

**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 March 31, 2022

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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

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

As of April 22, 2022, the number of shares of the Registrant's voting common stock outstanding was 37,741,996.

MARKETAXESS HOLDINGS INC.
FORM 10-Q FOR THE QUARTERLY PERIOD ENDED MARCH 31, 2022
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PART I — Financial Information

Item 1. Financial Statements

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

	As of	
	March 31, 2022	December 31, 2021
(In thousands, except share and per share amounts)		
ASSETS		
Cash and cash equivalents	\$ 364,567	\$ 506,735
Cash segregated under federal regulations	50,187	50,159
Investments, at fair value	35,875	36,078
Accounts receivable, net of allowance of \$168 and \$140 as of March 31, 2022 and December 31, 2021, respectively	75,520	63,881
Receivables from broker-dealers, clearing organizations and customers	721,127	408,346
Goodwill	154,789	154,789
Intangible assets, net of accumulated amortization	111,620	116,377
Furniture, equipment, leasehold improvements and capitalized software, net of accumulated depreciation and amortization	95,302	96,061
Operating lease right-of-use assets	69,189	70,960
Prepaid expenses and other assets	29,309	27,066
Total assets	\$ 1,707,485	\$ 1,530,452
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities		
Accrued employee compensation	\$ 26,166	\$ 59,719
Payables to broker-dealers, clearing organizations and customers	458,476	229,325
Income and other tax liabilities	42,614	40,456
Accounts payable, accrued expenses and other liabilities	70,297	71,218
Operating lease liabilities	86,391	88,425
Total liabilities	683,944	489,143
Commitments and Contingencies (Note 13)		
Stockholders' equity		
Preferred stock, \$0.001 par value, 4,855,000 shares authorized, no shares issued and outstanding as of March 31, 2022 and December 31, 2021	—	—
Series A Preferred Stock, \$0.001 par value, 110,000 shares authorized, no shares issued and outstanding as of March 31, 2022 and December 31, 2021	—	—
Common stock voting, \$0.003 par value, 110,000,000 shares authorized, 40,907,961 shares and 40,911,506 shares issued and 37,816,250 shares and 37,918,956 shares outstanding as of March 31, 2022 and December 31, 2021, respectively	123	123
Common stock non-voting, \$0.003 par value, 10,000,000 shares authorized, no shares issued and outstanding as of March 31, 2022 and December 31, 2021	—	—
Additional paid-in capital	318,119	330,262
Treasury stock – Common stock voting, at cost, 3,091,711 shares and 2,992,550 shares as of March 31, 2022 and December 31, 2021, respectively	(271,512)	(232,712)
Retained earnings	995,192	956,966
Accumulated other comprehensive loss	(18,381)	(13,330)
Total stockholders' equity	1,023,541	1,041,309
Total liabilities and stockholders' equity	\$ 1,707,485	\$ 1,530,452

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

MARKETAXESS HOLDINGS INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended March 31,	
	2022	2021
(In thousands, except per share amounts)		
Revenues		
Commissions	\$ 166,113	\$ 175,838
Information services	9,809	9,162
Post-trade services	9,912	10,261
Other	223	203
Total revenues	186,057	195,464
Expenses		
Employee compensation and benefits	47,756	48,088
Depreciation and amortization	15,174	11,779
Technology and communications	12,192	10,036
Professional and consulting fees	9,621	9,640
Occupancy	3,387	3,317
Marketing and advertising	1,789	1,204
Clearing costs	4,575	4,694
General and administrative	3,459	3,232
Total expenses	97,953	91,990
Operating income	88,104	103,474
Other income (expense)		
Investment income	59	107
Interest expense	(173)	(191)
Other, net	2,429	(1,589)
Total other income (expense)	2,315	(1,673)
Income before income taxes	90,419	101,801
Provision for income taxes	25,650	21,344
Net income	\$ 64,769	\$ 80,457
Net income per common share		
Basic	\$ 1.73	\$ 2.15
Diluted	\$ 1.71	\$ 2.11
Cash dividends declared per common share	\$ 0.70	\$ 0.66
Weighted average shares outstanding		
Basic	37,384	37,470
Diluted	37,824	38,155

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

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

	Three Months Ended March 31,	
	2022	2021
	(In thousands)	
Net income	\$ 64,769	\$ 80,457
Cumulative translation adjustment	(5,051)	(1,932)
Comprehensive income	<u>\$ 59,718</u>	<u>\$ 78,525</u>

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

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

	<u>Common Stock Voting</u>	<u>Additional Paid-In Capital</u>	<u>Treasury Stock – Common Stock Voting</u>	<u>Retained Earnings</u>	<u>Accumulated Other Comprehensive Loss</u>	<u>Total Stockholders' Equity</u>
(In thousands, except per share amounts)						
Balance at January 1, 2022	\$ 123	\$ 330,262	\$ (232,712)	\$ 956,966	\$ (13,330)	\$ 1,041,309
Net income	—	—	—	64,769	—	64,769
Cumulative translation adjustment and foreign currency exchange hedge, net of tax	—	—	—	—	(5,051)	(5,051)
Stock-based compensation	—	8,099	—	—	—	8,099
Exercise of stock options	—	50	—	—	—	50
Withholding tax payments on restricted stock vesting and stock option exercises	—	(20,292)	—	—	—	(20,292)
Repurchases of common stock	—	—	(38,800)	—	—	(38,800)
Cash dividend on common stock (\$0.70 per share)	—	—	—	(26,543)	—	(26,543)
Balance at March 31, 2022	<u>\$ 123</u>	<u>\$ 318,119</u>	<u>\$ (271,512)</u>	<u>\$ 995,192</u>	<u>\$ (18,381)</u>	<u>\$ 1,023,541</u>

	<u>Common Stock Voting</u>	<u>Additional Paid-In Capital</u>	<u>Treasury Stock – Common Stock Voting</u>	<u>Retained Earnings</u>	<u>Accumulated Other Comprehensive Loss</u>	<u>Total Stockholders' Equity</u>
(In thousands, except per share amounts)						
Balance at January 1, 2021	\$ 123	\$ 329,742	\$ (169,523)	\$ 799,369	\$ (4,650)	\$ 955,061
Net income	—	—	—	80,457	—	80,457
Cumulative translation adjustment and foreign currency exchange hedge, net of tax	—	—	—	—	(1,932)	(1,932)
Stock-based compensation	—	7,424	—	—	—	7,424
Exercise of stock options	—	244	—	—	—	244
Withholding tax payments on restricted stock vesting and stock option exercises	—	(27,422)	—	—	—	(27,422)
Repurchases of common stock	—	—	(520)	—	—	(520)
Cash dividend on common stock (\$0.66 per share)	—	—	—	(25,079)	—	(25,079)
Balance at March 31, 2021	<u>\$ 123</u>	<u>\$ 309,988</u>	<u>\$ (170,043)</u>	<u>\$ 854,747</u>	<u>\$ (6,582)</u>	<u>\$ 988,233</u>

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

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

	Three Months Ended March 31,	
	2022	2021
	(In thousands)	
Cash flows from operating activities		
Net income	\$ 64,769	\$ 80,457
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	15,174	11,779
Amortization of operating lease right-of-use assets	1,596	1,664
Stock-based compensation expense	8,099	7,424
Deferred taxes	(643)	591
Other	(1,229)	(74)
Changes in operating assets and liabilities:		
(Increase) in accounts receivable	(11,699)	(7,880)
(Increase) in receivables from broker-dealers, clearing organizations and customers	(296,015)	(270,491)
(Increase) decrease in prepaid expenses and other assets	(2,445)	3,082
Decrease in trading investments	—	5,495
(Increase) in mutual funds held in rabbi trust	(117)	(1,613)
(Decrease) in accrued employee compensation	(33,553)	(34,103)
Increase in payables to broker-dealers, clearing organizations and customers	229,151	174,942
Increase in income and other tax liabilities	3,049	4,814
Increase in accounts payable, accrued expenses and other liabilities	1,932	2,599
(Decrease) in operating lease liabilities	(1,799)	(1,845)
Net cash (used in) operating activities	(23,730)	(23,159)
Cash flows from investing activities		
Purchases of furniture, equipment and leasehold improvements	(1,396)	(4,257)
Capitalization of software development costs	(9,425)	(8,075)
Net cash (used in) investing activities	(10,821)	(12,332)
Cash flows from financing activities		
Cash dividend on common stock	(27,425)	(25,454)
Exercise of stock options	50	244
Withholding tax payments on restricted stock vesting and stock option exercises	(20,292)	(27,422)
Repurchases of common stock	(38,800)	(520)
Proceeds from short-term borrowings	100,000	69,302
Repayments of short-term borrowings	(100,000)	(35,000)
Net cash (used in) financing activities	(86,467)	(18,850)
Effect of exchange rate changes on cash and cash equivalents	(4,356)	(1,027)
Cash and cash equivalents including restricted cash		
Net decrease for the period	(125,374)	(55,368)
Beginning of period	625,567	608,050
End of period	\$ 500,193	\$ 552,682
Supplemental cash flow information		
Cash paid for income taxes	\$ 8,487	\$ 6,250
Cash paid for interest	134	191
Non-cash activity		
Operating lease right-of-use assets obtained in exchange for operating lease liabilities	91	878

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 leading electronic trading platforms delivering expanded liquidity opportunities, improved execution quality and significant cost savings across global fixed-income markets. Over 1,900 institutional investor and broker-dealer firms are active users of MarketAxess’ patented trading technology, accessing global liquidity on its platforms in U.S. investment-grade bonds, U.S. high-yield bonds, emerging market debt, Eurobonds, municipal bonds, U.S. government bonds and other fixed-income securities. Through its Open Trading[®] protocols, MarketAxess executes bond trades between and among institutional investor and broker-dealer clients in the leading all-to-all anonymous trading environment for corporate bonds. MarketAxess also offers 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. The Company also provides 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, 2021. The consolidated financial information as of December 31, 2021 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. Certain reclassifications have been made to the prior periods’ consolidated financial statements in order to conform to the current period presentation. Such reclassifications are immaterial, individually and in the aggregate, to both current and all previously issued financial statements taken as a whole and have no effect on previously reported net income.

Accounting Pronouncements, Recently Adopted

In March 2020, the Financial Accounting Standards Board issued Accounting Standards Update (“ASU”) 2020-04, “Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting” (the “ASU”), which is designed to ease the potential burden in accounting for the transition away from the London Inter-bank Offered Rate (“LIBOR”). The ASU applies to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued and replaced with alternative reference rates as a result of reference rate reform. The ASU provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The Company adopted this ASU as of January 1, 2022, and determined that it did not have any contracts, hedging relationships, or other transactions impacted by this ASU.

Cash and Cash Equivalents

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. 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 U.S. Treasuries and are carried at fair value, with realized and unrealized gains or losses included in other, net in the Consolidated Statements of Operations.

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, trading securities and contingent consideration payables associated with acquisitions. 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.

Receivables from and Payables to Broker-dealers, Clearing Organizations and Customers

Receivables from broker-dealers, clearing organizations and customers include amounts receivable for securities not delivered by the Company to the purchaser by the settlement date (“securities failed-to-deliver”) and cash deposits held at clearing organizations and clearing brokers to facilitate the settlement and clearance of matched principal transactions. Payables to broker-dealers, clearing organizations and customers include amounts payable for securities not received by the Company from a seller by the settlement date (“securities failed-to-receive”). Securities failed-to-deliver and securities failed-to-receive for transactions executed on a matched principal basis where the Company serves as a counterparty to both the buyer and the seller are recorded on a settlement date basis. The Company presents its securities failed-to-deliver and securities failed-to-receive balances on a net-by-counterparty basis within receivables from and payables to broker-dealers, clearing organizations and customers. The difference between the Company’s trade-date receivables and payables for unsettled matched principal transactions reflects commissions earned and is recorded within accounts receivable, net on a trade date basis.

Allowance for Credit Losses

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 credit losses is based on an estimate of the amount of potential credit losses in existing accounts receivable, as determined from a review of aging schedules, past due balances, historical collection experience and other specific collection issues that have been identified. Account balances are grouped for evaluation based on various risk characteristics, including billing type, legal entity, and geographic region. Additions to the allowance for credit losses are charged to bad debt expense, which is included in general and administrative expense in the Company’s Consolidated Statements of Operations. Balances that are determined to be uncollectable are written off against the allowance for credit losses. The allowance for credit losses was immaterial as of March 31, 2022 and December 31, 2021.

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.

Cloud Computing Costs

The Company capitalizes certain costs associated with cloud computing arrangements, including, among other items, employee compensation and related benefits and third party consulting costs that are part of the application development stage. These costs are setup as a prepaid asset on the Consolidated Statement of Financial Condition and are amortized over the period of the hosting service contract, which range from one to five 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.

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 previously entered 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 platforms and, under certain plans, distribution fees or monthly minimum fees to use the platforms for a particular product area. Variable transaction fees are recognized on a trade date basis, are generally calculated as a percentage of the notional dollar volume of bonds traded on the platforms and vary based on the type, size, yield and maturity of the bond traded, as well as individual client incentives. Bonds that are more actively traded or that have shorter maturities generally generate lower commissions, while bonds that are less actively traded or that have longer maturities generally command higher commissions. Under the Company's disclosed trading transaction fee plans, variable transaction fees, distribution fees and unused monthly fee commitments are invoiced and recorded on a monthly basis.

For Open Trading 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. For U.S. Treasury matched principal trades, commissions are invoiced and recorded on a monthly basis. The following table presents commission revenue by fee type:

	Three Months Ended March 31,	
	2022	2021
	(In thousands)	
Commission revenue by fee type		
Variable transaction fees		
Disclosed trading	\$ 87,067	\$ 98,818
Open Trading – matched principal trading	42,991	46,320
U.S. Treasuries – matched principal trading	4,815	3,260
Total variable transaction fees	<u>134,873</u>	<u>148,398</u>
Distribution fees and unused minimum fees	<u>31,240</u>	<u>27,440</u>
Total commissions	<u>\$ 166,113</u>	<u>\$ 175,838</u>

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, and may be net of volume-based discounts, 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:

	Three Months Ended March 31,	
	2022	2021
(In thousands)		
Information services revenue by timing of recognition		
Services transferred over time	\$ 9,485	\$ 9,045
Services transferred at a point in time	324	117
Total information services revenues	<u>\$ 9,809</u>	<u>\$ 9,162</u>

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:

	Three Months Ended March 31,	
	2022	2021
(In thousands)		
Post-trade services revenue by timing of recognition		
Services transferred over time	\$ 9,871	\$ 10,020
Services transferred at a point in time	41	241
Total post-trade services revenues	<u>\$ 9,912</u>	<u>\$ 10,261</u>

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:

	<u>December 31, 2021</u>	<u>Payments received in advance of services to be performed</u>	<u>Revenue recognized for services performed during the period</u>	<u>Foreign Currency Translation</u>	<u>March 31, 2022</u>
	(In thousands)				
Information services	\$ 3,528	\$ 2,457	\$ (2,710)	\$ —	\$ 3,275
Post-trade services	720	4,873	(3,996)	(20)	1,577
Total deferred revenue	<u>\$ 4,248</u>	<u>\$ 7,330</u>	<u>\$ (6,706)</u>	<u>\$ (20)</u>	<u>\$ 4,852</u>

The majority of the Company’s contracts are short-term in nature with durations of less than one year. For contracts with original durations extending beyond one year, the aggregate amount of the transaction price allocated to remaining performance obligations was \$18.9 million as of March 31, 2022. The Company expects to recognize revenue associated with the remaining performance obligations over the next 30 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. Tax benefits for uncertain tax positions are recognized when it is more likely than not that the positions will be sustained upon examination based on their technical merits. The Company recognizes interest and penalties related to unrecognized tax benefits in the provision for income taxes in the Consolidated Statements of Operations. All tax effects related to share-based payments are recorded in the provision for income taxes 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 judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash flows, discount rates, growth rates, customer attrition rates and asset lives.

The Company operates as a single reporting unit. Following 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 over their estimated useful lives which range from one to 15 years using either a straight-line or accelerated amortization method based on the pattern of economic benefit the Company expects to realize from such assets. 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. Regulatory 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, the Financial Industry Regulatory Authority (“FINRA”) 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 (“FCA”) 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 March 31, 2022, 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 March 31, 2022, the Company’s subsidiaries maintained aggregate net capital and financial resources that were \$567.3 million in excess of the required levels of \$24.2 million.

The Company’s U.S. broker-dealer subsidiary is required to segregate funds in a special reserve bank account for the benefit of customers pursuant to Rule 15c3-3 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). As of March 31, 2022, the U.S. broker-dealer subsidiary had a balance of \$50.2 million in its special reserve bank account. This U.S. broker-dealer subsidiary also maintained net capital that was \$360.9 million in excess of the required level of \$6.0 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:

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
	(In thousands)			
<u>As of March 31, 2022</u>				
Assets				
Money market funds	\$ 14,300	\$ —	\$ —	\$ 14,300
Trading securities				
U.S. Treasuries	—	24,563	—	24,563
Mutual funds held in rabbi trust	—	11,312	—	11,312
Total assets	<u>\$ 14,300</u>	<u>\$ 35,875</u>	<u>\$ —</u>	<u>\$ 50,175</u>
Liabilities				
Contingent consideration payable	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 39,119</u>	<u>\$ 39,119</u>
<u>As of December 31, 2021</u>				
Assets				
Money market funds	\$ 14,206	\$ —	\$ —	\$ 14,206
Trading securities				
U.S. Treasuries	—	24,883	—	24,883
Mutual funds held in rabbi trust	—	11,195	—	11,195
Total assets	<u>\$ 14,206</u>	<u>\$ 36,078</u>	<u>\$ —</u>	<u>\$ 50,284</u>
Liabilities				
Contingent consideration payable	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 41,090</u>	<u>\$ 41,090</u>

Securities classified within Level 2 were valued using a market approach utilizing prices and other relevant information generated by market transactions involving comparable assets. The mutual funds held in a rabbi trust represent investments associated with the Company’s deferred cash incentive plan.

Liabilities classified within Level 3 reflect contingent consideration payable recognized in connection with acquisitions. Significant unobservable inputs used in the valuation of contingent consideration payable include estimates of client retention, electronic trading volume and variable fees over periods of 18 to 24 months from the acquisition dates. The following table summarizes the change in the Company's Level 3 liabilities for the three months ended March 31, 2022:

	<u>December 31, 2021</u>	<u>Unrealized (Gain)/Loss</u>	<u>Foreign Currency</u>	<u>March 31, 2022</u>
		<u>(In thousands)</u>	<u>Translation</u>	
Contingent consideration payable	\$ 41,090	\$ (1,609)	\$ (362)	\$ 39,119

The table below presents the range and average significant unobservable inputs used in the valuation of the Company's Level 3 liabilities:

	<u>Valuation Technique</u>	<u>Unobservable Inputs</u>	<u>Range</u>	<u>Average</u>
		<u>(\$ in thousands)</u>		
As of March 31, 2022				
Contingent consideration payable	Discounted cash flows	Present value factor	0.96 - 1	0.98
		Customer retention rate	84.0%	84.0%
		April 2022-March 2023 variable fee	\$3,556 - \$5,658	\$4,607
		Percentage of electronic trading volume	86.0% - 96.6%	91.3%
As of December 31, 2021				
Contingent consideration payable	Discounted cash flows	Present value factor	0.95 - 1	0.98
		Customer retention rate	84.0%	84.0%
		April 2021-March 2022 variable fee	\$2,703 - \$3,086	\$2,895
		Percentage of electronic trading volume	86.0% - 96.6%	91.3%

The table below presents the carrying value, fair value and fair value hierarchy category of the Company's financial assets and liabilities that are not measured at fair value on the Consolidated Statement of Financial Condition. The carrying values of the Company's financial assets and liabilities not measured at fair value categorized in the fair value hierarchy as Level 1 and Level 2 approximate fair value due to the short-term nature of the underlying assets and liabilities.

