foreign currency exchange hedge, net of tax	—	—	—	—	2,061	2,061
Unrealized net gain on securities available-for-sale, net of tax	—	—	—	—	17	17
Stock-based compensation	—	10,989	—	—	—	10,989
Exercise of stock options	1	1,639	—	—	—	1,640
Withholding tax payments on restricted stock vesting and stock option exercises	—	(12,906)	—	—	—	(12,906)
Repurchases of common stock	—	—	(36,352)	—	—	(36,352)
Cumulative effect of change in accounting for employee share-based payments	—	80	—	(51)	—	29
Cash dividend on common stock	—	—	—	(37,199)	—	(37,199)
<b>Balance at September 30, 2017</b>	<u>\$ 121</u>	<u>\$ 342,113</u>	<u>\$ (153,682)</u>	<u>\$ 332,506</u>	<u>\$ (10,150)</u>	<u>\$ 510,908</u>

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

**MARKETAXESS HOLDINGS IN C.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(Unaudited)

	<b>Nine Months Ended September 30,</b>	
	<b>2017</b>	<b>2016</b>
	<b>(In thousands)</b>	
<b>Cash flows from operating activities</b>		
Net income	\$ 114,616	\$ 93,007
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	14,066	13,546
Stock-based compensation expense	10,989	10,636
Deferred taxes	326	(1,387)
Other	1,290	10,044
Changes in operating assets and liabilities:		
(Increase) in accounts receivable	(12,535)	(16,439)
(Increase) in prepaid expenses and other assets	(4,503)	(2,151)
Decrease (increase) in corporate debt trading investments	8,338	(74,535)
(Increase) in mutual funds held in rabbi trust	(1,730)	(1,328)
(Decrease) in accrued employee compensation	(3,756)	(750)
(Decrease) in income and other tax liabilities	(3,277)	(843)
Increase in deferred revenue	676	694
(Decrease) increase in accounts payable, accrued expenses and other liabilities	(2,917)	2,646
<b>Net cash provided by operating activities</b>	<u>121,583</u>	<u>33,140</u>
<b>Cash flows from investing activities</b>		
Available-for-sale investments		
Proceeds from maturities and sales	146,295	32,025
Purchases	(196,810)	(42,495)
Purchases of furniture, equipment and leasehold improvements	(7,245)	(4,754)
Capitalization of software development costs	(10,094)	(9,058)
Other	(53)	383
<b>Net cash (used in) investing activities</b>	<u>(67,907)</u>	<u>(23,899)</u>
<b>Cash flows from financing activities</b>		
Cash dividend on common stock	(36,717)	(28,914)
Exercise of stock options	1,640	2,172
Withholding tax payments on restricted stock vesting and stock option exercises	(12,906)	(5,929)
Repurchases of common stock	(36,352)	(13,874)
<b>Net cash (used in) financing activities</b>	<u>(84,335)</u>	<u>(46,545)</u>
<b>Effect of exchange rate changes on cash and cash equivalents</b>	<u>1,408</u>	<u>(980)</u>
<b>Cash and cash equivalents</b>		
Net (decrease) for the period	(29,251)	(38,284)
Beginning of period	168,243	199,728
<b>End of period</b>	<u>\$ 138,992</u>	<u>\$ 161,444</u>

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



**MARKETAXESS HOLDINGS INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(Unaudited)**

**1. Organization and Principal Business Activity**

MarketAxess Holdings Inc. (the “Company” or “MarketAxess”) was incorporated in the State of Delaware on April 11, 2000. Through its subsidiaries, MarketAxess operates a leading electronic trading platform that enables fixed-income market participants to efficiently trade corporate bonds and other types of fixed-income instruments using MarketAxess' patented trading technology. Over 1,300 institutional investor and broker-dealer firms are active users of the MarketAxess trading platform, accessing global liquidity in U.S. high-grade corporate bonds, emerging markets and high-yield bonds, European bonds, U.S. agency bonds, municipal bonds, credit default swaps and other fixed-income securities. Through its Open Trading™ protocols, MarketAxess executes certain bond transactions between and among institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller in trades which then settle through a third-party clearing broker. MarketAxess also offers a number of trading-related products and services, including: market data to assist clients with trading decisions; connectivity solutions that facilitate straight-through processing; technology services to optimize trading environments; and execution services for exchange-traded fund managers and other clients. Through its Trax® division, MarketAxess also offers a range of pre- and post-trade services, including trade matching, regulatory transaction reporting and market and reference data, across a range of fixed-income and other products.

**2. Significant Accounting Policies**

*Basis of Presentation*

The consolidated financial statements include the accounts of the Company and its subsidiaries. All intercompany transactions and balances have been eliminated. These consolidated financial statements are unaudited and should be read in conjunction with the audited consolidated financial statements included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2016. The consolidated financial information as of December 31, 2016 has been derived from audited financial statements not included herein. These unaudited consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles (“GAAP”) and the rules and regulations of the U.S. Securities and Exchange Commission (“SEC”) with respect to Form 10-Q and reflect all adjustments that, in the opinion of management, are normal and recurring, and that are necessary for a fair statement of the results for the interim periods presented. In accordance with such rules and regulations, certain disclosures that are normally included in annual financial statements have been omitted. Interim period operating results may not be indicative of the operating results for a full year.

*Accounting Pronouncements, Recently Adopted*

Effective January 1, 2017, the Company adopted ASU 2016-09, “Improvements to Employee Share-Based Payment Accounting” (“ASU 2016-09”). ASU 2016-09 simplifies several aspects related to the accounting for share-based payment transactions, including the accounting for income taxes, statutory tax withholding requirements and classification on the statement of cash flows. Beginning January 1, 2017, the tax effects related to share-based payments are recorded through the income tax provision and the Company has elected to account for forfeitures as they occur. The adoption of ASU 2016-09 will cause volatility in the Company’s net income, effective tax rate and diluted earnings per share. The volatility in future periods will depend on the Company’s stock price at the vest date for restricted stock awards or exercise date for stock options and the number of awards that vest or are exercised in each period. Under the new guidance, excess tax benefits from share-based compensation are included as an operating activity in the Company’s Consolidated Statements of Cash Flows. Prior period cash flows have been adjusted to conform to the new presentation.

*Accounting Pronouncements, Not Yet Adopted*

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2014-09, “Revenue from Contracts with Customers” (“ASU 2014-09”) requiring an entity to recognize revenue for the transfer of goods or services equal to the amount that it expects to be entitled to receive for those goods or services. The Company intends to adopt the new guidance using the modified retrospective method beginning January 1, 2018. The Company’s implementation efforts include the identification of revenue streams within the scope of the guidance, the evaluation of certain revenue contracts underlying the revenue streams, discussions with our advisory consultants, and periodic discussions with our audit committee. The Company’s evaluation of the impact of this accounting guidance is ongoing although it does not expect this guidance to have a material effect on its Consolidated Financial Statements or disclosures.

In February 2016, the FASB issued ASU 2016-02, “Leases” (“ASU 2016-02”) requiring lessees to recognize lease assets and lease liabilities on the balance sheet for those leases previously classified as operating leases. ASU 2016-02 will be effective for the Company beginning January 1, 2019 and early adoption is permitted and should be applied prospectively. The Company is currently evaluating the potential adoption impact and expects to recognize lease assets and lease liabilities in its Consolidated Statements of Financial Condition. The Company does not expect material changes to the recognition of operating lease expense in its Consolidated Statements of Operations.

In January 2017, the FASB issued ASU 2017-04, “Intangibles-Goodwill and Other” (“ASU 2017-04”). ASU 2017-04 simplifies the testing for goodwill impairment. The guidance will be effective for the Company beginning January 1, 2020 and early adoption is permitted and should be applied prospectively. The adoption of this guidance is not expected to have a material effect on the Company’s Consolidated Financial Statements.

#### ***Cash and Cash Equivalents***

Cash and cash equivalents includes cash and money market instruments that are primarily maintained at one major global bank. Given this concentration, the Company is exposed to certain credit risk in relation to its deposits at this bank. The Company defines cash equivalents as short-term interest-bearing investments with maturities at the time of purchase of three months or less.

#### ***Investments***

The Company determines the appropriate classification of securities at the time of purchase which are recorded in the Consolidated Statements of Financial Condition on the trade date. Securities are classified as available-for-sale or trading. The Company’s available-for-sale investments are comprised of municipal bonds and investment grade corporate debt securities. Available-for-sale investments are carried at fair value with the unrealized gains or losses reported in accumulated other comprehensive loss in the Consolidated Statements of Financial Condition. Trading investments primarily include investment grade corporate debt securities and are carried at fair value, with realized and unrealized gains or losses included in other income in the Consolidated Statements of Operations.

The Company assesses whether an other-than-temporary impairment loss on the available-for-sale investments has occurred due to declines in fair value or other market conditions. The portion of an other-than-temporary impairment related to credit loss is recorded as a charge in the Consolidated Statements of Operations. The remainder is recognized in accumulated other comprehensive loss if the Company does not intend to sell the security and it is more likely than not that the Company will not be required to sell the security prior to recovery. No charges for other-than-temporary losses were recorded during the nine months ended September 30, 2017 and 2016.

#### ***Fair Value Financial Instruments***

Fair value is defined as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.” A three-tiered hierarchy for determining fair value has been established that prioritizes inputs to valuation techniques used in fair value calculations. The three levels of inputs are defined as Level 1 (unadjusted quoted prices for identical assets or liabilities in active markets), Level 2 (inputs that are observable in the marketplace other than those inputs classified in Level 1) and Level 3 (inputs that are unobservable in the marketplace). The Company’s financial assets and liabilities measured at fair value on a recurring basis consist of its money market funds, securities available-for-sale, trading securities and foreign currency forward contracts. All other financial instruments are short-term in nature and the carrying amount is reported on the Consolidated Statements of Financial Condition at approximate fair value.

#### ***Allowance for Doubtful Accounts***

All accounts receivable have contractual maturities of less than one year and are derived from trading-related fees and commissions and revenues from products and services. The Company continually monitors collections and payments from its customers and maintains an allowance for doubtful accounts. The allowance for doubtful accounts is based upon the historical collection experience and specific collection issues that have been identified. Additions to the allowance for doubtful accounts are charged to bad debt expense, which is included in general and administrative expense in the Company’s Consolidated Statements of Operations.

### ***Depreciation and Amortization***

Fixed assets are carried at cost less accumulated depreciation. The Company uses the straight-line method of depreciation over three to seven years. The Company amortizes leasehold improvements on a straight-line basis over the lesser of the life of the improvement or the remaining term of the lease.

### ***Software Development Costs***

The Company capitalizes certain costs associated with the development of internal use software, including among other items, employee compensation and related benefits and third party consulting costs at the point at which the conceptual formulation, design and testing of possible software project alternatives have been completed. Once the product is ready for its intended use, such costs are amortized on a straight-line basis over three years. The Company reviews the amounts capitalized for impairment whenever events or changes in circumstances indicate that the carrying amounts of the assets may not be recoverable.

### ***Cash Provided as Collateral***

Cash is provided as collateral for broker-dealer clearing accounts. Cash provided as collateral is included in prepaid expenses and other assets in the Consolidated Statements of Financial Condition.

### ***Foreign Currency Translation and Forward Contracts***

Assets and liabilities denominated in foreign currencies are translated using exchange rates at the end of the period; revenues and expenses are translated at average monthly rates. Gains and losses on foreign currency translation are a component of accumulated other comprehensive loss in the Consolidated Statements of Financial Condition. Transaction gains and losses are recorded in general and administrative expense in the Consolidated Statements of Operations.

The Company enters into foreign currency forward contracts to hedge its net investment in its U.K. subsidiaries. Gains and losses on these transactions are included in accumulated other comprehensive loss in the Consolidated Statements of Financial Condition.

### ***Revenue Recognition***

The majority of the Company's revenues are derived from commissions for trades executed on its platform and distribution fees that are billed to its broker-dealer clients on a monthly basis. The Company also derives revenues from information and post-trade services, technology products and services, investment income and other income.

*Commission revenue.* Commissions are generally calculated as a percentage of the notional dollar volume of bonds traded on the platform and vary based on the type, size, yield and maturity of the bond traded. Under the Company's transaction fee plans, bonds that are more actively traded or that have shorter maturities are generally charged lower commissions, while bonds that are less actively traded or that have longer maturities generally command higher commissions. For trades that the Company executes between and among institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller, the Company earns the commission through the difference in price between the two matched principal trades. Fee programs for certain products include distribution fees which are recognized monthly.

*Information and post-trade services.* The Company generates revenue from information services provided to our broker-dealer clients, institutional investor clients and data-only subscribers. Information services are invoiced monthly, quarterly or annually. When billed in advance, revenues are deferred and recognized monthly on a straight-line basis. The Company also generates revenue from regulatory transaction reporting and trade matching services. Revenue is recognized in the period the services are provided.

*Technology products and services.* The Company generates revenues from professional consulting services, technology software licenses and maintenance and support services. Revenue from professional consulting services is recognized as services are performed and software license subscription revenue and maintenance and support services are recognized ratably over the contract period. Technology products and services revenue is reported in other income in the Consolidated Statements of Operations.

### ***Stock-Based Compensation***

The Company measures and recognizes compensation expense for all share-based payment awards based on their estimated fair values measured as of the grant date. These costs are recognized as an expense in the Consolidated Statements of Operations over the requisite service period, which is typically the vesting period, with an offsetting increase to additional paid-in capital. Effective upon the Company's adoption of ASU 2016-09, the Company accounts for forfeitures as they occur. Prior to the adoption of ASU 2016-09, expected forfeitures were included in determining share-based compensation expense.

### ***Income Taxes***

Income taxes are accounted for using the asset and liability method. Deferred income taxes reflect the net tax effects of temporary differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when such differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance is recognized against deferred tax assets if it is more likely than not that such assets will not be realized in future years. The Company recognizes interest and penalties related to unrecognized tax benefits in general and administrative expenses in the Consolidated Statements of Operations. Effective upon the Company's adoption of ASU 2016-09, all tax effects related to share-based payments are recorded through tax expense in the periods during which the awards are exercised or vest.

### ***Business Combinations, Goodwill and Intangible Assets***

Business combinations are accounted for under the purchase method of accounting. The total cost of an acquisition is allocated to the underlying net assets based on their respective estimated fair values. The excess of the purchase price over the estimated fair values of the net assets acquired is recorded as goodwill. Determining the fair value of certain assets acquired and liabilities assumed is judgmental in nature and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash flows, discount rates, growth rates and asset lives.

The Company operates as a single reporting unit. Subsequent to an acquisition, goodwill no longer retains its identification with a particular acquisition, but instead becomes identifiable with the entire reporting unit. As a result, all of the fair value of the Company is available to support the value of goodwill. An impairment review of goodwill is performed on an annual basis, at year-end, or more frequently if circumstances change. Intangible assets with definite lives, including purchased technologies, customer relationships and other intangible assets, are amortized on a straight-line basis over their estimated useful lives, ranging from three to 15 years. Intangible assets are assessed for impairment when events or circumstances indicate the existence of a possible impairment.

### ***Earnings Per Share***

Basic earnings per share is computed by dividing the net income attributable to common stock by the weighted-average number of shares of common stock outstanding during the period. For purposes of computing diluted earnings per share, the weighted-average shares outstanding of common stock reflects the dilutive effect that could occur if convertible securities or other contracts to issue common stock were converted into or exercised for common stock.

