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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2019

or

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

For the transition period from to

Commission File Number 001-34091

MARKETAXESS HOLDINGS INC.
(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**52-2230784** **(IRS Employer Identification No.)**
55 Hudson Yards, 15th Floor New York, New York **(Address of principal executive offices)**	**10001** **(Zip Code)**

Registrant's telephone number, including area code: (212) 813-6000

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, $0.003 par value	MKTX	NASDAQ Global Select Market

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

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

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

As of July 22, 2019, the number of shares of the Registrant's voting common stock outstanding was 37,756,668.

MARKETAXESS HOLDINGS INC.
FORM 10-Q FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2019
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PART I — Financial Information

Item 1. ***Financial Statements***

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

	As of	
	June 30, 2019	December 31, 2018
	(In thousands, except share and per share amounts)	
ASSETS		
Cash and cash equivalents	$ 286,179	$ 246,322
Investments, at fair value	231,895	240,105
Accounts receivable, net of allowance of $76 and $80 as of June 30, 2019 and December 31, 2018, respectively	66,332	57,535
Goodwill and intangible assets, net of accumulated amortization	62,483	62,675
Furniture, equipment, leasehold improvements and capitalized software, net of accumulated depreciation and amortization	64,206	63,010
Operating lease right-of-use assets	76,722	—
Prepaid expenses and other assets	22,597	22,468
Deferred tax assets, net	1,595	3,424
Total assets	$ 812,009	$ 695,539
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities		
Accrued employee compensation	$ 26,669	$ 39,053
Income and other tax liabilities	12,860	16,432
Deferred revenue	3,810	2,810
Accounts payable, accrued expenses and other liabilities	17,050	29,366
Operating lease liabilities	89,712	—
Total liabilities	150,101	87,661
Commitments and Contingencies (Note 11)		
Stockholders' equity		
Preferred stock, $0.001 par value, 4,855,000 shares authorized, no shares issued and outstanding as of June 30, 2019 and December 31, 2018	—	—
Series A Preferred Stock, $0.001 par value, 110,000 shares authorized, no shares issued and outstanding as of June 30, 2019 and December 31, 2018	—	—
Common stock voting, $0.003 par value, 110,000,000 shares authorized, 40,688,233 shares and 40,540,349 shares issued and 37,753,481 shares and 37,639,917 shares outstanding as of June 30, 2019 and December 31, 2018, respectively	122	122
Common stock non-voting, $0.003 par value, 10,000,000 shares authorized, no shares issued and outstanding as of June 30, 2019 and December 31, 2018	—	—
Additional paid-in capital	341,446	341,860
Treasury stock - Common stock voting, at cost, 2,934,752 and 2,900,432 shares as of June 30, 2019 and December 31, 2018, respectively	(193,632)	(184,962)
Retained earnings	525,430	463,252
Accumulated other comprehensive loss	(11,458)	(12,394)
Total stockholders' equity	661,908	607,878
Total liabilities and stockholders' equity	$ 812,009	$ 695,539

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

MARKETAXESS HOLDINGS INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(In thousands, except share and per share amounts)			
Revenues				
Commissions	$ 114,124	$ 96,113	$ 226,884	$ 198,885
Information services	7,156	6,930	14,522	13,996
Post-trade services	3,956	3,620	8,056	8,196
Other	254	301	519	601
Total revenues	125,490	106,964	249,981	221,678
Expenses				
Employee compensation and benefits	32,623	26,199	65,281	55,033
Depreciation and amortization	6,345	5,790	12,427	11,059
Technology and communications	6,474	5,793	12,256	11,572
Professional and consulting fees	6,296	5,426	12,127	10,483
Occupancy	2,798	3,467	5,747	6,804
Marketing and advertising	3,667	3,535	5,966	5,600
Clearing costs	2,610	2,012	5,187	3,737
General and administrative	3,800	2,708	6,924	5,183
Total expenses	64,613	54,930	125,915	109,471
Operating income	60,877	52,034	124,066	112,207
Other income (expense)				
Investment income	2,096	1,383	4,085	2,551
Other, net	(64)	(207)	(22)	(535)
Total other income	2,032	1,176	4,063	2,016
Income before income taxes	62,909	53,210	128,129	114,223
Provision for income taxes	14,804	12,723	27,502	25,796
Net income	$ 48,105	$ 40,487	$ 100,627	$ 88,427
Net income per common share				
Basic	$ 1.30	$ 1.10	$ 2.72	$ 2.39
Diluted	$ 1.27	$ 1.07	$ 2.66	$ 2.33
Cash dividends declared per common share	$ 0.51	$ 0.42	$ 1.02	$ 0.84
Weighted average shares outstanding				
Basic	37,049	36,950	37,046	36,952
Diluted	37,910	37,862	37,871	37,874

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

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(In thousands)			
Net income	$ 48,105	$ 40,487	$ 100,627	$ 88,427
Net cumulative translation adjustment and foreign currency exchange hedge, net of tax of $721, $1,328, $269 and $506, respectively	(1,100)	(1,288)	18	(1,020)
Net unrealized gain (loss) on securities available-for-sale, net of tax of $144, $18, $287 and $(89), respectively	459	57	918	(277)
Comprehensive income	$ 47,464	$ 39,256	$ 101,563	$ 87,130

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

MARKETAXESS HOLDINGS INC.
CONSOLIDATED STATEMENTS 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)			
Balance at January 1, 2019	$ 122	$ 341,860	$ (184,962)	$ 463,252	$ (12,394)	$ 607,878
Net income	—	—	—	52,522	—	52,522
Cumulative translation adjustment and foreign currency exchange hedge, net of tax	—	—	—	—	1,118	1,118
Unrealized net gain on securities available-for-sale, net of tax	—	—	—	—	459	459
Stock-based compensation	—	5,196	—	—	—	5,196
Exercise of stock options	—	172	—	—	—	172
Withholding tax payments on restricted stock vesting and stock option exercises	—	(11,803)	—	—	—	(11,803)
Repurchases of common stock	—	—	(5,184)	—	—	(5,184)
Cash dividend on common stock	—	—	—	(19,212)	—	(19,212)
Balance at March 31, 2019	122	335,425	(190,146)	496,562	(10,817)	631,146
Net income	—	—	—	48,105	—	48,105
Cumulative translation adjustment and foreign currency exchange hedge, net of tax	—	—	—	—	(1,100)	(1,100)
Unrealized net gain on securities available-for-sale, net of tax	—	—	—	—	459	459
Stock-based compensation	—	5,929	—	—	—	5,929
Exercise of stock options	—	350	—	—	—	350
Withholding tax payments on restricted stock vesting and stock option exercises	—	(258)	—	—	—	(258)
Repurchases of common stock	—	—	(3,486)	—	—	(3,486)
Cash dividend on common stock	—	—	—	(19,237)	—	(19,237)
Balance at June 30, 2019	$ 122	$ 341,446	$ (193,632)	$ 525,430	$ (11,458)	$ 661,908

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

MARKETAXESS HOLDINGS INC.
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (CONTINUED)
(Unaudited)