	<u>Carrying Value</u>	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
			<u>(In thousands)</u>			
As of March 31, 2022						
Financial assets not measured at fair value:						
Cash and cash equivalents	\$ 364,567	\$ 364,567	\$ 364,567	\$ —	\$ —	\$ 364,567
Cash segregated under federal regulations	50,187	50,187	50,187	—	—	50,187
Accounts receivable, net of allowance	75,520	75,520	—	75,520	—	75,520
Receivables from broker-dealers, clearing organizations and customers	721,127	721,127	85,331	635,796	—	721,127
Total	<u>\$ 1,211,401</u>	<u>\$ 1,211,401</u>	<u>\$ 500,085</u>	<u>\$ 711,316</u>	<u>\$ —</u>	<u>\$ 1,211,401</u>
Financial liabilities not measured at fair value:						
Payables to broker-dealers, clearing organizations and customers	<u>\$ 458,476</u>	<u>\$ 458,476</u>	<u>\$ —</u>	<u>\$ 458,476</u>	<u>\$ —</u>	<u>\$ 458,476</u>
As of December 31, 2021						

Financial assets not measured at fair value:

Cash and cash equivalents	\$ 506,735	\$ 506,735	\$ 506,735	\$ —	\$ —	\$ 506,735
Cash segregated under federal regulations	50,159	50,159	50,159	—	—	50,159
Accounts receivable, net of allowance	63,881	63,881	—	63,881	—	63,881
Receivables from broker-dealers, clearing organizations and customers	408,346	408,346	68,565	339,781	—	408,346
Total	<u>\$ 1,029,121</u>	<u>\$ 1,029,121</u>	<u>\$ 625,459</u>	<u>\$ 403,662</u>	<u>\$ —</u>	<u>\$ 1,029,121</u>

Financial liabilities not measured at fair value:

Payables to broker-dealers, clearing organizations and customers	<u>\$ 229,325</u>	<u>\$ 229,325</u>	<u>\$ —</u>	<u>\$ 229,325</u>	<u>\$ —</u>	<u>\$ 229,325</u>
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The following table summarizes the Company's investments:

	<u>Amortized cost</u>	<u>Gross unrealized gains</u>	<u>Gross unrealized losses</u>	<u>Fair value</u>
	(In thousands)			
As of March 31, 2022				
Trading securities				
U.S. Treasuries	\$ 24,883	\$ —	\$ (320)	\$ 24,563
Mutual funds held in rabbi trust	12,039	—	(727)	11,312
Total investments	<u>\$ 36,922</u>	<u>\$ —</u>	<u>\$ (1,047)</u>	<u>\$ 35,875</u>
As of December 31, 2021				
Trading securities				
U.S. Treasuries	\$ 24,994	\$ —	\$ (111)	\$ 24,883
Mutual funds held in rabbi trust	9,941	1,254	—	11,195
Total investments	<u>\$ 34,935</u>	<u>\$ 1,254</u>	<u>\$ (111)</u>	<u>\$ 36,078</u>

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

	As of	
	<u>March 31, 2022</u>	<u>December 31, 2021</u>
	(In thousands)	
Less than one year	\$ 11,312	\$ 11,195
Due in 1 - 5 years	24,563	24,883
Total	<u>\$ 35,875</u>	<u>\$ 36,078</u>

There were no proceeds from the sales and maturities of investments during the three months ended March 31, 2022. Proceeds from the sales and maturities of investments during the three months ended March 31, 2021 were \$5.5 million. Net unrealized losses on trading securities were \$1.0 million for the three months ended March 31, 2022. Net unrealized gains on trading securities were \$0.4 million for the three months ended March 31, 2021.

5. Receivables from and Payables to Broker-dealers, Clearing organizations and Customers

Receivables from and payables to broker-dealers, clearing organizations and customers consisted of the following:

	<u>March 31, 2022</u>	<u>December 31, 2021</u>
Receivables from broker-dealers, clearing organizations and customers:	(In thousands)	
Securities failed-to-deliver – broker-dealers and clearing organizations	\$ 211,401	\$ 152,766
Securities failed-to-deliver – customers	418,611	182,052
Deposits with clearing organizations and broker-dealers	85,331	68,565
Other	5,784	4,963
Total	\$ 721,127	\$ 408,346
Payables to broker-dealers, clearing organizations and customers:		
Securities failed-to-receive – broker-dealers and clearing organizations	\$ 268,417	\$ 166,010
Securities failed-to-receive – customers	184,124	59,879
Other	5,935	3,436
Total	\$ 458,476	\$ 229,325

6. Acquisitions

On April 9, 2021, the Company acquired MuniBrokers LLC, a central electronic venue serving municipal bond brokers and dealers. The purchase price consisted of \$17.1 million in cash paid at closing and up to \$25.0 million of contingent consideration payable within approximately two years of the acquisition date. The Company is accounting for the transaction as a business combination and utilized an independent third-party to assist in determining the fair value of the acquired intangible assets. The accounting purchase price is \$39.6 million, comprised of \$17.1 million of cash and \$22.5 million of contingent consideration payable, which is included within accounts payable, accrued expenses, and other liabilities on the Consolidated Statements of Financial Condition. The Company recorded \$32.0 million of amortizable intangible assets and \$7.4 million of goodwill as of the acquisition date. The acquired intangible assets consist of customer relationships and technology and have useful lives ranging from 1 to 15 years. In 2022, the Company recognized a decrease of \$1.6 million to the contingent consideration payable due to the finalization of the first earn-out period consideration, which was recorded as a gain in other, net on the Consolidated Statements of Operations.

On November 30, 2020, the Company acquired Regulatory Services GmbH, the pan-European regulatory reporting business of Deutsche Börse Group. The purchase price consisted of \$22.5 million in cash paid at closing and up to \$24.6 million in contingent consideration payable in cash within 18 months of the closing. The Company is accounting for the transaction as a purchase of assets and recorded \$37.4 million in amortizable intangible assets as of the acquisition date.

7. Goodwill and Intangible Assets

Goodwill and intangible assets with indefinite lives were \$154.8 million as of each of March 31, 2022 and December 31, 2021. Intangible assets that are subject to amortization, including the related accumulated amortization, are comprised of the following:

	<u>March 31, 2022</u>			<u>December 31, 2021</u>		
	<u>Cost</u>	<u>Accumulated amortization</u>	<u>Net carrying amount</u>	<u>Cost</u>	<u>Accumulated amortization</u>	<u>Net carrying amount</u>
			(In thousands)			
Customer relationships	131,421	(23,384)	108,037	\$ 132,197	\$ (19,813)	\$ 112,384
Technology and other intangibles	11,430	(7,847)	3,583	11,430	(7,437)	3,993
Total	\$ 142,851	\$ (31,231)	\$ 111,620	\$ 143,627	\$ (27,250)	\$ 116,377

Amortization expense associated with identifiable intangible assets was \$4.0 million and \$2.7 million for the three months ended March 31, 2022 and 2021, respectively. Annual estimated total amortization expense is \$16.7 million, \$17.5 million, \$15.2 million, \$12.2 million and \$10.5 million for 2022 through 2026.

8. Income Taxes

The Company's provision for income taxes includes U.S. federal, state and local, and foreign taxes. The Company's effective tax rate was 28.4% and 21.0% for the three months ended March 31, 2022 and 2021, respectively. The Company's effective tax rate can vary from period to period depending on 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. During the three months ended March 31, 2022, the Company's provision for income taxes included \$3.2 million of expense related to a settlement with the New York State tax authorities to resolve the 2010 to 2014 audits. The Company recognized excess tax benefits on share-based payments of \$0.1 million and \$4.0 million through the provision for income taxes for the three months ended March 31, 2022 and 2021, respectively.

The Company or one of its subsidiaries files U.S. federal, state and foreign income tax returns. The Company is currently under a New York State income tax examination for the tax years 2015 through 2017 and a New York City income tax examination for the tax years 2016 through 2018. At this time, the Company cannot estimate when the examinations will conclude or the impact such examinations will have on the Company's Consolidated Financial Statements, if any. Generally, other than New York State and City, the Company is no longer subject to tax examinations by tax authorities for years prior to 2018.

9. Stock-Based Compensation Plans

The Company maintains a stock incentive plan which provides for the grant of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance units, or other stock-based awards as incentives to encourage employees, consultants and non-employee directors to participate in the long-term success of the Company. As of March 31, 2022, there were 2,476,921 shares available for grant under the stock incentive plan.

Total stock-based compensation expense was as follows:

	Three Months Ended March 31,	
	2022	2021
	(In thousands)	
Employees	\$ 7,642	\$ 7,103
Non-employee directors	457	321
Total stock-based compensation	\$ 8,099	\$ 7,424

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 three months ended March 31, 2022, the Company granted to employees a total of 56,548 shares of restricted stock units, 23,904 options to purchase shares of common stock and performance stock units with an expected pay-out at target of 22,141 shares of common stock. The fair values of the restricted stock units and performance stock units were based on a weighted-average fair value per unit at the grant date of \$361.41 and \$350.85, respectively. Based on the Black-Scholes option pricing model, the weighted-average fair value for each option granted was \$101.38 per share.

As of March 31, 2022, the total unrecognized compensation cost related to all non-vested awards was \$58.8 million. That cost is expected to be recognized over a weighted-average period of 2.0 years.

10. Earnings Per Share

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

	Three Months Ended March 31,	
	2022	2021
	(In thousands, except per share amounts)	
Basic weighted average shares outstanding	37,384	37,470
Dilutive effect of stock options and restricted stock	440	685
Diluted weighted average shares outstanding	37,824	38,155
Basic earnings per share	\$ 1.73	\$ 2.15
Diluted earnings per share	1.71	2.11

Stock options and restricted stock totaling 174,642 shares and 61,089 shares for the three months ended March 31, 2022 and 2021, 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.

11. Credit Agreements and Short-term Financing

Prior Revolving Credit Agreement

In November 2020, the Company entered into a one-year credit agreement (the "2020 Credit Agreement") with a syndicate of lenders and JPMorgan Chase Bank, N.A., as administrative agent, that provided aggregate commitments totaling \$500.0 million, consisting of a revolving credit facility and a \$5.0 million letter of credit sub-limit for standby letters of credit.

Borrowings under the 2020 Credit Agreement bore 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 2020 Credit Agreement required that the Company satisfy certain covenants, which include leverage ratios and minimum earnings before interest, tax, and depreciation and amortization ("EBITDA") requirements.

2021 Credit Agreement

On October 15, 2021, the Company replaced the 2020 Credit Agreement with a new three-year revolving credit facility (the "2021 Credit Agreement") provided by a syndicate of lenders and JPMorgan Chase Bank, N.A., as administrative agent, which provides aggregate commitments totaling \$500.0 million, consisting of a revolving credit facility and a \$5.0 million letter of credit sub-limit for standby letters of credit. The 2021 Credit Agreement will mature on October 15, 2024, with the Company's option to request up to two additional 364-day extensions at the discretion of each lender and subject to customary conditions. Subject to satisfaction of certain specified conditions, the Company is permitted to upsize the 2021 Credit Agreement by up to \$250.0 million in total. As of March 31, 2022, the Company had \$1.0 million in letters of credit outstanding and \$499.0 million in available borrowing capacity under the 2021 Credit Agreement.

Borrowings under the 2021 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 2021 Credit Agreement requires that the Company satisfy certain covenants, which include a leverage ratio. The Company incurred \$0.1 million of interest expense under the 2021 Credit Agreement for the three months ended March 31, 2022.

Collateralized Agreement

In connection with its self-clearing operations, the Company's U.S. broker-dealer subsidiary entered into an agreement (the "Collateralized Agreement") with its settlement bank to provide loans to the subsidiary in amounts up to an aggregate of \$200.0 million on an uncommitted basis. Borrowings under the Collateralized Agreement are collateralized by securities pledged by the Company's U.S. broker-dealer subsidiary to the settlement bank, subject to applicable haircuts and concentration limits. Borrowings under the Collateralized Agreement will bear interest at a base rate per annum equal to the higher of the upper range of the Federal Funds Rate, 0.25% or one-month Secured Overnight Financing Rate ("SOFR"), plus 1.00%. The Company incurred no interest expense on borrowings under the Collateralized Agreement during the three months ended March 31, 2022. As of March 31, 2022, the Company had no borrowings outstanding and \$200.0 million in available borrowing capacity under the Collateralized Agreement.

Short-term Financing

Under arrangements with their settlement banks, certain of the Company's U.S. and U.K. operating subsidiaries may receive overnight financing in the form of bank overdrafts. The Company incurred interest expense on such overnight financing of \$0.1 million during the three months ended March 31, 2022. As of March 31, 2022, the Company had no overdrafts payable outstanding.

12. 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 lease expense for the three months ended March 31, 2022 and 2021:

Lease cost:	Classification	Three Months Ended March 31,	
		2022	2021
		(In thousands)	
Operating lease cost	Occupancy	\$ 3,310	\$ 3,323
Operating lease cost for subleased/assigned properties	Other, net	456	497
Variable lease costs	Occupancy	7	6
Sublease income subleased/assigned properties	Other, net	(390)	(502)
Net lease cost		<u>\$ 3,383</u>	<u>\$ 3,324</u>

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 are as follows:

Lease Term and Discount Rate	As of	
	March 31, 2022	December 31, 2021
Weighted average remaining lease term (in years)	11.3	11.5
Weighted average discount rate	5.9%	5.9%

The following table presents the maturity of lease liabilities as of March 31, 2022:

	(In thousands)	
Remainder of 2022	\$	8,108
2023		10,747
2024		11,209
2025		11,015
2026		10,913
2027 and thereafter		68,066
Total lease payments		120,058
Less: interest		33,667
Present value of lease liabilities	\$	86,391

The Company has entered into an agreement that subleases the Company's lease obligation on one of its properties to a third party and is contingently liable should the third party default on future lease obligations through the lease termination date of May 2022. The amount of the future lease obligation under this arrangement is less than \$0.1 million as of March 31, 2022.

13. 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 certain of its subsidiaries, executes bond transactions between its institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller in trades. The Company's U.S. broker-dealer subsidiary operates under a self-clearing model for the settlement of such transactions. The Company's subsidiaries also settle their transactions through third-party clearing brokers or settlement agents. 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 both the self-clearing and the third-party clearing models, 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 an error in executing a matched principal transaction. Pursuant to the terms of the securities clearing agreements, each third-party clearing broker has the right to charge the Company for any losses they suffer resulting from a counterparty's failure on any of the Company's trades. The Company did not record any liabilities or losses with regard to counterparty failures for the three months ended March 31, 2022 and 2021.

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.

14. Share Repurchase Programs

In January 2021, the Board of Directors authorized a new share repurchase program for up to \$100.0 million that commenced in April 2021 and was exhausted in January 2022. In January 2022, the Board of Directors authorized a new share repurchase program for up to \$150.0 million. For the three months ended March 31, 2022, the Company repurchased 101,514 shares of common stock at a cost of \$38.8 million. Shares repurchased under each program will be held in treasury for future use.

15. Segment and Geographic Information

The Company operates electronic platforms 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 products 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 three months ended March 31, 2022 and 2021, 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. 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. Revenues for the three months ended March 31, 2022 and 2021 and long-lived assets as of March 31, 2022 and December 31, 2021 were as follows:

	Three Months Ended March 31,	
	2022	2021
(In thousands)		
Revenues		
Americas	\$ 150,556	\$ 160,119
Europe	30,736	29,544
Asia	4,765	5,801
Total	<u>\$ 186,057</u>	<u>\$ 195,464</u>

	As of	
	March 31, 2022	December 31, 2021
(In thousands)		
Long-lived assets, as defined		
Americas	\$ 75,141	\$ 75,328
Europe	19,917	20,547
Asia	244	186
Total	<u>\$ 95,302</u>	<u>\$ 96,061</u>

16. Cash and Cash Equivalents and Restricted Cash

The following table provides a reconciliation of cash and cash equivalents together with restricted or segregated cash as reported within the Consolidated Statements of Financial Condition to the sum of the same such amounts shown in the Consolidated Statements of Cash Flows.

	Statement of Financial Condition Location	March 31, 2022		December 31, 2021	
		(In thousands)			
Cash and cash equivalents	Cash and cash equivalents	\$ 364,567	\$	506,735	\$
Cash segregated for regulatory purposes	Cash segregated under federal regulations	50,187		50,159	
Deposits with clearing organizations and broker-dealers	Receivables from broker-dealers, clearing organizations and customers	85,331		68,565	
Other deposits	Prepaid expenses and other assets	108		108	
Total		<u>\$ 500,193</u>	<u>\$</u>	<u>625,567</u>	<u>\$</u>

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,” and in our Form 10-K for the year ended December 31, 2021, including in Part I, Item 1A, “Risk Factors” and Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Executive Overview

MarketAxess operates leading electronic trading platforms delivering greater trading efficiency, a diversified pool of liquidity and significant cost savings to our clients across the global fixed-income markets. Over 1,900 institutional investor and broker-dealer firms are active users of our patented trading technology to efficiently trade U.S. high-grade bonds, U.S. high-yield bonds, emerging market debt, Eurobonds, municipal bonds, U.S. government bonds and other fixed-income securities. Our award-winning Open Trading marketplace is widely regarded as the preferred all-to-all trading solution in the global credit markets, creating a unique liquidity pool for a broad range of credit market participants. Drawing on a diverse set of trading protocols, including request-for-quote, live order books, sessions-based trading and portfolio trading solutions, as well as our deep data and analytical resources, we believe that we connect the most robust network of participants through an advanced full trading lifecycle solution that also includes automated trading solutions, intelligent data products and a range of post-trade services.

We operate in a large and rapidly growing market that provides us with a significant opportunity for future growth. Many of our largest current product areas, and areas of future growth, have relatively low levels of trading electrification, which further increases the size of our addressable market. Our platforms’ innovative technology solutions are designed to capitalize on this addressable market by increasing the number of potential trading counterparties and providing our clients with a menu of solutions to address the full lifecycle of fixed-income trading. We offer Open Trading for most of our products and trading protocols, allowing our entire global network to interact in one large pool of trading liquidity. We believe that Open Trading drives meaningful transaction cost savings to our clients and reduces risk in fixed-income markets by creating a global, diversified pool of liquidity. Institutional investors can also send trading inquiries directly to their traditional broker-dealer counterparties through a disclosed RFQ, while simultaneously accessing additional counterparties through our anonymous Open Trading solution. We also provide a number of integrated and actionable data offerings, including Composite+ and Axess All real time pricing to assist clients with trading decisions and transaction cost analysis. We have a range of post-trade services, including straight through processing, trade matching, trade publication, regulatory transaction reporting and market and reference data across fixed-income and other products.

We derive revenue from commissions for trades executed on our platforms, 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 general and administrative expenses.

Our objective is to provide the leading global electronic trading platforms 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 discussed in Part 1, Item 1. “Business – Our Strategy” of our Form 10-K for the year ended December 31, 2021.

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.

In the three months ended March 31, 2022, market volumes in U.S. high-grade and U.S. high-yield corporate bonds as reported by FINRA's Trade Reporting and Compliance Engine ("TRACE") decreased 6.9% and 7.8%, respectively, compared to the three months ended March 31, 2021. Although we experienced improving credit market conditions in the first quarter 2022 compared to the second half of 2021, with credit spread widening and increased volatility, overall market volumes decreased compared to the elevated levels of the three months ended March 31, 2021.

In February 2022, following Russia's invasion of Ukraine, the U.S., the U.K., and the European Union, among others, have adopted sanctions that, in various ways, prohibit transactions with numerous Russian entities, including major Russian banks, and individuals; limit transactions in Russian sovereign debt; and constrain investment, trade and financing to, from or in certain regions of Ukraine. Although we are monitoring the status of the securities and counterparties that have been affected by these sanctions, we do not currently expect to incur any material losses on trades that were unsettled at the time sanctions were imposed. To the extent the sanctions are further expanded or the war or sanctions have further adverse effects on our markets or the participants on our platforms, our financial position and results of operations may be adversely affected.

As a result of the COVID-19 pandemic (the "Pandemic"), we have continued to experience significant changes in our daily operations. In mid-March 2020, we successfully implemented a global work from home mandate for all our employees and we were able to continue to provide our trading platforms and other services to our clients without interruption. We re-opened our primary offices in the fourth quarter of 2021 with an emphasis on safety and employee wellbeing. While our offices remained open through the Omicron variant surge during the first quarter of 2022, we encouraged our employees to work from home when possible. Our offices are currently open, and we remain confident that we could continue to maintain business continuity and serve our clients if a return to a virtual environment becomes necessary to promote employee and public safety.

There has been increased demand for green bonds and other ESG-linked securities in the fixed income markets in which we operate. Based on the interest we are receiving from investors, we expected such increased demand to continue.

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 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 position and results of operations.

We expect that current cash and investment balances, in combination with cash flows that are generated from operations and the ability to borrow under our 2021 Credit Agreement, will be sufficient to meet our liquidity needs and planned capital expenditure requirements for at least the next twelve months. We ended the quarter with a strong balance sheet, no borrowings under our 2021 Credit Agreement and with capital significantly in excess of our regulatory requirements.

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.

We primarily compete on the basis of our client network, the liquidity provided by our dealer, and, to a growing extent, institutional investor clients, the total transaction costs associated with our services, the breadth of products, protocols and services offered, as well as the quality, reliability, security and ease of use of our platforms. 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 unique liquidity provided by our Open Trading functionalities and 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 business is subject to extensive regulations in the United States and internationally, which may expose us to significant regulatory risk and cause additional legal costs to ensure compliance. The existing legal framework that governs the financial markets is periodically reviewed and amended, resulting in the enactment and enforcement of new laws and regulations that apply to our business. For example, the SEC recently proposed rules that will expand Regulation ATS and Regulation SCI to alternative trading systems (ATS) that trade government securities and amend the SEC rule regarding the definition of an “exchange” to include Communication Protocol Systems, such as our RFQ protocols. In connection with these proposed rules, we expect that we will have to operate all of our trading protocols in compliance with Regulation ATS. The fixed-income industry has also been grappling with how to comply with Rule 15c2-11 (“Publication or submission of quotations without specified information”) of the Exchange Act, which had not previously been applied to debt securities. The impact of any of these reform efforts on us and our operations remains uncertain.

As a result of the U.K.’s departure from the European Union (“Brexit”), we obtained authorizations from the AFM for our subsidiaries in the Netherlands in 2019. We now provide regulated services to our clients within the E.U. in reliance on the cross-border services passport held by our Dutch subsidiaries. Brexit has led to an ongoing divergence between the U.K. and E.U. financial regulations, which has made it more difficult and costly to comply with the extensive government regulation to which we are subject. The cost and complexity of operating across increasingly divergent regulatory regimes has increased and is likely to continue to increase in the future.

Compliance with regulations may require us to dedicate additional financial and operational resources, which may adversely affect our profitability. However, we believe new regulations may also increase demand for our platforms and we believe we are well positioned to benefit from those regulatory changes that cause market participants to seek electronic platforms that meet the various regulatory requirements and help them comply with their regulatory obligations.

For further description of the regulations which may limit our activities, see Part 1, Item 1. “Business – Government Regulation” of our Form 10-K for the year ended December 31, 2021.

Technology Environment

We must continue to enhance and improve our electronic trading platforms. 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 and regulatory standards and practices on a cost-effective and timely basis. We plan to continue to focus on technology infrastructure initiatives and continually improve our platforms to further enhance our leading market position. We expect that our agile software development processes will help us continue to be a market leader in developing the technology solutions for our clients’ trading needs.

