
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended **June 30, 2023**

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: **001-38855**

Nasdaq, Inc.

(Exact name of registrant as specified in its charter)

Delaware

52-1165937

(State or Other Jurisdiction of Incorporation or Organization)

(I.R.S. Employer Identification No.)

151 W. 42nd Street, New York, New York 10036

(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code: **+1 212 401 8700**

No Changes

(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value per share	NDAQ	The Nasdaq Stock Market
4.500% Senior Notes due 2032	NDAQ32	The Nasdaq Stock Market
0.900% Senior Notes due 2033	NDAQ33	The Nasdaq Stock Market
0.875% Senior Notes due 2030	NDAQ30	The Nasdaq Stock Market
1.75% Senior Notes due 2029	NDAQ29	The Nasdaq Stock 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

<u>Class</u>	<u>Outstanding at July 25, 2023</u>
Common Stock, \$0.01 par value per share	491,316,160 shares

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About this Form 10-Q

Throughout this Form 10-Q, unless otherwise specified:

- “Nasdaq,” “we,” “us” and “our” refer to Nasdaq, Inc.
- “Nasdaq Baltic” refers to collectively, Nasdaq Tallinn AS, Nasdaq Riga, AS, and AB Nasdaq Vilnius.
- “Nasdaq BX” refers to the cash equity exchange operated by Nasdaq BX, Inc.
- “Nasdaq BX Options” refers to the options exchange operated by Nasdaq BX, Inc.
- “Nasdaq Clearing” refers to the clearing operations conducted by Nasdaq Clearing AB.
- “Nasdaq CXC” and “Nasdaq CX2” refer to the Canadian cash equity trading books operated by Nasdaq CXC Limited.
- “Nasdaq First North” refers to our alternative marketplaces for smaller companies and growth companies in the Nordic and Baltic regions.
- “Nasdaq GEMX” refers to the options exchange operated by Nasdaq GEMX, LLC.
- “Nasdaq ISE” refers to the options exchange operated by Nasdaq ISE, LLC.
- “Nasdaq MRX” refers to the options exchange operated by Nasdaq MRX, LLC.
- “Nasdaq Nordic” refers to collectively, Nasdaq Clearing AB, Nasdaq Stockholm AB, Nasdaq Copenhagen A/S, Nasdaq Helsinki Ltd, and Nasdaq Iceland hf.
- “Nasdaq PHLX” refers to the options exchange operated by Nasdaq PHLX LLC.
- “Nasdaq PSX” refers to the cash equity exchange operated by Nasdaq PHLX LLC.
- “The Nasdaq Options Market” refers to the options exchange operated by The Nasdaq Stock Market LLC.
- “The Nasdaq Stock Market” refers to the cash equity exchange and listing venue operated by The Nasdaq Stock Market LLC.

Nasdaq also provides as a tool for the reader the following list of abbreviations and acronyms that are used throughout this Quarterly Report on Form 10-Q.

2020 Credit Facility: \$1.25 billion senior unsecured revolving credit facility, which was amended and restated by the 2022 Revolving Credit Agreement

2022 Revolving Credit Agreement: \$1.25 billion senior unsecured revolving credit facility, which matures on December 16, 2027

2025 Notes: \$500 million aggregate principal amount of 5.650% senior unsecured notes due June 28, 2025

2026 Notes: \$500 million aggregate principal amount of 3.850% senior unsecured notes due June 30, 2026

2028 Notes: \$1 billion aggregate principal amount of 5.350% senior unsecured notes due June 28, 2028

2029 Notes: €600 million aggregate principal amount of 1.75% senior unsecured notes due March 28, 2029

2030 Notes: €600 million aggregate principal amount of 0.875% senior unsecured notes due February 13, 2030

2031 Notes: \$650 million aggregate principal amount of 1.650% senior unsecured notes due January 15, 2031

2032 Notes: €750 million aggregate principal amount of 4.500% senior unsecured notes due February 15, 2032

2033 Notes: €615 million aggregate principal amount of 0.900% senior unsecured notes due July 30, 2033

2034 Notes: \$1.25 billion aggregate principal amount of 5.550% senior unsecured notes due February 15, 2034

2040 Notes: \$650 million aggregate principal amount of 2.500% senior unsecured notes due December 21, 2040

2050 Notes: \$500 million aggregate principal amount of 3.250% senior unsecured notes due April 28, 2050

2052 Notes: \$550 million aggregate principal amount of 3.950% senior unsecured notes due March 7, 2052

2053 Notes: \$750 million aggregate principal amount of 5.950% senior unsecured notes due August 15, 2053

2063 Notes: \$750 million aggregate principal amount of 6.100% senior unsecured notes due June 28, 2063

ARR: Annualized Recurring Revenue

ASR: Accelerated Share Repurchase

AUM: Assets Under Management

CCP: Central Counterparty

CFTC: Commodity Futures Trading Commission

Equity Plan: Nasdaq Equity Incentive Plan

ESG: Environmental, Social and Governance

EMIR: European Market Infrastructure Regulation

ESPP: Nasdaq Employee Stock Purchase Plan

ETF: Exchange Traded Fund

ETP: Exchange Traded Product

Exchange Act: Securities Exchange Act of 1934, as amended

FINRA: Financial Industry Regulatory Authority

IPO: Initial Public Offering

NSCC: National Securities Clearing Corporation

OCC: The Options Clearing Corporation

OTC: Over-the-Counter

PSU: Performance Share Unit
SaaS: Software as a Service
SEC: U.S. Securities and Exchange Commission
SERP: Supplemental Executive Retirement Plan
SFSA: Swedish Financial Supervisory Authority
SOFR: Secured Overnight Financing Rate
S&P: Standard & Poor's
S&P 500: S&P 500 Stock Index
SPAC: Special Purpose Acquisition Company
TSR: Total Shareholder Return
U.S. GAAP: U.S. Generally Accepted Accounting Principles
U.S. Tape plans: U.S. cash equity and U.S. options industry data