	Common Stock Voting	Additional Paid-In Capital	Treasury Stock - Common Stock Voting	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
			(In thousands)			
Balance at January 1, 2018	$ 121	$ 331,081	$(159,791)	$ 353,583	$ (10,226)	$ 514,768
Net income	—	—	—	47,940	—	47,940
Cumulative translation adjustment and foreign currency exchange hedge, net of tax	—	—	—	—	268	268
Unrealized net loss on securities available-for-sale, net of tax	—	—	—	—	(334)	(334)
Stock-based compensation	—	3,951	—	—	—	3,951
Exercise of stock options	—	258	—	—	—	258
Withholding tax payments on restricted stock vesting and stock option exercises	—	(7,621)	—	—	—	(7,621)
Repurchases of common stock	—	—	(6,268)	—	—	(6,268)
Cash dividend on common stock	—	—	—	(15,798)	—	(15,798)
Balance at March 31, 2018	121	327,669	(166,059)	385,725	(10,292)	537,164
Net income	—	—	—	40,487	—	40,487
Cumulative translation adjustment and foreign currency exchange hedge, net of tax	—	—	—	—	(1,288)	(1,288)
Unrealized net gain on securities available-for-sale, net of tax	—	—	—	—	57	57
Stock-based compensation	—	3,650	—	—	—	3,650
Exercise of stock options	—	113	—	—	—	113
Withholding tax payments on restricted stock vesting and stock option exercises	—	(376)	—	—	—	(376)
Repurchases of common stock	—	—	(6,636)	—	—	(6,636)
Cash dividend on common stock	—	—	—	(15,793)	—	(15,793)
Balance at June 30, 2018	$ 121	$ 331,056	$(172,695)	$ 410,419	$ (11,523)	$ 557,378

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

MARKETAXESS HOLDINGS INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
	(In thousands)	
Cash flows from operating activities		
Net income	$ 100,627	$ 88,427
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	12,427	11,059
Amortization of operating lease right-of-use assets	2,835	—
Stock-based compensation expense	11,125	7,601
Deferred taxes	1,631	1,448
Other	(296)	1,014
Changes in operating assets and liabilities:		
(Increase) in accounts receivable	(8,883)	(9,350)
(Increase) in prepaid expenses and other assets	(131)	(2,330)
Decrease (increase) in trading investments	8,854	(3,288)
(Increase) in mutual funds held in rabbi trust	(1,743)	(1,203)
(Decrease) in accrued employee compensation	(12,384)	(12,890)
(Decrease) in income and other tax liabilities	(3,661)	(1,164)
Increase in deferred revenue	1,000	935
(Decrease) increase in accounts payable, accrued expenses and other liabilities	(877)	5,559
(Decrease) in operating lease liabilities	(1,422)	—
Net cash provided by operating activities	109,102	85,818
Cash flows from investing activities		
Available-for-sale investments		
Proceeds from maturities and sales	130,875	152,335
Purchases	(128,189)	(159,192)
Purchases of furniture, equipment and leasehold improvements	(6,114)	(16,035)
Capitalization of software development costs	(7,310)	(6,536)
Other	2	16
Net cash (used in) investing activities	(10,736)	(29,412)
Cash flows from financing activities		
Cash dividend on common stock	(38,323)	(31,350)
Exercise of stock options	522	371
Withholding tax payments on restricted stock vesting and stock option exercises	(12,061)	(7,997)
Repurchases of common stock	(8,670)	(12,904)
Net cash (used in) financing activities	(58,532)	(51,880)
Effect of exchange rate changes on cash and cash equivalents	21	(854)
Cash and cash equivalents including restricted cash		
Net increase for the period	39,855	3,672
Beginning of period	247,458	167,014
End of period	$ 287,313	$ 170,686

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 1,500 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, leveraged loans, credit default swaps and other fixed-income securities. Through its Open Trading™ protocols, MarketAxess executes bond trades between and among institutional investor and broker-dealer clients in an all-to-all anonymous trading environment in which MarketAxess acts as the matched principal counterparty. MarketAxess also offers a number of trading-related products and services, including: Composite+ pricing and other market data to assist clients with trading decisions; auto-execution and other execution services for clients requiring specialized workflow solutions; connectivity solutions that facilitate straight-through processing; and technology services to optimize trading environments. Through its Trax® division, the Company also offers a range of pre- and post-trade services, including trade matching, trade publication, 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, 2018. The consolidated financial information as of December 31, 2018 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

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 with lease terms greater than 12 months. The Company adopted ASU 2016-02 effective January 1, 2019 using a modified retrospective transition approach and will not restate comparative periods. In addition, the Company elected the package of practical expedients permitted under the transition guidance within the new standard which allowed it to carry forward the historical lease classification. The Company recorded new operating lease right-of-use assets of $79.5 million, eliminated a deferred rent liability of $11.7 million and recorded lease liabilities associated with the future minimum payments required under operating leases of $91.2 million. The adoption of this guidance did not have a material effect on the Company's Consolidated Statements of Operations or Consolidated Statements of Cash Flows.

Accounting Pronouncements, Not Yet Adopted as of June 30, 2019

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 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 include investment grade corporate debt securities and U.S. Treasuries 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 three month and six month periods ended June 30, 2019 and 2018, respectively.

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 other, net 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 Company's classification of revenues in the Consolidated Statements of Operations represents revenues from contracts with customers disaggregated by type of revenue. The Company has four revenue streams as described below.

Commission Revenue – The Company charges its broker-dealer clients variable transaction fees for trades executed on its platform and, under certain plans, distribution fees or monthly minimum fees to use the platform for a particular product area. Variable transaction fees 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 disclosed trading 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. Variable transaction fees, distribution fees and unused monthly fee commitments are invoiced and recorded on a monthly basis.

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 its commission through the difference in price between the two trades. The commission is collected upon settlement of the trade, which typically occurs within one to two trading days after the trade date. The following table presents commission revenue by fee type for the three and six months ended June 30, 2019 and 2018:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(In thousands)			
Commission revenue by fee type				
Variable transaction fees				
Disclosed trading	$ 67,308	$ 56,463	$ 133,364	$ 122,716
Open Trading - matched principal trading	23,454	15,191	46,490	28,715
Total variable transaction fees	90,762	71,654	179,854	151,431
Distribution fees and unused minimum fees	23,362	24,459	47,030	47,454
Total commissions	$ 114,124	$ 96,113	$ 226,884	$ 198,885

Information services – Information services includes data licensed to the Company's broker-dealer clients, institutional investor clients and data-only subscribers; professional and consulting services; technology software licenses; and maintenance and support services. The nature and timing of each performance obligation may vary as these contracts are either subscription based services transferred over time or one-time services that are transferred at a point in time. Revenues for services transferred over time are recognized ratably over the contract period as the Company's performance obligation is met whereas revenues for services transferred at a point in time are recognized in the period the services are provided. Customers are generally billed monthly, quarterly, or annually; revenues billed in advance are deferred and recognized ratably over the contract period. The following table presents information services revenue by timing of recognition for the three and six months ended June 30, 2019 and 2018:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(In thousands)			
Information services revenue by timing of recognition				
Services transferred over time	$ 7,050	$ 6,829	$ 14,269	$ 13,623
Services transferred at a point in time	106	101	253	373
Total information services revenues	$ 7,156	$ 6,930	$ 14,522	$ 13,996

Post-trade services – Post-trade services revenue is generated from regulatory transaction reporting, trade publication and trade matching services. Customers are generally billed monthly in arrears and revenue is recognized in the period transactions are processed. Revenues billed in advance are deferred and recognized ratably over the contract period. The Company also generates one-time implementation fees for onboarding clients which are invoiced and recognized in the period the implementation is completed. The following table presents post-trade services revenue by timing of recognition for the three and six months ended June 30, 2019 and 2018:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(In thousands)			
Post-trade services revenue by timing of recognition				
Services transferred over time	$ 3,949	$ 3,620	$ 8,036	$ 7,907
Services transferred at a point in time	7	—	20	289
Total post-trade services revenues	$ 3,956	$ 3,620	$ 8,056	$ 8,196

Other revenues – Other revenues primarily includes revenue from telecommunications line charges to broker-dealer clients.