As the overall share of electronic trading grows in global credit products, we are experiencing continued demand for, and growth in, our automated trading solutions. Automated trading volumes rose to \$49.3 billion in the first quarter of 2022, up 26.3% from \$39.1 billion in the first quarter of 2021. In addition, the use of dealer algorithms is continuing to grow on our platforms, with approximately 5.3 million algorithmic responses in the first quarter of 2022, up 11.6% from the same period last year.

We experience cyber-attacks and attempted data security breaches. Cybersecurity incidents could impact revenue and operating income and increase costs. We therefore continue to make investments in our cybersecurity infrastructure and training of employees, which may result in increased costs, to strengthen our cybersecurity measures.

See also Part 1, Item 1A. - “Risk Factors, Technology, IT Systems and Cybersecurity Risks” of our Form 10-K for the year ended December 31, 2021.

Trends in Our Business

The majority of our revenue is derived from commissions for transactions executed on our platforms 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 platforms and the amount of commissions and distribution fees earned by us:

- the number of participants on our platforms and their willingness to use our platforms instead of competitors' platforms or execution methods;
- the frequency and competitiveness of the price responses by participants on our platforms;
- the number of markets that are available for our clients to trade on our platforms;
- the overall level of activity in these markets; and
- the duration of the bonds trading on our platforms and the level of commissions that we collect for trades executed through the platforms.

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 platforms, 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.

As further described under “— Critical Factors Affecting our Industry and our Company — Economic, Political and Market Factors” and “— Results of Operations — Three Months Ended March 31, 2022 Compared to Three Months Ended March 31, 2021,” our trading volumes declined compared to the three months ended March 31, 2021.

Commission Revenue

Commissions are recognized on a trade date basis, are generally calculated as a percentage of the notional dollar volume of bonds traded on our platforms and vary based on the type, size, yield and maturity of the bond traded, as well as individual client incentives. 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 Open Trading 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. For U.S. Treasury matched principal trades, commissions are invoiced and recorded on a monthly basis.

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 broker-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 platforms. 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. Our high-yield fee plan structure is 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. Other credit distribution fees include subscription revenues associated with the MuniBrokers platform. The average other credit fees per million may vary in the future due to changes in product mix or trading protocols.

Rates Commissions. Rates includes U.S. Treasury, U.S. agency, European government bonds and credit derivatives. Commissions for rates products generally vary based on the type of the instrument traded. U.S. Treasury fee plans are typically volume tiered and can vary based on the trading protocol. The average rates fee per million may vary in the future due to changes in product mix or trading protocols.

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 and consulting services; technology software licenses; and maintenance and support services. These revenues are either for subscription-based services transferred over time, and may be net of volume-based discounts, or one-time services. Revenues for services 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. Customers are generally billed monthly, quarterly, or annually; revenues billed in advance 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. Customers are generally billed in the current month or monthly in arrears and revenue is recognized in the period that the transactions are processed. Revenues billed in advance are deferred and recognized ratably over the contract period. We also generate one-time implementation fees for onboarding clients which are invoiced and 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, which range from one to 15 years, using either a straight-line or accelerated amortization method based on the pattern of economic benefit that we expect to realize from such assets. 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, data feeds provided by outside vendors and U.S. treasuries technology platform licensing fees. 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 platforms, 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 platforms, information services and post-trade services.

Clearing Costs. Clearing costs consist of fees that we are charged by third-party clearing brokers and depositories for the clearing and settlement of matched principal trades, regulatory reporting fees and variable transaction fees assessed by the provider of our third-party middle office system.

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, operational support and geographic expansion, depreciation and amortization due to increased investment in new products and enhancements to our trading platforms, and technology and communication costs. Expenses may also grow due to acquisitions.

Other Income (Expense)

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

Interest Expense. Interest expense consists of financing charges incurred on short-term borrowings.

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, credit facility administrative fees, gains or losses on revaluations of contingent consideration payable and other miscellaneous revenues and expenses.

Critical Accounting 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 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. Critical accounting estimates for us include stock-based compensation and contingent consideration payable.

Stock-based compensation

We maintain a stock incentive plan which provides for the grant of stock options, stock appreciation rights, restricted stock, performance shares, performance units, restricted stock units, performance stock units, or other stock-based awards as incentives and rewards to encourage employees, consultants and non-employee directors. We make critical accounting estimates related to performance shares and performance stock units.

In 2020, annual performance share awards ("PSAs"), and in 2021 and 2022, performance stock units (together with the PSAs, "performance equity awards") were granted to the executive officers and certain senior managers. Each performance equity award is earned or forfeited based on our level of achievement of certain predetermined metrics, including pre-tax adjusted operating income and market share for the 2020 and 2021 awards, and pre-tax adjusted operating income, U.S. credit market share, and revenue growth for the 2022 awards. The vested share pay-out ranges from zero to 150% for the awards granted in 2020, and zero to 200%, for the awards granted in 2021 and 2022, of the performance equity award target. The number of performance equity awards that vest, if any, will be determined by the level of achievement of the performance metrics during the three-year performance periods, as certified by the Board following the conclusion of the performance period. In addition, participants must provide continued service through the vesting date (subject, to death, disability and, in the case of the awards granted in 2021 and 2022, qualified retirement exceptions). Compensation expense for performance equity awards is measured using the fair value of our stock at the grant date and estimates of future performance and actual share payouts. Each period, we make estimates of the current expected share payouts and adjust the life-to-date compensation expense recognized since the grant date. As of March 31, 2022, a 10% change in the expected final share payouts would increase or decrease the life-to-date compensation expense by \$1.7 million. The estimated final share payouts for the 2020 and 2021 awards as of March 31, 2022 decreased 2.7% compared to December 31, 2021.

Contingent consideration payable

In connection with our acquisitions of MuniBrokers and Regulatory Reporting Hub, we recognized contingent consideration payables of up to \$49.6 million with payment dates ranging from 18-24 months from the acquisition dates. These contingent consideration payables are classified as Level 3 liabilities in the fair value hierarchy and are valued using unobservable inputs and estimates of various factors, including client retention rates, electronic order flow levels, future license fees we earn and discount rates. Changes in these estimates or the final figures on the payment dates could have an impact on the contingent consideration payable liabilities we record on our balance sheet. As of March 31, 2022, a 10% change in the projected annual subscription and license fees would not have a material impact on the expected contingent consideration payable. Refer to Note 4 to the Consolidated Financial Statements for more information related to the changes in contingent consideration payable during the three months ended March 31, 2022.

Recent Accounting Pronouncements

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

Segment Results

We operate electronic platforms 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 15 to the Consolidated Financial Statements for certain geographic information about our business required by GAAP.

Results of Operations

Three Months Ended March 31, 2022 Compared to Three Months Ended March 31, 2021

The following table summarizes our financial results for the three months ended March 31, 2022 and 2021. Results for the three months ended March 31, 2022 include MuniBrokers related revenue of \$1.3 million and expenses of \$1.8 million, including amortization of acquired intangibles expense of \$1.2 million.

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
	(\$ in thousands, except per share amounts)			
Revenues	\$ 186,057	\$ 195,464	\$ (9,407)	(4.8) %
Expenses	97,953	91,990	5,963	6.5
Operating income	88,104	103,474	(15,370)	(14.9)
Other income (expense)	2,315	(1,673)	3,988	(238.4)
Income before income taxes	90,419	101,801	(11,382)	(11.2)
Provision for income taxes	25,650	21,344	4,306	20.2
Net income	<u>\$ 64,769</u>	<u>\$ 80,457</u>	<u>\$ (15,688)</u>	<u>(19.5) %</u>
Net income per common share – Diluted	\$ 1.71	\$ 2.11	\$ (0.40)	(19.0) %

A 2.9% change in the average foreign currency exchange rates of the British pound sterling compared to the U.S. dollar had the effect of decreasing revenues and expenses by \$0.8 million and \$0.7 million, respectively, for the three months ended March 31, 2022.

Revenues

Our revenues for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31,					
	2022		2021			
			(\$ in thousands)			
		% of Revenues		% of Revenues	\$ Change	% Change
Commissions	\$ 166,113	89.3 %	\$ 175,838	90.0 %	\$ (9,725)	(5.5) %
Information services	9,809	5.3	9,162	4.7	647	7.1
Post-trade services	9,912	5.3	10,261	5.2	(349)	(3.4)
Other	223	0.1	203	0.1	20	9.9
Total revenues	<u>\$ 186,057</u>	100.0 %	<u>\$ 195,464</u>	100.0 %	<u>\$ (9,407)</u>	<u>(4.8) %</u>

Commissions. Our commission revenues for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
	(\$ in thousands)			
Variable transaction fees				
U.S. high-grade	\$ 52,878	\$ 65,356	\$ (12,478)	(19.1) %
Other credit	75,804	78,899	(3,095)	(3.9)
Total credit	128,682	144,255	(15,573)	(10.8)
Rates	6,191	4,143	2,048	49.4
Total variable transaction fees	134,873	148,398	(13,525)	(9.1)
Distribution fees				
U.S. high-grade	23,026	20,970	2,056	9.8
Other credit	8,152	6,404	1,748	27.3
Total credit	31,178	27,374	3,804	13.9
Rates	62	66	(4)	(6.1)
Total distribution fees	31,240	27,440	3,800	13.8
Total commissions	\$ 166,113	\$ 175,838	\$ (9,725)	(5.5) %

U.S. high-grade variable transaction fees decreased \$12.5 million due to a 5.9% decrease in trading volume and a 14.0% decrease in average variable transaction fee per million. Other credit variable transaction fees decreased \$3.1 million due to a 6.9% decrease in the average variable transaction fee per million offset by a 3.2% increase in trading volume. Open Trading credit volume totaled \$231.6 billion during the three months ended March 31, 2022, down 6.4%, and represented 31.7% and 31.0% of variable transaction fees for the three months ended March 31, 2022 and 2021, respectively. The 49.4% increase in variable transaction fees for rates was mainly attributable to higher U.S. Treasury trading volume.

U.S. high-grade distribution fees increased \$2.1 million mainly due to certain dealers moving to higher fixed fee plans and an increase in unused monthly minimum commitment fees. Other credit distribution fees increased \$1.7 million mainly due to the migration of certain dealers from all-variable fee plans to plans that incorporate a monthly distribution fee and subscription revenues associated with the MuniBrokers platform of \$0.5 million.

Our trading volumes for the three months ended March 31, 2022 and 2021 were as follows:

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
	(\$ in millions)			
Trading volume data				
U.S. high-grade – fixed rate	\$ 330,558	\$ 349,815	\$ (19,257)	(5.5) %
U.S. high-grade – floating rate	11,535	13,626	(2,091)	(15.3)
Total U.S. high grade	342,093	363,441	(21,348)	(5.9)
Other credit	403,718	391,020	12,698	3.2
Total credit	<u>\$ 745,811</u>	<u>\$ 754,461</u>	<u>\$ (8,650)</u>	<u>(1.1) %</u>
Rates	1,581,234	1,120,868	460,366	41.1 %
Number of U.S. Trading Days	62	61		
Number of U.K. Trading Days	63	63		

For volume reporting purposes, transactions in foreign currencies are converted to U.S. dollars at average monthly rates. The 5.9% decrease in our U.S. high-grade volume was principally due to a decrease in overall market volume. Estimated U.S. high-grade TRACE volume decreased by 6.9% to \$1.6 trillion for the three months ended March 31, 2022. Our estimated market share of total U.S. high-grade corporate bond volume increased to 20.7% for the three months ended March 31, 2022 from 20.5% for the three months ended March 31, 2021.

Other credit volumes increased by 3.2% due to increases of 210.0% in municipal bonds volume, which reflects Munibrokers variable subscription related trading volume beginning in the first quarter of 2022, and emerging markets bond volume of 6.8%, offset by decreases of 10.1% in high-yield bond volume and 0.6% in Eurobonds volume. Estimated emerging markets, U.S. high-yield and Eurobond market volumes decreased by 6.4%, 7.8% and 10.8%, respectively, compared to the three months ended March 31, 2021. Rates trading volume increased 41.1% primarily due to an increase in U.S. treasuries dealer-to-dealer estimated average daily trading volume.

Our average variable transaction fee per million for the three months ended March 31, 2022 and 2021 was as follows:

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
Average variable transaction fee per million				
U.S. high-grade – fixed rate	\$ 158.16	\$ 185.07	\$ (26.91)	(14.5)%
U.S. high-grade – floating rate	51.74	45.11	6.63	14.7
Total U.S. high-grade	154.57	179.83	(25.26)	(14.0)
Other credit	187.76	201.78	(14.02)	(6.9)
Total credit	172.54	191.20	(18.66)	(9.8)
Rates	3.92	3.70	0.22	5.9

Total U.S. high-grade average variable transaction fee per million decreased 14.0% to \$154.57 per million for the three months ended March 31, 2022 due to a decrease in the duration of bonds traded on our platforms. Other credit average variable transaction fee per million decreased 6.9% to \$187.76 per million for the three months ended March 31, 2022 mainly due to a larger percentage of trading volume in emerging market bonds that command lower fees per million and dealer migration to fixed-distribution fee plans that command lower transaction fees.

Information Services. Information services revenue increased \$0.6 million for the three months ended March 31, 2022 mainly due to net new data contract revenue.

Post-Trade Services. Post-trade services revenue decreased \$0.3 million for the three months ended March 31, 2022 principally due to the negative impact of foreign exchange of \$0.2 million.

Expenses

The following table summarizes our expenses for the three months ended March 31, 2022 and 2021. Expenses for the three months ended March 31, 2022 include \$1.8 million of expenses related to MuniBrokers, including amortization of acquired intangibles expense of \$1.2 million.

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
	(\$ in thousands)			
Expenses				
Employee compensation and benefits	\$ 47,756	\$ 48,088	\$ (332)	(0.7) %
Depreciation and amortization	15,174	11,779	3,395	28.8
Technology and communications	12,192	10,036	2,156	21.5
Professional and consulting fees	9,621	9,640	(19)	(0.2)
Occupancy	3,387	3,317	70	2.1
Marketing and advertising	1,789	1,204	585	48.6
Clearing costs	4,575	4,694	(119)	(2.5)
General and administrative	3,459	3,232	227	7.0
Total expenses	<u>\$ 97,953</u>	<u>\$ 91,990</u>	<u>\$ 5,963</u>	6.5 %

Employee compensation and benefits decreased by \$0.3 million, primarily due lower employee incentive compensation of \$1.3 million, which is impacted by operating performance, and stock-based compensation of \$0.3 million, offset by higher salaries, taxes and benefits of \$1.3 million on higher employee headcount.

Depreciation and amortization increased by \$3.4 million primarily due to higher amortization of acquired intangibles expense of \$1.4 million and amortization of software development costs of \$1.8 million. For the three months ended March 31, 2022 and 2021, \$1.4 million and \$4.3 million, respectively, of equipment purchases and leasehold improvements and \$9.4 million and \$8.1 million, respectively, of software development costs were capitalized.

Technology and communications expenses increased by \$2.2 million primarily due to higher software subscription costs of \$1.0 million, higher cloud hosting costs of \$0.5 million, higher market data costs of \$0.3 million and higher platform technology licensing costs of \$0.2 million.

Marketing and advertising expense increased \$0.6 million due to increasing advertising and travel and entertainment costs which had been reduced due to the Pandemic.

Clearing costs decreased by \$0.1 million primarily due to lower Open Trading credit volumes compared to the three months ended March 31, 2021. Clearing costs as a percentage of Open Trading matched principal trading revenue from credit products were 7.2% and 7.3% for the three months ended March 31, 2022 and 2021, respectively. U.S. Treasuries matched principal clearing costs increased \$0.2 million due to higher U.S. Treasuries volume.

Other Income (Expense)

Our other income (expense) for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
	(\$ in thousands)			
Investment income	\$ 59	\$ 107	\$ (48)	(44.9) %
Interest expense	(173)	(191)	18	(9.4)
Other, net	2,429	(1,589)	4,018	(252.9)
Total other income (expense)	<u>\$ 2,315</u>	<u>\$ (1,673)</u>	<u>\$ 3,988</u>	(238.4) %

Other, net increased by \$4.0 million primarily due to a gain of \$1.6 million on the revaluation of contingent consideration payable, higher foreign exchange gains of \$1.8 million and lower credit facility administration costs of \$0.3 million.

Provision for Income Taxes

The provision for income taxes and effective tax rate for the three months ended March 31, 2022 and 2021 were as follows:

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
	(\$ in thousands)			
Provision for income taxes	\$ 25,650	\$ 21,344	\$ 4,306	20.2 %
Effective tax rate	28.4 %	21.0 %		

The provision for income taxes reflected \$0.1 million and \$4.0 million of excess tax benefits related to share-based compensation awards that vested or were exercised during the three months ended March 31, 2022 and 2021, respectively. The provision for income taxes for the three months ended March 31, 2022 also reflected \$3.2 million of expense related to a settlement with the New York State tax authorities to resolve the 2010 to 2014 audits. 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 three months ended March 31, 2022, we have met our funding requirements through cash on hand, internally generated funds and short-term borrowings. Cash and cash equivalents and investments totaled \$400.4 million as of March 31, 2022. Our investments are generally invested in U.S. treasury securities. We limit the amounts that can be invested in any single issuer and invest in short- to intermediate-term instruments whose fair values are less sensitive to interest rate changes.

In October 2021, we entered into the 2021 Credit Agreement provided by a syndicate of lenders and JPMorgan Chase Bank, N.A., as administrative agent, that provides aggregate commitments totaling \$500.0 million, consisting of a revolving credit facility and a \$5.0 million letter of credit sub-limit for standby letters of credit. The 2021 Credit Agreement replaced the 2020 Credit Agreement and will mature on October 15, 2024, with our option to request up to two additional 364-day extensions at the discretion of each lender and subject to customary conditions. As of March 31, 2022, we had \$1.0 million in letters of credit outstanding and \$499.0 million in available borrowing capacity under the 2021 Credit Agreement. The 2021 Credit Agreement requires that we satisfy certain covenants, which include a leverage ratio. We were in compliance with all applicable covenants at March 31, 2022. See Note 11 to the Consolidated Financial Statements for a discussion of the 2021 Credit Agreement.

In connection with its self-clearing operations, our U.S. broker-dealer subsidiary entered into an agreement (the "Collateralized Agreement") with its settlement bank to provide loans up to an aggregate of \$200.0 million on an uncommitted basis. Borrowings under the Collateralized Agreement are collateralized by securities pledged by the U.S. broker-dealer subsidiary to the settlement bank, subject to applicable haircuts and concentration limits. As of March 31, 2022, the U.S. broker-dealer subsidiary had no borrowings outstanding and \$200.0 million in available borrowing capacity under the Collateralized Agreement. See Note 11 to the Consolidated Financial Statements for a discussion of the Collateralized Agreement.

Under arrangements with their settlement banks, certain of our U.S. and U.K. operating subsidiaries may receive overnight financing in the form of bank overdrafts. As of March 31, 2022, we had no overdrafts payable outstanding.

As a result of our self-clearing and settlement activities, we are required to finance certain transactions, maintain deposits with various clearing organizations and clearing broker-dealers and maintain a special reserve bank account for the benefit of customers pursuant to Rule 15c3-3 of the Exchange Act. As of March 31, 2022, the aggregate amount of the positions financed, deposits and customer reserve balances associated with our self-clearing and settlement activities was \$311.9 million. These requirements can fluctuate based on trading activity, market volatility or other factors which may impact our liquidity or require us to use our capital resources.

Our cash flows were as follows:

	Three Months Ended March 31,			
	2022	2021	\$ Change	% Change
	(\$ in thousands)			
Net cash (used in) operating activities	\$ (23,730)	\$ (23,159)	\$ (571)	2.5 %
Net cash (used in) investing activities	(10,821)	(12,332)	1,511	(12.3)
Net cash (used in) financing activities	(86,467)	(18,850)	(67,617)	358.7
Effect of exchange rate changes on cash and cash equivalents	(4,356)	(1,027)	(3,329)	324.1
Net decrease for the period	<u>\$ (125,374)</u>	<u>\$ (55,368)</u>	<u>\$ (70,006)</u>	126.4 %

The \$0.6 million decrease in net cash flows from operating activities was primarily due to lower net income of \$15.7 million, an increase in accounts receivable and prepaid expenses of \$9.3 million, lower proceeds from net sales of trading investments of \$5.5 million, a gain on revaluation of contingent consideration payable of \$1.6 million and a decrease in accounts payable and other liabilities of \$0.7 million, offset by an increase in the change in net receivables from broker-dealers, clearing organizations and customers associated with our clearing activities of \$28.7 million and higher depreciation and amortization of \$3.4 million.

The \$1.5 million increase in net cash flows from investing activities was primarily due to a decrease in purchases of furniture, equipment and leasehold improvements of \$2.9 million offset by an increase in capitalization of software costs of \$1.4 million.

The \$67.6 million decrease in net cash flows from financing activities was principally due to an increase in repurchases of common stock of \$38.3 million, lower proceeds from short-term borrowings of \$34.3 million and higher cash dividends paid on common stock of \$2.0 million, offset by a decrease in withholding tax payments on restricted stock vesting and stock option exercises of \$7.1 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.

Other Factors Influencing Liquidity and Capital Resources

We believe that our current resources are adequate to meet our liquidity needs and requirements, including commitments for capital expenditures, in the short-term (during the next 12 months). However, our future liquidity and capital requirements will depend on a number of factors, including liquidity requirements associated with our self-clearing operations and 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. In addition, in the long-term (beyond 12 months), we believe our liquidity needs and requirements will be affected by the factors discussed above.