### ***Use of Estimates***

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

### ***Out-of-Period Adjustments***

During the first quarter of 2016, the Company determined that it had incorrectly recorded deferred taxes for the cumulative translation adjustment ("CTA") that arises from converting the local currency financial statements into U.S. dollars. Upon making a permanent reinvestment assertion on unremitted earnings from foreign subsidiaries effective January 1, 2013, the Company should have eliminated any deferred tax balances derived from the CTA balance. The Company also determined that gains and losses on the foreign currency forward contracts used to hedge the net investment in certain foreign subsidiaries were not appropriately considered as taxable income or expense in the consolidated tax returns. The Company assessed these errors and determined that they were not material to previous reporting periods. Therefore, the Company recorded these items as out-of-period adjustments in the three months ended March 31, 2016 by decreasing deferred tax assets by \$3.1 million, decreasing other comprehensive income by \$2.1 million and increasing prepaid expenses and other assets by \$1.0 million in the Consolidated Statements of Financial Condition.

### Reclassifications

Certain reclassifications have been made to the prior period's Consolidated Financial Statements in order to conform to the current year presentation. Such reclassifications had no effect on previously reported net income.

### 3. Net Capital Requirements

Certain U.S. subsidiaries of the Company are registered as a broker-dealer or swap execution facility and therefore are subject to the applicable rules and regulations of the SEC and the Commodity Futures Trading Commission. These rules contain minimum net capital requirements, as defined in the applicable regulations, and also may require a significant part of the registrants' assets be kept in relatively liquid form. Certain of the Company's foreign subsidiaries are regulated by the Financial Conduct Authority in the U.K. or other foreign regulators and must maintain financial resources, as defined in the applicable regulations, in excess of the applicable financial resources requirement. As of September 30, 2017, each of the Company's subsidiaries that are subject to these regulations had net capital or financial resources in excess of their minimum requirements. As of September 30, 2017, the Company's subsidiaries maintained aggregate net capital and financial resources that was \$128.2 million in excess of the required levels of \$12.6 million.

Each of the Company's U.S. and foreign regulated subsidiaries are subject to local regulations which generally prohibit repayment of borrowings from the Company or affiliates, paying cash dividends, making loans to the Company or affiliates or otherwise entering into transactions that result in a significant reduction in regulatory net capital or financial resources without prior notification to or approval from such regulated entity's principal regulator.

### 4. Fair Value Measurements

The following table summarizes the valuation of the Company's assets and liabilities measured at fair value as categorized based on the hierarchy described in Note 2.

	Level 1	Level 2	Level 3	Total
	(In thousands)			
<b>As of September 30, 2017</b>				
Money market funds	\$ 25,213	\$ —	\$ —	\$ 25,213
Securities available-for-sale				
Corporate debt	—	168,278	—	168,278
Trading securities				
Corporate debt	—	65,885	—	65,885
Mutual funds held in rabbi trust	—	3,058	—	3,058
Foreign currency forward position	—	591	—	591
Total	<u>\$ 25,213</u>	<u>\$ 237,812</u>	<u>\$ —</u>	<u>\$ 263,025</u>
<b>As of December 31, 2016</b>				
Money market funds	\$ 58,573	\$ —	\$ —	\$ 58,573
Securities available-for-sale				
Corporate debt	—	118,870	—	118,870
Trading securities				
Corporate debt	—	74,207	—	74,207
Mutual funds held in rabbi trust	—	1,327	—	1,327
Foreign currency forward position	—	(266)	—	(266)
Total	<u>\$ 58,573</u>	<u>\$ 194,138</u>	<u>\$ —</u>	<u>\$ 252,711</u>

Securities classified within Level 2 were valued using a market approach utilizing prices and other relevant information generated by market transactions involving comparable assets. The foreign currency forward contracts are classified within Level 2 as the valuation inputs are based on quoted market prices. The mutual funds held in a rabbi trust represent investments associated with the deferred cash incentive plan (see Note 14). There were no financial assets classified within Level 3 during the nine months ended September 30, 2017 and 2016.

The Company enters into foreign currency forward contracts to hedge the net investment in the Company's U.K. subsidiaries. The Company designates each foreign currency forward contract as a hedge and assesses the risk management objective and strategy, including identification of the hedging instrument, the hedged item and the risk exposure and how effectiveness is to be assessed prospectively and retrospectively. These hedges are for a one-month period and are used to limit exposure to foreign currency exchange rate fluctuations. The fair value of the asset is included in prepaid expenses and other assets and the fair value of the liability is included in accounts payable, accrued expenses and other liabilities in the Consolidated Statements of Financial Condition. Gains or losses on foreign currency forward contracts designated as hedges are included in accumulated other comprehensive loss in the Consolidated Statements of Financial Condition. A summary of the Company's foreign currency forward position is as follows:

	As of	
	September 30, 2017	December 31, 2016
	(In thousands)	
Notional value	\$ 89,035	\$ 66,972
Fair value of notional	88,444	67,238
Fair value of the asset (liability)	<u>\$ 591</u>	<u>\$ (266)</u>

The following is a summary of the Company's investments:

	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
	(In thousands)			
<b>As of September 30, 2017</b>				
<b>Securities available-for-sale</b>				
Corporate debt	\$ 168,455	\$ 18	\$ (195)	\$ 168,278
<b>Trading securities</b>				
Corporate debt	65,940	67	(122)	65,885
Mutual funds held in rabbi trust	2,729	329	—	3,058
Total trading securities	<u>68,669</u>	<u>396</u>	<u>(122)</u>	<u>68,943</u>
<b>Total investments</b>	<u>\$ 237,124</u>	<u>\$ 414</u>	<u>\$ (317)</u>	<u>\$ 237,221</u>
<b>As of December 31, 2016</b>				
<b>Securities available-for-sale</b>				
Corporate debt	\$ 119,073	\$ 13	\$ (216)	\$ 118,870
<b>Trading securities</b>				
Corporate debt	74,394	47	(234)	74,207
Mutual funds held in rabbi trust	1,212	115	—	1,327
Total trading securities	<u>75,606</u>	<u>162</u>	<u>(234)</u>	<u>75,534</u>
<b>Total investments</b>	<u>\$ 194,679</u>	<u>\$ 175</u>	<u>\$ (450)</u>	<u>\$ 194,404</u>

The following table summarizes the fair value of the investments based upon the contractual maturities:

	As of	
	September 30, 2017	December 31, 2016
	(In thousands)	
Less than one year	\$ 133,207	\$ 117,904
Due in 1 - 5 years	104,014	76,500
Total	<u>\$ 237,221</u>	<u>\$ 194,404</u>

Proceeds from the sales and maturities of investments during the nine months ended September 30, 2017 and 2016 were \$170.1 million and \$48.1 million, respectively.

The following table provides fair values and unrealized losses on investments and by the aging of the securities' continuous unrealized loss position as of September 30, 2017 and December 31, 2016:

	Less than Twelve Months		Twelve Months or More		Total	
	Estimated fair value	Gross unrealized losses	Estimated fair value	Gross unrealized losses	Estimated fair value	Gross unrealized losses
	(In thousands)					
<b>As of September 30, 2017</b>						
Corporate debt	\$ 173,000	\$ (284)	\$ 5,426	\$ (33)	\$ 178,426	\$ (317)
<b>As of December 31, 2016</b>						
Corporate debt	\$ 136,667	\$ (449)	\$ 2,000	\$ (1)	\$ 138,667	\$ (450)

## 5. Goodwill and Intangible Assets

Goodwill and intangible assets with indefinite lives was \$59.7 million as of both September 30, 2017 and December 31, 2016. Intangible assets that are subject to amortization, including the related accumulated amortization, are comprised of the following:

	September 30, 2017			December 31, 2016		
	Cost	Accumulated amortization	Net carrying amount	Cost	Accumulated amortization	Net carrying amount
	(In thousands)					
Technology	\$ 5,770	\$ (5,770)	\$ —	\$ 5,770	\$ (5,770)	\$ —
Customer relationships	5,645	(2,203)	3,443	5,628	(1,897)	3,731
Non-competition agreements	380	(380)	—	380	(380)	—
Tradenames	370	(370)	—	370	(370)	—
Total	<u>\$ 12,165</u>	<u>\$ (8,723)</u>	<u>\$ 3,443</u>	<u>\$ 12,148</u>	<u>\$ (8,417)</u>	<u>\$ 3,731</u>

Amortization expense associated with identifiable intangible assets was \$0.3 million and \$0.6 million for the nine months ended September 30, 2017 and 2016, respectively. Estimated total amortization expense is \$0.4 million for each year from 2017 through 2021.

## 6. Income Taxes

The provision for income taxes consists of the following:

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>
	(In thousands)			
Current:				
Federal	\$ 11,331	\$ 13,273	\$ 28,676	\$ 30,898
State and local	1,651	1,895	4,579	5,055
Foreign	1,191	1,714	4,234	4,599
Total current provision	<u>14,173</u>	<u>16,882</u>	<u>37,489</u>	<u>40,552</u>
Deferred:				
Federal	(930)	(918)	130	6,895
State and local	(158)	(154)	(64)	964
Foreign	2	(374)	226	(143)
Total deferred provision	<u>(1,086)</u>	<u>(1,446)</u>	<u>292</u>	<u>7,716</u>
Provision for income taxes	<u>\$ 13,087</u>	<u>\$ 15,436</u>	<u>\$ 37,781</u>	<u>\$ 48,268</u>

The Company recognized excess tax benefits on share-based payments of \$ 3.8 million and \$ 14.8 million through the provision for income taxes, for the three and nine months ended September 30, 2017, respectively.

The Company or one of its subsidiaries files U.S. federal, state and foreign income tax returns. Income tax returns for U.S. Federal (through 2013), New York City (through 2003) and state (through 2009) and Connecticut state (through 2003) have been audited. An examination of the Company's New York State income tax returns for 2010 through 2013 is currently underway. The Company cannot estimate when the examination will conclude or the impact such examination will have on the Company's Consolidated Financial Statements, if any.

The Company has determined that unremitted earnings of the Company's foreign subsidiaries are considered indefinitely reinvested outside of the United States.

## 7. Stock-Based Compensation Plans

Stock-based compensation expense for the three and nine months ended September 30, 2017 and 2016 was as follows:

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>
	(In thousands)			
Employees	\$ 3,280	\$ 3,387	\$ 10,273	\$ 9,963
Non-employee directors	241	312	716	673
Total stock-based compensation	<u>\$ 3,521</u>	<u>\$ 3,699</u>	<u>\$ 10,989</u>	<u>\$ 10,636</u>

The Company records stock-based compensation expense for employees in employee compensation and benefits and for non-employee directors in general and administrative expenses in the Consolidated Statements of Operations.

During the nine months ended September 30, 2017, the Company granted to employees and directors a total of 65,462 shares of restricted stock or restricted stock units, performance-based shares with an expected pay-out at target of 22,338 shares of common stock and 54,838 options to purchase shares of common stock. The fair value of the restricted stock and performance-based share awards was based on a weighted-average fair value per share at the grant date of \$156.79 and \$168.89, respectively. Based on the Black-Scholes option pricing model, the weighted-average fair value for each option granted was \$40.08 per share.



As of September 30, 2017, the total unrecognized compensation cost related to all non-vested awards was \$26.7 million. That cost is expected to be recognized over a weighted-average period of 2.1 years.

## 8. Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per common share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(In thousands, except per share amounts)			
Net income	\$ 34,130	\$ 30,918	\$ 114,616	\$ 93,007
Basic weighted average shares outstanding	36,865	36,889	36,856	36,847
Dilutive effect of stock options and restricted stock	1,154	903	1,213	891
Diluted weighted average shares outstanding	38,019	37,792	38,069	37,738
Basic earnings per share	\$ 0.93	\$ 0.84	\$ 3.11	\$ 2.52
Diluted earnings per share	\$ 0.90	\$ 0.82	\$ 3.01	\$ 2.46

Stock options and restricted stock totaling 10,729 shares and 6,480 shares for the three months ended September 30, 2017 and 2016, respectively, and 40,485 shares and 112,004 shares for the nine months ended September 30, 2017 and 2016, respectively, were excluded from the computation of diluted earnings per share because their effect would have been antidilutive. The computation of diluted shares can vary among periods due, in part, to the change in the average price of the Company's common stock.

## 9. Credit Agreement

In October 2015, the Company entered into a two-year amended and restated credit agreement (the "Credit Agreement") that provided for revolving loans and letters of credit up to an aggregate of \$100.0 million. As of September 30, 2017, the Company had \$0.9 million in letters of credit outstanding and \$99.1 million in available borrowing capacity under the Credit Agreement. The Company amended the Credit Agreement in October 2017 and extended the maturity date to October 2018. The amended Credit Agreement also provides for two additional one-year extension options and modified certain borrowing terms and covenants. Subject to satisfaction of certain specified conditions, the Company is permitted to upsize the borrowing capacity under the Credit Agreement by an additional \$50.0 million.

Borrowings under the Credit Agreement will bear interest at a rate per annum equal to the base rate or adjusted LIBOR plus an applicable margin that varies with the Company's consolidated total leverage ratio. The Credit Agreement requires that the Company satisfies certain covenants, which includes leverage ratios and minimum earnings before interest, tax, depreciation and amortization ("EBITDA") requirements. The Company was in compliance with all applicable covenants at September 30, 2017 and December 31, 2016.

The Company's existing and future domestic subsidiaries (other than any regulated subsidiary and MarketAxess Colombia Corporation so long as its assets and revenues remain below an agreed threshold) have guaranteed the Company's obligations under the Credit Agreement. Subject to customary exceptions and exclusions, the Company's borrowings under the Credit Agreement are collateralized by first priority pledges (subject to permitted liens) of substantially all of the Company's personal property assets and the personal property assets of the Company's domestic subsidiaries that have guaranteed the Credit Agreement, including the equity interests of the Company's domestic subsidiaries and the equity interests of certain of the Company's foreign subsidiaries (limited, in the case of the voting equity interests of the foreign subsidiaries, to a pledge of 65% of those equity interests).

If an event of default occurs, including failure to pay principal or interest due on the loan balance, a voluntary or involuntary proceeding seeking liquidation, change in control of the Company, or one or more material judgments against the Company in excess of \$10.0 million, the lenders would be entitled to accelerate the borrowings under the Credit Agreement and take various other actions, including all actions permitted to be taken by a secured creditor. If certain bankruptcy events of default occur, the borrowings under the Credit Agreement will automatically accelerate.

## 10. Commitments and Contingencies

### *Lease Commitments*

The Company leases office space under non-cancelable lease agreements expiring at various dates through 2033. Office space leases are subject to escalation based on certain costs incurred by the landlord. Minimum rental commitments as of September 30, 2017 under such operating leases were as follows (in thousands):

Remainder of 2017	\$	1,266
2018		4,815
2019		9,464
2020		10,577
2021		10,129
2022 and thereafter		108,247
	\$	<u>144,498</u>

Rental expense was \$4.1 million and \$3.1 million for the nine months ended September 30, 2017 and 2016, respectively, and is included in occupancy expense in the Consolidated Statements of Operations. Rental expense has been recorded based on the total minimum lease payments after giving effect to rent abatement and concessions, which are being amortized on a straight-line basis over the life of the lease. The Company is contingently obligated for standby letters of credit amounting to \$0.9 million that were issued to landlords for office space.

During 2016, the Company entered into a lease agreement for our new global headquarters in New York City. The Company expects to relocate its headquarters to approximately 83,000 square feet of newly built office space at 55 Hudson Yards upon the building's completion in late 2018. The fifteen-year lease for the new headquarters will commence when the Company receives possession of the premises, which is currently expected in the first quarter of 2018.