Contract liabilities consist of deferred revenues that the Company records when cash payments are received or due in advance of services to be performed. The revenue recognized from contract liabilities and the remaining balance is shown below:

	December 31, 2018	Payments received in advance of services to be performed	Revenue recognized for services performed during the period	Foreign Currency Translation	June 30, 2019
			(In thousands)		
Information services	$ 1,959	$ 4,030	$ (3,618)	$ —	$ 2,371
Post-trade services	851	6,768	(6,177)	(3)	1,439
Total deferred revenue	$ 2,810	$ 10,798	$ (9,795)	$ (3)	$ 3,810

The majority of the Company's contracts are short-term in nature with durations of less than one-year. For contracts extending beyond one year, the aggregate amount of the transaction price allocated to remaining performance obligations was $7.9 million as of June 30, 2019. The Company expects to recognize revenue associated with the remaining performance obligations over the next 21 months.

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. Forfeitures are recognized as they occur.

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 requires judgement 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.

3. Net Capital Requirements

Certain U.S. subsidiaries of the Company are registered as a broker-dealer or swap execution facility ("SEF") and therefore are subject to the applicable rules and regulations of the SEC and the Commodity Futures Trading Commission ("CFTC"). These rules contain minimum net capital requirements, as defined in the applicable regulations, and also may require that 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 June 30, 2019, 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 June 30, 2019, the Company's subsidiaries maintained aggregate net capital and financial resources that was $182.1 million in excess of the required levels of $14.4 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)		
As of June 30, 2019				
Money market funds	$ 108,362	$ —	$ —	$ 108,362
Securities available-for-sale				
Corporate debt	—	145,361	—	145,361
Trading securities				
Corporate debt	—	53,146	—	53,146
U.S. Treasuries	—	27,545	—	27,545
Mutual funds held in rabbi trust	—	5,843	—	5,843
Foreign currency forward position	—	(978)	—	(978)
Total	$ 108,362	$ 230,917	$ —	$ 339,279
As of December 31, 2018				
Money market funds	$ 112,529	$ —	$ —	$ 112,529
Securities available-for-sale				
Corporate debt	—	146,966	—	146,966
Trading securities				
Corporate debt	—	71,861	—	71,861
U.S. Treasuries	—	17,178	—	17,178
Mutual funds held in rabbi trust	—	4,100	—	4,100
Foreign currency forward position	—	(1,021)	—	(1,021)
Total	$ 112,529	$ 239,084	$ —	$ 351,613

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 six months ended June 30, 2019 and 2018.

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	
	June 30, 2019	December 31, 2018
	(In thousands)	
Notional value	$ 125,358	$ 106,306
Fair value of notional	126,336	107,327
Fair value of the (liability)	$ (978)	$ (1,021)

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

	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
	(In thousands)			
As of June 30, 2019				
Securities available-for-sale				
Corporate debt	$ 144,747	$ 681	$ (67)	$ 145,361
Trading securities				
Corporate debt	53,188	7	(49)	53,146
U.S. Treasuries	26,954	591	—	27,545
Mutual funds held in rabbi trust	5,173	670	—	5,843
Total trading securities	85,315	1,268	(49)	86,534
Total investments	$ 230,062	$ 1,949	$ (116)	$ 231,895
As of December 31, 2018				
Securities available-for-sale				
Corporate debt	$ 147,556	$ 27	$ (617)	$ 146,966
Trading securities				
Corporate debt	72,274	8	(421)	71,861
U.S. Treasuries	16,953	225	—	17,178
Mutual funds held in rabbi trust	4,347	—	(247)	4,100
Total trading securities	93,574	233	(668)	93,139
Total investments	$ 241,130	$ 260	$ (1,285)	$ 240,105

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

	As of	
	June 30, 2019	December 31, 2018
	(In thousands)	
Less than one year	$ 127,455	$ 134,255
Due in 1 - 5 years	104,440	105,850
Total	$ 231,895	$ 240,105

Proceeds from the sales and maturities of investments during the six months ended June 30, 2019 and 2018 were $175.7 million and $184.8 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 June 30, 2019 and December 31, 2018:

	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)			
As of June 30, 2019						
Corporate debt	$ 14,114	$ (14)	$ 55,524	$ (102)	$ 69,638	$ (116)
As of December 31, 2018						
Corporate debt	$ 80,282	$ (256)	$ 87,028	$ (782)	$ 167,310	$ (1,038)

5. Goodwill and Intangible Assets

Goodwill and intangible assets with indefinite lives was $59.7 million as of both June 30, 2019 and December 31, 2018. Intangible assets that are subject to amortization, including the related accumulated amortization, are comprised of the following:

	June 30, 2019			December 31, 2018		
	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	5,634	(2,863)	2,771	5,634	(2,672)	2,962
Non-competition agreements	380	(380)	—	380	(380)	—
Tradenames	370	(370)	—	370	(370)	—
Total	$ 12,154	$ (9,383)	$ 2,771	$ 12,154	$ (9,192)	$ 2,962

Amortization expense associated with identifiable intangible assets was $0.2 million for each of the six months ended June 30, 2019 and 2018, respectively. Estimated total amortization expense is $0.4 million for each year from 2019 through 2022 and $0.3 million for 2023.

6. Income Taxes

The provision for income taxes consists of the following:

	Three Months Ended June 30, 2019	Three Months Ended June 30, 2018	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
	(In thousands)			
Current:				
Federal	$ 9,948	$ 8,792	$ 16,472	$ 16,762
State and local	1,957	2,077	3,350	3,997
Foreign	3,273	2,415	6,044	3,529
Total current provision	15,178	13,284	25,866	24,288
Deferred:				
Federal	(176)	(505)	1,426	341
State and local	(31)	(101)	218	29
Foreign	(167)	45	(8)	1,138
Total deferred provision	(374)	(561)	1,636	1,508
Provision for income taxes	$ 14,804	$ 12,723	$ 27,502	$ 25,796

The Company recognized excess tax benefits on share-based payments of $0.4 million and $0.1 million through the provision for income taxes, for the three months ended June 30, 2019 and 2018, respectively, and $3.5 million and $2.0 million for the six months ended June 30, 2019 and 2018, 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 2017 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.

All previously undistributed foreign earnings have now been subject to U.S. tax. Notwithstanding the U.S. taxation of these amounts, the Company considers its undistributed foreign earnings to be indefinitely reinvested outside of the U.S. and does not expect to incur any significant additional taxes related to such amounts.

7. Stock-Based Compensation Plans

Total stock-based compensation expense was as follows:

	Three Months Ended June 30, 2019	Three Months Ended June 30, 2018	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
	(In thousands)			
Employees	$ 5,645	$ 3,393	$ 10,561	$ 7,085
Non-employee directors	284	257	564	516
Total stock-based compensation	$ 5,929	$ 3,650	$ 11,125	$ 7,601

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 six months ended June 30, 2019, the Company granted to employees a total of 87,562 shares of restricted stock or restricted stock units, 82,474 options to purchase shares of common stock and performance-based shares with an expected pay-out at target of 16,716 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 $233.29 and $224.13, respectively. Based on the Black-Scholes option pricing model, the weighted-average fair value for each option granted was $38.83 per share.