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 FCA 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 March 31, 2022, each of our subsidiaries that are subject to these regulations had net capital or financial resources in excess of their minimum requirements. As of March 31, 2022, our subsidiaries maintained aggregate net capital and financial resources that were \$567.3 million in excess of the required levels of \$24.2 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 March 31, 2022, the amount of unrestricted cash held by our non-U.S. subsidiaries was \$152.2 million.

We execute bond transactions between our institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller in trades. Our U.S. broker-dealer subsidiary operates under a self-clearing model for the settlement of such transactions. Our subsidiaries also settle their transactions through third-party clearing brokers or settlement agents. 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 both the self-clearing and the third-party clearing models, 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 an error in executing a matched principal transaction. Pursuant to the terms of the securities clearing agreements, each third-party clearing broker has the right to charge us for any losses they suffer resulting from a counterparty's failure on any of our trades. We did not record any liabilities or losses with regard to counterparty failures for the three months ended March 31, 2022 and 2021. Substantially all of our open securities failed-to-deliver and securities failed-to-receive transactions as of March 31, 2022 have subsequently settled at the contractual amounts.

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.

We have operating leases for corporate offices with initial lease terms ranging from one year to 15 years. We have total future contractual rent payments on these leases of \$120.1 million, with \$10.8 million due within the next 12 months and \$109.3 million due beyond 12 months.

In January 2021, our Board authorized a new share repurchase program for up to \$100.0 million that commenced in April 2021 and was exhausted in January 2022. In January 2022, our Board authorized a new share repurchase program for up to \$150.0 million that commenced in March 2022. Shares repurchased under each program will be held in treasury for future use.

In April 2022, our Board of Directors approved a quarterly cash dividend of \$0.70 per share payable on May 18, 2022 to stockholders of record as of the close of business on May 4, 2022. 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.

On November 30, 2020 we acquired Regulatory Services GmbH, the pan-European regulatory reporting business of Deutsche Börse Group. The purchase price consists of \$22.5 million in cash paid at closing and up to \$24.6 million in contingent consideration payable in cash within 18 months of the closing. On April 9, 2021 we acquired MuniBrokers LLC, a central electronic venue serving municipal bond brokers and dealers. The purchase price consists of \$17.1 million in cash paid at closing and up to \$25.0 million in contingent consideration payable in cash within approximately two years of the closing.

Non-GAAP Financial Measures

In addition to reporting financial results in accordance with GAAP, we use certain non-GAAP financial measures: earnings before interest, taxes, depreciation and amortization ("EBITDA") and free cash flow. We define free cash flow as cash flow from operating activities excluding the net change in trading investments and net change in securities failed-to-deliver and securities failed-to-receive from broker-dealers, clearing organizations and customers, less expenditures for furniture, equipment and leasehold improvements and capitalized software development costs. We believe these non-GAAP financial measures, when taken into consideration with the corresponding GAAP financial measures, are important in understanding our operating results. EBITDA and free cash flow are not measures of financial performance or liquidity under GAAP and therefore should not be considered an alternative to net income or cash flow from operating activities as an indicator of operating performance or liquidity. We believe that EBITDA and free cash flow provide useful additional information concerning profitability of our operations and business trends and the cash flow available to pay dividends, repurchase stock and meet working capital requirements.

The table set forth below presents a reconciliation of our net income to EBITDA:

	Three Months Ended March 31,	
	2022	2021
	(\$ in thousands)	
Net income	\$ 64,769	\$ 80,457
Add back:		
Interest expense	173	191
Provision for income taxes	25,650	21,344
Depreciation and amortization	15,174	11,779
Earnings before interest, taxes, depreciation and amortization	<u>\$ 105,766</u>	<u>\$ 113,771</u>

The table set forth below presents a reconciliation of our cash flow from operating activities to free cash flow:

	Three Months Ended March 31,	
	2022	2021
	(\$ in thousands)	
Net cash (used in) operating activities	\$ (23,730)	\$ (23,159)
Exclude: Net change in trading investments	—	(5,495)
Exclude: Net change in fail-to-deliver/receive from broker-dealers, clearing organizations and customers	68,542	93,370
Less: Purchases of furniture, equipment and leasehold improvements	(1,396)	(4,257)
Less: Capitalization of software development costs	(9,425)	(8,075)
Free Cash Flow	<u>\$ 33,991</u>	<u>\$ 52,384</u>

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 March 31, 2022, we had \$24.6 million of investments in U.S. Treasuries that were classified as 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 March 31, 2022, our cash and cash equivalents amounted to \$364.6 million. A hypothetical 10 basis point increase in interest rates would increase our interest income by approximately \$0.4 million, assuming no change in the amount or composition of our cash and cash equivalents.

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 March 31, 2022, approximately 17.5% of our revenue and 30.6% 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 \$12.0 million and operating expenses by approximately \$11.1 million.

Credit Risk

Through certain of our subsidiaries, we execute bond transactions between our institutional investor and broker-dealer clients on a matched principal basis by serving as counterparty to both the buyer and the seller in trades. Our U.S. broker-dealer subsidiary operates under a self-clearing model for the settlement of such transactions. Our subsidiaries also settle their transactions through third-party clearing brokers or settlement agents. 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 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, procedures and automated controls in place to identify and manage our credit risk. There can be no assurance that these policies, procedures and automated controls 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 three major global banks. Given this concentration, we are exposed to certain credit risk in relation to our deposits at these banks.

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 Exchange Act, as of March 31, 2022. 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 March 31, 2022 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.

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. See Note 13 to the Consolidated Financial Statements for a discussion of our commitments and contingencies.

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, 2021. For a discussion of the risk factors affecting the Company, see “Risk Factors” in Part I, Item 1A of our 2021 Form 10-K.

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

None.

Issuer Purchases of Equity Securities

During the quarter ended March 31, 2022, 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)
January 1, 2022 - January 31, 2022	132,887	\$ 375.74	97,939	\$ —
February 1, 2022 - February 28, 2022	21,304	377.98	—	—
March 1, 2022 - March 31, 2022	3,575	348.09	3,575	148,756
Total	157,766	\$ 375.41	101,514	

During the three months ended March 31, 2022, we repurchased 157,766 shares of common stock. The repurchases included 101,514 shares repurchased in connection with our share repurchase program and 56,252 shares surrendered by employees to us to satisfy the withholding tax obligations upon the exercise of stock options and vesting of restricted shares.

In January 2021, our Board of Directors authorized a new share repurchase program for up to \$100.0 million that commenced in April 2021 and was exhausted in January 2022. In January 2022, our Board of Directors authorized a new share repurchase program for up to \$150.0 million that commenced in March 2022. Shares repurchased under each program will be held in treasury for future use.

Item 3. Defaults upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit Listing:

Number	Description
10.1*	Form of 2022 Restricted Stock Unit Agreement (Deferred) for Mr. McVey pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.2*	Form of 2022 Performance Stock Unit Agreement (Non-Deferred) for Mr. McVey pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.3*	Form of 2022 Incentive Stock Option Agreement for Mr. McVey pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.4*	Form of 2022 Restricted Stock Unit Agreement (Non-Deferred) for U.S. based Executive Officers other than Mr. McVey pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.5*	Form of 2022 Performance Stock Unit Agreement (Non-Deferred) for U.S. based Executive Officers other than Mr. McVey pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.6*	Form of 2022 Incentive Stock Option Agreement for U.S. based Executive Officers other than Mr. McVey pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.7*	Form of 2022 Restricted Stock Unit Agreement for U.K. based Executive Officers pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.8*	Form of 2022 Performance Stock Unit Agreement for U.K. based Executive Officers pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.9*	Form of Restricted Stock Unit (Buyout) for Naineshkumar Panchal pursuant to the MarketAxess Holdings Inc. 2020 Equity Incentive Plan#
10.10*	Consulting Services Agreement, dated as of February 1, 2022, by and between MarketAxess Corporation and Antonio DeLise#†
10.11*	Side Letter Agreement, dated as of February 1, 2022, by and between MarketAxess Holdings Inc. and Antonio DeLise#
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*	Inline 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*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
104	The cover page from the Company's Quarterly report on Form 10-Q for the quarter ended March 31, 2022 has been formatted in Inline XBRL and is included in Exhibits 101.

* Filed herewith.

Management contract or compensatory plan or agreement.

† Certain confidential information, identified by bracketed asterisks "[*****]" has been omitted from this exhibit pursuant to Item 601(b)(10) of Regulation S-K because it is both (i) not material and (ii) is the type that the registrant treats as private or confidential.

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: April 27, 2022

By: /s/ RICHARD M. MCVEY
Richard M. McVey
Chief Executive Officer
(principal executive officer)

Date: April 27, 2022

By: /s/ CHRISTOPHER N. GEROSA
Christopher N. Gerosa
Chief Financial Officer
(principal financial and accounting officer)

**Form of 2022 Restricted Stock Unit Agreement (Deferred)
for Mr. McVey**

**RESTRICTED STOCK UNIT AGREEMENT
PURSUANT TO THE
MARKETAXESS HOLDINGS INC. 2020 EQUITY
INCENTIVE PLAN**

THIS RESTRICTED STOCK UNIT AGREEMENT (this “Agreement”), is made as of January 31, 2022 (the “Grant Date”) by and between MarketAxess Holdings Inc. (the “Company”) and Richard M. McVey (the “Participant”).

WHEREAS, the Board of Directors of the Company (the “Board”) adopted The MarketAxess Holdings Inc. 2020 Equity Incentive Plan (as may be amended and/or restated from time to time) (the “Plan”) which is administered by a Committee appointed by the Company’s Board of Directors (the “Committee”);

WHEREAS, pursuant to Section 3.2 of the Plan, the Committee has adopted guidelines (the “Guidelines”) for the grant of restricted stock units (“RSUs”) under the Plan; and

WHEREAS, the Company, through the Committee, wishes to grant to the Participant RSUs as set forth below.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. **Grant of RSUs.** Subject to the terms and conditions of the Plan, the Guidelines and this Agreement, on the Grant Date the Company awarded to the Participant 2,300 RSUs. The RSUs are Deferrable RSUs and the payment of shares of Common Stock upon vesting in accordance with Section 2 may be deferred by the Participant in accordance with Section 4 of the Guidelines. If the Participant chooses to defer settlement of the RSUs, the Participant must complete an election form prescribed by the Committee regarding the election period no later than 30 days after the Grant Date. If the Participant has Deferrable RSUs, but does not make an election within 30 days after the Grant Date, the RSUs will not be treated as Deferrable RSUs.
2. **Vesting.** Unless otherwise set forth in an agreement between the Participant and the Company, the RSUs shall become vested pursuant to the terms of this Agreement and the Plan as follows if the Participant has been continuously providing service to the Company until such date:

767 on March 2, 2023
766 on January 31, 2024
767 on January 31, 2025

Notwithstanding anything herein or in the Plan or Guidelines to the contrary, if the Participant incurs a termination of service for any reason at any time prior to the date such RSUs become fully vested, the Participant shall forfeit any unvested RSUs as of the date of termination of service. There shall be no proportionate or partial vesting in the periods prior to the applicable vesting dates and all vesting shall occur only on the appropriate vesting date.

3. **Forfeiture.** Notwithstanding anything else set forth herein, this grant of RSU's, and any of Participant's rights and benefits with respect to this Agreement (including all unvested RSUs and vested but unpaid RSUs), shall be immediately forfeited upon the Company's determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii) breached any noncompetition, non-solicitation, confidentiality or other restrictive covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.
4. **Securities Representations.** The grant of the RSUs and any issuance of shares of Common Stock pursuant to this Agreement are being made by the Company in reliance upon the following express representations and warranties of the Participant.

The Participant acknowledges, represents and warrants that:

- (a) he or she has been advised that he or she may be an "affiliate" within the meaning of Rule 144 under the Securities Act and in this connection the Company is relying in part on his or her representations set forth in this section;
 - (b) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, the Common Stock must be held indefinitely unless an exemption from any applicable resale restrictions is available or the Company files an additional registration statement (or a "re-offer prospectus") with regard to such Common Stock and the Company is under no obligation to register the Common Stock (or to file a "re-offer prospectus");
 - (c) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, he or she understands that the exemption from registration under Rule 144 will not be available unless (i) a public trading market then exists for the Common Stock, (ii) adequate information concerning the Company is then available to the public, and (iii) other terms and conditions of Rule 144 or any exemption therefrom are complied with; and that any sale of the Common Stock may be made only in limited amounts in accordance with such terms and conditions.
5. **Not an Employment or Service Agreement.** Neither the execution of this Agreement nor the grant of RSUs hereunder constitute an agreement by the Company to employ or retain or to continue to employ or retain the Participant during the entire, or any portion of, the term of this Agreement.

6. **Miscellaneous.**

- (a) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal legal representatives, successors, trustees, administrators, distributees, devisees and legatees. The Company may assign to, and require, any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company or any affiliate by which the Participant is employed to expressly assume and agree in writing to perform this Agreement. Notwithstanding the foregoing, the Participant may not assign this Agreement.
- (b) This award of RSUs shall not affect in any way the right or power of the Board or stockholders of the Company to make or authorize an adjustment, recapitalization or other change in the capital structure or the business of the Company, any merger or consolidation of the Company or subsidiaries, any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, the dissolution or liquidation of the Company, any sale or transfer of all or part of its assets or business or any other corporate act or proceeding.
- (c) The Participant agrees that the award of the RSUs hereunder is special incentive compensation and that it, any dividends paid thereon (even if treated as compensation for tax purposes) will not be taken into account as “salary” or “compensation” or “bonus” in determining the amount of any payment under any pension, retirement or profit-sharing plan of the Company or any life insurance, disability or other benefit plan of the Company.
- (d) No modification or waiver of any of the provisions of this Agreement shall be effective unless in writing and signed by the party against whom it is sought to be enforced.
- (e) This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one contract.
- (f) The failure of any party hereto at any time to require performance by another party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.
- (g) The headings of the sections of this Agreement have been inserted for convenience of reference only and shall in no way restrict or modify any of the terms or provisions hereof.
- (h) All notices, consents, requests, approvals, instructions and other communications provided for herein shall be in writing and validly given or made when delivered, or on the second succeeding business day after being mailed by registered or certified mail, whichever is earlier, to the persons entitled or required to receive the

same, at the addresses set forth at the heading of this Agreement or to such other address as either party may designate by like notice. Notices to the Company shall be addressed to the Compensation Committee of the Board with a copy to General Counsel, MarketAxess Holdings Inc., 55 Hudson Yards, 15 Floor, New York, NY 10001.

- (i) This Agreement shall be construed, interpreted and governed and the legal relationships of the parties determined in accordance with the internal laws of the State of Delaware without reference to rules relating to conflicts of law.

- 7. **Provisions of Plan and Guidelines Control.** This Agreement is subject to all the terms, conditions and provisions of the Plan and the Guidelines, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan and the Guidelines as may be adopted by the Committee and as may be in effect from time to time. The Plan and the Guidelines are incorporated herein by reference. A copy of the Plan and the Guidelines have been delivered to the Participant. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan and the Guidelines, the Plan and the Guidelines shall control, and this Agreement shall be deemed to be modified accordingly. Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan or the Guidelines. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any other documents expressly contemplated herein or in the Plan or the Guidelines) and supersedes any prior agreements between the Company and the Participant.

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

MARKETAXESS HOLDINGS INC.

Christopher Gerosa
Chief Financial Officer

PARTICIPANT

Richard M. McVey

Form of 2022 Performance Stock Unit Agreement (Non-Deferred)
for Mr. McVey

**PERFORMANCE STOCK UNIT AGREEMENT
PURSUANT TO THE
MARKETAXESS HOLDINGS INC. 2020 EQUITY
INCENTIVE PLAN**

THIS PERFORMANCE STOCK UNIT AGREEMENT (this “Agreement”), is made as of [Award Date] (the “Grant Date”) by and between MarketAxess Holdings Inc. (the “Company”) and [Participant] (the “Participant”).

WHEREAS, the Board of Directors of the Company (the “Board”) adopted The MarketAxess Holdings Inc. 2020 Equity Incentive Plan (as may be amended and/or restated from time to time) (the “Plan”) which is administered by a Committee appointed by the Company’s Board of Directors (the “Committee”);

WHEREAS, pursuant to Section 3.2 of the Plan, the Committee has adopted guidelines (the “Guidelines”) for the grant of restricted stock units (“RSUs”) under the Plan; and

WHEREAS, the Company, through the Committee, wishes to grant to the Participant RSUs that are eligible to vest upon the achievement of the performance metric(s) set forth on Appendix A attached hereto and subject to the Participant’s continuing service with the Company or an Affiliate through the date set forth herein.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. **Grant of Performance Stock Unit.** Subject to the terms and conditions of the Plan, the Guidelines and this Agreement, on the Grant Date the Company awarded to the Participant [XXX] RSUs (such performance-vesting RSUs shall be referred to as “PSUs”). The PSUs are not eligible for deferral under Section 4 of the Guidelines.
2. **Vesting.** (a) Unless otherwise set forth in an agreement between the Participant and the Company, the number of PSUs that vest, if any, shall be determined by the level of attainment of the performance metric during the performance period in accordance with Appendix A attached hereto, subject to the Participant continuously providing services to the Company or its Affiliates through January 31, 2025. The Committee shall certify the level of achievement of the performance metric no later than thirty (30) days following the Committee’s receipt of audited financial statements for the last year of the applicable performance period.
 - (b) Unless otherwise set forth in an individual employment or severance agreement between the Participant and the Company, the Plan or the Guidelines, if the Participant incurs a termination of service for any reason at any time prior to

January 31, 2025, the Participant shall forfeit any unvested PSUs as of the date of termination of service.

- (c) Upon a Change in Control, the Committee may determine the treatment of the PSUs in accordance with Section 12.1 of the Plan, provided that if the Committee determines that the performance metric(s) set forth on Appendix A would likely have been achieved below the threshold performance level, then the Committee may determine that the PSU will be canceled in its entirety immediately prior to the Change in Control.

“Restrictive Covenants” shall mean any written post-termination of employment covenants between the Participant and the Company or any of its Affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement;

3. **Forfeiture.** Notwithstanding anything else set forth herein, this grant of RSU’s, and any of Participant’s rights and benefits with respect to this Agreement (including all unvested PSUs and vested but unpaid PSUs), shall be immediately forfeited upon the Company’s determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii) breached any Restrictive Covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.
4. **Securities Representations.** The grant of the PSUs and any issuance of shares of Common Stock pursuant to this Agreement are being made by the Company in reliance upon the following express representations and warranties of the Participant.

The Participant acknowledges, represents and warrants that:

- (a) he or she has been advised that he or she may be an “affiliate” within the meaning of Rule 144 under the Securities Act and in this connection the Company is relying in part on his or her representations set forth in this section;
- (b) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, the Common Stock must be held indefinitely unless an exemption from any applicable resale restrictions is available or the Company files an additional registration statement (or a “re-offer prospectus”) with regard to such Common Stock and the Company is under no obligation to register the Common Stock (or to file a “re-offer prospectus”);
- (c) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, he or she understands that the exemption from registration under Rule 144 will not be available unless (i) a public trading market then exists for the Common Stock, (ii) adequate information concerning the Company is then available to the public, and (iii) other terms and conditions of Rule 144 or any exemption therefrom are complied with; and that any sale of the Common Stock may be made only in limited amounts in accordance with such terms and conditions.

5. **Not an Employment or Service Agreement.** Neither the execution of this Agreement nor the grant of PSUs hereunder constitute an agreement by the Company to employ or retain or to continue to employ or retain the Participant during the entire, or any portion of, the term of this Agreement.
6. **Miscellaneous.**
- (a) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal legal representatives, successors, trustees, administrators, distributees, devisees and legatees. The Company may assign to, and require, any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company or any Affiliate by which the Participant is employed to expressly assume and agree in writing to perform this Agreement. Notwithstanding the foregoing, the Participant may not assign this Agreement.
 - (b) This award of PSUs shall not affect in any way the right or power of the Board or stockholders of the Company to make or authorize an adjustment, recapitalization or other change in the capital structure or the business of the Company, any merger or consolidation of the Company or subsidiaries, any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, the dissolution or liquidation of the Company, any sale or transfer of all or part of its assets or business or any other corporate act or proceeding.
 - (c) The Participant agrees that the award of the PSUs hereunder is special incentive compensation and that it, any dividends paid thereon (even if treated as compensation for tax purposes) will not be taken into account as “salary” or “compensation” or “bonus” in determining the amount of any payment under any pension, retirement or profit-sharing plan of the Company or any life insurance, disability or other benefit plan of the Company.
 - (d) No modification or waiver of any of the provisions of this Agreement shall be effective unless in writing and signed by the party against whom it is sought to be enforced.
 - (e) This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one contract.
 - (f) The failure of any party hereto at any time to require performance by another party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.
 - (g) The headings of the sections of this Agreement have been inserted for convenience of reference only and shall in no way restrict or modify any of the terms or provisions hereof.

- (h) All notices, consents, requests, approvals, instructions and other communications provided for herein shall be in writing and validly given or made when delivered, or on the second succeeding business day after being mailed by registered or certified mail, whichever is earlier, to the persons entitled or required to receive the same, at the addresses set forth at the heading of this Agreement or to such other address as either party may designate by like notice. Notices to the Company shall be addressed to the Compensation Committee of the Board with a copy to General Counsel, MarketAxess Holdings Inc., 55 Hudson Yards, 15th Floor, New York, NY 10001.
- (i) This Agreement shall be construed, interpreted and governed and the legal relationships of the parties determined in accordance with the internal laws of the State of Delaware without reference to rules relating to conflicts of law.