The Company has assigned a lease agreement on a leased property to a third party and is contingently liable should the assignee default on future lease obligations through the November 2020 lease termination date. The aggregate amount of the future lease obligation under this arrangement is approximately \$0.9 million as of September 30, 2017.

### *Legal*

In the normal course of business, the Company and its subsidiaries included in the consolidated financial statements may be involved in various lawsuits, proceedings and regulatory examinations. The Company assesses its liabilities and contingencies in connection with outstanding legal proceedings, if any, utilizing the latest information available. For matters where it is probable that the Company will incur a material loss and the amount can be reasonably estimated, the Company will establish an accrual for the loss. Once established, the accrual will be adjusted to reflect any relevant developments. When a loss contingency is not both probable and estimable, the Company does not establish an accrual.

Based on currently available information, the outcome of the Company's outstanding matters is not expected to have a material adverse impact on the Company's financial position. It is not presently possible to determine the ultimate exposure to these matters and there is no assurance that the resolution of the outstanding matters will not significantly exceed any reserves accrued by the Company.

### *Other*

The Company, through two regulated subsidiaries, executes certain bond transactions between and among institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller in trades which settle through third-party clearing brokers. Settlement typically occurs within one to two trading days after the trade date. Cash settlement of the transaction occurs upon receipt or delivery of the underlying instrument that was traded. For the nine months ended September 30, 2017 and 2016, revenues from matched principal trading were approximately \$34.4 million and \$26.6 million, respectively. Under securities clearing agreements with third party clearing brokers, the Company maintains collateral deposits with each clearing broker in the form of cash. As of September 30, 2017 and 2016, the amount of the collateral deposits included in prepaid expenses and other assets in the Consolidated Statements of Financial Condition was \$1.2 million and \$1.1 million, respectively. For the nine months ended September 30, 2017 and 2016, clearing expenses associated with matched principal transactions were \$4.3 million and \$4.8

million, respectively, and are classified under clearing costs on the Consolidated Statements of Operations. The Company is exposed to credit risk in the event a counterparty does not fulfill its obligation to complete a transaction or if there is a miscommunication or other error in executing a matched principal transaction. Pursuant to the terms of the securities clearing agreements, each third-party clearing broker has the right to charge the Company for any losses they suffer resulting from a counterparty's failure on any of the Company's trades. The Company did not record any liabilities or losses with regard to this right for the nine months ended September 30, 2017 and 2016.

In the normal course of business, the Company enters into contracts that contain a variety of representations, warranties and general indemnifications. The Company's maximum exposure under these arrangements is unknown, as this would involve future claims that may be made against the Company that have not yet occurred. However, based on experience, the Company expects the risk of loss to be remote.

### 11. Customer Concentration

During both the nine months ended September 30, 2017 and 2016, no single client accounted for more than 10% of total revenue. One institutional investor client accounted for 12.8% and 14.6% of trading volumes during the nine months ended September 30, 2017 and 2016, respectively.

### 12. Share Repurchase Program

In January 2016, the Board of Directors authorized a two-year share repurchase program for up to \$25.0 million of the Company's common stock. In October 2016, the Board of Directors approved a \$50.0 million increase in the size of the repurchase program. For the nine months ended September 30, 2017, the Company repurchased 191,394 shares of common stock at a cost of \$36.4 million. In September 2017, the existing share repurchase plan was terminated and the Board of Directors authorized a new fifteen-month share repurchase program for up to \$100 million commencing in October 2017. Shares repurchased under each program will be held in treasury for future use.

### 13. Segment and Geographic Information

The Company operates an electronic multi-party platform for the trading of fixed-income securities and provides related data, analytics, compliance tools and post-trade services. The Company considers its operations to constitute a single business segment because of the highly integrated nature of these product and services, of the financial markets in which the Company competes and of the Company's worldwide business activities. The Company believes that results by geographic region or client sector are not necessarily meaningful in understanding its business.

For the three and nine months ended September 30, 2017 and 2016, the U.K. was the only individual foreign country in which the Company had a subsidiary that accounted for 10% or more of the total revenues or total long-lived assets of the Company. Revenues and long-lived assets are attributed to a geographic area based on the location of the particular subsidiary. Long-lived assets are defined as furniture, equipment, leasehold improvements and capitalized software. Information regarding revenue for the three and nine months ended September 30, 2017 and 2016 and long-lived assets as of September 30, 2017 and December 31, 2016 was as follows:

	<b>Three Months Ended September 30,</b>		<b>Nine Months Ended September 30,</b>	
	<b>2017</b>	<b>2016</b>	<b>2017</b>	<b>2016</b>
	<b>(In thousands)</b>			
Revenues				
United States	\$ 82,076	\$ 77,571	\$ 252,485	\$ 235,078
United Kingdom	14,250	12,433	44,277	39,165
Other	375	267	1,144	1,240
Total	<u>\$ 96,701</u>	<u>\$ 90,271</u>	<u>\$ 297,906</u>	<u>\$ 275,483</u>

	As of	
	September 30, 2017	December 31, 2016
(In thousands)		
Long-lived assets, as defined		
United States	\$ 25,602	\$ 23,370
United Kingdom	9,700	7,713
Other	19	21
Total	<u>\$ 35,321</u>	<u>\$ 31,104</u>

#### 14. Retirement and Deferred Compensation Plans

The Company offers a non-qualified deferred cash incentive plan to certain officers and other employees. Under the plan, eligible employees may defer up to 100% of their annual cash incentive pay. The Company has elected to fund its deferred compensation obligations through a rabbi trust. The rabbi trust is subject to creditor claims in the event of insolvency but such assets are not available for general corporate purposes. Assets held in the rabbi trust are invested in mutual funds, as selected by the participants, which are designated as trading securities and carried at fair value. As of September 30, 2017 and 2016, the fair value of the mutual fund investments and deferred compensation obligations were \$3.1 million and \$1.3 million, respectively. Changes in the fair value of securities held in the rabbi trust are recognized as trading gains and losses and included in other revenues and offsetting increases or decreases in the deferred compensation obligation will be recorded in employee compensation and benefits. For the nine months ended September 30, 2017 and 2016, the trading gains and compensation expense were \$0.3 million and \$0.2 million, respectively.

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

### Forward-Looking Statements

*This report contains certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by words such as "expects," "intends," "anticipates," "plans," "believes," "seeks," "estimates," "will," or words of similar meaning and include, but are not limited to, statements regarding the outlook for our future business and financial performance. Forward-looking statements are based on management's current expectations and assumptions, which are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. It is routine for our internal projections and expectations to change as the year or each quarter in the year progresses, and therefore it should be clearly understood that the internal projections and beliefs upon which we base our expectations may change prior to the end of each quarter or the year. Although these expectations may change, we are under no obligation to revise or update any forward-looking statements contained in this report. Our company policy is generally to provide our expectations only once per quarter, and not to update that information until the next quarter. Actual future events or results may differ, perhaps materially from those contained in the projections or forward-looking statements. Factors that could cause or contribute to such differences include those discussed below and elsewhere in this report, particularly in the section captioned Part II, Item 1A, "Risk Factors."*

### Executive Overview

MarketAxess operates a leading electronic trading platform that enables fixed-income market participants to efficiently trade corporate bonds and other types of fixed-income instruments using our patented trading technology. Over 1,300 institutional investor and broker-dealer firms are active users of our trading platform, accessing global liquidity in U.S. high-grade corporate bonds, emerging markets and high-yield bonds, European bonds, U.S. agency bonds, municipal bonds, credit default swaps and other fixed-income securities. Through our Open Trading™ protocols, we execute trades in certain bonds between and among institutional investor and broker-dealer clients in an all-to-all trading environment on a matched principal basis. We also offer a number of trading-related products and services, including: market data to assist clients with trading decisions; connectivity solutions that facilitate straight-through processing; technology services to optimize trading environments; and execution services for exchange-traded fund managers and other clients. Through our Trax® division, we also offer a range of pre- and post-trade services, including trade matching, regulatory transaction reporting, and market and reference data across a range of fixed-income and other products.

Our platform's innovative technology solutions are designed to increase the number of potential trading counterparties on our electronic trading platform and create a menu of solutions to address different trade sizes and bond liquidity characteristics. Our traditional request-for-quote model allows our institutional investor clients to simultaneously request competing, executable bids or offers from our broker-dealer clients and execute trades with the broker-dealer of their choice from among those that choose to respond. Our Open Trading™ protocols complement our request-for-quote model by increasing the number of potential counterparties and improving liquidity by allowing all participants to interact anonymously in an all-to-all trading environment. Our platform also provides our broker-dealer clients a solution that enables them to efficiently reach our institutional investor clients for the distribution and trading of bonds.

The majority of our revenues are derived from commissions for trades executed on our platform and distribution fees that are billed to our broker-dealer clients on a monthly basis. We also derive revenues from information and post-trade services, technology products and services, investment income and other income. Our expenses consist of employee compensation and benefits, depreciation and amortization, technology and communication expenses, professional and consulting fees, occupancy, marketing and advertising and other general and administrative expenses.

Our objective is to provide the leading global electronic trading platform for fixed-income securities, connecting broker-dealers and institutional investors more easily and efficiently, while offering a broad array of information, trading and technology services to market participants across the trading cycle. The key elements of our strategy are:

- to innovate and efficiently add new functionality and product offerings to the MarketAxess platform that we believe will help to increase our market share with existing clients, as well as to expand our client base;
- to leverage our existing client network and technology to increase the number of potential counterparties and improve liquidity by developing and deploying a wide range of electronic trading protocols to complement our traditional request-for-quote model and allowing broker-dealers and institutional investors to interact in our all-to-all Open Trading™ environment;
- to leverage our existing technology and client relationships to deploy our electronic trading platform into additional product segments within the fixed-income securities markets and deliver fixed-income securities-related technical services and products;

- to continue building our existing service offerings so that our electronic trading platform is more fully integrated into the workflow of our broker-dealer and institutional investor clients and to continue to add functionality to allow our clients to achieve a fully automated end-to-end straight-through processing solution (automation from trade initiation to settlement);
- to add new content and analytical capabilities to BondTicker™ and expand Axess All™, the first intra-day trade tape for the European fixed-income market, and the other data service offerings provided by Trax® to improve the value of the information we provide to our clients; and
- to continue to increase and supplement our internal growth by entering into strategic alliances, or acquiring businesses or technologies that will enable us to enter new markets, provide new products or services, or otherwise enhance the value of our platform to our clients. For example, in recent years, we entered into, and expanded a strategic alliance with BlackRock, Inc. (“BlackRock”) to combine BlackRock’s order flow with our Open Trading™ solution to improve the range of trading connections available to global credit market participants. In 2016, we entered into an agreement with S&P Dow Jones Indices to jointly develop indices that will track the most liquid segments of the U.S. corporate bond market.

## **Critical Factors Affecting Our Industry and Our Company**

### ***Economic, Political and Market Factors***

The global fixed-income securities industry is risky and volatile and is directly affected by a number of economic, political and market factors that may result in declining trading volume. These factors could have a material adverse effect on our business, financial condition and results of operations. These factors include, among others, credit market conditions, the current interest rate environment, including the volatility of interest rates and investors’ forecasts of future interest rates, economic and political conditions in the United States, Europe and elsewhere, and the consolidation or contraction of our broker-dealer clients.

### ***Competitive Landscape***

The global fixed-income securities industry generally, and the electronic financial services markets in which we engage in particular, are highly competitive, and we expect competition to intensify in the future. Sources of competition for us will continue to include, among others, bond trading conducted directly between broker-dealers and their institutional investor clients over the telephone or electronically and other multi-dealer or all-to-all trading platforms. Competitors, including companies in which some of our broker-dealer clients have invested, have developed or acquired electronic trading platforms or have announced their intention to explore the development of electronic platforms or information networks that may compete with us.

In general, we compete on the basis of a number of key factors, including, among others, the liquidity provided on our platform, the level of commissions charged for trades executed on our platform, the magnitude and frequency of price improvement enabled by our platform and the quality and speed of execution. We believe that our ability to grow volumes and revenues will largely depend on our performance with respect to these factors.

Our competitive position is also enhanced by the familiarity and integration of our broker-dealer and institutional investor clients with our electronic trading platform and other systems. We have focused on the unique aspects of the credit markets we serve in the development of our platform, working closely with our clients to provide a system that is suited to their needs.

### ***Regulatory Environment***

Our industry has been and is subject to continuous regulatory changes and may become subject to new regulations or changes in the interpretation or enforcement of existing regulations, which could require us to incur significant costs.

Following the global financial crisis and other recent events in the financial industry, governments and regulators in both the United States and Europe called for increased regulation and transparency in the over-the-counter markets. As a result, the Dodd-Frank Act was signed into law in 2010 and, among other things, mandated the clearing of certain derivative instruments (“swaps”) through regulated central clearing organizations and mandatory trading of those instruments through either regulated exchanges or swap execution facilities (“SEFs”), in each case, subject to certain key exceptions.

Various rules promulgated since the financial crisis could also adversely affect our bank-affiliated broker-dealer clients’ ability to make markets in a variety of fixed-income securities, thereby negatively impacting the level of liquidity and pricing available on our trading platform. For example, while the Volcker Rule does not apply directly to us, the Volcker Rule bans proprietary trading by banks and their affiliates. In addition, enhanced leverage ratios applicable to large banking organizations in the U.S. and Europe

require such organizations to strengthen their balance sheets and may limit their ability or willingness to make markets on our trading platform. We cannot predict the extent to which these rules or any future regulatory changes may adversely affect our business and operations.

Following President Trump's election in November 2016, he has pursued a path of financial deregulation, including by signing an executive order that requires the Treasury Department to review the provisions of the Dodd-Frank Act. As a result, the Treasury Department has begun a process of reviewing existing U.S. capital markets regulations, and has issued a report with recommendations to improve corporate bond liquidity.

Similar to the U.S., regulatory bodies in Europe are developing new rules for the fixed-income markets. MiFID II and MiFIR were approved in June 2014 and introduce significant changes in market structure designed to: (i) enhance pre- and post-trade transparency for fixed-income instruments with the scope of requirements calibrated for liquidity, (ii) increase and enhance post-trade reporting obligations with a requirement to submit post-trade data to Approved Reporting Mechanisms, (iii) ensure trading of certain derivatives occurs on regulated trading venues and (iv) establish a consolidated tape for trade data. MiFID II and MiFIR are expected to take effect in January 2018 and the final rules may have an adverse effect on our operations or our ability to provide our electronic trading platform in a manner that can successfully compete against other types of regulated and non-regulated venues for the fixed-income trading needs of our clients. In addition, MiFID II is expected to cause us to expend significantly more compliance, business and technology resources, incur additional operational costs and create additional regulatory exposure for our trading and post-trade businesses. While we generally believe the net impact of the rules and regulations may be positive for our businesses, unintended consequences of the rules and regulations may adversely affect us in ways yet to be determined.

In March 2017, the U.K. notified the European Council of its intention to leave the European Union (commonly referred to as "Brexit"). By invoking Article 50 of the Lisbon Treaty, the U.K. is currently set to leave the European Union in March 2019. Depending on the terms agreed between E.U. member states and the U.K. as part of the exit negotiations, our U.K. subsidiaries may not be able to rely on the existence of a "passporting" regime that allows immediate access to the single E.U. market. Accordingly, we have begun the process of establishing one or more new regulated subsidiaries in the E.U. in order to provide our trading platform and certain post-trade services to clients in the E.U. following Brexit.