In addition to the grants above, 76,868 stock options and 18,914 performance shares were granted to the Company's President and Chief Operating Officer in January 2019 with an aggregate grant date fair value of $5.8 million as determined by an independent third party using a Monte Carlo simulation model. The exercise price is $272.88 for 35,678 of the stock options and $294.71 for the remaining 41,189 stock options, which is equal to 125% and 135%, respectively, of the fair market value of the Company's common stock on the grant date. The performance share award provides that the number of shares earned will be based on the Company's achievement of certain share price levels during the five-year performance period. The performance level is $272.88 for 8,969 of the performance shares and $294.71 for the remaining 9,945 performance shares, which is equal to 125% and 135%, respectively, of the fair market value of the Company's common stock on the grant date. Each of the performance levels were achieved in the second quarter of 2019. The performance shares and options will vest and become exercisable only upon the grantee's continued employment with the Company through January 24, 2024. The options expire on July 22, 2024. Key assumptions used for the Monte Carlo model included a risk-free interest rate of 2.6%, a dividend yield of 0.8%, volatility of 25.8% for the stock options and volatility of 25.9% for the performance shares.

As of June 30, 2019, the total unrecognized compensation cost related to all non-vested awards was $48.7 million. That cost is expected to be recognized over a weighted-average period of 2.3 years.

8. Earnings Per Share

The following table sets forth basic and diluted weighted average shares outstanding used to compute earnings per share:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(In thousands)			
Basic weighted average shares outstanding	37,049	36,950	37,046	36,952
Dilutive effect of stock options and restricted stock	861	912	825	922
Diluted weighted average shares outstanding	37,910	37,862	37,871	37,874

Stock options and restricted stock totaling 232,043 shares and 19,984 shares for the three months ended June 30, 2019 and 2018, respectively, and 289,185 shares and 48,858 shares for the six months ended June 30, 2019 and 2018, 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. The Company amended the Credit Agreement in October 2017 and extended the maturity date to October 2018. The amended Credit Agreement also provided for two additional one-year extension options and modified certain borrowing terms and covenants. In October 2018, the Company exercised its first option to extend the maturity date to October 2019. 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. As of June 30, 2019, the Company had $1.7 million in letters of credit outstanding and $98.3 million in available borrowing capacity under the Credit Agreement.

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 June 30, 2019 and December 31, 2018.

The Company's existing and future domestic subsidiaries (other than any regulated subsidiary) 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. Leases

The Company has operating leases for corporate offices with initial lease terms ranging from one-year to 15 years. Certain leases contain options to extend the initial term at the Company's discretion. The Company accounts for the option to extend when it is reasonably certain of being exercised. The Company's lease agreements do not contain any material residual value guarantees, restrictions or covenants.

The following table presents the components of occupancy expense for the three and six months ended June 30, 2019:

Lease cost:	Classification	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
		(In thousands)	
Operating lease cost	Occupancy	$ 2,656	$ 5,401
Operating lease cost for subleased/assigned properties	Other, net	583	1,156
Variable lease costs	Occupancy	31	155
Sublease income subleased/assigned properties	Other, net	(583)	(1,156)
Net lease cost		$ 2,687	$ 5,556

The Company determines whether an arrangement is, or includes, a lease at contract inception. Operating lease right-of-use assets and liabilities are recognized at commencement date and are initially measured based on the present value of lease payments over the defined lease term. As the Company's leases do not provide an implicit rate, the Company used its incremental borrowing rate based on the information available at the adoption date in determining the present value of lease payments. The weighted average remaining lease term and weighted average discount rate were 14.1 years and 6.0%, respectively, for operating leases as of June 30, 2019.

The following table presents the maturity of lease liabilities as of June 30, 2019:

	(In thousands)
Remainder of 2019	$ 1,454
2020	11,145
2021	10,109
2022	9,064
2023	8,734
2024 and thereafter	96,200
Total lease payments	136,706
Less: interest	46,994
Present value of lease liabilities	$ 89,712

Minimum lease commitments as of December 31, 2018 that had an initial term or remaining lease term in excess of one-year are as follows:

	(In thousands)
2019	$ 9,764
2020	10,919
2021	10,114
2022	9,067
2023	8,738
2024 and thereafter	95,467
	$ 144,069

The Company has entered into agreements that assign the Company's lease obligations on two properties to third parties and is contingently liable should the third parties default on future lease obligations through the lease termination dates of November 2020 and February 2022. The aggregate amount of the future lease obligations under these arrangements is $5.1 million as of June 30, 2019.

11. Commitments and Contingencies

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. Under securities clearing agreements with third party clearing brokers, the Company maintains collateral deposits with each clearing broker in the form of cash. The amount of the collateral deposits, which are disclosed in the Consolidated Statements of Cash Flows as restricted cash, and included in prepaid expenses and other assets in the Consolidated Statements of Financial Condition was $1.1 million and $1.2 million as of June 30, 2019 and 2018, respectively. The Company may be exposed to credit risk in the event a counterparty does not fulfill its obligation to complete a transaction or if there is a trade dispute or error relating to 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 six months ended June 30, 2019 and 2018.

In the normal course of business, the Company enters into contracts that contain a variety of representations, warranties and indemnification provisions. 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.

12. Share Repurchase Program

In September 2017, the Board of Directors authorized a fifteen-month share repurchase program for up to $100.0 million that commenced in October 2017. The expiration date of this program was subsequently extended to March 31, 2019. In January 2019, the Board of Directors authorized a new two-year share repurchase program for up to $100.0 million that commenced in April 2019. For the six months ended June 30, 2019, the Company repurchased 36,215 shares of common stock at a cost of $8.7 million. Shares repurchased under each program will be held in treasury for future use.

13. Segment and Geographic Information

The Company operates an electronic 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, the financial markets in which the Company competes and 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 six months ended June 30, 2019 and 2018, 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 six months ended June 30, 2019 and 2018 and long-lived assets as of June 30, 2019 and December 31, 2018 was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(In thousands)			
Revenues				
United States	$ 104,141	$ 90,272	$ 207,756	$ 186,723
United Kingdom	20,706	16,195	40,973	33,946
Other	643	497	1,252	1,009
Total	$ 125,490	$ 106,964	$ 249,981	$ 221,678

	As of	
	June 30, 2019	December 31, 2018
	(In thousands)	
Long-lived assets, as defined		
United States	$ 57,121	$ 55,200
United Kingdom	7,050	7,787
Other	35	23
Total	$ 64,206	$ 63,010

14. 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 June 30, 2019 and 2018, the fair value of the mutual fund investments and deferred compensation obligations were $5.8 million and $4.4 million, respectively. Changes in the fair value of securities held in the rabbi trust and offsetting increases or decreases in the deferred compensation obligation are recognized in other, net in the Company's Consolidated Statements of Operations. Trading (losses) gains and changes in deferred compensation liability and expense were $0.7 million for the six months ended June 30, 2019 and immaterial for the six months ended June 30, 2018.

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 undertake no obligation to revise or update any forward-looking statements contained in this report, except to the extent required by applicable law. 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 1,500 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, leveraged loans, credit default swaps and other fixed-income securities. Through our Open Trading protocols, we execute bond trades between and among institutional investor and broker-dealer clients in an all-to-all anonymous trading environment in which we act as the matched principal counterparty. We also offer a number of trading-related products and services, including: Composite+ pricing and other market data products to assist clients with trading decisions; auto-execution and other execution services for clients requiring specialized workflow solutions; connectivity solutions that facilitate straight-through processing; and technology services to optimize trading environments. Through our Trax® division, we also offer a range of pre- and post-trade services, including trade matching, trade publication, 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 RFQ 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. Clients can use our auto-execution technology with both our traditional RFQ and Open Trading protocols, thereby using rules-based execution to connect to diverse sources of liquidity while reducing trading inefficiencies and human errors. 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.