7. **Provisions of Plan and Guidelines Control.** This Agreement is subject to all the terms, conditions and provisions of the Plan and the Guidelines, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan and the Guidelines as may be adopted by the Committee and as may be in effect from time to time. The Plan and the Guidelines are incorporated herein by reference. A copy of the Plan and the Guidelines have been delivered to the Participant. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan and the Guidelines, the Plan and the Guidelines shall control, and this Agreement shall be deemed to be modified accordingly. Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan or the Guidelines. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any other documents expressly contemplated herein or in the Plan or the Guidelines) and supersedes any prior agreements between the Company and the Participant.

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

MARKETAXESS HOLDINGS INC.

Christopher N. Gerosa
Chief Financial Officer

PARTICIPANT

[Participant]

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Form of 2022 Incentive Stock Option Agreement
for Mr. McVey

Form of 2022 Incentive Stock Option Agreement
for Mr. McVey

INCENTIVE STOCK OPTION AGREEMENT

**STOCK OPTION AGREEMENT
PURSUANT TO THE
MARKETAXESS HOLDINGS INC.
2020 EQUITY
INCENTIVE PLAN**

AGREEMENT ("Agreement"), dated as of [Award Date] by and between MarketAxess Holdings Inc. (the "Company") and [Participant] (the "Participant").

Preliminary Statement

The Board of Directors of the Company (the "Board") or a committee appointed by the Board (the "Committee") to administer the MarketAxess Holdings Inc. 2020 Equity Incentive Plan (as may be amended and/or restated from time to time) (the "Plan"), has authorized this grant of an incentive stock option (the "Option") on [Award Date] (the "Grant Date") to purchase the number of shares of Common Stock set forth below to the Participant, as an Eligible Person of the Company or an Affiliate (collectively, the Company and all Subsidiaries and parents of the Company shall be referred to as the "Employer"). Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan. A copy of the Plan has been delivered to the Participant. By signing and returning this Agreement, the Participant acknowledges having received and read a copy of the Plan and agrees to comply with it, this Agreement and all applicable laws and regulations.

Accordingly, the parties hereto agree as follows:

1. **Tax Matters.** The Option granted hereby is intended to qualify as an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"). Notwithstanding the foregoing, the Option will not qualify as an "incentive stock option," among other events, (i) if the Participant disposes of the Common Stock acquired pursuant to the Option at any time during the two (2) year period following the date of this Agreement or the one (1) year period following the date on which the Option is exercised; (ii) except in the event of the Participant's death

or disability, as defined in Section 22(e)(3) of the Code, if the Participant is not employed by the Company, any Subsidiary or any parent at all times during the period beginning on the date of this Agreement and ending on the day three (3) months before the date of exercise of the Option; or (iii) to the extent the aggregate fair market value (determined as of the time the Option is granted) of the Common Stock subject to “incentive stock options” which become exercisable for the first time in any calendar year exceeds \$100,000. To the extent that the Option does not qualify as an “incentive stock option,” it shall not effect the validity of the Option and shall constitute a separate non-qualified stock option.

2. **Grant of Option.** Subject in all respects to the Plan and the terms and conditions set forth herein and therein, the Participant is hereby granted an Option to purchase from the Company [Shares Awarded] shares of Common Stock, at a price per share of [Award Price] (the “Exercise Price”).

3. **Exercise.** Unless otherwise set forth in an agreement between the Participant and the Employer, (a) except as set forth in subsections (b) through (e) below, the Option shall vest and become exercisable as follows, provided that the Participant has not incurred a termination of employment or Service prior to the vesting date:

on January 31, 2023

on January 31, 2024

on January 31, 2025

To the extent that the Option has become vested and exercisable with respect to a number of shares of Common Stock as provided above, the Option may thereafter be exercised by the Participant, in whole or in part, at any time or from time to time and prior to the expiration of the Option as provided herein and in accordance with Section 6.5 of the Plan, including, without limitation, by the filing of any written form of exercise notice as may be required by the Committee and payment in full of the Exercise Price multiplied by the number of shares of Common Stock underlying the portion of the Option exercised and applicable withholding tax. Upon expiration of the Option, the Option shall be canceled and no longer exercisable.

There shall be no proportionate or partial vesting in the periods prior to each vesting date and all vesting shall occur only on the appropriate vesting date.

(b) The Committee may, in its sole discretion, provide for accelerated vesting of the Option at any time.

(c) If a Participant incurs a termination of employment for any reason except as set forth in subsections (d) through (e), the Option shall be forfeited for no consideration. Notwithstanding anything else set forth herein, this Option grant, and any of Participant’s rights and benefits with respect to this Agreement (including any unvested portion of the Option and the vested but unexercised portion of the Option), shall be immediately forfeited upon the Company’s determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii)

breached any Restrictive Covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.

“Restrictive Covenants” shall mean any written post-termination of employment covenants between the Participant and the Company or any of its Affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement;

(d) Upon the death or Disability of the Participant, any unvested portion of the Option at the time of such termination shall become fully vested and exercisable in accordance with Section 5(a) below.

(e) In the event of a Change in Control, the Option shall be treated in accordance with Section 11 of the Plan (including without limitation, the vesting provisions set forth in Section 11.3); provided that, immediately prior to the Change in Control, the Committee may determine that the Option will not be continued, assumed or have new rights substituted therefore in accordance with Section 11.1 of the Plan, and immediately prior to the Change in Control, the Option shall become fully vested and exercisable.

4. **Option Term.** The term of each Option shall be six (6) years after the Grant Date, subject to earlier termination in the event of the Participant’s termination as specified in Section 5 below.

5. **Termination.**

Subject to the terms of the Plan and this Agreement, the Option, to the extent vested at the time of the Participant’s termination, shall remain exercisable as follows:

(a) In the event of the Participant's termination by reason of death or Disability, the vested portion of the Option shall remain exercisable until the earlier of (i) one (1) year from the date of such termination or (ii) the expiration of the stated term of the Option pursuant to Section 4 hereof.

(b) In the event of the Participant's involuntary termination without Cause, the vested portion of the Option shall remain exercisable until the earlier of (i) three (3) months from the date of such termination or (ii) the expiration of the stated term of the Option pursuant to Section 4 hereof.

(c) In the event of the Participant's voluntary termination (other than a voluntary termination described in Section 5(d) below), the vested portion of the Option shall remain exercisable until the earlier of (i) thirty (30) days from the date of such termination or (ii) the expiration of the stated term of the Option pursuant to Section 4 hereof.

(d) In the event of the Participant's termination for Cause or in the event of the Participant's voluntary termination within ninety (90) days after an event that would be grounds for a termination for Cause, the Participant's entire Option (whether or not vested) shall terminate and expire upon such termination.

Unless otherwise set forth in an agreement between the Participant and the Employer, any portion of the Option that is not vested as of the date of the Participant's termination for any reason shall terminate and expire as of the date of such termination.

6. **Restriction on Transfer of Option.** No part of the Option shall be transferred other than by will or by the laws of descent and distribution and during the lifetime of the Participant, may be exercised only by the Participant or the Participant's guardian or legal representative. In addition, the Option shall not be assigned, negotiated, pledged or hypothecated in any way (except as provided by law or herein), and the Option shall not be subject to execution, attachment or similar process. Upon any attempt to Transfer the Option or in the event of any levy upon the Option by reason of any execution, attachment or similar process contrary to the provisions hereof, such transfer shall be void and of no effect and the Company shall have the right to disregard the same on its books and records and to issue "stop transfer" instructions to its transfer agent.

7. **Rights as a Stockholder.** The Participant shall have no rights as a stockholder with respect to any shares covered by the Option unless and until the Participant has become the holder of record of the shares, and no adjustments shall be made for dividends in cash or other property, distributions or other rights in respect of any such shares, except as otherwise specifically provided for in the Plan.

8. **Provisions of Plan Control.** This Agreement is subject to all the terms, conditions and provisions of the Plan, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan as may be adopted by the Committee and as may be in effect from time to time. The Plan is incorporated herein by reference. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan, the Plan shall control, and this Agreement shall be deemed to be modified accordingly. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any exercise notice or other documents expressly contemplated herein or in the Plan) and supersedes any prior agreements between the Company and the Participant with respect to the subject matter hereof.

9. **Notices.** Any notice or communication given hereunder shall be in writing and shall be deemed to have been duly given: (i) when delivered in person; (ii) two (2) days after being sent by United States mail; or (iii) on the first business day following the date of deposit if delivered by a nationally recognized overnight delivery service, to the appropriate party at the address set forth below (or such other address as the party shall from time to time specify):

If to the Company, to:

MarketAxess Holdings Inc.

55 Hudson Yards, 15th Floor

New York, NY 10001

Attention: Compensation Committee

If to the Participant, to the address on file with the Company.

10. **No Obligation to Continue Employment.** This Agreement is not an agreement of employment. This Agreement does not guarantee that the Employer will employ or retain the Participant for any specific time period, nor does it modify in any respect the Employer's right to terminate or modify the Participant's employment or compensation.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date and year first above written.

MARKETAXESS HOLDINGS INC.

By: _____
Christopher Gerosa

[Participant]

Form of 2022 Restricted Stock Unit Agreement (Non-Deferred)
for U.S. based Executive Officers other than Mr. McVey

RESTRICTED STOCK UNIT AGREEMENT
PURSUANT TO THE
MARKETAXESS HOLDINGS INC. 2020 EQUITY
INCENTIVE PLAN

THIS RESTRICTED STOCK UNIT AGREEMENT (this “Agreement”), is made as of [Award Date] (the “Grant Date”) by and between MarketAxess Holdings Inc. (the “Company”) and xxx (the “Participant”).

WHEREAS, the Board of Directors of the Company (the “Board”) adopted The MarketAxess Holdings Inc. 2020 Equity Incentive Plan (as may be amended and/or restated from time to time) (the “Plan”) which is administered by a Committee appointed by the Company’s Board of Directors (the “Committee”);

WHEREAS, pursuant to Section 3.2 of the Plan, the Committee has adopted guidelines (the “Guidelines”) for the grant of restricted stock units (“RSUs”) under the Plan; and

WHEREAS, the Company, through the Committee, wishes to grant to the Participant RSUs as set forth below.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. **Grant of RSUs.** Subject to the terms and conditions of the Plan, the Guidelines and this Agreement, on the Grant Date the Company awarded to the Participant xxx RSUs. The RSUs hereunder are not Deferrable RSUs and are not eligible for deferral under Section 4 of the Guidelines.
2. **Vesting.** Unless otherwise set forth in an agreement between the Participant and the Company, the RSUs shall become vested pursuant to the terms of this Agreement and the Plan on the dates set forth below (which constitute the “Original Vesting Schedule”) if the Participant has been continuously providing service to the Company until such date.

xxx on [vest date 1]
xxx on [vest date 2]
xxx on [vest date 3]

There shall be no proportionate or partial vesting in the periods prior to the applicable vesting dates and all vesting shall occur only on the appropriate vesting date.

If a Qualified Retirement occurs, any remaining unvested RSUs granted hereunder shall be settled in Common Stock within 30 days following the date such unvested RSUs would have otherwise vested in accordance with the Original Vesting Schedule, regardless of whether the Participant continues to provide services to the Company; provided that if, prior to the last vesting date set forth in the Original Vesting Schedule, the Participant undertakes any business activity or employment in the financial services or fintech industries without the prior written consent of the Company or breaches any of the terms and conditions of the Restrictive Covenants, any RSUs which have not yet been settled will be forfeited immediately for no consideration.

A “Qualified Retirement” shall occur upon the first date on which all the following criteria have been satisfied: (i) the Participant is at least fifty-eight (58) years old, (ii) the Participant has at least ten (10) years of service with the Company, (iii) the Participant has given to the Company twelve (12) months’ advance notice of the Participant’s intent to cease providing services to the Company and comply with the Restrictive Covenants, and (iv) such twelve (12) month period has elapsed; provided, that the Participant has continuously provided service to the Company through such twelve (12) month period.

“Restrictive Covenants” shall mean any written post-termination of employment covenants between the Participant and the Company or any of its affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement; provided, however; for purposes of this Agreement, the term of such Restrictive Covenants shall be deemed to extend to the last vesting date set forth in the Original Vesting Schedule.

3. **Forfeiture.** Notwithstanding anything else set forth herein, this grant of RSU’s, and any of Participant’s rights and benefits with respect to this Agreement (including all unvested RSUs and vested but unpaid RSUs), shall be immediately forfeited upon the Company’s determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii) breached any noncompetition, non-solicitation, confidentiality or other restrictive covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.
4. **Securities Representations.** The grant of the RSUs and any issuance of shares of Common Stock pursuant to this Agreement are being made by the Company in reliance upon the following express representations and warranties of the Participant.

The Participant acknowledges, represents and warrants that:

- (a) he or she has been advised that he or she may be an “affiliate” within the meaning of Rule 144 under the Securities Act and in this connection the Company is relying in part on his or her representations set forth in this section;
- (b) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, the Common Stock must be held indefinitely unless an exemption from any applicable resale restrictions is available or the Company files an additional

registration statement (or a “re-offer prospectus”) with regard to such Common Stock and the Company is under no obligation to register the Common Stock (or to file a “re-offer prospectus”);

- (c) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, he or she understands that the exemption from registration under Rule 144 will not be available unless (i) a public trading market then exists for the Common Stock, (ii) adequate information concerning the Company is then available to the public, and (iii) other terms and conditions of Rule 144 or any exemption therefrom are complied with; and that any sale of the Common Stock may be made only in limited amounts in accordance with such terms and conditions.

5. **Not an Employment or Service Agreement.** Neither the execution of this Agreement nor the grant of RSUs hereunder constitute an agreement by the Company to employ or retain or to continue to employ or retain the Participant during the entire, or any portion of, the term of this Agreement.

6. **Miscellaneous.**

- (a) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal legal representatives, successors, trustees, administrators, distributees, devisees and legatees. The Company may assign to, and require, any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company or any affiliate by which the Participant is employed to expressly assume and agree in writing to perform this Agreement. Notwithstanding the foregoing, the Participant may not assign this Agreement.
- (b) This award of RSUs shall not affect in any way the right or power of the Board or stockholders of the Company to make or authorize an adjustment, recapitalization or other change in the capital structure or the business of the Company, any merger or consolidation of the Company or subsidiaries, any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, the dissolution or liquidation of the Company, any sale or transfer of all or part of its assets or business or any other corporate act or proceeding.
- (c) The Participant agrees that the award of the RSUs hereunder is special incentive compensation and that it, any dividends paid thereon (even if treated as compensation for tax purposes) will not be taken into account as “salary” or “compensation” or “bonus” in determining the amount of any payment under any pension, retirement or profit-sharing plan of the Company or any life insurance, disability or other benefit plan of the Company.
- (d) No modification or waiver of any of the provisions of this Agreement shall be effective unless in writing and signed by the party against whom it is sought to be enforced.

- (e) This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one contract.
- (f) The failure of any party hereto at any time to require performance by another party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.
- (g) The headings of the sections of this Agreement have been inserted for convenience of reference only and shall in no way restrict or modify any of the terms or provisions hereof.
- (h) All notices, consents, requests, approvals, instructions and other communications provided for herein shall be in writing and validly given or made when delivered, or on the second succeeding business day after being mailed by registered or certified mail, whichever is earlier, to the persons entitled or required to receive the same, at the addresses set forth at the heading of this Agreement or to such other address as either party may designate by like notice. Notices to the Company shall be addressed to the Compensation Committee of the Board with a copy to General Counsel, MarketAxess Holdings Inc., 55 Hudson Yards, 15th Floor, New York, NY 10001.
- (i) This Agreement shall be construed, interpreted and governed and the legal relationships of the parties determined in accordance with the internal laws of the State of Delaware without reference to rules relating to conflicts of law.

7. **Provisions of Plan and Guidelines Control.** This Agreement is subject to all the terms, conditions and provisions of the Plan and the Guidelines, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan and the Guidelines as may be adopted by the Committee and as may be in effect from time to time. The Plan and the Guidelines are incorporated herein by reference. A copy of the Plan and the Guidelines have been delivered to the Participant. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan and the Guidelines, the Plan and the Guidelines shall control, and this Agreement shall be deemed to be modified accordingly. Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan or the Guidelines. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any other documents expressly contemplated herein or in the Plan or the Guidelines) and supersedes any prior agreements between the Company and the Participant.

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

MARKETAXESS HOLDINGS INC.

Richard M. McVey
Chief Executive Officer

PARTICIPANT

XXX

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Form of 2022 Performance Stock Unit Agreement (Non-Deferred)
for U.S. based Executive Officers other than Mr. McVey

**PERFORMANCE STOCK UNIT AGREEMENT
PURSUANT TO THE
MARKETAXESS HOLDINGS INC. 2020 EQUITY
INCENTIVE PLAN**

THIS PERFORMANCE STOCK UNIT AGREEMENT (this “Agreement”), is made as of [Award Date] (the “Grant Date”) by and between MarketAxess Holdings Inc. (the “Company”) and [Participant] (the “Participant”).

WHEREAS, the Board of Directors of the Company (the “Board”) adopted The MarketAxess Holdings Inc. 2020 Equity Incentive Plan (as may be amended and/or restated from time to time) (the “Plan”) which is administered by a Committee appointed by the Company’s Board of Directors (the “Committee”);

WHEREAS, pursuant to Section 3.2 of the Plan, the Committee has adopted guidelines (the “Guidelines”) for the grant of restricted stock units (“RSUs”) under the Plan; and

WHEREAS, the Company, through the Committee, wishes to grant to the Participant RSUs that are eligible to vest upon the achievement of the performance metric(s) set forth on Appendix A attached hereto and subject to the Participant’s continuing service with the Company or an Affiliate through the date set forth herein.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. **Grant of Performance Stock Unit.** Subject to the terms and conditions of the Plan, the Guidelines and this Agreement, on the Grant Date the Company awarded to the Participant [XXX] RSUs (such performance-vesting RSUs shall be referred to as “PSUs”). The PSUs are not eligible for deferral under Section 4 of the Guidelines.
2. **Vesting.** (a) Unless otherwise set forth in an agreement between the Participant and the Company, the number of PSUs that vest, if any, shall be determined by the level of attainment of the performance metric during the performance period in accordance with Appendix A attached hereto, subject to the Participant continuously providing services to the Company or its Affiliates through January 31, 2025. The Committee shall certify the level of achievement of the performance metric no later than thirty (30) days following the Committee’s receipt of audited financial statements for the last year of the applicable performance period.

- (b) Unless otherwise set forth in an individual employment or severance agreement between the Participant and the Company, the Plan or the Guidelines, or in connection with a “Qualified Retirement,” as defined below, if the Participant incurs a termination of service for any reason at any time prior to January 31, 2025, the Participant shall forfeit any unvested PSUs as of the date of termination of service.

If a Qualified Retirement occurs, PSUs granted hereunder shall remain eligible to vest in accordance with this Section 2, regardless of whether the Participant continues to provide services to the Company or its Affiliates; provided that if, prior to the date such PSUs vest, the Participant (i) undertakes any business activity or employment in the financial services or fintech industries or undertakes any activity that could create reputational risk or a conflict of interest with the Company (in each case, as determined by the Company in its sole discretion) without the prior written consent of the Company or (ii) breaches any of the terms and conditions of the Restrictive Covenants, all unvested PSUs will be forfeited immediately for no consideration.

A “Qualified Retirement” shall occur upon the first date on which all the following criteria have been satisfied: (i) the Participant is at least fifty-eight (58) years old, (ii) the Participant has at least ten (10) years of service with the Company, (iii) the Participant has given to the Company twelve (12) months’ advance notice of the Participant’s intent to cease providing services to the Company and comply with the Restrictive Covenants, and (iv) such twelve (12) month period has elapsed; provided, that the Participant has continuously provided service to the Company through such twelve (12) month period.

“Restrictive Covenants” shall mean any written post-termination of employment covenants between the Participant and the Company or any of its Affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement; provided, however; for purposes of this Agreement, the term of such Restrictive Covenants shall (to the extent permitted by law) be deemed to extend to the last vesting date set forth in the Original Vesting Schedule.

- (c) Upon a Change in Control, the Committee may determine the treatment of the PSUs in accordance with Section 12.1 of the Plan, provided that if the Committee determines that the performance metric(s) set forth on Appendix A would likely have been achieved below the threshold performance level, then the Committee may determine that the PSU will be canceled in its entirety immediately prior to the Change in Control.

3. **Forfeiture**. Notwithstanding anything else set forth herein, this grant of RSU’s, and any of Participant’s rights and benefits with respect to this Agreement (including all unvested PSUs and vested but unpaid PSUs), shall be immediately forfeited upon the Company’s determination that Participant: (i) has violated any laws, regulations or material Company

policies, (ii) breached any Restrictive Covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.

4. **Securities Representations.** The grant of the PSUs and any issuance of shares of Common Stock pursuant to this Agreement are being made by the Company in reliance upon the following express representations and warranties of the Participant.

The Participant acknowledges, represents and warrants that:

- (a) he or she has been advised that he or she may be an “affiliate” within the meaning of Rule 144 under the Securities Act and in this connection the Company is relying in part on his or her representations set forth in this section;
- (b) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, the Common Stock must be held indefinitely unless an exemption from any applicable resale restrictions is available or the Company files an additional registration statement (or a “re-offer prospectus”) with regard to such Common Stock and the Company is under no obligation to register the Common Stock (or to file a “re-offer prospectus”);
- (c) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, he or she understands that the exemption from registration under Rule 144 will not be available unless (i) a public trading market then exists for the Common Stock, (ii) adequate information concerning the Company is then available to the public, and (iii) other terms and conditions of Rule 144 or any exemption therefrom are complied with; and that any sale of the Common Stock may be made only in limited amounts in accordance with such terms and conditions.