### ***Rapid Technological Changes***

We must continue to enhance and improve our electronic trading platform. The electronic financial services industry is characterized by increasingly complex systems and infrastructures and new business models. Our future success will depend on our ability to enhance our existing products and services, develop and/or license new products and technologies that address the increasingly sophisticated and varied needs of our existing and prospective broker-dealer and institutional investor clients and respond to technological advances and emerging industry standards and practices on a cost-effective and timely basis. We have been issued 13 patents covering our most significant trading protocols and other aspects of our trading system technology.

### **Trends in Our Business**

The majority of our revenues are derived from commissions for transactions executed on our platform between and among our institutional investor and broker-dealer clients and monthly distribution fees. We believe that there are five key variables that impact the notional value of such transactions on our platform and the amount of commissions and distribution fees earned by us:

- the number of participants on our platform and their willingness to originate transactions through the platform;
- the number of institutional investor and broker-dealer clients on the platform and the frequency and competitiveness of the price responses they provide on our platform;
- the number of markets for which we make trading available to our clients;
- the overall level of activity in these markets; and
- the level of commissions that we collect for trades executed through the platform.

We believe that overall corporate bond market trading volume is affected by various factors including the absolute levels of interest rates, the direction of interest rate movements, the level of new issues of corporate bonds and the volatility of corporate bond spreads versus U.S. Treasury securities. Because a significant percentage of our revenue is tied directly to the volume of securities traded on our platform, it is likely that a general decline in trading volumes, regardless of the cause of such decline, would reduce our revenues and have a significant negative impact on profitability.

### ***Commission Revenue***

Commissions are generally calculated as a percentage of the notional dollar volume of bonds traded on our platform and vary based on the type, size, yield and maturity of the bond traded. Under our transaction fee plans, bonds that are more actively traded or that have shorter maturities are generally charged lower commissions, while bonds that are less actively traded or that have longer maturities generally command higher commissions.

For trades that we execute between and among institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller, we earn our commission through the difference in price between the two trades. Distribution fees include any unused monthly fee commitments under our variable fee plans.

*U.S. High-Grade Corporate Bond Commissions.* Our U.S. high-grade corporate bond fee plans generally incorporate variable transaction fees and distribution fees billed to our broker-dealer clients on a monthly basis. Certain dealers participate in fee programs that do not contain monthly distribution fees and instead incorporate additional per transaction execution fees and minimum monthly fee commitments. Under these fee plans, we electronically add the transaction fee to the spread quoted by the broker-dealer client. The U.S. high-grade transaction fee is generally designated in basis points in yield and, as a result, is subject to fluctuation depending on the duration of the bond traded. The average U.S. high-grade fees per million may vary in the future due to changes in yield, years-to-maturity and nominal size of bonds traded on our platform.

*Other Credit Commissions.* Other credit includes Eurobonds, emerging markets bonds, high-yield bonds and municipal bonds. Commissions for other credit products generally vary based on the type of the instrument traded using standard fee schedules. During the third quarter of 2017, we changed our high-yield fee plan structure. Similar to our U.S. high-grade fee plans, certain dealers now participate in a high-yield fee plan that incorporates a variable transaction fee and distribution fee and other dealers participate in a plan that does not contain a monthly distribution fee and instead incorporates additional per transaction execution fees and minimum monthly fee commitments. Prior to the fee plan change, our high-yield fee plan options generally consisted solely of variable transaction fees. During the fourth quarter of 2016, our Eurobond fee plan structure was changed to contain standardized minimum monthly commitments and variable transaction fees. Prior to the fee plan change, our European fee plans generally incorporated some combination of monthly distribution fees and variable transaction fees. The average other credit fees per million may vary in the future due to changes in product mix or trading protocols.

*Liquid Products Commissions.* Liquid products includes U.S. agency, European government bonds and credit derivatives. Commissions for liquid products generally vary based on the type of the instrument traded using standard fee schedules.

We anticipate that average fees per million may change in the future. Consequently, past trends in commissions are not necessarily indicative of future commissions.

### ***Other Revenue***

In addition to the commissions discussed above, we earn revenue from information and post-trade services, investment income and other income.

*Information and post-trade services.* We generate revenue from information services provided to our broker-dealer clients, institutional investor clients and data-only subscribers. Information services are invoiced monthly, quarterly or annually. When billed in advance, revenues are deferred and recognized monthly on a straight-line basis. We also generate revenue from trade matching and regulatory transaction reporting services. Revenue is recognized in the period the services are provided.

*Investment Income.* Investment income consists of income earned on our investments.

*Other.* Other revenues include revenue from professional consulting services, technology software licenses and maintenance and support services, fees from telecommunications line charges to broker-dealer clients, initial set-up fees and other miscellaneous revenues.



## **Expenses**

In the normal course of business, we incur the following expenses:

*Employee Compensation and Benefits.* Employee compensation and benefits is our most significant expense and includes employee salaries, stock-based compensation costs, other incentive compensation, employee benefits and payroll taxes.

*Depreciation and Amortization.* We depreciate our computer hardware and related software, office hardware and furniture and fixtures and amortize our capitalized software development costs on a straight-line basis over three to seven years. We amortize leasehold improvements on a straight-line basis over the lesser of the life of the improvement or the remaining term of the lease. Intangible assets with definite lives, including purchased technologies, customer relationships and other intangible assets, are amortized over their estimated useful lives, ranging from three to 15 years. Intangible assets are assessed for impairment when events or circumstances indicate a possible impairment.

*Technology and Communications.* Technology and communications expense consists primarily of costs relating to maintenance on software and hardware, our internal network connections, data center hosting costs and data feeds provided by outside vendors or service providers. The majority of our broker-dealer clients have dedicated high-speed communication lines to our network in order to provide fast data transfer. We charge our broker-dealer clients a monthly fee for these connections, which is recovered against the relevant expenses we incur.

*Professional and Consulting Fees.* Professional and consulting fees consist primarily of accounting fees, legal fees and fees paid to information technology and other consultants for services provided for the maintenance of our trading platform, information and post-trade services products and other services.

*Occupancy.* Occupancy costs consist primarily of office and equipment rent, utilities and commercial rent tax.

*Marketing and Advertising.* Marketing and advertising expense consists primarily of print and other advertising expenses we incur to promote our products and services. This expense also includes costs associated with attending or exhibiting at industry-sponsored seminars, conferences and conventions, and travel and entertainment expenses incurred by our sales force to promote our trading platform and information and post-trade services.

*Clearing Costs.* Clearing costs consist of fees that we are charged by third-party clearing brokers for the clearing and settlement of matched principal trades.

*General and Administrative.* General and administrative expense consists primarily of general travel and entertainment, board of directors' expenses, charitable contributions, provision for doubtful accounts, foreign currency transaction gains (losses) and various state franchise and U.K. value-added taxes.

Expenses may grow in the future, notably in employee compensation and benefits, primarily due to investment in new products and geographic expansion. We also expect occupancy expense to increase in 2018 as a result of the new office space for our global headquarters in New York City. See Item 2 of the Annual Report on Form 10-K for a discussion of our properties. However, we believe that operating leverage can be achieved by increasing volumes in existing products and adding new products without substantial additions to our infrastructure.

## Critical Accounting Policies and Estimates

This Management's Discussion and Analysis of Financial Condition and Results of Operations discusses our Consolidated Financial Statements, which have been prepared in accordance with accounting principles generally accepted in the United States, also referred to as U.S. GAAP. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the reported amounts of income and expenses during the reporting periods. We base our estimates and judgments on historical experience and on various other factors that we believe are reasonable under the circumstances. Actual results may differ from these estimates under varying assumptions or conditions. Note 2 of the Notes to our Consolidated Financial Statements includes a summary of the significant accounting policies and methods used in the preparation of our Consolidated Financial Statements. There were no significant changes to our critical accounting policies and estimates during the nine months ended September 30, 2017, as compared to those we disclosed in Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2016.

## Recent Accounting Pronouncements

See Note 2 to the Consolidated Financial Statements for a discussion on recent accounting pronouncements.

## Segment Results

We operate an electronic multi-party platform for the trading of fixed-income securities and provide related data, analytics, compliance tools and post-trade services. We consider our operations to constitute a single business segment because of the highly integrated nature of these product and services, of the financial markets in which we compete and of our worldwide business activities. We believe that results by geographic region or client sector are not necessarily meaningful in understanding our business. See Note 13 to the Consolidated Financial Statements for certain geographic information about the Company's business required by U.S. GAAP.

## Results of Operations

### *Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016*

#### *Overview*

Total revenues increased by \$6.4 million or 7.1% to \$96.7 million for the three months ended September 30, 2017, from \$90.3 million for the three months ended September 30, 2016. This increase in total revenues was primarily due to higher commissions of \$4.8 million and information and post-trade services revenue of \$1.1 million.

Total expenses increased by \$5.6 million or 12.7% to \$49.5 million for the three months ended September 30, 2017, from \$43.9 million for the three months ended September 30, 2016. This increase was primarily due to higher employee compensation and benefits of \$1.7 million, professional and consulting fees of \$1.2 million, technology and communication costs of \$0.8 million, general and administrative costs of \$0.7 million and occupancy costs of \$0.6 million.

Income before taxes increased by \$0.9 million or 1.9% to \$47.2 million for the three months ended September 30, 2017, from \$46.4 million for the three months ended September 30, 2016. Net income increased by \$3.2 million or 10.4% to \$34.1 million for the three months ended September 30, 2017, from \$30.9 million for three months ended September 30, 2016.

## Revenues

Our revenues for the three months ended September 30, 2017 and 2016, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended September 30,					
	2017		2016		\$ Change	% Change
	\$	% of Revenues	\$	% of Revenues		
	(\$ in thousands)					
Commissions	\$ 86,270	89.2 %	\$ 81,456	90.2 %	\$ 4,814	5.9 %
Information and post-trade services	8,372	8.7	7,322	8.1	1,050	14.3
Investment income	964	1.0	534	0.6	430	80.5
Other	1,095	1.1	959	1.1	136	14.2
Total revenues	<u>\$ 96,701</u>	<u>100.0 %</u>	<u>\$ 90,271</u>	<u>100.0 %</u>	<u>\$ 6,430</u>	<u>7.1 %</u>

*Commissions.* Our commission revenues for the three months ended September 30, 2017 and 2016, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended September 30,			
	2017	2016	\$ Change	% Change
	(\$ in thousands)			
Variable transaction fees				
U.S. high-grade	\$ 34,020	\$ 33,765	\$ 255	0.8 %
Other credit	31,381	30,181	1,200	4.0
Liquid products	545	798	(253)	(31.7)
Total variable transaction fees	<u>65,946</u>	<u>64,744</u>	<u>1,202</u>	<u>1.9</u>
Distribution fees				
U.S. high-grade	16,305	15,077	1,228	8.1
Other credit	3,844	1,466	2,378	162.2
Liquid products	175	169	6	3.6
Total distribution fees	<u>20,324</u>	<u>16,712</u>	<u>3,612</u>	<u>21.6</u>
Total commissions	<u>\$ 86,270</u>	<u>\$ 81,456</u>	<u>\$ 4,814</u>	<u>5.9 %</u>

### Variable Transaction Fees

The following table shows the extent to which the increase in variable transaction fees for the three months ended September 30, 2017 was attributable to changes in transaction volumes and variable transaction fees per million:

	Change from the Three Months Ended September 30, 2016			
	U.S. High-Grade	Other Credit	Liquid Products	Total
	(\$ in thousands)			
Volume increase (decrease)	\$ 4,234	\$ 2,687	\$ (332)	\$ 6,589
Variable transaction fee per million (decrease) increase	(3,979)	(1,487)	79	(5,387)
Total increase (decrease) in variable commissions	<u>\$ 255</u>	<u>\$ 1,200</u>	<u>\$ (253)</u>	<u>\$ 1,202</u>

Our trading volumes for the three months ended September 30, 2017 and 2016 were as follows:

	<b>Three Months Ended September 30,</b>			
	<b>2017</b>	<b>2016</b>	<b>\$ Change</b>	<b>% Change</b>
(\$ in millions)				
<b>Trading Volume Data</b>				
U.S. high-grade - fixed rate	\$ 192,092	\$ 172,006	\$ 20,086	11.7 %
U.S. high-grade - floating rate	8,734	6,442	2,292	35.6
Total U.S. high grade	200,826	178,448	22,378	12.5
Other credit	133,757	122,821	10,936	8.9
Liquid products	12,189	20,880	(8,691)	(41.6)
Total	<u>\$ 346,772</u>	<u>\$ 322,149</u>	<u>\$ 24,623</u>	7.6 %
Number of U.S. Trading Days	63	64		
Number of U.K. Trading Days	64	65		

For volume reporting purposes, transactions in foreign currencies are converted to U.S. dollars at average monthly rates. The 12.5% increase in our U.S. high-grade volume was principally due to an increase in our estimated market share of total U.S. high-grade corporate bond volume as reported by Financial Industry Regulatory Authority (“FINRA”) Trade Reporting and Compliance Engine (“TRACE”) to 17.2% for the three months ended September 30, 2017 from 16.0% for the three months ended September 30, 2016, coupled with an increase in overall market volume as measured by TRACE. U.S. high-grade TRACE volume increased 4.5% to \$1.2 trillion for the three months ended September 30, 2017 from \$1.1 trillion for the three months ended September 30, 2016.

Other credit volumes increased by 8.9% for the three months ended September 30, 2017 compared to the three months ended September 30, 2016, primarily due to an increase of 21.8% in emerging markets bond volume, offset by a decrease of 7.8% in high-yield bond volume. Liquid products volume (excluding credit derivatives) decreased by 41.6% for the three months ended September 30, 2017 compared to the three months ended September 30, 2016, due mainly to a 38.4% decrease in U.S. agency bond market volume as reported by TRACE.

Our average variable transaction fee per million for the three months ended September 30, 2017 and 2016 was as follows:

	<b>Three Months Ended September 30,</b>	
	<b>2017</b>	<b>2016</b>
<b>Average Variable Transaction fee per million</b>		
U.S. high-grade - fixed rate	\$ 174	\$ 195
U.S. high-grade - floating rate	67	38
Total U.S. high-grade	169	189
Other credit	235	246
Liquid products	45	38
Total	190	201

Total U.S. high-grade average variable transaction fee per million decreased to \$169 per million for the three months ended September 30, 2017 from \$189 per million for the three months ended September 30, 2016, mainly due to a decrease in duration of bonds traded, an increase in the number of larger sized trades and the migration of certain of our broker-dealer clients from an all-variable fee plan to a plan that incorporates a monthly distribution fee. Other credit average variable transaction fee per million decreased to \$235 per million for the three months ended September 30, 2017 from \$246 million for the three months ended September 30, 2016, mainly due to a larger percentage of trading volume in emerging market bonds that command lower fees per million, as well as a decrease in high-yield average variable fee per million as a result of the change in the structure of our high-yield fee plan options implemented in August 2017. The decrease in other credit average variable transaction fee per million was partially offset by an increase in Eurobond fees per million as a result of the change in structure of our Eurobond fee plan which was implemented in the fourth quarter of 2016.