We derive revenue from commissions for trades executed on our platform, information services, post-trade services and other revenues. Our expenses consist of employee compensation and benefits, depreciation and amortization, technology and communication expenses, professional and consulting fees, occupancy, marketing and advertising, clearing costs 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 trading, information and technology services to market participants across the trading cycle. The key elements of our strategy are:

- to use our broad network of over 1,500 active institutional investor and broker-dealer participants to drive more clients to our leading electronic fixed-income trading platform;
- to increase the secondary market liquidity on our trading platform by deploying innovative technology solutions, such as our Open Trading protocols, to increase the number of potential trading counterparties on our platform and to address different trade sizes, bond liquidity characteristics and trading preferences;
- to continue to develop innovative next-generation technologies that will allow our clients to further automate and improve the performance of their trading desks through increased liquidity, enhanced trading efficiencies and the ability to identify trends within the bond market;

- to expand and strengthen our existing service, data and analytical offerings throughout the trading cycle so that we are more fully integrated into the workflow of our broker-dealer and institutional investor clients; and
- 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.

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 and institutional investor clients.

Our results of operations are impacted by a number of factors, including market conditions and the overall level of market volumes in our core products. In the first half of 2019, U.S. high-grade and U.S. high-yield market volume, as reported by Financial Industry Regulatory Authority's Trade Reporting and Compliance Engine ("TRACE"), increased 9.9% and 7.1%, respectively, compared to the first half of 2018. Historically, market conditions are typically more constructive for electronic trading and the growth of our market share when there is lower new issuance activity, increased volatility, widening credit spreads and increased investment fund flow movement, among other factors. Year-to-date U.S high-grade new issue activity was slightly lighter than 2018 and volatility and credit spreads were higher in 2019. In addition, while there was a flattening of the yield curve in 2019, there was little change in the duration of U.S. high-grade bonds traded on the platform and our fee capture rate was flat year-over-year in the first half of 2019.

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 magnitude and frequency of price improvement enabled by our platform, total transaction costs 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.

Various rules promulgated since the financial crisis have adversely affected our bank-affiliated broker-dealer clients' ability to make markets in a variety of fixed-income securities, which could negatively impact 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.

Since the presidential election in November 2016, however, the U.S. has pursued a path of financial deregulation and has rolled back certain provisions of the Dodd-Frank Act. There has also been a growing focus on U.S. capital markets regulations as the U.S. Department of the Treasury issued a report with recommendations to improve corporate bond liquidity and the regulations that implement the Volcker Rule. In 2017, the SEC established a Fixed Income Market Structure Advisory Committee in order to provide the SEC with diverse perspectives on the structure and operations of the U.S. fixed-income markets, as well as advice and recommendations on matters related to fixed-income market structure.

In Europe, Markets in Financial Instruments Directive ("MiFID II") and Markets in Financial Instruments Regulation ("MiFIR") were implemented in January 2018 and introduced 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 an Approved Reporting Mechanism ("ARM"), (iii) ensure trading of certain derivatives occurs on regulated trading venues and (iv) establish a consolidated tape for trade data. MiFID II has caused 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 services 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 ("E.U.") (commonly referred to as "Brexit"). By invoking Article 50 of the Lisbon Treaty, the U.K. was set to leave the E.U. in March 2019. However, following several requests by the U.K. to delay Brexit, the U.K. is now set to leave the E.U. on October 31, 2019, unless both parties ratify the withdrawal agreement before that date. Following Brexit, our U.K. subsidiaries will not be able to rely on the existence of a "passporting" regime that allows immediate access to the single E.U. market. Accordingly, in order to provide our trading platform and certain post-trade services to clients in the E.U. following Brexit, we have established new regulated subsidiaries in the Netherlands that commenced operations during the first quarter of 2019.

We cannot predict the extent to which these, or any other future regulatory changes, may adversely affect our business and operations.

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.

See "Risk Factors" in Part II, Item 1A of this Form 10-Q and in Part I, Item IA of our 2018 Form 10-K for the year ended December 31, 2018.

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 that are available for our clients to trade on our platform;
- 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 disclosed trading 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.

U.S. High-Grade Corporate Bond Commissions. Our U.S. high-grade corporate bond fee plans generally incorporate variable transaction fees and fixed 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. Distribution fees include any unused monthly fee commitments under our variable fee plans.

Other Credit Commissions. Other credit includes Eurobonds, emerging markets bonds, high-yield bonds, municipal bonds and leveraged loans. Commissions for other credit products generally vary based on the type of the instrument traded using standard fee schedules. Similar to our U.S. high-grade fee plans, certain dealers participate in a high-yield fee plan that incorporates a variable transaction fee and fixed distribution fee, while other dealers participate in a plan that does not contain monthly distribution fees and instead incorporates additional per transaction execution fees and minimum monthly fee commitments. 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.

Information Services

We generate revenue from data licensed to our broker-dealer clients, institutional investor clients and data-only subscribers; professional consulting services; technology software licenses; and maintenance and support services. These revenues are either for subscription based services transferred over time or one-time services. Revenues transferred over time are recognized ratably over the contract period while revenues for services transferred at a point in time are recognized in the period the services are provided. Information services are invoiced monthly, quarterly, or annually; when billed in advance, information services revenues are deferred and recognized ratably over the contract period.

Post-trade Services

We generate revenue from regulatory transaction reporting, trade publication and trade matching services. Revenues are recognized in the period that the transactions are processed. When billed in advance, revenues are recognized ratably over the contract period. We also generate revenue from one-time implementation fees which are recognized in the period the implementation is complete.

Other Revenue

Other revenue includes revenue generated from telecommunications line charges to broker-dealer clients.

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 and various state franchise and U.K. value-added taxes.

Expenses may grow in the future, notably in employee compensation and benefits, as we increase headcount to support investment in new products and geographic expansion. 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.

Other Income (Expense)

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

Other, Net. Other, net consists of unrealized gains or losses on trading security investments, realized gains or losses on investments, foreign currency transaction gains or losses, investment advisory fees and other miscellaneous revenues and expenses.

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 six months ended June 30, 2019, 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, 2018.

Recent Accounting Pronouncements

See Note 2 to the Consolidated Financial Statements for a discussion on recent accounting pronouncements, including but not limited to the Company's adoption of the new U.S. GAAP leasing standard (ASC 842) on a modified retrospective basis effective January 1, 2019.

Segment Results

We operate an electronic 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, the financial markets in which we compete and 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 our business required by U.S. GAAP.

Results of Operations

Three Months Ended June 30, 2019 Compared to Three Months Ended June 30, 2018

The following table summarizes our financial results for the three months ended June 30, 2019 and 2018:

	Three Months Ended June 30,			
	2019	**2018**	**$ Change**	**% Change**
	($ in thousands, except per share amounts)			
Revenues	$ 125,490	$ 106,964	$ 18,526	17.3%
Expenses	64,613	54,930	9,683	17.6
Operating income	60,877	52,034	8,843	17.0
Other income	2,032	1,176	856	72.8
Income before income taxes	62,909	53,210	9,699	18.2
Provision for income taxes	14,804	12,723	2,081	16.4
Net income	$ 48,105	$ 40,487	$ 7,618	18.8%
Net income per common share - Diluted	$ 1.27	$ 1.07	$ 0.20	18.7%

A 4.6% change in the average foreign currency exchange rates of the British pound sterling compared to the U.S. dollar from the three months ended June 30, 2018 had the effect of decreasing revenues and expenses by $0.8 million and $0.9 million, respectively, for the three months ended June 30, 2019.