5. **Not an Employment or Service Agreement.** Neither the execution of this Agreement nor the grant of PSUs hereunder constitute an agreement by the Company to employ or retain or to continue to employ or retain the Participant during the entire, or any portion of, the term of this Agreement.

6. **Miscellaneous.**

- (a) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal legal representatives, successors, trustees, administrators, distributees, devisees and legatees. The Company may assign to, and require, any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company or any Affiliate by which the Participant is employed to expressly assume and agree in writing to perform this Agreement. Notwithstanding the foregoing, the Participant may not assign this Agreement.
- (b) This award of PSUs shall not affect in any way the right or power of the Board or stockholders of the Company to make or authorize an adjustment, recapitalization or other change in the capital structure or the business of the Company, any merger

or consolidation of the Company or subsidiaries, any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, the dissolution or liquidation of the Company, any sale or transfer of all or part of its assets or business or any other corporate act or proceeding.

- (c) The Participant agrees that the award of the PSUs hereunder is special incentive compensation and that it, any dividends paid thereon (even if treated as compensation for tax purposes) will not be taken into account as “salary” or “compensation” or “bonus” in determining the amount of any payment under any pension, retirement or profit-sharing plan of the Company or any life insurance, disability or other benefit plan of the Company.
- (d) No modification or waiver of any of the provisions of this Agreement shall be effective unless in writing and signed by the party against whom it is sought to be enforced.
- (e) This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one contract.
- (f) The failure of any party hereto at any time to require performance by another party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.
- (g) The headings of the sections of this Agreement have been inserted for convenience of reference only and shall in no way restrict or modify any of the terms or provisions hereof.
- (h) All notices, consents, requests, approvals, instructions and other communications provided for herein shall be in writing and validly given or made when delivered, or on the second succeeding business day after being mailed by registered or certified mail, whichever is earlier, to the persons entitled or required to receive the same, at the addresses set forth at the heading of this Agreement or to such other address as either party may designate by like notice. Notices to the Company shall be addressed to the Compensation Committee of the Board with a copy to General Counsel, MarketAxess Holdings Inc., 55 Hudson Yards, 15th Floor, New York, NY 10001.
- (i) This Agreement shall be construed, interpreted and governed and the legal relationships of the parties determined in accordance with the internal laws of the State of Delaware without reference to rules relating to conflicts of law.

7. **Provisions of Plan and Guidelines Control.** This Agreement is subject to all the terms, conditions and provisions of the Plan and the Guidelines, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan and the Guidelines as may be adopted by the Committee and as may be in effect

from time to time. The Plan and the Guidelines are incorporated herein by reference. A copy of the Plan and the Guidelines have been delivered to the Participant. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan and the Guidelines, the Plan and the Guidelines shall control, and this Agreement shall be deemed to be modified accordingly. Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan or the Guidelines. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any other documents expressly contemplated herein or in the Plan or the Guidelines) and supersedes any prior agreements between the Company and the Participant.

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

MARKETAXESS HOLDINGS INC.

Richard M. McVey
Chief Executive Officer

PARTICIPANT

[Participant]

**Form of 2022 Incentive Stock Option Agreement
for U.S. based Executive Officers other than Mr. McVey**

INCENTIVE STOCK OPTION AGREEMENT

**STOCK OPTION AGREEMENT
PURSUANT TO THE
MARKETAXESS HOLDINGS INC.
2020 EQUITY
INCENTIVE PLAN**

AGREEMENT (“Agreement”), dated as of [Award Date] by and between MarketAxess Holdings Inc. (the “Company”) and [Participant] (the “Participant”).

Preliminary Statement

The Board of Directors of the Company (the “Board”) or a committee appointed by the Board (the “Committee”) to administer the MarketAxess Holdings Inc. 2020 Equity Incentive Plan (as may be amended and/or restated from time to time) (the “Plan”), has authorized this grant of an incentive stock option (the “Option”) on [Award Date] (the “Grant Date”) to purchase the number of shares of Common Stock set forth below to the Participant, as an Eligible Person of the Company or an Affiliate (collectively, the Company and all Subsidiaries and parents of the Company shall be referred to as the “Employer”). Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan. A copy of the Plan has been delivered to the Participant. By signing and returning this Agreement, the Participant acknowledges having received and read a copy of the Plan and agrees to comply with it, this Agreement and all applicable laws and regulations.

Accordingly, the parties hereto agree as follows:

1. **Tax Matters.** The Option granted hereby is intended to qualify as an “incentive stock option” under Section 422 of the Internal Revenue Code of 1986, as amended (the “Code”). Notwithstanding the foregoing, the Option will not qualify as an “incentive stock option,” among other events, (i) if the Participant disposes of the Common Stock acquired pursuant to the Option at any time during the two (2) year period following the date of this Agreement or the one (1) year period following the date on which the Option is exercised; (ii) except in the event of the Participant’s death or disability, as defined in Section 22(e)(3) of the Code, if the Participant is not employed by the Company, any Subsidiary or any parent at all times during the period beginning on the date of this Agreement and ending on the day three (3) months before the date of exercise of the Option; or (iii) to the extent the aggregate fair market value

(determined as of the time the Option is granted) of the Common Stock subject to “incentive stock options” which become exercisable for the first time in any calendar year exceeds \$100,000. To the extent that the Option does not qualify as an “incentive stock option,” it shall not effect the validity of the Option and shall constitute a separate non-qualified stock option.

2. **Grant of Option.** Subject in all respects to the Plan and the terms and conditions set forth herein and therein, the Participant is hereby granted an Option to purchase from the Company [Shares Awarded] shares of Common Stock, at a price per share of [Award Price] (the “Exercise Price”).

3. **Exercise.** Unless otherwise set forth in an agreement between the Participant and the Employer, (a) except as set forth in subsections (b) through (f) below, the Option shall vest and become exercisable as follows, provided that the Participant has not incurred a termination of employment or Service prior to the vesting date:

on [Vest Date 1]
 on [Vest Date 2]
 on [Vest Date 3]

To the extent that the Option has become vested and exercisable with respect to a number of shares of Common Stock as provided above, the Option may thereafter be exercised by the Participant, in whole or in part, at any time or from time to time and prior to the expiration of the Option as provided herein and in accordance with Section 6.5 of the Plan, including, without limitation, by the filing of any written form of exercise notice as may be required by the Committee and payment in full of the Exercise Price multiplied by the number of shares of Common Stock underlying the portion of the Option exercised and applicable withholding tax. Upon expiration of the Option, the Option shall be canceled and no longer exercisable.

There shall be no proportionate or partial vesting in the periods prior to each vesting date and all vesting shall occur only on the appropriate vesting date.

(b) The Committee may, in its sole discretion, provide for accelerated vesting of the Option at any time.

(c) If a Participant incurs a termination of employment for any reason except as set forth in subsections (d) through (f), the Option shall be forfeited for no consideration. Notwithstanding anything else set forth herein, this Option grant, and any of Participant’s rights and benefits with respect to this Agreement (including any unvested portion of the Option and the vested but unexercised portion of the Option), shall be immediately forfeited upon the Company’s determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii) breached any Restrictive Covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.

(d) Upon the death or Disability of the Participant, any unvested portion of the Option at the time of such termination shall become fully vested and exercisable in accordance with Section 5(a) below.

(e) If a Qualified Retirement occurs, any unvested portion of the Option at the time of such termination shall become fully vested on the date such unvested Option would have otherwise vested in accordance with the original vesting schedule, regardless of whether the Participant continues to provide services to the Company; provided that if, prior to the last vesting date set forth in the original vesting schedule, the Participant undertakes any business activity or employment in the financial services or fintech industries without the prior written consent of the Company or breaches any of the terms and conditions of the Restrictive Covenants, any Option which has not yet been settled will be forfeited immediately for no consideration.

A "Qualified Retirement" shall occur upon the first date on which all the following criteria have been satisfied: (i) the Participant is at least fifty-eight (58) years old, (ii) the Participant has at least ten (10) years of service with the Company, (iii) the Participant has given to the Company twelve (12) months' advance notice of the Participant's intent to cease providing services to the Company and comply with the Restrictive Covenants, and (iv) such twelve (12) month period has elapsed; provided, that the Participant has continuously provided service to the Company through such twelve (12) month period.

"Restrictive Covenants" shall mean any written post-termination of employment covenants between the Participant and the Company or any of its Affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement; provided, however; for purposes of this Agreement, the term of such Restrictive Covenants shall (to the extent permitted by law) be deemed to extend to the last vesting date set forth in the original vesting schedule.

(f) In the event of a Change in Control, the Option shall be treated in accordance with Section 11 of the Plan (including without limitation, the vesting provisions set forth in Section 11.3); provided that, immediately prior to the Change in Control, the Committee may determine that the Option will not be continued, assumed or have new rights substituted therefore in accordance with Section 11.1 of the Plan, and immediately prior to the Change in Control, the Option shall become fully vested and exercisable.

4. **Option Term.** The term of each Option shall be six (6) years after the Grant Date, subject to earlier termination in the event of the Participant's termination as specified in Section 5 below.

5. **Termination.**

Subject to the terms of the Plan and this Agreement, the Option, to the extent vested at the time of the Participant's termination, shall remain exercisable as follows:

(a) In the event of the Participant's termination by reason of death or Disability, the vested portion of the Option shall remain exercisable until the earlier of (i) one (1) year from the date of such termination or (ii) the expiration of the stated term of the Option pursuant to Section 4 hereof.

(b) In the event of a Qualifying Retirement, the vested portion of the Option shall remain exercisable until the expiration of the stated term of the Option pursuant to Section 4 hereof.

(c) In the event of the Participant's involuntary termination without Cause, the vested portion of the Option shall remain exercisable until the earlier of (i) three (3) months from the date of such termination or (ii) the expiration of the stated term of the Option pursuant to Section 4 hereof.

(d) In the event of the Participant's voluntary termination (other than a voluntary termination described in Section 5(e) below), the vested portion of the Option shall remain exercisable until the earlier of (i) thirty (30) days from the date of such termination or (ii) the expiration of the stated term of the Option pursuant to Section 4 hereof.

(e) In the event of the Participant's termination for Cause or in the event of the Participant's voluntary termination within ninety (90) days after an event that would be grounds for a termination for Cause, the Participant's entire Option (whether or not vested) shall terminate and expire upon such termination.

Unless otherwise set forth in an agreement between the Participant and the Employer, any portion of the Option that is not vested as of the date of the Participant's termination for any reason shall terminate and expire as of the date of such termination.

6. **Restriction on Transfer of Option.** No part of the Option shall be transferred other than by will or by the laws of descent and distribution and during the lifetime of the Participant, may be exercised only by the Participant or the Participant's guardian or legal representative. In addition, the Option shall not be assigned, negotiated, pledged or hypothecated in any way (except as provided by law or herein), and the Option shall not be subject to execution, attachment or similar process. Upon

any attempt to Transfer the Option or in the event of any levy upon the Option by reason of any execution, attachment or similar process contrary to the provisions hereof, such transfer shall be void and of no effect and the Company shall have the right to disregard the same on its books and records and to issue "stop transfer" instructions to its transfer agent.

7. **Rights as a Stockholder.** The Participant shall have no rights as a stockholder with respect to any shares covered by the Option unless and until the Participant has become the holder of record of the shares, and no adjustments shall be made for dividends in cash or other property, distributions or other rights in respect of any such shares, except as otherwise specifically provided for in the Plan.

8. **Provisions of Plan Control.** This Agreement is subject to all the terms, conditions and provisions of the Plan, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan as may be adopted by the Committee and as may be in effect from time to time. The Plan is incorporated herein by reference. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan, the Plan shall control, and this Agreement shall be deemed to be modified accordingly. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any exercise notice or other documents expressly contemplated herein or in the Plan) and supersedes any prior agreements between the Company and the Participant with respect to the subject matter hereof.

9. **Notices.** Any notice or communication given hereunder shall be in writing and shall be deemed to have been duly given: (i) when delivered in person; (ii) two (2) days after being sent by United States mail; or (iii) on the first business day following the date of deposit if delivered by a nationally recognized overnight delivery service, to the appropriate party at the address set forth below (or such other address as the party shall from time to time specify):

If to the Company, to:

MarketAxess Holdings Inc.
55 Hudson Yards, 15th Floor
New York, NY 10001
Attention: Compensation Committee

If to the Participant, to the address on file with the Company.

10. **No Obligation to Continue Employment.** This Agreement is not an agreement of employment. This Agreement does not guarantee that the Employer will employ or retain the Participant for any specific time period, nor does it modify in any respect the Employer's right to terminate or modify the Participant's employment or compensation.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date and year first above written.

MARKETAXESS HOLDINGS INC.

By: _____
Richard M. McVey

[Participant]

**Form of 2022 Restricted Stock Unit Agreement for
U.K. based Executive Officers**

**RESTRICTED STOCK UNIT AGREEMENT PURSUANT
TO APPENDIX 1 OF THE
MARKETAXESS HOLDINGS INC. 2020 EQUITY INCENTIVE PLAN**

THIS AGREEMENT, effective as of Award Date, is by and between MarketAxess Holdings Inc., a Delaware corporation with its principal office at 55 Hudson Yards, 15th Floor, New York, NY 10001(the “Company”), and xxx (the “Participant”).

WHEREAS, the Board of Directors of the Company (the “Board”) adopted, and the stockholders of the Company approved, the MarketAxess Holdings Inc. 2020 Equity Incentive Plan, including Appendix 1 thereto (as may be amended and/or restated from time to time) (the “Plan”), which is administered by a Committee appointed by the Company’s Board of Directors;

WHEREAS, pursuant to Section 3.2 of the Plan, the Committee has adopted guidelines (the “Guidelines”) for the grant of restricted stock units (“RSUs”) under the Plan;

WHEREAS, Appendix 1 of the Plan modifies the Plan in relation to Eligible Persons and Participants who are employed, resident for tax purposes or otherwise subject to tax on employment income in the United Kingdom and references in this Agreement to the Plan shall be deemed to be to the Plan as so modified; and

WHEREAS, the Company, through the Committee, wishes to grant to the Participant RSUs as set forth below.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. Grant of RSUs. Subject to the terms, conditions and restrictions of the Plan and the Guidelines, the Company awards to the Participant xxx RSUs. The RSUs hereunder are not Deferrable RSUs and are not eligible for deferral under Section 4 of the Guidelines.

2. Vesting. Unless otherwise set forth in an agreement between the Participant and the Company, the RSUs shall become vested pursuant to the terms of this Agreement and the Plan on the dates set forth below (which constitute the “Original Vesting Schedule”) if the Participant has been continuously providing service to the Company until such date:

xxx on Vest Date 1
xxx on Vest Date 2
xxx on Vest Date 3

There shall be no proportionate or partial vesting in the periods prior to the applicable vesting dates and all vesting shall occur only on the appropriate vesting date.

3. **Forfeiture.** Notwithstanding anything else set forth herein, this grant of RSUs, and any of Participant's rights and benefits with respect to this Agreement (including all unvested RSUs and vested but unpaid RSUs), shall be immediately forfeited upon the Company's determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii) breached any Restrictive Covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.

"Restrictive Covenants" shall mean any written post-termination of employment covenants between the Participant and the Company or any of its Affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement;

4. **Taxes.**

(a) **Tax Liability.** The Participant acknowledges, subject to the last sentence of this paragraph, that (i) no later than the date on which any RSU shall have become vested and (in any event) within seven days of any Taxable Event, the Participant shall, to the extent permitted by law and to the extent the same are not otherwise discharged through the operation of PAYE, pay to the Company, or make arrangements satisfactory to the Company regarding payment of, and the Participant hereby indemnifies the Company and its Affiliates against, any Federal, national, state or local taxes, levies, charges and contributions of any kind required by law to be withheld, or for which the Company, its Affiliates or the Participant's employer are otherwise required to pay or account, with respect to any RSU and/or any related dividend equivalent right payment (including, for the avoidance of doubt, any Tax Liability); (ii) the Company and the Participant's employer shall, to the extent permitted by law, have the right to deduct from any payment of any kind otherwise due to the Participant any Federal, national, state or local taxes and contributions of any kind required by law to be withheld or accounted for (including, for the avoidance of doubt, any Tax Liability) with respect to any RSU and/or any related shares of Common Stock or dividend equivalent right payment, and the Company may, but shall not be required to, sell a number of shares of Common Stock sufficient to cover any applicable withholding taxes or Tax Liability; and (iii) in the event that the Participant does not satisfy (i) above on a timely basis, and either the withholding taxes or the Tax Liability is not otherwise discharged through the operation of PAYE, the Company or the Participant's employer may, but shall not be required to, pay such required withholding taxes or Tax Liability and treat such amount as a demand loan to the Participant at the maximum rate permitted by law, with such loan, at the Company's sole discretion and provided the Company or the Participant's employer (as the case may be) so notifies the Participant within thirty (30) days of the making of the loan, secured by the relevant Common Stock and any failure by the Participant to pay the loan upon demand shall entitle the Company or the Participant's employer (as the case may be) to all of the rights at law of a creditor secured by the relevant Common Stock. The Participant's obligations under this Section 4 shall not be affected by any failure of the Company or the Participant's employer to deduct the relevant taxes and/or contributions (including, for the avoidance of doubt, any Tax Liability) through the operation of PAYE. The Company may hold as security any certificates representing any relevant Common Stock and, upon demand of the Company, the Participant shall deliver to the Company any certificates in his or her possession representing Common Stock together with a stock power duly endorsed in blank.

(b) **UK Tax Elections.** By executing this Agreement, the Participant acknowledges and agrees that:

1. the Company or the Participant's employer (as appropriate) may, to the extent permitted by law, recover from the Participant the whole or any part of any secondary class 1 (employer's) National Insurance contributions and/or employer health and social care levy arising from or in connection with the RSU or the relevant shares of Common Stock and may, to the extent permitted by law, require the Participant to elect (using a form approved by HM Revenue & Customs) that the whole or any part of any secondary class 1 (employer's) National Insurance contributions and/or employer health and social care levy shall be transferred to the Participant; and
2. the Participant further agrees that, if so required by the Company, any of its Affiliates or the Participant's employer, the Participant will enter into a joint election under section 431(1) of the United Kingdom Income Tax (Earnings and Pensions) Act 2003, in respect of any shares of Common Stock to be issued or transferred in connection with this RSU, within 14 days of the acquisition by the Participant of those shares of Common Stock (or such shorter or longer period as HM Revenue & Customs may direct).

5. **Securities Representations.** The grant of the RSUs and any issuance of shares of Common Stock pursuant to this Agreement are being made by the Company in reliance upon the following express representations and warranties of the Participant.

The Participant acknowledges, represents and warrants that:

- (a) he or she has been advised that he or she may be an "affiliate" within the meaning of Rule 144 under the Securities Act and in this connection the Company is relying in part on his or her representations set forth in this section;
- (b) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, the Common Stock must be held indefinitely unless an exemption from any applicable resale restrictions is available or the Company files an additional registration statement (or a "re-offer prospectus") with regard to such Common Stock and the Company is under no obligation to register the Common Stock (or to file a "re-offer prospectus");
- (c) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, he or she understands that the exemption from registration under Rule 144 will not be available unless (i) a public trading market then exists for the Common Stock, (ii) adequate information concerning the Company is then available to the public, and (iii) other terms and conditions of Rule 144 or any exemption therefrom are complied with; and that any sale of the Common Stock may be made only in limited amounts in accordance with such terms and conditions.

6. **Not an Employment or Service Agreement.** Neither the execution of this Agreement nor the grant of RSUs hereunder constitute an agreement by the Company to employ or retain or to continue to employ or retain the Participant during the entire, or any portion of, the term of this Agreement. Nothing in this Agreement or the Plan interferes in any way with the right of the Company or any Affiliate by which the Participant is employed to terminate the Participant's Service or other service relationship for any reason or no reason at any time. The rights and obligations of the Participant under the terms of their employment or office with any Affiliate by which the Participant is employed shall not be affected by this Agreement, the RSUs or their participation in the Plan or any right which they may have to participate in it. The Participant waives any and all rights to compensation

or damages in consequence of the termination of their employment or office for any reason whatsoever (whether or not such termination is wrongful or unfair and however such termination is caused) insofar as those rights arise or may arise from the Participant ceasing to have rights under this Agreement or the Plan as a result of such termination.

7. Miscellaneous.

(a) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal legal representatives, successors, trustees, administrators, distributees, devisees and legatees. The Company may assign to, and require, any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company or any Affiliate by which the Participant is employed to expressly assume and agree in writing to perform this Agreement. Notwithstanding the foregoing, the Participant may not assign this Agreement.

(b) This award of RSUs shall not affect in any way the right or power of the Board or stockholders of the Company to make or authorize an adjustment, recapitalization or other change in the capital structure or the business of the Company, any merger or consolidation of the Company or subsidiaries, any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, the dissolution or liquidation of the Company, any sale or transfer of all or part of its assets or business or any other corporate act or proceeding.

(c) The Participant agrees that the award of the RSUs hereunder is special incentive compensation and that it, any dividends paid thereon (even if treated as compensation for tax purposes) will not be taken into account as "salary" or "compensation" or "bonus" (or otherwise) in determining the amount of any payment under any pension, retirement or profit-sharing plan of the Company or the Participant's employer or any life insurance, disability or other benefit plan of the Company or the Participant's employer.

(d) No modification or waiver of any of the provisions of this Agreement shall be effective unless in writing and signed by the party against whom it is sought to be enforced.

(e) This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one contract.

(f) The failure of any party hereto at any time to require performance by another party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.

(g) The headings of the sections of this Agreement have been inserted for convenience of reference only and shall in no way restrict or modify any of the terms or provisions hereof.