### Distribution Fees

U.S. high-grade distribution fees increased \$1.2 million principally due to the migration of certain of our broker-dealer clients from an all-variable fee plan to a plan that incorporates a monthly distribution fee. The \$2.4 million increase in Other credit distribution fees principally relates to a \$3.3 million increase in distribution fees under the high-yield fee plan structure implemented in August 2017 that allows our broker-dealer clients to elect a plan that incorporates a monthly distribution fee. This was offset by a decline of \$1.0 million relating to the change in the Eurobond fee plan implemented in the fourth quarter of 2016.

*Information and Post-Trade Services.* Information and post-trade services revenue increased \$1.1 million for the three months ended September 30, 2017 principally due to higher data revenue of \$0.8 million and an increase in post-trade services revenue of \$0.3 million related to MiFID II implementation services. Our transaction reporting business processed 247 million transactions for the three months ended September 30, 2017 compared to 302 million for the three months ended September 30, 2016.

*Investment Income.* Investment income increased by \$0.4 million primarily due to higher investment balances and an increase in interest rates in 2017.

*Other.* Other income was \$1.1 million and \$1.0 million for the three months ended September 30, 2017 and 2016, respectively.

### Expenses

Our expenses for the three months ended September 30, 2017 and 2016, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended September 30,					
	2017		2016		\$	%
	\$	% of Revenues	\$	% of Revenues		
<b>Expenses</b>						
Employee compensation and benefits	\$ 25,595	26.5 %	\$ 23,914	26.5 %	\$ 1,681	7.0 %
Depreciation and amortization	4,583	4.7	4,325	4.8	258	6.0
Technology and communications	5,035	5.2	4,245	4.7	790	18.6
Professional and consulting fees	5,547	5.7	4,342	4.8	1,205	27.8
Occupancy	1,795	1.9	1,220	1.4	575	47.1
Marketing and advertising	2,089	2.2	2,140	2.4	(51)	(2.4)
Clearing costs	1,476	1.5	1,035	1.1	441	42.6
General and administrative	3,364	3.5	2,696	3.0	668	24.8
Total expenses	<u>\$ 49,484</u>	51.2 %	<u>\$ 43,917</u>	48.7 %	<u>\$ 5,567</u>	12.7 %

*Employee Compensation and Benefits.* Employee compensation and benefits increased by \$1.7 million, primarily due to an increase of \$1.9 million in salaries and benefits, principally as a result of higher employee headcount.

*Depreciation and Amortization.* Depreciation and amortization increased by \$0.3 million. For the three months ended September 30, 2017 and 2016, \$1.5 million and \$0.8 million, respectively, of equipment purchases and leasehold improvements and \$3.4 million and \$2.9 million, respectively, of software development costs were capitalized.

*Technology and Communications.* Technology and communication expenses increased by \$0.8 million due to higher software subscription costs of \$0.4 million and technology maintenance and support costs of \$0.3 million.

*Professional and Consulting Fees.* Professional and consulting fees increased by \$1.2 million primarily due to fees related to various regulatory initiatives of \$0.8 million.

*Occupancy.* Occupancy increased by \$0.6 million due to an increase in rent expense of \$0.3 million for additional space to accommodate our increased headcount and a non-recurring lease expense of \$0.3 million.

*Marketing and Advertising.* Marketing and advertising expenses were \$2.1 million for both the three months ended September 30, 2017 and 2016.

*Clearing Costs .* Clearing costs increased by \$0.4 million primarily due to higher trading volume. Third-party clearing costs as a percentage of matched principal trading revenue increased from 10.2% for the three months ended September 30, 2016 to 13.1% for the three months ended September 30, 2017.

*General and Administrative.* General and administrative expenses increased by \$0.7 million principally due to an increase in general travel and entertainment expenses of \$0.3 million and employee relocation expenses of \$0.3 million.

*Provision for Income Tax .* Our consolidated effective tax rate for the three months ended September 30, 2017 was 27.7%, compared to 33.3% for the three months ended September 30, 2016. The tax provision for the three months ended September 30, 2017 includes excess tax benefits of \$3.8 million relating to a new standard for share-based payments accounting adopted effective January 1, 2017. Our consolidated effective tax rate can vary from period to period depending on the geographic mix of our earnings, changes in tax legislation and tax rates and the amount and timing of excess tax benefits related to share-based payments, among other factors.

### **Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016**

#### *Overview*

Total revenues increased by \$22.4 million or 8.1% to \$297.9 million for the nine months ended September 30, 2017, from \$275.5 million for the nine months ended September 30, 2016. This increase in total revenues was primarily due to higher commissions of \$20.5 million. An 8.2% change in the average foreign currency exchange rates of the British Pound Sterling compared to the U.S. dollar from the nine months ended September 30, 2016 to the nine months ended September 30, 2017 had the effect of decreasing revenues by \$3.2 million.

Total expenses increased by \$11.3 million or 8.4% to \$145.5 million for the nine months ended September 30, 2017, from \$134.2 million for the nine months ended September 30, 2016. This increase was primarily due to higher employee compensation and benefits of \$4.2 million, general and administrative costs of \$1.9 million, technology and communications expenses of \$1.6 million, professional and consulting fees of \$1.5 million, and \$1.0 million in both occupancy costs and marketing and advertising costs. The change in average foreign currency exchange rates had the effect of decreasing expenses by \$3.3 million in the nine months ended September 30, 2017.

Income before taxes increased by \$11.1 million or 7.9% to \$152.4 million for the nine months ended September 30, 2017, from \$141.3 million for the nine months ended September 30, 2016. Net income increased by \$21.6 million or 23.2% to \$114.6 million for the nine months ended September 30, 2017, from \$93.0 million for nine months ended September 30, 2016.

#### *Revenues*

Our revenues for the nine months ended September 30, 2017 and 2016, and the resulting dollar and percentage changes, were as follows:

	<b>Nine Months Ended September 30,</b>					
	<b>2017</b>		<b>2016</b>			
	(\$ in thousands)					
	<b>\$</b>	<b>% of Revenues</b>	<b>\$</b>	<b>% of Revenues</b>	<b>\$ Change</b>	<b>% Change</b>
Commissions	\$ 267,307	89.7 %	\$ 246,788	89.6 %	\$ 20,519	8.3 %
Information and post-trade services	24,460	8.2	23,687	8.6	773	3.3
Investment income	2,551	0.9	1,469	0.5	1,082	73.7
Other	3,588	1.2	3,539	1.3	49	1.4
Total revenues	\$ 297,906	100.0 %	\$ 275,483	100.0 %	\$ 22,423	8.1 %

*Commissions.* Our commission revenues for the nine months ended September 30, 2017 and 2016, and the resulting dollar and percentage changes, were as follows:

	Nine Months Ended September 30,			
	2017	2016	\$ Change	% Change
	(\$ in thousands)			
<b>Variable transaction fees</b>				
U.S. high-grade	\$ 102,411	\$ 101,104	\$ 1,307	1.3 %
Other credit	110,221	94,928	15,293	16.1
Liquid products	1,746	2,096	(350)	(16.7)
Total variable transaction fees	<u>214,378</u>	<u>198,128</u>	<u>16,250</u>	8.2
<b>Distribution fees</b>				
U.S. high-grade	47,985	43,598	4,387	10.1
Other credit	4,506	4,437	69	1.6
Liquid products	438	625	(187)	(29.9)
Total distribution fees	<u>52,929</u>	<u>48,660</u>	<u>4,269</u>	8.8
Total commissions	<u>\$ 267,307</u>	<u>\$ 246,788</u>	<u>\$ 20,519</u>	8.3 %

#### *Variable Transaction Fees*

The following table shows the extent to which the increase in variable transaction fees for the nine months ended September 30, 2017 was attributable to changes in transaction volumes and variable transaction fees per million:

	Change from the Nine Months Ended September 30, 2016			
	U.S. High- Grade	Other Credit	Liquid Products	Total
	(\$ in thousands)			
Volume increase (decrease)	\$ 14,514	\$ 17,169	\$ (510)	\$ 31,173
Variable transaction fee per million (decrease) increase	(13,207)	(1,876)	160	(14,923)
Total increase (decrease) in variable commissions	<u>\$ 1,307</u>	<u>\$ 15,293</u>	<u>\$ (350)</u>	<u>\$ 16,250</u>

Our trading volumes for the nine months ended September 30, 2017 and 2016 were as follows:

	Nine Months Ended September 30,			
	2017	2016	\$ Change	% Change
	(\$ in millions)			
<b>Trading Volume Data</b>				
U.S. high-grade - fixed rate	\$ 599,783	\$ 525,331	\$ 74,452	14.2 %
U.S. high-grade - floating rate	24,024	20,169	3,855	19.1
Total U.S. high grade	<u>623,807</u>	<u>545,500</u>	<u>78,307</u>	14.4
Other credit	438,055	370,963	67,092	18.1
Liquid products	40,840	53,982	(13,142)	(24.3)
Total	<u>\$ 1,102,702</u>	<u>\$ 970,445</u>	<u>\$ 132,257</u>	13.6 %
Number of U.S. Trading Days	188	189		
Number of U.K. Trading Days	189	190		

For volume reporting purposes, transactions in foreign currencies are converted to U.S. dollars at average monthly rates. The 14.4% increase in our U.S. high-grade volume was principally due to an increase in our estimated market share of total U.S. high-grade corporate bond volume as reported by TRACE to 16.7% for the nine months ended September 30, 2017 from 15.6% for the nine months ended September 30, 2016, coupled with an increase in overall market volume as measured by TRACE. U.S. high-grade TRACE volume increased 7.2% to \$3.7 trillion for the nine months ended September 30, 2017 from \$3.5 trillion for the nine months ended September 30, 2016.

Other credit volumes increased by 18.1% for the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016. Emerging markets bond volume increased 41.6%, while high-yield and Eurobond volume decreased by 2.8% and 0.5%, respectively. Liquid products volume (excluding credit derivatives) decreased by 24.3% for the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016, due mainly to a 30.3% decrease in U.S. agency bond market volume as reported by TRACE.

Our average variable transaction fee per million for the nine months ended September 30, 2017 and 2016 was as follows:

	<b>Nine Months Ended September 30,</b>	
	<b>2017</b>	<b>2016</b>
Average Variable Transaction fee per million		
U.S. high-grade - fixed rate	\$ 168	\$ 191
U.S. high-grade - floating rate	62	37
Total U.S. high-grade	164	185
Other credit	252	256
Liquid products	43	39
Total	194	204

Total U.S. high-grade average variable transaction fee per million decreased to \$164 per million for the nine months ended September 30, 2017 from \$185 per million for the nine months ended September 30, 2016, mainly due to a decrease in duration of bonds traded, an increase in the number of larger sized trades and the migration of certain of our broker-dealer clients from an all-variable fee plan to a plan that incorporates a monthly distribution fee. Other credit average variable transaction fee per million decreased to \$252 per million for the nine months ended September 30, 2017 from \$256 million for the nine months ended September 30, 2016, mainly due to a larger percentage of trading volume in emerging market bonds that command lower fees per million, as well as a decrease in high-yield fee per million as a result of the change in structure of our high-yield fee plan implemented in August 2017. The decrease in other credit average variable transaction fee per million was partially offset by an increase in Eurobond fees per million as a result of the change in structure of our Eurobond fee plan which was implemented in the fourth quarter of 2016.

#### *Distribution Fees*

U.S. high-grade distribution fees increased \$4.4 million principally due to the migration of certain of our broker-dealer clients from an all-variable fee plan to a plan that incorporates a monthly distribution fee. The \$0.1 million increase in Other credit distribution fees was due to a \$3.3 million increase in distribution fees under the high-yield fee plan implemented during the third quarter of 2017, a \$0.2 million increase in emerging markets minimum fees, partially offset by a decline of \$3.5 million relating to the change in the Eurobond fee plan implemented in the fourth quarter of 2016.

*Information and Post-Trade Services.* Information and post-trade services revenue increased by \$0.8 million for the nine months ended September 30, 2017. The negative impact of foreign exchange of \$1.5 million was offset by a \$2.2 million increase in data revenue from new data contracts. Our transaction reporting business processed 770 million transactions for the nine months ended September 30, 2017 compared to 892 million for the nine months ended September 30, 2016.

*Investment Income.* Investment income increased by \$1.1 million primarily due to higher investment balances and an increase in interest rates in 2017.

*Other.* Other income was \$3.6 million and \$3.5 million for the nine months ended September 30, 2017 and 2016, respectively.



## Expenses

Our expenses for the nine months ended September 30, 2017 and 2016, and the resulting dollar and percentage changes, were as follows:

	Nine Months Ended September 30,					
	2017		2016			
	(\$ in thousands)					
	\$	% of Revenues	\$	% of Revenues	\$ Change	% Change
<b>Expenses</b>						
Employee compensation and benefits	\$ 78,417	26.3 %	\$ 74,256	27.0 %	\$ 4,161	5.6 %
Depreciation and amortization	14,066	4.7	13,546	4.9	520	3.8
Technology and communications	14,442	4.8	12,826	4.7	1,616	12.6
Professional and consulting fees	13,912	4.7	12,449	4.5	1,463	11.8
Occupancy	4,621	1.6	3,606	1.3	1,015	28.1
Marketing and advertising	6,757	2.3	5,742	2.1	1,015	17.7
Clearing costs	4,320	1.5	4,754	1.7	(434)	(9.1)
General and administrative	8,974	3.0	7,029	2.6	1,945	27.7
Total expenses	<u>\$ 145,509</u>	48.8 %	<u>\$ 134,208</u>	48.7 %	<u>\$ 11,301</u>	8.4 %

*Employee Compensation and Benefits.* Employee compensation and benefits increased by \$4.2 million, primarily due to a \$3.9 million increase in salaries and benefits, principally as a result of higher employee headcount, and a \$0.3 million increase in stock-based compensation.

*Depreciation and Amortization.* Depreciation and amortization increased by \$0.5 million primarily due to a \$0.6 million increase in amortization expense of leasehold improvements and higher amortization of software development costs of \$0.5 million offset by a \$0.4 million decrease in production hardware depreciation expense. For the nine months ended September 30, 2017 and 2016, \$7.2 million and \$4.8 million, respectively, of equipment purchases and leasehold improvements and \$10.1 million and \$9.1 million, respectively, of software development costs were capitalized.

*Technology and Communications.* Technology and communication expenses increased by \$1.6 million due to higher software subscription costs of \$0.8 million, technology maintenance and support costs of \$0.3 million and market data costs of \$0.3 million.

*Professional and Consulting Fees.* Professional and consulting fees increased by \$1.5 million primarily due to fees related to various regulatory initiatives of \$1.3 million and new systems implementations of \$0.5 million, offset by lower risk consulting fees of \$0.4 million.

*Occupancy.* Occupancy costs increased by \$1.0 million primarily due to an increase in rent expense of \$0.7 million for additional space to accommodate our increased headcount and a non-recurring lease expense of \$0.3 million.

*Marketing and Advertising.* Marketing and advertising expenses increased by \$1.0 million due to higher advertising costs of \$0.4 million associated with our Open Trading <sup>TM</sup> protocols and travel and entertainment expenses related to sales activities of \$0.4 million.

*Clearing Costs.* Clearing costs decreased by \$0.4 million. During the third quarter of 2016, we amended the terms of our agreements with our third-party clearing brokers which resulted in a reduction in transaction and other clearing costs. Third-party clearing costs as a percentage of matched principal trading revenue decreased from 17.9% for the nine months ended September 30, 2016 to 12.5% for the nine months ended September 30, 2017.

*General and Administrative.* General and administrative expenses increased by \$1.9 million principally due to a decrease in foreign currency transaction gains of \$0.6 million, an increase in general travel and entertainment expenses of \$0.6 million and an increase of \$0.3 million in employee relocation expenses.