Revenues

Our revenues for the three months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended June 30,					
	2019		2018			
	($ in thousands)					
	$	% of Revenues	$	% of Revenues	$ Change	% Change
Commissions	$ 114,124	90.9 %	$ 96,113	89.9 %	$ 18,011	18.7 %
Information services	7,156	5.7	6,930	6.5	226	3.3
Post-trade services	3,956	3.2	3,620	3.4	336	9.3
Other	254	0.2	301	0.2	(47)	(15.6)
Total revenues	$ 125,490	100.0 %	$ 106,964	100.0 %	$ 18,526	17.3 %

Commissions. Our commission revenues for the three months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in thousands)			
Variable transaction fees				
U.S. high-grade	$ 42,914	$ 36,401	$ 6,513	17.9 %
Other credit	47,233	34,765	12,468	35.9
Liquid products	615	488	127	26.0
Total variable transaction fees	90,762	71,654	19,108	26.7
Distribution fees				
U.S. high-grade	17,483	18,261	(778)	(4.3)
Other credit	5,774	6,042	(268)	(4.4)
Liquid products	105	156	(51)	(32.7)
Total distribution fees	23,362	24,459	(1,097)	(4.5)
Total commissions	$ 114,124	$ 96,113	$ 18,011	18.7 %

Variable transaction fees increased $19.1 million due to a 25.3% increase in trading volume and a 1.2% increase in average variable transaction fee per million. Open Trading volume increased by 46.0% and represented 20.6% and 15.8% of commission revenue for the three months ended June 30, 2019 and 2018, respectively. U.S. high-grade distribution fees decreased $0.8 million, mainly due to the migration of certain dealers from a monthly distribution fee plan to an all-variable fee plan. Other credit distribution fees decreased $0.3 million principally due to lower unused monthly minimum commitments from our Eurobond fee plans.

Our trading volumes for the three months ended June 30, 2019 and 2018 were as follows:

	Three Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in millions)			
Trading volume data				
U.S. high-grade - fixed rate	$ 249,025	$ 215,308	$ 33,717	15.7 %
U.S. high-grade - floating rate	16,335	15,211	1,124	7.4
Total U.S. high grade	265,360	230,519	34,841	15.1
Other credit	248,503	177,681	70,822	39.9
Liquid products	13,174	12,550	624	5.0
Total	$ 527,037	$ 420,750	$ 106,287	25.3 %
Number of U.S. Trading Days	63	64		
Number of U.K. Trading Days	61	62		

For volume reporting purposes, transactions in foreign currencies are converted to U.S. dollars at average monthly rates. The 15.1% increase in our U.S. high-grade volume was principally due to an increase in our estimated market share coupled with growth in overall market volume. Our estimated market share of total U.S. high-grade corporate bond volume increased to 18.7% for the three months ended June 30, 2019 from 17.4% for the three months ended June 30, 2018. Estimated U.S. high-grade TRACE volume increased by 7.0% to $1.4 trillion for the three months ended June 30, 2019 from $1.3 trillion for the three months ended June 30, 2018.

Other credit volumes increased by 39.9% due to increases of 63.6% in Eurobonds volume, 48.4% in high-yield bond volume and 27.4% in emerging markets bond volume. We believe the majority of our other credit volume gains were due to increases in estimated market share as TRACE and Trax® reported Eurobonds, high-yield and emerging markets market volumes were up 23.4%, 9.4% and 9.8%, respectively.

Our average variable transaction fee per million for the three months ended June 30, 2019 and 2018 was as follows:

	Three Months Ended June 30,	
	2019	2018
Average variable transaction fee per million		
U.S. high-grade - fixed rate	$ 168	$ 162
U.S. high-grade - floating rate	65	96
Total U.S. high-grade	162	158
Other credit	190	196
Liquid products	47	39
Total	172	170

Total U.S. high-grade average variable transaction fee per million increased by $4 per million due to an increase in the duration of bonds traded which was partially offset by a decrease in the percentage of our volume from certain of our broker-dealer clients on an all-variable fee plan. Other credit average variable transaction fee per million decreased by $6 per million mainly due to a larger percentage of trading volume in emerging market sovereign bonds that command lower fees per million.

Information Services. Information services revenue increased $0.2 million for the three months ended June 30, 2019 principally due to new data contracts offset by the unfavorable impact of the stronger U.S. dollar of $0.2 million.

Post-Trade Services. Post-trade services revenue increased $0.3 million for the three months ended June 30, 2019 principally due to an increase of $0.5 million in regulatory transaction reporting services revenue offset by the unfavorable impact of the stronger U.S. dollar of $0.2 million. Our transaction reporting business processed 291 million transactions for the three months ended June 30, 2019 compared to 220 million for the three months ended June 30, 2018.

Expenses

Our expenses for the three months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended June 30,			
	2019	**2018**	**\$ Change**	**% Change**
	(\$ in thousands)			
Expenses				
Employee compensation and benefits	\$ 32,623	\$ 26,199	\$ 6,424	24.5 %
Depreciation and amortization	6,345	5,790	555	9.6
Technology and communications	6,474	5,793	681	11.8
Professional and consulting fees	6,296	5,426	870	16.0
Occupancy	2,798	3,467	(669)	(19.3)
Marketing and advertising	3,667	3,535	132	3.7
Clearing costs	2,610	2,012	598	29.7
General and administrative	3,800	2,708	1,092	40.3
Total expenses	\$ 64,613	\$ 54,930	\$ 9,683	17.6 %

Employee compensation and benefits increased by \$6.4 million, primarily due to a \$2.8 million increase in salaries, taxes and benefits on higher employee headcount, an increase of \$2.2 million in stock-based compensation and higher employee incentive compensation of \$1.4 million which is tied to operating performance.

Occupancy costs for the three months ended June 30, 2018 included duplicate rent expense during the build-out phase of our new headquarters in New York City. We relocated to the new headquarters in January 2019.

General and administrative expenses increased by \$1.1 million for the three months ended June 30, 2019 due to an increase in general travel, entertainment and meals of \$0.3 million, an increase in employee professional development costs of \$0.2 million and \$0.3 million in costs associated with the relocation to our new headquarters.

Other Income (Expense)

Our other income for the three months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended June 30,			
	2019	**2018**	**\$ Change**	**% Change**
	(\$ in thousands)			
Investment income	\$ 2,096	\$ 1,383	\$ 713	51.6 %
Other, net	(64)	(207)	143	(69.1)
Total other income	\$ 2,032	\$ 1,176	\$ 856	72.8 %

Investment income increased by \$0.7 million primarily due to higher investment balances and an increase in interest rates.

Provision for Income Taxes

The provision for income taxes and effective tax rate for the three months ended June 30, 2019 and 2018 were as follows:

	Three Months Ended June 30,			
	2019	**2018**	**$ Change**	**% Change**
	($ in thousands)			
Provision for income taxes	$ 14,804	$ 12,723	$ 2,081	16.4 %
Effective tax rate	23.5%	23.9%		

The income tax provision reflected $0.4 million and $0.1 million of excess tax benefits related to share-based compensation awards that vested or were exercised during the three months ended June 30, 2019 and 2018, respectively. 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.