(h) All notices, consents, requests, approvals, instructions and other communications provided for herein shall be in writing and validly given or made when delivered, or on the second succeeding business day after being mailed by registered or certified mail, whichever is earlier, to the persons entitled or required to receive the same, at the addresses set forth at the heading of this

Agreement or to such other address as either party may designate by like notice. Notices to the Company shall be addressed to the Compensation Committee of the Board with a copy to General Counsel, MarketAxess Holdings Inc., 55 Hudson Yards, 15th Floor, New York, NY 10001.

(i) This Agreement shall be construed, interpreted and governed and the legal relationships of the parties determined in accordance with the internal laws of the State of Delaware without reference to rules relating to conflicts of law.

(j) The Committee may use such currency exchange rate as it may reasonably determine for any purpose in connection with the RSU.

(k) Capitalized terms used but not otherwise defined in this Agreement shall have the meanings given to those terms in the Plan (including, where applicable, Appendix 1 of the Plan).

8. Provisions of Plan Control. This Agreement is subject to all the terms, conditions and provisions of the Plan and the Guidelines, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan and the Guidelines as may be adopted by the Committee and as may be in effect from time to time. The Plan and the Guidelines are incorporated herein by reference. A copy of the Plan and the Guidelines have has been delivered to the Participant. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan and the Guidelines, the Plan and the Guidelines shall control, and this Agreement shall be deemed to be modified accordingly. Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan or the Guidelines. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any other documents expressly contemplated herein or in the Plan or the Guidelines) and supersedes any prior agreements between the Company and the Participant.

9. Remuneration Policies. Notwithstanding anything herein to the contrary, this Agreement and the any awards granted under this Agreement, are subject to any remuneration, malus and/or clawback policy that is adopted by any affiliate of the Company in accordance with applicable local laws and this Agreement.

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

MARKETAXESS HOLDINGS INC.

Richard M. McVey, Chief Executive Officer

Participant:

xxx

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IF " DOCVARIABLE "SWDOCIDLOCATION" 1" = "1" " DOCPROPERTY "SWDOCID" WEIL:\98499436\2\61756.0006" "" WEIL:\98499436\2\61756.0006

**Form of 2022 Performance Stock Unit Agreement for
U.K. based Executive Officers**

**PERFORMANCE STOCK UNIT AGREEMENT
PURSUANT TO APPENDIX 1 OF THE
MARKETAXESS HOLDINGS INC. 2020 EQUITY INCENTIVE PLAN**

THIS AGREEMENT, effective as of Award Date, is by and between MarketAxess Holdings Inc., a Delaware corporation with its principal office at 55 Hudson Yards, 15th Floor, New York, NY 10001 (the “Company”), and xxx (the “Participant”).

WHEREAS, the Board of Directors of the Company (the “Board”) adopted, and the stockholders of the Company approved, the MarketAxess Holdings Inc. 2020 Equity Incentive Plan, including Appendix 1 thereto (as may be amended and/or restated from time to time) (the “Plan”), which is administered by a Committee appointed by the Company’s Board of Directors;

WHEREAS, pursuant to Section 3.2 of the Plan, the Committee has adopted guidelines (the “Guidelines”) for the grant of restricted stock units (“RSUs”) under the Plan;

WHEREAS, Appendix 1 of the Plan modifies the Plan in relation to Eligible Persons and Participants who are employed, resident for tax purposes or otherwise subject to tax on employment income in the United Kingdom and references in this Agreement to the Plan shall be deemed to be to the Plan as so modified; and

WHEREAS, the Company, through the Committee, wishes to grant to the Participant PSUs that are eligible to vest upon the achievement of the performance metric(s) set forth on Appendix A attached hereto and subject to the Participant’s continuing service with the Company or an Affiliate through the date set forth herein.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. Grant of Performance Stock Units. Subject to the terms, conditions and restrictions of the Plan and the Guidelines, the Company awards to the Participant xxx RSUs (such performance-vesting RSUs shall be referred to as “PSUs”). The PSUs are not eligible for deferral under Section 4 of the Guidelines.

2. Vesting. (a) Unless otherwise set forth in an agreement between the Participant and the Company, the number of PSUs that vest, if any, shall be determined by the Committee by reference to the level of attainment of the performance metric during the performance period in accordance with Appendix A attached hereto, subject to the Participant continuously providing service to the Company or its Affiliates through [DATE]. The Committee shall certify the level of achievement of the performance

metric no later than thirty (30) days following the Committee's receipt of audited financial statements for the last year of the applicable performance period.

Upon a Change in Control, the Committee may determine the treatment of the PSUs in accordance with Section 12.1 of the Plan, provided that if the Committee determines that the performance metric(s) set forth on Appendix A would likely have been achieved below the threshold performance level, then the Committee may determine that the PSU will be canceled in its entirety immediately prior to the Change in Control.

3. Forfeiture. Notwithstanding anything else set forth herein, this grant of PSUs, and any of Participant's rights and benefits with respect to this Agreement (including all unvested PSUs and vested but unpaid PSUs), shall be immediately forfeited upon the Company's determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii) breached any Restrictive Covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.

"Restrictive Covenants" shall mean any written post-termination of employment covenants between the Participant and the Company or any of its Affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement;

4. Taxes.

(a) Tax Liability. The Participant acknowledges, subject to the last sentence of this paragraph, that (i) no later than the date on which any PSU shall have become vested and (in any event) within seven days of any Taxable Event, the Participant shall, to the extent permitted by law and to the extent the same are not otherwise discharged through the operation of PAYE, pay to the Company, or make arrangements satisfactory to the Company regarding payment of, and the Participant hereby indemnifies the Company and its Affiliates against, any Federal, national, state or local taxes, levies, charges and contributions of any kind required by law to be withheld, or for which the Company, its Affiliates or the Participant's employer are otherwise required to pay or account, with respect to any PSU and/or any related dividend equivalent right payment (including, for the avoidance of doubt, any Tax Liability); (ii) the Company and the Participant's employer shall, to the extent permitted by law, have the right to deduct from any payment of any kind otherwise due to the Participant any Federal, national, state or local taxes and contributions of any kind required by law to be withheld or accounted for (including, for the avoidance of doubt, any Tax Liability) with respect to any PSU and/or any related shares of Common Stock or dividend equivalent right payment, and the Company may, but shall not be required to, sell a number of shares of Common Stock sufficient to cover any applicable withholding taxes or Tax Liability; and (iii) in the event that the Participant does not satisfy (i) above on a timely basis, and either the withholding taxes or the Tax Liability is not otherwise discharged through the operation of PAYE, the Company or the Participant's employer may, but shall not be required to, pay such required withholding taxes or Tax Liability and treat such amount as a demand loan to the Participant at the maximum rate permitted by law, with such loan, at the Company's sole discretion and provided the Company or the Participant's employer (as the case may be) so notifies the Participant within thirty (30) days of the making of the loan, secured by the relevant Common Stock and any failure by the Participant to pay the loan upon demand shall entitle the Company or the Participant's employer (as the case may be) to all of the rights at law of a creditor secured by the relevant Common Stock. The Participant's

obligations under this Section 4 shall not be affected by any failure of the Company or the Participant's employer to deduct the relevant taxes and/or contributions (including, for the avoidance of doubt, any Tax Liability) through the operation of PAYE. The Company may hold as security any certificates representing any relevant Common Stock and, upon demand of the Company, the Participant shall deliver to the Company any certificates in his or her possession representing Common Stock together with a stock power duly endorsed in blank.

(b) **UK Tax Elections.** By executing this Agreement, the Participant acknowledges and agrees that:

1. the Company or the Participant's employer (as appropriate) may, to the extent permitted by law, recover from the Participant the whole or any part of any secondary class 1 (employer's) National Insurance contributions and/or employer health and social care levy arising from or in connection with the PSU or the relevant shares of Common Stock and may, to the extent permitted by law, require the Participant to elect (using a form approved by HM Revenue & Customs) that the whole or any part of any secondary class 1 (employer's) National Insurance contributions and/or employer health and social care levy shall be transferred to the Participant; and
2. the Participant further agrees that, if so required by the Company, any of its Affiliates or the Participant's employer, the Participant will enter into a joint election under section 431(1) of the United Kingdom Income Tax (Earnings and Pensions) Act 2003, in respect of any shares of Common Stock to be issued or transferred in connection with this PSU, within 14 days of the acquisition by the Participant of those shares of Common Stock (or such shorter or longer period as HM Revenue & Customs may direct).

5. Securities Representations. The grant of the PSUs and any issuance of shares of Common Stock pursuant to this Agreement are being made by the Company in reliance upon the following express representations and warranties of the Participant.

The Participant acknowledges, represents and warrants that:

- (a) he or she has been advised that he or she may be an "affiliate" within the meaning of Rule 144 under the Securities Act and in this connection the Company is relying in part on his or her representations set forth in this section;
- (b) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, the Common Stock must be held indefinitely unless an exemption from any applicable resale restrictions is available or the Company files an additional registration statement (or a "re-offer prospectus") with regard to such Common Stock and the Company is under no obligation to register the Common Stock (or to file a "re-offer prospectus");
- (c) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, he or she understands that the exemption from registration under Rule 144 will not be available unless (i) a public trading market then exists for the Common Stock, (ii) adequate information concerning the Company is then available to the public, and (iii) other terms and conditions of Rule 144 or any exemption therefrom are

complied with; and that any sale of the Common Stock may be made only in limited amounts in accordance with such terms and conditions.

6. **Not an Employment or Service Agreement.** Neither the execution of this Agreement nor the grant of PSUs hereunder constitute an agreement by the Company to employ or retain or to continue to employ or retain the Participant during the entire, or any portion of, the term of this Agreement. Nothing in this Agreement or the Plan interferes in any way with the right of the Company or any Affiliate by which the Participant is employed to terminate the Participant's Service or other service relationship for any reason or no reason at any time. The rights and obligations of the Participant under the terms of their employment or office with any Affiliate by which the Participant is employed shall not be affected by this Agreement, the PSUs or their participation in the Plan or any right which they may have to participate in it. The Participant waives any and all rights to compensation or damages in consequence of the termination of their employment or office for any reason whatsoever (whether or not such termination is wrongful or unfair and however such termination is caused) insofar as those rights arise or may arise from the Participant ceasing to have rights under this Agreement or the Plan as a result of such termination

7. **Miscellaneous.**

(a) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal legal representatives, successors, trustees, administrators, distributees, devisees and legatees. The Company may assign to, and require, any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company or any Affiliate by which the Participant is employed to expressly assume and agree in writing to perform this Agreement. Notwithstanding the foregoing, the Participant may not assign this Agreement.

(b) This award of PSUs shall not affect in any way the right or power of the Board or stockholders of the Company to make or authorize an adjustment, recapitalization or other change in the capital structure or the business of the Company, any merger or consolidation of the Company or subsidiaries, any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, the dissolution or liquidation of the Company, any sale or transfer of all or part of its assets or business or any other corporate act or proceeding.

(c) The Participant agrees that the award of the PSUs hereunder is special incentive compensation and that it, any dividends paid thereon (even if treated as compensation for tax purposes) will not be taken into account as "salary" or "compensation" or "bonus" (or otherwise) in determining the amount of any payment under any pension, retirement or profit-sharing plan of the Company or the Participant's employer or any life insurance, disability or other benefit plan of the Company or the Participant's employer.

(d) No modification or waiver of any of the provisions of this Agreement shall be effective unless in writing and signed by the party against whom it is sought to be enforced.

(e) This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one contract.

(f) The failure of any party hereto at any time to require performance by another party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.

(g) The headings of the sections of this Agreement have been inserted for convenience of reference only and shall in no way restrict or modify any of the terms or provisions hereof.

(h) All notices, consents, requests, approvals, instructions and other communications provided for herein shall be in writing and validly given or made when delivered, or on the second succeeding business day after being mailed by registered or certified mail, whichever is earlier, to the persons entitled or required to receive the same, at the addresses set forth at the heading of this Agreement or to such other address as either party may designate by like notice. Notices to the Company shall be addressed to the Compensation Committee of the Board with a copy to General Counsel, MarketAxess Holdings Inc., 55 Hudson Yards, 15th Floor, New York, NY 10001.

(i) This Agreement shall be construed, interpreted and governed and the legal relationships of the parties determined in accordance with the internal laws of the State of Delaware without reference to rules relating to conflicts of law.

(j) The Committee may use such currency exchange rate as it may reasonably determine for any purpose in connection with the PSU.

(k) Capitalized terms used but not otherwise defined in this Agreement shall have the meanings given to those terms in the Plan (including, where applicable, Appendix 1 of the Plan).

8. Provisions of Plan Control. This Agreement is subject to all the terms, conditions and provisions of the Plan and the Guidelines, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan and the Guidelines as may be adopted by the Committee and as may be in effect from time to time. The Plan and the Guidelines are incorporated herein by reference. A copy of the Plan and the Guidelines have has been delivered to the Participant. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan and the Guidelines, the Plan and the Guidelines shall control, and this Agreement shall be deemed to be modified accordingly. Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan or the Guidelines. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any other documents expressly contemplated herein or in the Plan or the Guidelines) and supersedes any prior agreements between the Company and the Participant.

9. Remuneration Policies. Notwithstanding anything herein to the contrary, this Agreement and the any awards granted under this Agreement, are subject to any remuneration, malus and/or clawback policy that is adopted by any affiliate of the Company in accordance with applicable local laws and this Agreement.

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

MARKETAXESS HOLDINGS INC.

Richard M. McVey, Chief Executive Officer

Participant:

xxx

Form of Restricted Stock Unit (Buyout)
for Naineshkumar Panchal

**RESTRICTED STOCK UNIT AGREEMENT
PURSUANT TO THE
MARKETAXESS HOLDINGS INC. 2020 EQUITY
INCENTIVE PLAN**

THIS RESTRICTED STOCK UNIT AGREEMENT (this “Agreement”), is made as of March 1, 2022 (the “Grant Date”) by and between MarketAxess Holdings Inc. (the “Company”) and Naineshkumar Shantilal Panchal (the “Participant”).

WHEREAS, the Board of Directors of the Company (the “Board”) adopted The MarketAxess Holdings Inc. 2020 Equity Incentive Plan (as may be amended and/or restated from time to time) (the “Plan”) which is administered by a Committee appointed by the Company’s Board of Directors (the “Committee”);

WHEREAS, pursuant to Section 3.2 of the Plan, the Committee has adopted guidelines (the “Guidelines”) for the grant of restricted stock units (“RSUs”) under the Plan; and

WHEREAS, the Company, through the Committee, wishes to grant to the Participant RSUs as set forth below.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. **Grant of RSUs.** Subject to the terms and conditions of the Plan, the Guidelines and this Agreement, on the Grant Date the Company awarded to the Participant XXX RSUs. The RSUs hereunder are not Deferrable RSUs and are not eligible for deferral under Section 4 of the Guidelines.
2. **Vesting.** Unless otherwise set forth in an agreement between the Participant and the Company, the RSUs shall become vested pursuant to the terms of this Agreement and the Plan on the dates set forth below (which constitute the “Original Vesting Schedule”) if the Participant has been continuously providing service to the Company until such date.

XXX on March 1, 2023
XXX on March 1, 2024
XXX on March 1, 2025

There shall be no proportionate or partial vesting in the periods prior to the applicable vesting dates and all vesting shall occur only on the appropriate vesting date.

In the event that the Participant's employment is terminated by the Company without Cause prior to March 1, 2023, all unvested shares will immediately become fully vested on the date of such termination.

If a Qualified Retirement occurs, any remaining unvested RSUs granted hereunder shall be settled in Common Stock within 30 days following the date such unvested RSUs would have otherwise vested in accordance with the Original Vesting Schedule, regardless of whether the Participant continues to provide services to the Company; provided that if, prior to the last vesting date set forth in the Original Vesting Schedule, the Participant undertakes any business activity or employment in the financial services or fintech industries without the prior written consent of the Company or breaches any of the terms and conditions of the Restrictive Covenants, any RSUs which have not yet been settled will be forfeited immediately for no consideration.

A "Qualified Retirement" shall occur upon the first date on which all the following criteria have been satisfied: (i) the Participant is at least fifty-eight (58) years old, (ii) the Participant has at least ten (10) years of service with the Company, (iii) the Participant has given to the Company twelve (12) months' advance notice of the Participant's intent to cease providing services to the Company and comply with the Restrictive Covenants, and (iv) such twelve (12) month period has elapsed; provided, that the Participant has continuously provided service to the Company through such twelve (12) month period.

"Restrictive Covenants" shall mean any written post-termination of employment covenants between the Participant and the Company or any of its affiliates prohibiting or restricting competition, the solicitation of clients or employees or the sharing of confidential information, including any such covenants set forth in a Proprietary Information and Non-Competition Agreement; provided, however; for purposes of this Agreement, the term of such Restrictive Covenants shall be deemed to extend to the last vesting date set forth in the Original Vesting Schedule.

3. **Forfeiture.** Notwithstanding anything else set forth herein, this grant of RSU's, and any of Participant's rights and benefits with respect to this Agreement (including all unvested RSUs and vested but unpaid RSUs), shall be immediately forfeited upon the Company's determination that Participant: (i) has violated any laws, regulations or material Company policies, (ii) breached any noncompetition, non-solicitation, confidentiality or other restrictive covenants that may apply to the Participant or (iii) engaged in any other conduct that is detrimental to the business or reputation of the Company.
4. **Securities Representations.** The grant of the RSUs and any issuance of shares of Common Stock pursuant to this Agreement are being made by the Company in reliance upon the following express representations and warranties of the Participant.

The Participant acknowledges, represents and warrants that:

- (a) he or she has been advised that he or she may be an “affiliate” within the meaning of Rule 144 under the Securities Act and in this connection the Company is relying in part on his or her representations set forth in this section;
 - (b) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, the Common Stock must be held indefinitely unless an exemption from any applicable resale restrictions is available or the Company files an additional registration statement (or a “re-offer prospectus”) with regard to such Common Stock and the Company is under no obligation to register the Common Stock (or to file a “re-offer prospectus”);
 - (c) if he or she is deemed an affiliate within the meaning of Rule 144 of the Securities Act, he or she understands that the exemption from registration under Rule 144 will not be available unless (i) a public trading market then exists for the Common Stock, (ii) adequate information concerning the Company is then available to the public, and (iii) other terms and conditions of Rule 144 or any exemption therefrom are complied with; and that any sale of the Common Stock may be made only in limited amounts in accordance with such terms and conditions.
5. **Not an Employment or Service Agreement.** Neither the execution of this Agreement nor the grant of RSUs hereunder constitute an agreement by the Company to employ or retain or to continue to employ or retain the Participant during the entire, or any portion of, the term of this Agreement.
6. **Miscellaneous.**
- (a) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal legal representatives, successors, trustees, administrators, distributees, devisees and legatees. The Company may assign to, and require, any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company or any affiliate by which the Participant is employed to expressly assume and agree in writing to perform this Agreement. Notwithstanding the foregoing, the Participant may not assign this Agreement.
 - (b) This award of RSUs shall not affect in any way the right or power of the Board or stockholders of the Company to make or authorize an adjustment, recapitalization or other change in the capital structure or the business of the Company, any merger or consolidation of the Company or subsidiaries, any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, the dissolution or liquidation of the Company, any sale or transfer of all or part of its assets or business or any other corporate act or proceeding.
 - (c) The Participant agrees that the award of the RSUs hereunder is special incentive compensation and that it, any dividends paid thereon (even if treated as compensation for tax purposes) will not be taken into account as “salary” or “compensation” or “bonus” in determining the amount of any payment under any

pension, retirement or profit-sharing plan of the Company or any life insurance, disability or other benefit plan of the Company.

- (d) No modification or waiver of any of the provisions of this Agreement shall be effective unless in writing and signed by the party against whom it is sought to be enforced.
- (e) This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one contract.
- (f) The failure of any party hereto at any time to require performance by another party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.
- (g) The headings of the sections of this Agreement have been inserted for convenience of reference only and shall in no way restrict or modify any of the terms or provisions hereof.
- (h) All notices, consents, requests, approvals, instructions and other communications provided for herein shall be in writing and validly given or made when delivered, or on the second succeeding business day after being mailed by registered or certified mail, whichever is earlier, to the persons entitled or required to receive the same, at the addresses set forth at the heading of this Agreement or to such other address as either party may designate by like notice. Notices to the Company shall be addressed to the Compensation Committee of the Board with a copy to General Counsel, MarketAxess Holdings Inc., 55 Hudson Yards, 15th Floor, New York, NY 10001.
- (i) This Agreement shall be construed, interpreted and governed and the legal relationships of the parties determined in accordance with the internal laws of the State of Delaware without reference to rules relating to conflicts of law.

7. **Provisions of Plan and Guidelines Control.** This Agreement is subject to all the terms, conditions and provisions of the Plan and the Guidelines, including, without limitation, the amendment provisions thereof, and to such rules, regulations and interpretations relating to the Plan and the Guidelines as may be adopted by the Committee and as may be in effect from time to time. The Plan and the Guidelines are incorporated herein by reference. A copy of the Plan and the Guidelines have been delivered to the Participant. If and to the extent that this Agreement conflicts or is inconsistent with the terms, conditions and provisions of the Plan and the Guidelines, the Plan and the Guidelines shall control, and this Agreement shall be deemed to be modified accordingly. Unless otherwise indicated, any capitalized term used but not defined herein shall have the meaning ascribed to such term in the Plan or the Guidelines. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof (other than any other documents

expressly contemplated herein or in the Plan or the Guidelines) and supersedes any prior agreements between the Company and the Participant.

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

MARKETAXESS HOLDINGS INC.