*Provision for Income Tax.* Our consolidated effective tax rate for the nine months ended September 30, 2017 was 24.8%, compared to 34.2% for the nine months ended September 30, 2016. The tax provision for the nine months ended September 30, 2017 includes excess tax benefits of \$14.8 million relating to a new standard for share-based payments accounting adopted effective January 1, 2017. Our consolidated effective tax rate can vary from period to period depending on the geographic mix of our earnings,

changes in tax legislation and tax rates and the amount and timing of excess tax benefits related to share-based payments, among other factors.

### Liquidity and Capital Resources

During the past three years, we have met our funding requirements through cash on hand and internally generated funds. Cash and cash equivalents and investments totaled \$376.2 million at September 30, 2017.

In October 2015, we entered into a two-year amended and restated credit agreement (the “Credit Agreement”) that increased our borrowing capacity to an aggregate of \$100.0 million. As of September 30, 2017, we had \$0.9 million in letters of credit outstanding and \$99.1 million in available borrowing capacity under the Credit Agreement. In October 2017, we amended the Credit Agreement and extended the maturity date to October 2018. The amended Credit Agreement also provides for two additional one-year extension options and modified certain borrowing terms and covenants. Subject to satisfaction of certain specified conditions, we are permitted to upsize the borrowing capacity under the Credit Agreement by an additional \$50.0 million.

Our cash flows were as follows:

	<b>Nine Months Ended September 30,</b>			
	<b>2017</b>	<b>2016</b>	<b>\$ Change</b>	<b>% Change</b>
	<b>(\$ in thousands)</b>			
Net cash provided by operating activities	\$ 121,583	\$ 33,140	\$ 88,443	266.9 %
Net cash (used in) investing activities	(67,907)	(23,899)	(44,008)	184.1
Net cash (used in) financing activities	(84,335)	(46,545)	(37,790)	81.2
Effect of exchange rate changes on cash and cash equivalents	1,408	(980)	2,388	(243.7)
Net (decrease) for the period	<u>\$ (29,251)</u>	<u>\$ (38,284)</u>	<u>\$ 9,033</u>	(23.6) %

The \$88.4 million increase in net cash provided by operating activities was primarily due to an increase in net income of \$21.6 million, a decrease in net purchases of corporate debt trading investments of \$82.9 million offset by an increase in working capital of \$9.5 million.

The \$44.0 million increase in net cash used in investing activities was primarily due to increases of \$40.0 million in net purchases of available-for-sale investments and capital expenditures of \$3.5 million.

The \$37.8 million increase in net cash used in financing activities was principally due to an increase of \$22.5 million in repurchases of our common stock, a \$7.8 million increase in the cash dividend paid on common stock and a \$7.0 million increase in withholding tax payments on restricted stock vesting and stock option exercises.

Past trends of cash flows are not necessarily indicative of future cash flow levels. A decrease in cash flows may have a material adverse effect on our liquidity, business and financial condition.

### Non-GAAP Financial Measures

In addition to cash flow from operating activities in accordance with GAAP, we use a non-GAAP financial measures called “Free Cash Flow”. Free Cash Flow is defined as cash flow from operating activities excluding net purchases of corporate debt trading investments less expenditures for furniture, equipment and leasehold improvements and capitalized software development costs. We believe this non-GAAP financial measure is important in gaining an understanding of our financial strength and cash flow generation.

The table set forth below presents a reconciliation of our cash flow from operating activities to Free Cash Flow, as defined, for the twelve months ended September 30, 2017 and 2016:

	<b>Twelve months ended September 30,</b>	
	<b>2017</b>	<b>2016</b>
	<b>(In thousands)</b>	
Cash flow from operating activities	\$ 177,898	\$ 67,832
Add: Net (sales) purchases of corporate debt trading investments	(8,678)	74,535
Add: Excess tax benefits from share-based compensation previously recorded under financing activities	292	9,274
Less: Purchases of furniture, equipment and leasehold improvements	(8,876)	(5,819)
Less: Capitalization of software development costs	(13,154)	(12,130)
Free Cash Flow	<u>\$ 147,482</u>	<u>\$ 133,692</u>

### ***Other Factors Influencing Liquidity and Capital Resources***

We believe that our current resources are adequate to meet our liquidity needs and capital expenditure requirements for at least the next 12 months. However, our future liquidity and capital requirements will depend on a number of factors, including expenses associated with product development and expansion and new business opportunities that are intended to further diversify our revenue stream. We may also acquire or invest in technologies, business ventures or products that are complementary to our business. In the event we require any additional financing, it will take the form of equity or debt financing. Any additional equity offerings may result in dilution to our stockholders. Any debt financings, if available at all, may involve restrictive covenants with respect to dividends, issuances of additional capital and other financial and operational matters related to our business.

Certain of our U.S. subsidiaries are registered as a broker-dealer or a SEF and therefore are subject to the applicable rules and regulations of the SEC and the CFTC. These rules contain minimum net capital requirements, as defined in the applicable regulations, and also may require a significant part of the registrants' assets be kept in relatively liquid form. Certain of our foreign subsidiaries are regulated by the Financial Conduct Authority in the U.K. or other foreign regulators and must maintain financial resources, as defined in the applicable regulations, in excess of the applicable financial resources requirement. As of September 30, 2017, each of our subsidiaries that are subject to these regulations had net capital or financial resources in excess of their minimum requirements. As of September 30, 2017, our subsidiaries maintained aggregate net capital and financial resources that were \$128.2 million in excess of the required levels of \$12.6 million.

Each of our U.S. and foreign regulated subsidiaries are subject to local regulations which generally prohibit repayment of borrowings from our affiliates, paying cash dividends, making loans to our affiliates or otherwise entering into transactions that result in a significant reduction in regulatory net capital or financial resources without prior notification to or approval from such regulated entity's principal regulator.

As of September 30, 2017, the amount of unrestricted cash held by our non-U.S. subsidiaries was \$85.7 million. We have determined that unremitted earnings of our foreign subsidiaries are considered indefinitely reinvested outside of the U.S. Any repatriation of such foreign earnings by way of dividend may be subject to both U.S. federal and state income taxes, reduced by applicable foreign tax credits. However, we do not have any current needs or foreseeable plans to repatriate cash by way of dividends from our non-U.S. subsidiaries.

We execute certain bond transactions between and among institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller in trades which settle through third-party clearing brokers. Settlement typically occurs within one to two trading days after the trade date. Cash settlement of the transaction occurs upon receipt or delivery of the underlying instrument that was traded. For the nine months ended September 30, 2017 and 2016, revenues from matched principal trading were approximately \$34.4 million and \$26.6 million, respectively. Under securities clearing agreements with third-party clearing brokers, we maintain collateral deposits with each clearing broker in the form of cash. As of September 30, 2017 and 2016, the amount of the collateral deposits included in prepaid expenses and other assets in the Consolidated Statements of Financial Condition was \$1.2 million and \$1.1 million, respectively. For the nine months ended September 30, 2017, and 2016, clearing expenses associated with matched principal transactions were \$4.3 million and \$4.8 million, respectively, and are classified under clearing costs on our Consolidated Statements of Operations. We are exposed to credit risk in the event a counterparty does not fulfill its obligation to complete a transaction or if there is a miscommunication or other error in executing a matched principal transaction.

Pursuant to the terms of the securities clearing agreements, each third-party clearing broker has the right to charge us for any losses they suffer resulting from a counterparty's failure on any of our trades. We did not record any liabilities or losses with regard to this right for the nine months ended September 30, 2017 and 2016.

In the normal course of business, we enter into contracts that contain a variety of representations, warranties and general indemnifications. Our maximum exposure from any claims under these arrangements is unknown, as this would involve claims that have not yet occurred. However, based on past experience, we expect the risk of loss to be remote.

In January 2016, our Board of Directors authorized a two-year share repurchase program for up to \$25.0 million of our common stock. In October 2016, our Board of Directors approved a \$50.0 million increase in the size of the share repurchase program. In September 2017, the existing share repurchase plan was terminated and our Board of Directors authorized a new fifteen-month share repurchase program for up to \$100 million commencing in October 2017. Shares repurchased under each program will be held in treasury for future use.

In October 2017, our Board of Directors approved a quarterly cash dividend of \$0.33 per share payable on November 22, 2017 to stockholders of record as of the close of business on November 8, 2017. Any future declaration and payment of dividends will be at the sole discretion of our Board of Directors. Our Board of Directors may take into account such matters as general business conditions, our financial results, capital requirements, contractual obligations, legal, and regulatory restrictions on the payment of dividends to our stockholders or by our subsidiaries to their respective parent entities, and any such other factors as the Board of Directors may deem relevant.

### ***Effects of Inflation***

Because the majority of our assets are short-term in nature, they are not significantly affected by inflation. However, the rate of inflation may affect our expenses, such as employee compensation, office leasing costs and communications expenses, which may not be readily recoverable in the prices of our services. To the extent inflation results in rising interest rates and has other adverse effects on the securities markets, it may adversely affect our financial condition and results of operations.

### **Contractual Obligations and Commitments**

As of September 30, 2017, we had the following contractual obligations and commitments:

	<b>Payments due by period</b>				
	<b>Total</b>	<b>Less than 1 year</b>	<b>1 - 3 years</b>	<b>3 - 5 years</b>	<b>More than 5 - years</b>
<b>(In thousands)</b>					
Operating leases	\$ 144,498	\$ 4,907	\$ 18,571	\$ 19,695	\$ 101,325
Foreign currency forward contract	88,444	88,444	—	—	—
	<u>\$ 232,942</u>	<u>\$ 93,351</u>	<u>\$ 18,571</u>	<u>\$ 19,695</u>	<u>\$ 101,325</u>

During 2016, we entered into a lease agreement for our new global headquarters in New York City. We expect to relocate our headquarters to approximately 83,000 square feet of newly built office space at 55 Hudson Yards upon the building's completion in late 2018. The fifteen-year lease for the new headquarters will commence when we receive possession of the premises, which is currently expected to occur in the first quarter of 2018.

We enter into foreign currency forward contracts to hedge our exposure to variability in certain foreign currency cash flows resulting from the net investment in our U.K. subsidiaries. As of September 30, 2017, the notional value of the foreign currency forward contract outstanding was \$88.4 million and the fair value of the asset was \$0.6 million.

### **Item 3. Quantitative and Qualitative Disclosures about Market Risk**

Market risk is the risk of the loss resulting from adverse changes in market rates and prices, such as interest rates and foreign currency exchange rates.

#### ***Market Risk***

The global financial services business is, by its nature, risky and volatile and is directly affected by many national and international factors that are beyond our control. Any one of these factors may cause a substantial decline in the U.S. and global financial services markets, resulting in reduced trading volume and revenues. These events could have a material adverse effect on our business, financial condition and results of operations.

As of September 30, 2017, we had \$234.2 million of investments, which were invested in corporate bonds and classified as securities available-for-sale or trading securities. Adverse movements, such as a 10% decrease in the value of these securities or a downturn or disruption in the markets for these securities, could result in a substantial loss. In addition, principal gains and losses resulting from these securities could on occasion have a disproportionate effect, positive or negative, on our financial condition and results of operations for any particular reporting period.

#### ***Interest Rate Risk***

Interest rate risk represents our exposure to interest rate changes with respect to our cash, cash equivalents and investments. As of September 30, 2017, our cash and cash equivalents and investments amounted to \$376.2 million. A hypothetical five basis point decrease in short-term interest rates would decrease our annual pre-tax earnings by approximately \$0.2 million, assuming no change in the amount or composition of our cash, cash equivalents and investments.

As of September 30, 2017, a hypothetical 100 basis point increase or decrease in interest rates would decrease or increase the fair value of the available-for-sale investment portfolio by approximately \$1.4 million, assuming no change in the amount or composition of the investments. The hypothetical unrealized gain (loss) of \$1.4 million would be recognized in other comprehensive income on the Consolidated Statements of Financial Condition.

A similar hypothetical 100 basis point increase or decrease in interest rates would decrease or increase the fair value of the trading securities portfolio by approximately \$0.8 million. The hypothetical unrealized gain (loss) of \$0.8 million would be recognized in other income in the Consolidated Statements of Operations.

We do not maintain an inventory of bonds that are traded on our platform.

#### ***Foreign Currency Exchange Rate Risk***

We conduct operations in several different countries outside of the U.S., most notably the U.K., and substantial portions of our revenues, expenses, assets and liabilities are generated and denominated in non U.S. dollar currencies. Since our consolidated financial statements are presented in U.S. dollars, we must translate revenues, income and expenses, as well as assets and liabilities, into U.S. dollars at exchange rates in effect during or at the end of each reporting period. Accordingly, increases or decreases in the value of the U.S. dollar against the other currencies will affect our net operating revenues, operating income and the value of balance sheet items denominated in foreign currencies.

During the twelve months ended September 30, 2017, approximately 12.7% of our revenue and 27.0% of our expenses were denominated in currencies other than the U.S. dollar, most notably the British Pound Sterling. Based on actual results over the past year, a hypothetical 10% increase or decrease in the U.S. dollar against all other currencies would have increased or decreased revenue by approximately \$5.0 million and operating expenses by approximately \$5.1 million.

#### ***Derivative Risk***

Our limited derivative risk stems from our activities in the foreign currency forward contract market. We use this market to mitigate our U.S. dollar versus British Pound Sterling exposure that arises from the activities of our U.K. subsidiaries. As of September 30, 2017, the fair value of the notional amount of our foreign currency forward contract was \$88.4 million. We do not speculate in any derivative instruments.

## ***Credit Risk***

Two of our subsidiaries, MarketAxess Corporation and MarketAxess Capital Limited, act as a matched principal counterparty in connection with the Open Trading™ transactions that we execute between clients. We act as an intermediary in these transactions by serving as counterparty to both the buyer and the seller in trades which then settle through a third-party clearing broker. Settlement typically occurs within one to two trading days after the trade date. Cash settlement of the transaction occurs upon receipt or delivery of the underlying instrument that was traded.

We are exposed to credit and performance risks in our role as matched principal trading counterparty to our Open Trading™ clients executing bond trades on our platform, including the risk that counterparties that owe us money or securities will not perform their obligations. These parties may default on their obligations to us due to bankruptcy, lack of liquidity, operational failure or other reasons. Adverse movements in the prices of securities that are the subject of these transactions can increase our risk. In connection with Open Trading™ or other anonymous protocols, we expect that the number of transactions in which we act as a matched principal will increase.

We have policies and procedures in place to identify and manage our credit risk. In connection with the recent growth of our Open Trading™ protocols, we have implemented additional automated controls to help us manage our credit risk exposure. There can be no assurance that the policies, procedures and automated controls we use to manage this credit risk will effectively mitigate our credit risk exposure. Some of our risk management procedures are reliant upon the evaluation of information regarding the fixed-income markets, our clients or other relevant matters that are publicly available or otherwise acquired from third party sources. Such information may not be accurate, complete, up-to-date or properly assessed and interpreted by us. If our risk management procedures fail, our business, financial condition and results of operations may be adversely affected. Furthermore, our insurance policies are unlikely to provide coverage for such risks.

Cash and cash equivalents includes cash and money market instruments that are primarily maintained at one major global bank. Given this concentration, we are exposed to certain credit risk in relation to our deposits at this bank.