Six Months Ended June 30, 2019 Compared to Six Months Ended June 30, 2018

The following table summarizes our financial results for the six months ended June 30, 2019 and 2018:

	Six Months Ended June 30,			
	2019	**2018**	**$ Change**	**% Change**
	($ in thousands, except per share amounts)			
Revenues	$ 249,981	$ 221,678	$ 28,303	12.8%
Expenses	125,915	109,471	16,444	15.0
Operating income	124,066	112,207	11,859	10.6
Other income	4,063	2,016	2,047	101.5
Income before income taxes	128,129	114,223	13,906	12.2
Provision for income taxes	27,502	25,796	1,706	6.6
Net income	$ 100,627	$ 88,427	$ 12,200	13.8%
Net income per common share - Diluted	$ 2.66	$ 2.33	$ 0.32	13.8%

A 5.3% change in the average foreign currency exchange rates of the British pound sterling compared to the U.S. dollar from the six months ended June 30, 2018 had the effect of decreasing revenues and expenses by $1.9 million and $2.0 million, respectively, for the six months ended June 30, 2019.

Revenues

Our revenues for the six months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Six Months Ended June 30,					
	2019		2018			
	($ in thousands)					
	$	% of Revenues	$	% of Revenues	$ Change	% Change
Commissions	$ 226,884	90.8 %	$ 198,885	89.7 %	$ 27,999	14.1 %
Information services	14,522	5.8	13,996	6.3	526	3.8
Post-trade services	8,056	3.1	8,196	3.7	(140)	(1.7)
Other	519	0.3	601	0.3	(82)	(13.6)
Total revenues	$ 249,981	100.0 %	$ 221,678	100.0 %	$ 28,303	12.8 %

Commissions. Our commission revenues for the six months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Six Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in thousands)			
Variable transaction fees				
U.S. high-grade	$ 85,415	$ 75,168	$ 10,247	13.6 %
Other credit	93,267	75,192	18,075	24.0
Liquid products	1,172	1,071	101	9.4
Total variable transaction fees	179,854	151,431	28,423	18.8
Distribution fees				
U.S. high-grade	35,461	35,488	(27)	(0.1)
Other credit	11,332	11,582	(250)	(2.2)
Liquid products	237	384	(147)	(38.3)
Total distribution fees	47,030	47,454	(424)	(0.9)
Total commissions	$ 226,884	$ 198,885	$ 27,999	14.1 %

Variable transaction fees increased $28.4 million primarily due to an 18.9% increase in trading volume. Open Trading volume increased by 55.3% and represented 20.5% and 14.4% of commission revenue for the six months ended June 30, 2019 and 2018, respectively. Other credit distribution fees decreased $0.3 million principally due to lower unused monthly minimum commitments from our Eurobond fee plans.

Our trading volumes for the six months ended June 30, 2019 and 2018 were as follows:

	Six Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in millions)			
Trading volume data				
U.S. high-grade - fixed rate	$ 508,858	$ 451,831	$ 57,027	12.6 %
U.S. high-grade - floating rate	33,912	29,673	4,239	14.3
Total U.S. high grade	542,770	481,504	61,266	12.7
Other credit	482,994	377,624	105,370	27.9
Liquid products	27,450	26,629	821	3.1
Total	$ 1,053,214	$ 885,757	$ 167,457	18.9 %
Number of U.S. Trading Days	124	125		
Number of U.K. Trading Days	124	125		

For volume reporting purposes, transactions in foreign currencies are converted to U.S. dollars at average monthly rates. The 12.7% increase in our U.S. high-grade volume was principally due to an increase in our market share coupled with growth in overall market volume. Our estimated market share of total U.S. high-grade corporate bond volume increased to 18.1% for the six months ended June 30, 2019 from 17.7% for the six months ended June 30, 2018. Estimated U.S. high-grade TRACE volume increased by 9.9% to $3.0 trillion for the six months ended June 30, 2019 from $2.7 trillion for the six months ended June 30, 2018.

Other credit volumes increased by 27.9% due to increases of 48.6% in Eurobonds volume, 30.1% in high-yield bond volume and 18.5% in emerging markets bond volume. We believe the majority of our other credit volume gains were due to increases in estimated market share as TRACE and Trax® reported Eurobonds, high-yield and emerging markets market volumes were up 8.4%, up 7.1% and down 0.4%, respectively.

Our average variable transaction fee per million for the six months ended June 30, 2019 and 2018 was as follows:

	Six Months Ended June 30,	
	2019	2018
Average variable transaction fee per million		
U.S. high-grade - fixed rate	$ 163	$ 160
U.S. high-grade - floating rate	71	95
Total U.S. high-grade	157	156
Other credit	193	199
Liquid products	43	40
Total	171	171

Total U.S. high-grade average variable transaction fee per million increased by $1 per million due to an increase in the duration of bonds traded and a shift in trade size mix which was partially offset by a decrease in the percentage of our volume from certain of our broker-dealer clients on an all-variable fee plan. Other credit average variable transaction fee per million decreased by $6 per million mainly due to a larger percentage of trading volume in Eurobonds and emerging market sovereign bonds that command lower fees per million.

Information Services. Information services revenue increased $0.5 million for the six months ended June 30, 2019 principally due to new data contracts offset by the unfavorable impact of the stronger U.S. dollar of $0.4 million.

Post-Trade Services. Post-trade services revenue decreased $0.1 million for the six months ended June 30, 2019 principally due to an increase of $0.6 million to in regulatory transaction reporting services revenue offset by the unfavorable impact of the stronger U.S. dollar of $0.5 million. Our transaction reporting business processed 541 million transactions for the six months ended June 30, 2019 compared to 433 million for the six months ended June 30, 2018.

Expenses

Our expenses for the six months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Six Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in thousands)			
Expenses				
Employee compensation and benefits	$ 65,281	$ 55,033	$ 10,248	18.6 %
Depreciation and amortization	12,427	11,059	1,368	12.4
Technology and communications	12,256	11,572	684	5.9
Professional and consulting fees	12,127	10,483	1,644	15.7
Occupancy	5,747	6,804	(1,057)	(15.5)
Marketing and advertising	5,966	5,600	366	6.5
Clearing costs	5,187	3,737	1,450	38.8
General and administrative	6,924	5,183	1,741	33.6
Total expenses	$ 125,915	$ 109,471	$ 16,444	15.0 %

Employee compensation and benefits increased by $10.2 million, primarily due to a $4.9 million increase in salaries, taxes and benefits on higher employee headcount, an increase of $3.5 million in stock-based compensation and higher employee incentive compensation of $1.9 million which is tied to operating performance.

Professional and consulting fees increased by $1.6 million primarily due to higher non-IT consulting fees and legal costs of $0.6 million and increased technology consulting costs of $0.5 million.

Occupancy costs for the six months ended June 30, 2018 included duplicate rent expense during the build-out phase of our new headquarters in New York City. We relocated to the new headquarters in January 2019.

General and administrative expenses increased by $1.7 million for the six months ended June 30, 2019 due to an increase in general travel, entertainment and meals of $0.6 million, an increase in employee professional development costs of $0.3 million and $0.4 million in costs associated with the relocation to our new headquarters.

Other Income (Expense)

Our other income for the six months ended June 30, 2019 and 2018, and the resulting dollar and percentage changes, were as follows:

	Six Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in thousands)			
Investment income	$ 4,085	$ 2,551	$ 1,534	60.1 %
Other income, net	(22)	(535)	513	(95.9)
Total other income	$ 4,063	$ 2,016	$ 2,047	101.5 %

Investment income increased by $1.5 million primarily due to higher investment balances and an increase in interest rates.