Richard M. McVey
Chief Executive Officer

PARTICIPANT

Naineshkumar Shantilal Panchal

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CERTAIN CONFIDENTIAL INFORMATION, IDENTIFIED BY BRACKETED ASTERISKS “[*****]”, HAS BEEN OMITTED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

CONSULTING SERVICES AGREEMENT

This agreement (hereinafter referred to as “Agreement”) is for Consulting Services (the “Consulting Services”), described in the attached Exhibit A, which is part of this Agreement, to be provided by Antonio DeLise (the “Consultant”), located at [*****] to MarketAxess Corporation, located at 55 Hudson Yards, New York, NY 10001, as well as its subsidiaries, affiliates, and parents (collectively, “MarketAxess” or the “Company”). Consultant previously served as an employee of the Company, with February 1, 2022 (the “Separation Date”) serving as his last day of service as an employee. In addition to the Consulting Services, Consultant shall serve as a director of the board of MarketAxess Europe Limited (such services, the “Director Services”).

1. Term. The term of this Agreement will begin on February 2, 2022 and will continue in effect until January 31, 2023, unless terminated in advance as follows: (i) at any time upon the mutual written consent of the parties hereto; (ii) if one party has materially breached the Agreement, immediately upon written notice to the breaching party, with such notice specifying the breach relied upon; or (iii) with five (5) days’ written notice by either party for any reason (the “Term”). The Term may be extended upon mutual agreement of the parties (email consent shall suffice).

2. Consulting Services. During the Term, the Consultant agrees to perform the Consulting Services, based on its specialized knowledge and expertise, as an independent contractor. The Company shall have no right to, and shall not, control the manner or prescribe the method the Consultant uses to complete the Consulting Services. The Consultant shall be solely responsible for determining the most effective and efficient manner to perform such services, provided that the Consultant agrees to perform the Consulting Services in a competent and professional manner with promptness and diligence in accordance with (i) all applicable United States federal, state, and local laws, rules, and regulations, and (ii) industry standard. The Consultant agrees to provide the Consulting Services as requested by the Company with respect to various matters falling within the Consultant’s expertise, as described in Exhibit A of this Agreement.

3. Consulting Fees. Unless otherwise negotiated and agreed upon by the parties in writing, as payment for the provision of the Consulting Services, during the Term of this Agreement, the Company will pay to the Consultant an hourly fee of \$500.00 for each hour of service, upon the submission of a monthly invoice by Consultant. Invoices reflecting the Consulting Services provided must include a detailed description of the work performed by the Consultant (including an accounting of the time associated with each individual task) and shall be submitted to marketaxess@accualify.com. Payment will be made within 30 days following receipt of such invoice. The fees the Consultant charges pursuant to this Agreement

represent the value of the services provided under the Agreement, and constitute the entire amount to be paid under this Agreement.

4. Consultant's Equipment and Personnel. The Consultant shall be responsible for providing, solely at the Consultant's expense, all equipment and supplies needed to perform the Consulting Services, including a computer, computer accessories and general office supplies. The Consultant shall be solely responsible for all costs and expenses of doing business, including all wages and other compensation for any employees, agents, or subcontractors the Consultant engages or hires, and all taxes and other business expenses that may be incurred in connection with the Consultant's performance of services under this Agreement.

5. Independent Contractor Relationship; Non-Exclusive Arrangement. Nothing under this Agreement shall be construed as creating any partnership, joint venture or agency between the Company and the Consultant. The Consultant shall act solely as an independent contractor and, as such, is not authorized to bind the Company to third parties. The parties recognize that both the Consultant and the Company are, or may be, engaged in similar agreements with others. Nothing in this Agreement shall prevent or preclude the Consultant from performing services for any other company, customer, or client, including the Company's competitors, subject to the Section 9 of this Agreement.

6. Taxes. The Company shall report all payments made to the Consultant on a calendar year basis using an appropriate IRS Form 1099, if the volume of payments to the Consultant qualify. The Consultant agrees to report all such payments to the appropriate federal, state, and local taxing authorities. Neither federal, state, nor local taxes of any kind shall be withheld or paid by the Company on behalf of the Consultant in connection with payments made by the Company under Section 3 hereof. The Consultant shall be responsible for determining the amounts of and making all applicable tax payments. The Consultant shall indemnify, defend and hold the Company, its officers, directors, agents, employees, contractors and shareholders harmless from and against any and all claims, liabilities, losses, damages, costs and expenses (including, without limitation, attorneys' fees and expenses) arising out of or relating to the foregoing responsibility of the Consultant.

7. No Benefits. The Consultant is not an employee of the Company and is not entitled to participate in any of the Company's employee benefit plans, including, but not limited to, any retirement, pension, profit sharing, group insurance, health insurance or similar plans that have been or may be instituted by MarketAxess for the benefit of its employees. The Consultant represents and warrants that it maintains in effect all such workers' compensation, employee liability, comprehensive general liability and any other insurance as may be required by law.

8. Confidential Information and Acceptable Use.

(a) During the course of Consultant's engagement hereunder, the Consultant may receive confidential information of and/or be in the possession of confidential information from the Company, its parent, subsidiaries, and/or any affiliated companies (collectively, "Affiliates"), including, but not limited to, customer lists, client information, services

provided to such clients, trade secrets, images, slogans, logos, designs, sketches, mock-ups, samples, concepts, ideas, inventions, original works of authorship, discoveries, techniques, copyrights, patents, trademarks, computer software and any and all information and know-how now or in the future, whether or not such confidential information relates to any Work Product, as defined herein, including without limitation, the underlying concept and production methodology of such Work Product (hereinafter, "Confidential Information"). Consultant acknowledges and agrees that it has no claim, right, title, property or other interest of any kind in the Confidential Information. The Consultant shall hold and maintain the Confidential Information in strictest confidence and in trust for the Company's and its Affiliates' sole and exclusive benefit. The Consultant agrees to keep all Confidential Information in a secure place and further agrees not to publish, communicate, divulge, use or disclose, directly or indirectly, for its own benefit or for the benefit of another, or for any purpose other than in furtherance of the Consultant's contractual obligations hereunder, either during or after its engagement as a consultant hereunder, any Confidential Information. Consultant shall not discuss or disclose any Confidential Information with or to any person whatsoever, or permit any person whatsoever to examine and/or make copies of any Work Product, except as required to perform the Consulting Services or as requested by law. Upon termination of this Agreement or upon the earlier request of the Company, the Consultant shall deliver all written and/or recorded material, including without limitation, paper, film, cards, tapes, discs and the storage facilities, in Consultant's possession, custody or control which contain any Work Product and/or Confidential Information, and all copies thereof, to the Company.

(b) If the Consultant is requested or required by any court, agency or other governmental authority to disclose any Confidential Information, it shall promptly notify the Company so as to permit the Company to seek a protective order or take other appropriate action. If, in the absence of a protective order, the Consultant is compelled as a matter of law to disclose any Confidential Information, the Consultant shall disclose to the party compelling disclosure only such part of the Confidential Information as is required by law to be disclosed. The Consultant shall exercise its best efforts to obtain assurances that confidential treatment shall be accorded Confidential Information disclosed under such circumstances. Nothing in this Agreement shall prohibit Consultant from making reports of possible violations of law or regulation to a governmental agency or other entity, or require notification or prior approval by the Company of same.

(c) Pursuant to the Defend Trade Secrets Act of 2016, an individual may not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that: (A) is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. Further, an individual who files a lawsuit for retaliation for reporting a suspected violation of law may disclose the Company's trade secrets to the attorney and use the trade secret information in the court proceeding if the individual: (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order.

(d) The Consultant acknowledges that the Confidential Information is particularly sensitive and of substantial importance to the Company; accordingly, the Consultant agrees that

the provisions of this Section 8 shall survive any termination of this Agreement and shall be enforceable against the Consultant in perpetuity.

(e) The Consultant acknowledges it will have access to Confidential Information. If the Company so elects, it shall be entitled, in addition to all other remedies available, including, but not limited to, actual, compensatory, and punitive damages, to obtain damages and reimbursement of its actual attorneys' fees and disbursements for any breach of this Agreement or to specifically enforce the performance by Consultant and to enjoin the violation by Consultant of any provision hereof. Consultant further acknowledges that a violation of this Section 8 hereunder would cause irreparable and continuing damage to the Company for which money damages alone would not adequately compensate. Accordingly, the Consultant acknowledges that, in the event of violation of this Section 8 of this Agreement, the Company shall be entitled to preliminary and permanent injunctive relief without having to prove actual damages or immediate or irreparable harm or to post a bond.

You are required to sign a standard Confidentiality Statement and Acceptable Use statement with the Company and shall be bound by their respective terms.

9. Intellectual Property.

(a) The parties hereby agree that the Company shall own all right, title and interest throughout the world in and to any and all inventions, original works of authorship, developments, concepts, know-how, improvements, and trade secrets, whether or not patentable or registrable under copyright or similar laws, that Consultant may solely or jointly conceive or develop or reduce to practice, or cause to be conceived or developed or reduced to practice during Consultant's engagement hereunder, (collectively referred to as "Work Product"). The term "Work Product" does not include any invention that Consultant developed entirely on Consultant's own time without using the Company's equipment supplies, facilities, or trade secret information, except for those inventions that either: (1) relate at the time of conception or development (a) to the Company's business, or (b) to the Company's actual or demonstrably anticipated research or development; or (2) result from any work performed by Consultant for the Company.

(b) Consultant hereby assigns to MarketAxess all right, title, and interest in and to any and all Work Product, and agrees to assist the Company, at MarketAxess' expense, to further evidence, record, and perfect such assignments, and to perfect, obtain, maintain, enforce, and defend any rights specified to be so owned or assigned. In addition to, and not in contravention of any of, the foregoing, Consultant acknowledges that all original works of authorship that are made by Consultant (solely or jointly with others) within the scope of this engagement and that are protectable by copyright are "works made for hire," as that term is defined in the United States Copyright Act (17 U.S.C. § 101). To the extent allowed by law, this includes all rights of paternity, integrity, disclosure, and withdrawal, and any other rights that may be known or referred to as "moral rights." To the extent Consultant retains any such moral rights under applicable law, Consultant hereby waives such moral rights and consents to any action consistent with the terms of this Agreement with respect to such moral rights, in each case, to the full extent of such

applicable law. Consultant agrees to confirm any such waivers and consents from time to time as requested by MarketAxess.

(c) If, in the course of this engagement, Consultant incorporates into a product or process a Prior Invention owned by Consultant or in which Consultant has an interest, Consultant hereby grants the Company, and the Company shall have a non-exclusive, royalty-free, irrevocable, perpetual, worldwide license (with the right to sublicense) to make, have made, copy, modify, make derivative works of, use, sell and otherwise distribute such Prior Invention as part of or in connection with such product or process. For purposes of this paragraph, the term "Prior Invention" means all discoveries, developments, designs, improvements, inventions, formulae, processes, techniques, computer software, strategy, know how, and data, whether or not patentable or registrable under copyright or similar statutes, made or conceived or reduced to practice or learned by Consultant, either alone or jointly with others, during the period of time before Consultant's engagement with the Company, which directly or indirectly arise or result from tasks assigned by previous employers or from the use of premises or property owned, leased, or contracted for by such previous employers or in the course of other past engagements.

(d) Consultant hereby expressly and irrevocably waives any right or claim to any further compensation of any and all kind, under any applicable law, which Consultant may now have or which Consultant may have in the future, with respect to any Invention(s) which may be assigned to the Company. For purposes of this Agreement, the term "Invention" means all discoveries, developments, designs, improvements, inventions, formulae, processes, techniques, computer software, strategy, know how, and data, whether or not patentable or registrable under copyright or similar statutes, made or conceived or reduced to practice or learned by Consultant, either alone or jointly with others, during the period of Consultant's engagement with the Company, which directly or indirectly arise or result from tasks assigned by the Company or from the use of premises or property owned, leased, or contracted for by the Company.

(e) If Company or its designee is unable because of Consultant's mental or physical incapacity or unavailability or for any other reason to secure your signature to apply for or to pursue any application for any United States or foreign patents, copyright, mask works or other registrations covering inventions or original works of authorship assigned to Company or its designee as above, then Consultant hereby irrevocably designates and appoints Company and its duly authorized officers and agents as Consultant's agent and attorney in fact, to act for and in Consultant's behalf and stead to execute and file any such applications and to do all other lawfully permitted acts to further the application for, prosecution, issuance, maintenance or transfer of letters patent, copyright or other registrations thereon with the same legal force and effect as if originally executed by Consultant. Consultant hereby waives and irrevocably quitclaims to Company or its designee any and all claims, of any nature whatsoever, which Consultant now or hereafter has for infringement of any and all proprietary rights assigned to Company or such designee.

10. No-Conflicts. The Consultant represents and warrants to the Company that it is not subject to any contractual or other restriction or obligation which is inconsistent with any representation, obligation or assignment of Consultant, any rights of the Company under this Agreement or Consultant's acceptance of engagement with or performance of the Consulting Services. This provision shall not be construed as preventing the Consultant from

engaging in any other business activities, including competing business activities, so long as they do not violate this provision.

11. Indemnification. The Consultant shall indemnify, defend and hold the Company, its officers, directors, agents, employees, contractors and shareholders harmless from and against any and all claims, liabilities, losses, damages, costs and expenses (including, without limitation, attorneys' fees and expenses) arising out of or relating to (i) the Consultant's contractual obligations under this Agreement, (ii) any act or omission of Consultant or any of Consultant's agents in connection with Consultant's performance under this Agreement or (iii) Consultant's breach of any material term or condition of this Agreement, including, without limitation, the representations and warranties set forth herein. The Company may elect to retain its own counsel and to participate in the defense of any claim or action arising out of or relating to the foregoing. The Consultant shall not settle or compromise any claim or action hereunder, including, without limitation, any claim for equitable relief, without the Company's prior written consent.

12. Waiver. The Consultant waives any claim, right or entitlement to punitive damages, indirect damages or consequential damages in connection with any dispute under this Agreement.

13. Confidentiality of Agreement. Consultant agrees not to disclose the terms or execution of this Agreement, except in the following circumstances:

(a) The employees of Consultant may disclose the terms of this Agreement to their immediate family, so long as such family members agree to be bound by the confidential nature of this Agreement;

(b) Consultant may disclose the terms of this Agreement to (i) its tax advisors so long as such tax advisors agree in writing to be bound by the confidential nature of this Agreement; (ii) taxing authorities if requested by such authorities and so long as they are advised in writing of the confidential nature of this Agreement; or (iii) Consultant's legal counsel; and

(c) Pursuant to the order of a court or governmental agency of competent jurisdiction, or for purposes of securing enforcement of the terms and conditions of this Agreement.

14. Notices. All notices and other communications hereunder shall be in writing and shall be mailed by first class, registered or certified mail, return receipt requested, or postage prepaid or personally delivered (including delivery by overnight couriers such as Federal Express), addressed as follows:

If to the Company:
MarketAxess Corporation
55 Hudson Yards
New York, NY 10001
Email: LegalNY@marketaxess.com

If to the Consultant:
Antonio DeLise
[*****]
[*****]
Email: [***]**

Each party hereto may designate in writing a new address to which any notice or other communication may thereafter be so given, served or sent. Each notice or other communication

that shall be mailed in the manner described above, shall be deemed sufficiently given, served, sent or received for all purposes at such time as it is delivered to the addressee or at such time as delivery is refused by the addressee upon presentation.

15. Assignment. This Agreement may not be assigned, transferred or subcontracted, in whole or in part, by the Consultant. However, nothing in this provision shall limit or restrict the Consultant from engaging or hiring others to assist the Consultant in performing the Consulting Services contemplated by this Agreement. The Company may assign this Agreement to any successors or assigns, and Consultant shall be bound to any successor or assign of the Company.

16. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York without regard to conflicts of law principles.

17. Forum Selection. Consultant irrevocably and unconditionally (i) agrees that any suit, action or other legal proceeding arising out of this Agreement shall be brought in a United States District Court in the Southern District of New York, or if such court does not have jurisdiction or will not accept jurisdiction, in any court of general jurisdiction in New York, (ii) consents to the non-exclusive jurisdiction of any such court in any such suit, action or proceeding, and (iii) waives any objection which Consultant may have to the laying of venue of any such suit, action or proceeding in any such court.

18. Service. The Consultant and the Company agree that service of process in any action or proceeding brought: (a) by the Company or any Affiliate against the Consultant may be made upon the Consultant by mailing a copy of the same to him/her at the address set forth herein; and (b) by the Consultant against the Company may be made by mailing a copy of the same to it at the address set forth herein.

19. The parties agree that the Separation Date will be treated as a “separation from service” for purposes of Section 409A of the Internal Revenue Code. In no event shall the Consulting Services, when combined with the Director Services, exceed a number of hours per month that would result in Consultant providing greater than twenty percent (20%) of the average number of hours Consultant was providing bona fide services to the Company in the 36-month period prior to the Separation Date (the “Period”). For the avoidance of doubt, it is assumed that Consultant provided approximately forty (40) hours of service to the Company per week during the Period.

20. Entire Agreement; Modification; Waiver. This Agreement sets forth the entire understanding and agreement of the parties hereto relating to the retention of the Consultant by the Company, and all other previous or contemporaneous understandings or agreements relating to the retention of the Consultant by the Company, whether written or oral, are hereby superseded. None of the terms or provisions hereof shall be modified or waived, and this Agreement may not be amended or terminated, except by a written instrument signed by the party against which modification, waiver, amendment or termination is to be enforced. No waiver of any one provision shall be construed as a waiver of any other provision and the fact that an obligation is waived for a period of time shall not be considered to be a continuous waiver.

21. Headings. Headings appearing in this Agreement are for convenience only and do not in any way limit, amplify, modify, or otherwise affect the terms and provisions of this Agreement.

22. Savings Clause. If any provision of this Agreement shall be determined to be invalid, illegal, or unenforceable, either in whole or in part this Agreement shall be deemed amended to delete or modify, as necessary, the offending provisions and to alter the balance of this Agreement in order to render the same valid, legal and enforceable to the fullest extent permissible.

The parties enter into and execute this Agreement on the dates set forth below.

ACCEPTED AND AGREED TO:

By: /s/ ANTONIO DELISE
Antonio DeLise

February 1, 2022
Date

MarketAxess Corporation

By: /s/ JULIE SHEFFET
Name: Juliet Sheffet
Title Chief Human Resources Officer

February 1, 2022
Date

EXHIBIT A

The Consulting Services shall include:

- NYS and NYC tax audits
- Exit and decommission of 299 Park Avenue space
- Exit and decommission of Utah office
- Onboarding of new investor relations staff
- FI Teach In's on Business to Board and MKTX Senior Staff
- Other duties, as assigned

KEYWORDS * MERGEFORMAT Firm:28332636v4

This Side Letter Agreement is entered into between Antonio DeLise (“You” or “Your”) and MarketAxess Holdings Inc. (“MarketAxess”) as follows:

WHEREAS, You will be retiring as a full time employee of MarketAxess on February 1st, 2022;

WHEREAS, following Your retirement, the parties desire for You to serve as (i) a member of the board of directors of MarketAxess Europe Limited (the “MAEL Board”); and (ii) a consultant as agreed upon in a separate Consulting Services Agreement dated February 1, 2022 (the “Consulting Agreement”); and

WHEREAS, as an incentive for You to serve on the MAEL Board and as a consultant pursuant to the Consulting Agreement, the parties desire to enter into the arrangement described herein;

NOW, THEREFORE, in consideration of the foregoing recitals and mutual terms and conditions contained herein, the parties hereto agree as follows:

1. In the event MarketAxess, in its sole discretion, both (i) removes You from the MAEL Board, and (ii) terminates the Consulting Agreement other than for Cause (as defined in the Severance Protection Agreement dated July 31, 2020 between You and MarketAxess) prior to January 31, 2024, MarketAxess shall make a lump sum payment to You of \$137,250 (the “Lump Sum Payment”) within thirty (30) days of the later to occur of (i) and (ii) above, subject to all applicable payroll withholdings.
2. The Lump Sum Payment shall be payable to You only under the conditions set forth above, and shall not apply in any other circumstance, including (i) You voluntarily resign from the MAEL Board, (ii) MarketAxess removes You from the MAEL Board for Cause, or (iii) You refuse to provide services as required under the Consulting Agreement.
3. This Side Letter Agreement shall expire on February 1st, 2024.

(signature page follows)

In witness whereof, this Side Letter Agreement has been duly executed and delivered with the full and complete understanding of the relationship between the parties hereto.

ACCEPTED AND AGREED:

Antonio DeLise

By: /s/ Antonio DeLise

Date: February 1, 2022

MarketAxess Holdings Inc.

By: /s/ Julie Sheffet

Name: Julie Sheffet

Title: Chief HR Officer

Date: February 1, 2022

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: April 27, 2022

CERTIFICATIONS

I, Christopher N. Gerosa, 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/ CHRISTOPHER N. GEROSA

Christopher N. Gerosa
Chief Financial Officer
(principal financial and accounting officer)

Dated: April 27, 2022

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 March 31, 2022

In connection with the Quarterly Report on Form 10-Q of MarketAxess Holdings Inc. (the "Company") for the quarter ended March 31, 2022, 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

April 27, 2022

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

Certification Under Section 906 of the Sarbanes-Oxley Act of 2002
(United States Code, Title 18, Chapter 63, Section 1350)
Accompanying Quarterly Report on Form 10-Q of
MarketAxess Holdings Inc. for the Quarter Ended March 31, 2022

In connection with the Quarterly Report on Form 10-Q of MarketAxess Holdings Inc. (the “Company”) for the quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Christopher N. Gerosa, 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/ CHRISTOPHER N. GEROSA

Christopher N. Gerosa
Chief Financial Officer

April 27, 2022

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.