## **Item 4. Controls and Procedures**

(a) *Evaluation of Disclosure Controls and Procedures.* Our management, including the Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our “disclosure controls and procedures,” as that term is defined in Rule 13a-15(e) and Rule 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), as of September 30, 2017. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures are effective to ensure that information required to be disclosed by MarketAxess in the 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 to ensure that information is accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

(b) *Changes in Internal Control over Financial Reporting.* There were no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) and Rule 15d-15(f) under the Exchange Act) during the quarter ended September 30, 2017 identified in connection with the evaluation thereof by our management, including the Chief Executive Officer and Chief Financial Officer, that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## PART II — Other Information

### Item 1. Legal Proceedings

In the normal course of business, we and our subsidiaries included in the consolidated financial statements may be involved in various lawsuits, proceedings and regulatory examinations. We assess liabilities and contingencies in connection with outstanding legal proceedings, if any, utilizing the latest information available. For matters where it is probable that we will incur a material loss and the amount can be reasonably estimated, we will establish an accrual for the loss. Once established, the accrual will be adjusted to reflect any relevant developments. When a loss contingency is not both probable and estimable, we would not establish an accrual.

Based on currently available information, the outcome of our outstanding matters is not expected to have a material adverse impact on our financial position. It is not presently possible to determine our ultimate exposure to these matters and there is no assurance that the resolution of the outstanding matters will not significantly exceed any reserves accrued by us.

### Item 1A. Risk Factors

There have been no material changes in our risk factors from those disclosed in our most recent Form 10-K for the year ended December 31, 2016. For a discussion of the risk factors affecting the Company, see “Risk Factors” in Part I, Item 1A of our 2016 Form 10-K.

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

#### Recent Sales of Unregistered Securities

None.

#### Issuer Purchases of Equity Securities

During the quarter ended September 30, 2017, we repurchased the following shares of common stock:

<u>Period</u>	<u>Total Number of Shares Purchased</u>	<u>Average Price Paid per Share</u>	<u>Total Number of Shares Purchased as Part of Publicly Announced Plans and Programs</u>	<u>Dollar Value of Shares That May Yet Be Purchased Under the Plans and Programs</u> <u>(In thousands)</u>
July 1, 2017 - July 31, 2017	47,137	\$ 200.45	20,000	\$ 23,030
August 1, 2017 - August 31, 2017	22,916	197.24	22,700	18,552
September 1, 2017 - September 30, 2017	22,400	182.41	20,800	—
	<u>92,453</u>	<u>\$ 195.28</u>	<u>63,500</u>	

During the three months ended September 30, 2017, we repurchased 92,453 shares of common stock. The repurchases included 28,953 shares surrendered by employees to us to satisfy the withholding tax obligations upon the exercise of stock options and vesting of restricted shares and 63,500 shares repurchased in connection with our share repurchase program.

In January 2016, our Board of Directors authorized a two-year share repurchase program for up to \$25.0 million of our common stock. In October 2016, our Board of Directors approved a \$50.0 million increase in the size of the current share repurchase program. In September 2017, the existing share repurchase plan was terminated and our Board of Directors authorized a new fifteen-month share repurchase program for up to \$100 million commencing in October 2017. Shares repurchased under each program will be held in treasury for future use.

### Item 3. Defaults upon Senior Securities

None.

**Item 4. Mine Safety Disclosures**

Not applicable.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

Exhibit Listing:

Number	Description
10.1*	<a href="#">Amendment, dated as of August 14, 2017, to the Restricted Stock Agreement, dated April 1, 2017, between MarketAxess Holdings Inc. and Christophe Roupie</a>
10.2*	<a href="#">Form of Indemnification Agreement for Directors</a>
31.1*	<a href="#">Certification by Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
31.2*	<a href="#">Certification by Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
32.1*	<a href="#">Certification by Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
32.2*	<a href="#">Certification by Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
101.INS	XBRL Instance Document**
101.SCH	XBRL Taxonomy Extension Schema Document**
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document**
101.LAB	XBRL Taxonomy Extension Label Linkbase Document**
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document**
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document**

\* Filed herewith.

\*\* Attached as Exhibit 101 to this Quarterly Report on Form 10-Q are the following materials, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Statements of Financial Condition as of September 30, 2017 and December 31, 2016; (ii) Consolidated Statements of Operations for the Three and Nine months Ended September 30, 2017 and 2016; (iii) Consolidated Statements of Comprehensive Income for the Three and Nine months Ended September 30, 2017 and 2016; (iv) Consolidated Statement of Stockholders' Equity for the Nine months Ended September 30, 2017; (v) Consolidated Statements of Cash Flows for the Nine months Ended September 30, 2017 and 2016; and (vi) Notes to the Consolidated Financial Statements.



**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.

MARKETAXESS HOLDINGS INC.

Date: October 27, 2017

By: /s/ RICHARD M. MCVEY

Richard M. McVey  
Chief Executive Officer  
(principal executive officer)

Date: October 27, 2017

By: /s/ ANTONIO L. DELISE

Antonio L. DeLise  
Chief Financial Officer  
(principal financial and accounting officer)

**AMENDMENT TO RESTRICTED STOCK AGREEMENT**

This Amendment (the "Amendment"), dated as of 14 August 2017, to a certain Restricted Stock Agreement (the "RSA"), dated April 1, 2017, between MarketAxess Holdings Inc., a Delaware corporation (hereinafter referred to as the "Company"), and Christophe Roupie ("Participant").

**WITNESSETH:**

WHEREAS, in connection with an error in the terms of the RSA, Company and Participant desire to amend the terms of the RSA as set forth below;

NOW, THEREFORE, in consideration of the premises, the mutual covenants herein set forth and other good and valuable consideration, the Company and Participant hereby agree as follows:

1. Appendix 1 to the RSA is hereby amended to include the following as its final paragraph:  
"Should any upwards adjustment be made under Sections 3 or 4 of the Appendix, such adjustments shall only be made in two equal tranches immediately prior to the Vesting Dates of the award. The first adjustment shall be made immediately prior to the first Vesting Date (1 April 2020), the second adjustment being made immediately prior to the second Vesting Date (1 April 2021)."
2. For the avoidance of doubt, the Parties agree that the reference to "No shares are earned if achievement is below 85%" in Sections 3 and 4 of Appendix 1 shall refer to 85% of the high-end of the applicable Target Range.
3. Unless otherwise defined herein, all capitalized terms used in this Amendment shall have the same definitions as set forth in the Company's MarketAxess Holdings Inc. 2012 Incentive Plan (the "Plan"). This Amendment shall be interpreted under, and subject to, all of the terms and provisions of the Plan, which are incorporated herein by reference.
4. In all other respects, the RSA shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date first set forth above.

MarketAxess Holdings Inc.

By: /s/ Richard M. McVey  
Name: Richard M. McVey  
Title: CEO

/s/ Christophe Roupie  
Christophe Roupie

## INDEMNIFICATION AGREEMENT

This Indemnification Agreement (“Agreement”) is made as of \_\_\_\_\_, 201\_ by and between MarketAxess Holdings Inc., a Delaware corporation (the “Company”), and \_\_\_\_\_ (“Indemnitee”).

### RECITALS

WHEREAS, highly competent persons have become more reluctant to serve publicly-held corporations as directors or in other capacities unless they are provided with adequate protection through insurance and/or adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation.

WHEREAS, although Indemnitee may be entitled to indemnification pursuant to the Company’s Certificate of Incorporation and Bylaws and the Delaware General Corporation Law (“DGCL”), the DGCL expressly provides that the indemnification provisions set forth therein are not exclusive, and thereby contemplates that contracts may be entered into between the Company and members of the board of directors, officers and other persons with respect to indemnification.

WHEREAS, the Company has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Company’s stockholders and that the Company should act to assure such persons that there will be increased certainty of such protection in the future.

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified.

WHEREAS, this Agreement is a supplement to and in furtherance of the Certificate of Incorporation and the Bylaws of the Company and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

WHEREAS, Indemnitee believes that this Agreement is desirable to augment the protection available under the Company’s Certificate of Incorporation, the Company’s Bylaws and insurance, and may not be willing to serve as a director without the additional protection provided for under this Agreement, and the Company desires Indemnitee to serve in such capacity and Indemnitee is willing to serve and continue to serve on the condition that Indemnitee be so indemnified;

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Company and Indemnitee do hereby covenant and agree as follows:

1. SERVICES TO THE COMPANY. Indemnitee will serve or continue to serve, at the will of the Company in accordance with the Company’s Bylaws, as a director of the Company for so long as Indemnitee is duly elected or appointed or until Indemnitee tenders his or her resignation.

2. DEFINITIONS. As used in this Agreement:

(a) “Beneficial Owner” shall have the meaning given to such term in Rule 13d-3 under the Exchange Act; provided, however, that Beneficial Owner shall exclude any Person otherwise becoming a Beneficial Owner by reason of the stockholders of the Company approving a merger of the Company with another entity.

(b) A “Change in Control” shall be deemed to occur upon the earliest to occur after the date of this Agreement of any of the following events:

(i) Change in Board of Directors. During any period of two (2) consecutive years (not including any period prior to the execution of this Agreement), individuals who at the beginning of such period constitute the Board of Directors of the Company (the "Board"), and any new director (other than a director designated by a person who has entered into an agreement with the Company to effect a transaction described in Sections 2(b)(ii) or 2(b)(iii)) whose election by the Board or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute a least a majority of the members of the Board;

(ii) Corporate Transactions. The effective date of a merger or consolidation of the Company with any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) more than 51% of the combined voting power of the voting securities of the surviving entity outstanding immediately after such merger or consolidation and with the power to elect at least a majority of the board of directors or other governing body of such surviving entity;

(iii) Liquidation. The approval by the stockholders of the Company of a complete liquidation of the Company or an agreement for the sale or disposition by the Company of all or substantially all of the Company's assets; and

(iv) Other Events. There occurs any other event of a nature that would be required to be reported in response to Item 6(e) of Schedule 14A of Regulation 14A (or a response to any similar item on any similar schedule or form) promulgated under the Exchange Act (as defined below), whether or not the Company is then subject to such reporting requirement.

(c) "Corporate Status" describes the status of a person who is or was a director, officer, employee or agent of the Company or of any other corporation, limited liability company, partnership or joint venture, trust, employee benefit plan or other enterprise which such person is or was serving at the request of the Company.

(d) "Disinterested Director" means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(e) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

(f) "Enterprise" shall mean the Company and any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise of which Indemnitee is or was serving at the request of the Company as a director, officer, employee, agent or fiduciary.

(g) "Expenses" shall include all reasonable attorneys' fees and expenses, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding. Expenses also shall include Expenses incurred in connection with any appeal resulting from any Proceeding, including without limitation the premium, security for, and other costs relating to any cost bond, supersedeas bond, or other appeal bond or its equivalent. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(h) Reference to "other enterprise" shall include employee benefit plans; references to "fines" shall include any excise tax assessed with respect to any employee benefit plan; references to "serving at the request of the Company" shall include any service as a director, officer, employee or agent of the Company which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee

benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner he or she reasonably believed to be in the best interests of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in manner “not opposed to the best interests of the Company” as referred to in this Agreement.

(i) “Person” shall have the meaning as set forth in Sections 13(d) and 14(d) of the Exchange Act; provided, however, that Person shall exclude (i) the Company, (ii) any trustee or other fiduciary holding securities under an employee benefit plan of the Company, and (iii) any corporation owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company.

(j) The term “Proceeding” shall include any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought in the right of the Company or otherwise and whether of a civil, criminal, administrative or investigative nature, in which Indemnitee was, is or will be involved as a party or otherwise by reason of the fact that Indemnitee is or was a director of the Company, by reason of any action taken by Indemnitee or of any action on Indemnitee’s part while acting as director of the Company, or by reason of the fact that Indemnitee is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, limited liability company, partnership, joint venture, trust or other enterprise, in each case whether or not serving in such capacity at the time any liability or expense is incurred for which indemnification, reimbursement, or advancement of expenses can be provided under this Agreement; except one initiated by Indemnitee to enforce Indemnitee’s rights under this Agreement; provided that, the term Proceeding shall not include any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding by Indemnitee against the Company, including, but not limited to, proceedings initiated by Indemnitee or involving a counterclaim by Indemnitee.

(k) “Independent Counsel” means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Company or Indemnitee in any matter material to either such party (other than with respect to matters concerning the Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee’s rights under this Agreement. The Company agrees to pay the reasonable fees and expenses of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

3. INDEMNITY IN THIRD-PARTY PROCEEDINGS. The Company shall indemnify Indemnitee in accordance with the provisions of this Section 3 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding, other than a Proceeding by or in the right of the Company to procure a judgment in its favor against you. Pursuant to this Section 3, Indemnitee shall be indemnified to the fullest extent permitted by applicable law against all Expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by Indemnitee or on Indemnitee’s behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company and, in the case of a criminal proceeding had no reasonable cause to believe that his or her conduct was unlawful.

4. INDEMNITY IN PROCEEDINGS BY OR IN THE RIGHT OF THE COMPANY. The Company shall indemnify Indemnitee in accordance with the provisions of this Section 4 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 4, Indemnitee shall be indemnified to the fullest extent permitted by applicable law against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee’s behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company. No

indemnification for Expenses shall be made under this Section 4 in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudged by a court to be liable to the Company unless, and only to the extent that, the Delaware Court of Chancery or any court in which the Proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnification.

5. INDEMNIFICATION FOR EXPENSES OF A PARTY WHO IS WHOLLY OR PARTLY SUCCESSFUL. Notwithstanding any other provisions of this Agreement, to the fullest extent permitted by applicable law and to the extent that Indemnitee is a party to (or a participant in) and is successful, on the merits or otherwise, in any Proceeding or in defense of any claim, issue or matter therein, in whole or in part, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with each successfully resolved claim, issue or matter. If the Indemnitee is not wholly successful in such Proceeding, the Company also shall indemnify Indemnitee against all Expenses reasonably incurred in connection with a claim, issue or matter related to any claim, issue, or matter on which the Indemnitee was successful. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

6. INDEMNIFICATION FOR EXPENSES OF A WITNESS. Notwithstanding any other provision of this Agreement, to the fullest extent permitted by applicable law and to the extent that Indemnitee is, by reason of Indemnitee's Corporate Status, a witness in any Proceeding to which Indemnitee is not a party, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection therewith.

#### 7. ADDITIONAL INDEMNIFICATION.

(a) Notwithstanding any limitation in Sections 3, 4, or 5, the Company shall indemnify Indemnitee to the fullest extent permitted by applicable law if Indemnitee is a party to or threatened to be made a party to any Proceeding (including a Proceeding by or in the right of the Company to procure a judgment in its favor) against all Expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by Indemnitee in connection with the Proceeding; provided, however, that the Company shall have the right to consent to any settlement, which consent shall not be unreasonably withheld. No indemnity shall be made under this Section 7(a) on account of Indemnitee's conduct which constitutes a breach of Indemnitee's duty of loyalty to the Company or its stockholders or is an act or omission not in good faith or which involves intentional misconduct or a knowing violation of the law.

(b) For purposes of Section 7(a), the meaning of the phrase "to the fullest extent permitted by applicable law" shall include, but not be limited to:

(i) to the fullest extent permitted by the provision of the DGCL that authorizes or contemplates additional indemnification by agreement, or the corresponding provision of any amendment to or replacement of the DGCL; and

(ii) to the fullest extent authorized or permitted by any amendments to or replacements of the DGCL adopted after the date of this Agreement that increase the extent to which a corporation may indemnify its officers and directors.