Provision for Income Taxes

The provision for income taxes and effective tax rate for the six months ended June 30, 2019 and 2018 were as follows:

	Six Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in thousands)			
Provision for income taxes	$ 27,502	$ 25,796	$ 1,706	6.6 %
Effective tax rate	21.5%	22.6%		

The income tax provision reflected $3.5 million and $2.0 million of excess tax benefits related to share-based compensation awards that vested or were exercised during the six months ended June 30, 2019 and 2018, respectively. 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 $518.1 million at June 30, 2019.

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. In October 2017, we amended the Credit Agreement and extended the maturity date to October 2018. The amended Credit Agreement also provided for two additional one-year extension options and modified certain borrowing terms and covenants. In October 2018, we exercised our first option to extend the maturity date to October 2019. 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. As of June 30, 2019, we had $1.7 million in letters of credit outstanding and $98.3 million in available borrowing capacity under the Credit Agreement.

Our cash flows were as follows:

	Six Months Ended June 30,			
	2019	2018	$ Change	% Change
	($ in thousands)			
Net cash provided by operating activities	$ 109,102	$ 85,818	$ 23,284	27.1 %
Net cash (used in) investing activities	(10,736)	(29,412)	18,676	(63.5)
Net cash (used in) financing activities	(58,532)	(51,880)	(6,652)	12.8
Effect of exchange rate changes on cash and cash equivalents	21	(854)	875	(102.5)
Net increase for the period	$ 39,855	$ 3,672	$ 36,183	985.4 %

The $23.3 million increase in net cash provided by operating activities was primarily due to an increase in net income of $12.2 million and a decrease in net purchases of trading investments of $12.1 million.

The $18.7 million decrease in net cash (used in) investing activities was primarily due to a decrease of $9.5 million in net purchases of available-for-sale investments and a decrease of $9.1 million in capital expenditures.

The $6.7 million increase in net cash (used in) financing activities was principally due to an increase in cash dividends paid on common stock of $7.0 million and an increase in withholding tax payments on restricted stock vesting and stock option exercises of $4.1 million, offset by a decrease in repurchases of our common stock of $4.2 million.

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

We use a non-GAAP financial measure called “Free Cash Flow”. Free Cash Flow is defined as cash flow from operating activities excluding the net change in 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 June 30, 2019 and 2018:

	Twelve months ended June 30,	
	2019	**2018**
	($ in thousands)	
Net cash provided by operating activities	$ 247,201	$ 184,735
Exclude: Net change in trading investments	(12,998)	20,258
Less: Purchases of furniture, equipment and leasehold improvements	(25,967)	(22,344)
Less: Capitalization of software development costs	(12,479)	(13,340)
Free Cash Flow	$ 195,757	$ 169,309

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, FINRA and the CFTC. These rules contain minimum net capital requirements, as defined in the applicable regulations, and also may require that 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 June 30, 2019, each of our subsidiaries that are subject to these regulations had net capital or financial resources in excess of their minimum requirements. As of June 30, 2019, our subsidiaries maintained aggregate net capital and financial resources that were $182.1 million in excess of the required levels of $14.4 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 June 30, 2019, the amount of unrestricted cash held by our non-U.S. subsidiaries was $113.2 million.

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. Under securities clearing agreements with third party clearing brokers, we maintain collateral deposits with each clearing broker in the form of cash. The amount of the collateral deposits, which are disclosed in the Consolidated Statements of Cash Flows as restricted cash, and included in prepaid expenses and other assets in the Consolidated Statements of Financial Condition was $1.1 million and $1.2 million as of June 30, 2019 and 2018, respectively. We may be exposed to credit risk in the event a counterparty does not fulfill its obligation to complete a transaction or if there is a trade dispute or error relating to 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 six months ended June 30, 2019 and 2018.

In the normal course of business, we enter into contracts that contain a variety of representations, warranties and indemnification provisions. 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 material loss to be remote.

In September 2017, our Board of Directors authorized a fifteen-month share repurchase program for up to $100.0 million commencing in October 2017. The expiration date of this program was subsequently extended to March 31, 2019. In January 2019, the Board of Directors authorized a new two-year share repurchase program for up to $100.0 million that commenced in April 2019. Shares repurchased under each program will be held in treasury for future use.

In July 2019, our Board of Directors approved a quarterly cash dividend of $0.51 per share payable on August 7, 2019 to stockholders of record as of the close of business on August 21, 2019. 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 June 30, 2019, we had the following contractual obligations and commitments:

	Payments due by period				
	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
			($ in thousands)		
Operating leases	$ 136,706	$ 7,089	$ 20,316	$ 17,801	$ 91,500
Foreign currency forward contract	126,336	126,336	—	—	—
	$ 263,042	$ 133,425	$ 20,316	$ 17,801	$ 91,500

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 June 30, 2019, the notional value of the only foreign currency forward contract outstanding was $125.3 million and the fair value of the liability was $1.0 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 June 30, 2019, we had $226.1 million of investments, which were invested in corporate bonds and U.S. Treasuries that were 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 June 30, 2019, our cash and cash equivalents and investments amounted to $518.1 million. A hypothetical 100 basis point decrease in interest rates would decrease our investment income by approximately $5.1 million, assuming no change in the amount or composition of our cash and cash equivalents.

As of June 30, 2019, 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 accumulated other comprehensive loss 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, net 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 June 30, 2019, approximately 14.0% of our revenue and 24.7% 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 $6.2 million and operating expenses by approximately $6.1 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 June 30, 2019, the fair value of the notional amount of our foreign currency forward contract was $126.3 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 June 30, 2019. 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 June 30, 2019 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. 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, 2018. For a discussion of the risk factors affecting the Company, see "Risk Factors" in Part I, Item 1A of our 2018 Form 10-K for the year ended December 31, 2018.

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 June 30, 2019, we repurchased the following shares of common stock:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs
				(In thousands)
April 1, 2019 - April 30, 2019	6,368	$ 255.29	6,300	$ 93,207
May 1, 2019 - May 31, 2019	5,487	285.25	5,450	91,653
June 1, 2019 - June 30, 2019	1,796	294.82	1,100	91,330
	13,651	$ 272.53	12,850	

During the three months ended June 30, 2019, we repurchased 13,651 shares of common stock. The repurchases included 12,850 shares repurchased in connection with our share repurchase program and 801 shares surrendered by employees to us to satisfy the withholding tax obligations upon the exercise of stock options and vesting of restricted shares.

In September 2017, our Board of Directors authorized a fifteen-month share repurchase program for up to $100.0 million commencing in October 2017. The expiration date was subsequently extended to March 31, 2019. In January 2019, our Board of Directors authorized a new two-year share repurchase program for up to $100.0 million of our common stock that commenced in April 2019. 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
31.1*	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
31.2*	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
32.1*	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
32.2*	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
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL Document
101.SCH	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.

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: July 25, 2019	By: /s/ RICHARD M. MCVEY Richard M. McVey Chief Executive Officer (principal executive officer)
Date: July 25, 2019	By: /s/ ANTONIO L. DELISE Antonio L. DeLise Chief Financial Officer (principal financial and accounting officer)

Exhibit 31.1

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

Dated: July 25, 2019

Exhibit 31.2

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

Dated: July 25, 2019

Exhibit 32.1

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 June 30, 2019

In connection with the Quarterly Report on Form 10-Q of MarketAxess Holdings Inc. (the “Company”) for the quarter ended June 30, 2019, 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

July 25, 2019

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.

Exhibit 32.2

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 June 30, 2019

In connection with the Quarterly Report on Form 10-Q of MarketAxess Holdings Inc. (the “Company”) for the quarter ended June 30, 2019, 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

July 25, 2019

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.