8. EXCLUSIONS. Notwithstanding any provision in this Agreement, the Company shall not be obligated under this Agreement to make any indemnity in connection with any claim made against Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy or under another valid and enforceable indemnity provision, except with respect to any excess

beyond the amount paid under any insurance policy or other indemnity provision and except for any payments which are required to be disgorged by Indemnitee;

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Securities Exchange Act of 1934, as amended, or similar provisions of other federal or state statutory law or common law; or

(c) in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company's directors, officers, employees or other indemnitees, unless

(i) such indemnification is expressly required to be made by applicable law;

(ii) the Board of Directors of the Company authorized the Proceeding (or any part of any Proceeding) prior to its initiation; or

(iii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company to the fullest extent permitted by applicable law.

9. ADVANCES OF EXPENSES. Notwithstanding any provision of this Agreement to the contrary, to the fullest extent permitted by applicable law the Company shall advance the expenses incurred by Indemnitee in connection with any Proceeding within twenty (20) days after the receipt by the Company of a statement or statements requesting such advances from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay the expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Advances shall include any and all reasonable Expenses incurred pursuing an action to enforce this right of advancement, including Expenses incurred preparing and forwarding statements to the Company to support the advances claimed. The Indemnitee shall qualify for advances solely upon the execution and delivery to the Company of an undertaking providing that the Indemnitee undertakes to repay the advance to the extent that it is ultimately determined that Indemnitee is not entitled to be indemnified by the Company. This Section 9 shall not apply to any claim made by Indemnitee for which indemnity is excluded pursuant to Section 8.

#### 10. PROCEDURE FOR NOTIFICATION AND DEFENSE OF CLAIM.

(a) Within thirty (30) days after service of process of Indemnitee relating to notice of the commencement of any Proceeding, Indemnitee shall submit to the Company a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The omission to notify the Company within such thirty (30) day period will not relieve the Company from any liability which it may have to Indemnitee under this Agreement except to the extent the failure of Indemnitee to provide such notice within thirty (30) days after receipt by Indemnitee of notice of the commencement of any Proceeding adversely affects the Company's rights, legal position, ability to defend or ability to obtain insurance coverage with respect to such Proceeding. The omission to notify the Company will not relieve the Company from any liability which it may have to Indemnitee otherwise than under this Agreement. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification.

(b) If the Company shall be obligated to pay the Expenses of any Proceeding against the Indemnitee, the Company shall be entitled to assume and control the defense of such Proceeding (with counsel consented to by the Indemnitee, which consent shall not be unreasonably withheld), upon the delivery to the Indemnitee of written notice of its election so to do. After delivery of such notice, consent to such counsel by the Indemnitee and the retention of such counsel by the Company, the Company will not be liable to the Indemnitee under this Agreement for any fees of separate counsel subsequently incurred by the Indemnitee with respect to the same Proceeding, provided that if (i) the employment of separate counsel by the Indemnitee has been previously authorized by the Company, (ii) the Indemnitee or counsel selected by the Company shall have concluded that there

may be a conflict of interest between the Company and the Indemnitee or among Indemnitees jointly represented in the conduct of any such defense or (iii) the Company shall not, in fact, have employed counsel, to which Indemnitee has consented as aforesaid, to assume the defense of such Proceeding, then the reasonable fees and expenses of Indemnitee's counsel shall be at the expense of the Company. Notwithstanding the foregoing, the Indemnitee shall have the right to employ counsel in any such Proceeding at the Indemnitee's expense.

(c) The Company will be entitled to participate in the Proceeding at its own expense. The Company will not, without prior written consent of the Indemnitee, effect any settlement of a claim against the Indemnitee in any threatened or pending Proceeding unless such settlement solely involves the payment of money and includes an unconditional release of the Indemnitee from all liability on any claims that are or were threatened to be made against the Indemnitee in the Proceeding.

#### 11. PROCEDURE UPON APPLICATION FOR INDEMNIFICATION.

(a) Upon written request by Indemnitee for indemnification pursuant to the first sentence of Section 10(a), a determination, if required by applicable law, with respect to Indemnitee's entitlement thereto shall be made in the specific case:

(i) if a Change in Control shall have occurred, by Independent Counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to Indemnitee; or

(ii) if a Change in Control shall not have occurred,

(A) by a majority vote of the Disinterested Directors, even though less than a quorum of the Board,

(B) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum of the Board,

(C) if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee or

(D) if so directed by the Board, by the stockholders of the Company; and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within ten (10) days after such determination.

Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any costs or expenses (including attorneys' fees and expenses and disbursements) incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(b) In the event the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 11(a) hereof, the Independent Counsel shall be selected as provided in this Section 11(b). If a Change in Control shall not have occurred, the Independent Counsel shall be selected by the Board of Directors, and the Company shall give written notice to Indemnitee advising Indemnitee of the identity of the Independent Counsel so selected. If a Change in Control shall have occurred, the Independent Counsel shall be selected by Indemnitee (unless Indemnitee shall request that such selection be made by the Board of Directors, in



which event the preceding sentence shall apply), and Indemnitee shall give written notice to the Company advising it of the identity of the Independent Counsel so selected. In either event, Indemnitee or the Company, as the case may be, may, within 10 days after such written notice of selection shall have been given, deliver to the Company or to Indemnitee, as the case may be, a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 2 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If such written objection is so made and substantiated, the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court has determined that such objection is without merit. If, within 20 days after submission by Indemnitee of a written request for indemnification pursuant to Section 10(a) hereof, no Independent Counsel shall have been selected and not objected to, either the Company or Indemnitee may petition a court of competent jurisdiction for resolution of any objection which shall have been made by the Company or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the Court or by such other person as the Court shall designate, and the person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 11(a) hereof. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 13(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

## 12. PRESUMPTIONS AND EFFECT OF CERTAIN PROCEEDINGS.

(a) In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 10(a) of this Agreement, and the Company shall have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption.

(b) Neither the failure of the Company (including by its directors or independent legal counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Company (including by its directors or independent legal counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(c) If the person, persons or entity empowered or selected under Section 11 of this Agreement to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after receipt by the Company of the request therefor, the requisite determination of entitlement to indemnification shall be deemed to have been made and Indemnitee shall be entitled to such indemnification, absent a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person, persons or entity making the determination with respect to entitlement to indemnification in good faith requires such additional time for the obtaining or evaluating of documentation and/or information relating thereto; and provided, further, that the foregoing provisions of this Section 12(b) shall not apply (i) if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 11(a) of this Agreement and if (A) within fifteen (15) days after receipt by the Company of the request for such determination the Board of Directors has resolved to submit such determination to the stockholders for their consideration at an annual meeting thereof to be held within seventy-five (75) days after such receipt and such determination is made thereat, or (B) a special meeting of stockholders is called within fifteen (15) days after such receipt for the purpose of making such determination, such meeting is held for such purpose within sixty (60) days after having been so called and such determination is made thereat, or (ii) if the determination of entitlement to indemnification is made by Independent Counsel pursuant to Section 11(a) of this Agreement.

(d) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of *nolo contendere* or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a

presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that his or her conduct was unlawful.

(e) RELIANCE AS SAFE HARBOR. For purposes of any determination of good faith, Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with the reasonable care by the Enterprise. The provisions of this Section 12(e) shall not be deemed to be exclusive or to limit in any way the other circumstances in which the Indemnitee may be deemed to have met the applicable standard of conduct set forth in this Agreement.

(f) ACTIONS OF OTHERS. The knowledge and/or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement.

### 13. REMEDIES OF INDEMNITEE.

(a) In the event that

(i) a determination is made pursuant to Section 11 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement,

(ii) advancement of Expenses is not timely made pursuant to Section 9 of this Agreement,

(iii) no determination of entitlement to indemnification shall have been made pursuant to Section 11(a) of this Agreement within 45 days after receipt by the Company of the request for indemnification,

(iv) payment of indemnification is not made pursuant to Section 5 or 6 or the last sentence of Section 11(a) of this Agreement within ten (10) days after receipt by the Company of a written request therefor, or

(v) payment of indemnification pursuant to Section 3, 4 or 7 of this Agreement is not made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification,

Indemnitee shall be entitled to an adjudication by a court of Indemnitee's entitlement to such indemnification or advancement of Expenses.

Alternatively, Indemnitee, at Indemnitee's option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. The Company shall not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 11(a) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 13 shall be conducted in all respects as a *de novo* trial, or arbitration, on the merits and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 13, the Company shall have the burden of proving Indemnitee is not entitled to indemnification or advancement of Expenses, as the case may be.

(c) If a determination shall have been made pursuant to Section 11(a) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial

proceeding or arbitration commenced pursuant to this Section 13, absent a prohibition of such indemnification under applicable law.

(d) The Company shall be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 13 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Company is bound by all the provisions of this Agreement. The Company shall indemnify Indemnitee against any and all Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Company of a written request therefor) advance, to the extent not prohibited by Section 402 of the Sarbanes-Oxley Act of 2002 or other applicable law, such expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advance of Expenses from the Company under this Agreement or under any directors' and officers' liability insurance policies maintained by the Company, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of Expenses or insurance recovery, as the case may be.

#### 14. NON-EXCLUSIVITY; SURVIVAL OF RIGHTS; SUBROGATION.

(a) The rights of indemnification and to receive advancement of Expenses as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Company's Certificate of Incorporation, the Company's Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in Indemnitee's Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in Delaware law, whether by statute or judicial decision, permits greater indemnification or advancement of Expenses than would be afforded currently under the Company's Bylaws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which such person serves at the request of the Company, Indemnitee shall be an insured under such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee or agent under such policy or policies. The Company agrees to promptly notify Indemnitee of any material change in any such policy. The Company may, but will not be required to, create a trust fund, grant a security interest or use other means, including, without limitation, a letter of credit, to ensure the payment of such amounts as may be necessary to satisfy the obligations to indemnify and advance Expenses pursuant to this Agreement. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has director and officer liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company and Indemnitee shall mutually cooperate and take all reasonable actions to cause such insurers to pay on behalf of the insureds, all amounts payable as a result of such proceeding in accordance with the terms of all applicable policies.

(c) In the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(d) The Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable (or for which advancement is provided hereunder) hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, the Certificate of Incorporation, the Bylaws, contract, agreement or otherwise.

(e) The Company's obligation to indemnify or advance Expenses hereunder to Indemnitee who is or was serving at the request of the Company as a director, officer, employee or agent of any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement of expenses from such other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise.

15. DURATION OF AGREEMENT, SUCCESSORS AND ASSIGNS. This Agreement shall continue until and terminate upon the later of: (a) twenty years after Indemnitee has ceased to occupy any positions or have any relationships described in Section 1 of this Agreement; and (b) the final termination of all actions, suits, proceedings or investigations pending or threatened during such twenty year period to which Indemnitee may be subject by reason of the fact that Indemnitee is or was a director of the Company or is or was serving at the request of the Company as a director, officer, employee agent or fiduciary of any other entity, including, but not limited to, another corporation, partnership, joint venture or trust, or by reason of anything done or not done by Indemnitee in any such capacity. This Agreement shall be binding upon the Company and its successors and assigns and shall inure to the benefit of and be enforceable by Indemnitee and Indemnitee's personal and legal representatives, heirs, executors, administrators, distributees, legatees and other successors.

16. SEVERABILITY. If any provision or provisions of this Agreement or any application of any provision hereof shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

#### 17. ENFORCEMENT.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve as a director of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as a director of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof; provided, however, that this Agreement is a supplement to and in furtherance of the Certificate of Incorporation of the Company, the Bylaws of the Company and applicable law, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

18. MODIFICATION AND WAIVER. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by the parties thereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions of this Agreement nor shall any waiver constitute a continuing waiver.

19. NOTICE BY INDEMNITEE. Indemnitee agrees promptly to notify the Company in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification or advancement of Expenses covered

hereunder. The failure of Indemnitee to so notify the Company shall not relieve the Company of any obligation which it may have to the Indemnitee under this Agreement or otherwise.

20. NOTICES. Any notices or other communications required or permitted under, or otherwise in connection with this Agreement, shall be in writing and shall be deemed to have been duly given when delivered in person or upon confirmation of receipt when transmitted by facsimile transmission (but only if followed by transmittal by national overnight courier or hand for delivery on the next business day) or on receipt after dispatch by registered or certified mail, postage prepaid, addressed, or on the next business day if transmitted by national overnight courier, in each case as follows: (i) if to the Company, directed to the Chief Executive Officer and General Counsel at its principal place of business; and (ii) if to the Indemnitee, to such address as set forth below their name on the signature page to this Agreement; or such other persons or addresses as shall be furnished in writing by the Indemnitee to the Company.

21. CONTRIBUTION. To the fullest extent permissible by applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company and Indemnitee as a result of the event(s) and/or transaction(s) giving cause to such Proceeding; and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and/or transaction(s).

22. APPLICABLE LAW AND CONSENT TO JURISDICTION. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. Except with respect to any arbitration commenced by Indemnitee pursuant to Section 13 of this Agreement, the Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Chancery Court of the State of Delaware (the "Delaware Court"), and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) appoint, to the extent such party is not otherwise subject to service of process in the State of Delaware, irrevocably Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, Delaware 19808 as its agent in the State of Delaware as such party's agent for acceptance of legal process in connection with any such action or proceeding against such party with the same legal force and validity as if served upon such party personally within the State of Delaware, (iv) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (v) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

23. IDENTICAL COUNTERPARTS. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

24. MISCELLANEOUS. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

[END OF TEXT. SIGNATURE PAGE FOLLOWS.]

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed as of the day and year first above written.

MarketAxess Holdings Inc.:

Indemnitee:

By: \_\_\_\_\_

\_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

## CERTIFICATIONS

I, Richard M. McVey, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MarketAxess Holdings Inc.;

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

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

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

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

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

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

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

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

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

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

/s/ RICHARD M. MCVEY

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Richard M. McVey  
Chief Executive Officer  
(principal executive officer)

Dated: October 27, 2017

## CERTIFICATIONS

I, Antonio L. DeLise, certify that:

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

/s/ ANTONIO L. DELISE

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Antonio L. DeLise

Chief Financial Officer

(principal financial and accounting officer)

Dated: October 27, 2017



**Certification Under Section 906 of the Sarbanes-Oxley Act of 2002  
(United States Code, Title 18, Chapter 63, Section 1350)  
Accompanying Quarterly Report on Form 10-Q of  
MarketAxess Holdings Inc. for the Quarter Ended September 30, 2017**

In connection with the Quarterly Report on Form 10-Q of MarketAxess Holdings Inc. (the "Company") for the quarter ended September 30, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Richard M. McVey, Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, that:

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

/s/ RICHARD M. MCVEY

Richard M. McVey

Chief Executive Officer

October 27, 2017

*This certification shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent the Company specifically incorporates it by reference.*

**Certification Under Section 906 of the Sarbanes-Oxley Act of 2002  
(United States Code, Title 18, Chapter 63, Section 1350)  
Accompanying Quarterly Report on Form 10-Q of  
MarketAxess Holdings Inc. for the Quarter Ended September 30, 2017**

In connection with the Quarterly Report on Form 10-Q of MarketAxess Holdings Inc. (the "Company") for the quarter ended September 30, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Antonio L. DeLise, Chief Financial Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, that:

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

/s/ ANTONIO L. DELISE

\_\_\_\_\_  
Antonio L. DeLise  
Chief Financial Officer

October 27, 2017

*This certification shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent the Company specifically incorporates it by reference.*