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This Quarterly Report on Form 10-Q includes market share and industry data that we obtained from industry publications and surveys, reports of governmental agencies and internal company surveys. Industry publications and surveys generally state that the information they contain has been

obtained from sources believed to be reliable, but we cannot assure you that this information is accurate or complete. We have not independently verified any of the data from third-party sources nor have we ascertained the underlying economic assumptions relied upon therein. Statements as to our market position are based on the most currently available market data. For market comparison purposes, The Nasdaq Stock Market data in this Quarterly Report on Form 10-Q for IPOs is based on data generated internally by us; therefore, the data may not be comparable to other publicly-available IPO data. Data in this Quarterly Report on Form 10-Q for new listings of equity securities on The Nasdaq Stock Market is based on data generated internally by us, which includes issuers that switched from other listing venues, closed-end funds and ETPs. Data in this Quarterly Report on Form 10-Q for IPOs and new listings of equity securities on the Nasdaq Nordic and Nasdaq Baltic exchanges and Nasdaq First North also is based on data generated internally by us. IPOs and new listings data is presented as of period end. While we are not aware of any misstatements regarding industry data presented herein, our estimates involve risks and uncertainties and are subject to change based on various factors. We refer you to the "Risk Factors" section in our Form 10-K for the fiscal year ended December 31, 2022 that was filed with the SEC on February 23, 2023.

Nasdaq intends to use its website, ir.nasdaq.com, as a means for disclosing material non-public information and for complying with SEC Regulation FD and other disclosure obligations.

Forward-Looking Statements

The SEC encourages companies to disclose forward-looking information so that investors can better understand a company's future prospects and make informed investment decisions. This Quarterly Report on Form 10-Q contains these types of statements. Words such as "may," "will," "could," "should," "anticipates," "envisions," "estimates," "expects," "projects," "intends," "plans," "believes" and words or terms of similar substance used in connection with any discussion of future expectations as to industry and regulatory developments or business initiatives and strategies, future operating results or financial performance, and other future developments are intended to identify forward-looking statements. These include, among others, statements relating to:

- our strategic direction, including changes to our corporate structure;
- the integration of acquired businesses, including accounting decisions relating thereto;
- the scope, nature or impact of acquisitions, divestitures, investments, joint ventures or other transactional activities;
- the effective dates for, and expected benefits of, ongoing initiatives, including transactional activities and other strategic, restructuring, technology, ESG, de-leveraging and capital return initiatives;
- our products and services;
- the impact of pricing changes;
- tax matters;
- the cost and availability of liquidity and capital; and
- any litigation, or any regulatory or government investigation or action, to which we are or could become a party or which may affect us and any potential settlements of litigation, regulatory or governmental investigations or actions, including with respect to our CFTC investigation.

Forward-looking statements involve risks and uncertainties. Factors that could cause actual results to differ materially from those contemplated by the forward-looking statements include, among others, the following:

- our operating results may be lower than expected;
- our ability to successfully integrate acquired businesses or divest sold businesses or assets, including the fact that any integration or transition may be more difficult, time consuming or costly than expected, and we may be unable to realize synergies from business combinations, acquisitions, divestitures or other transactional activities;
- loss of significant trading and clearing volumes or values, fees, market share, listed companies, market data customers or other customers;
- our ability to develop and grow our non-trading businesses, including our technology, analytics, ESG and anti-financial crime offerings;
- our ability to keep up with rapid technological advances and adequately address cybersecurity risks;

- economic, political and market conditions and fluctuations, including inflation, interest rate and foreign currency risk inherent in U.S. and international operations, and geopolitical instability;
- the performance and reliability of our technology and technology of third parties on which we rely;
- any significant systems failures or errors in our operational processes;
- our ability to continue to generate cash and manage our indebtedness; and
- adverse changes that may occur in the litigation or regulatory areas, or in the securities markets generally, or increased regulatory oversight domestically or internationally.

Most of these factors are difficult to predict accurately and are generally beyond our control. You should consider the uncertainty and any risk related to forward-looking statements that we make. These risk factors are more fully described in the "Risk Factors" section in our Form 10-K filed with the SEC on February 23, 2023. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this report. You should carefully read this entire Quarterly Report on Form 10-Q, including "Part I. Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations" and the condensed consolidated financial statements and the related notes. Except as required by the federal securities laws, we undertake no obligation to update any forward-looking statement, release publicly any revisions to any forward-looking statements or report the occurrence of unanticipated events. For any forward-looking statements contained in any document, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

PART I - FINANCIAL INFORMATION
Item 1. Financial Statements
Nasdaq, Inc.
Condensed Consolidated Balance Sheets
(in millions, except share and par value amounts)

	June 30, 2023 (unaudited)	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	\$ 5,347	\$ 502
Restricted cash and cash equivalents	23	22
Default funds and margin deposits (including restricted cash and cash equivalents of \$6,497 and \$6,470, respectively)	7,134	7,021
Financial investments	288	181
Receivables, net	597	677
Other current assets	189	201
Total current assets	13,578	8,604
Property and equipment, net	536	532
Goodwill	8,020	8,099
Intangible assets, net	2,490	2,581
Operating lease assets	410	444
Other non-current assets	623	608
Total assets	\$ 25,657	\$ 20,868
Liabilities		
Current liabilities:		
Accounts payable and accrued expenses	\$ 199	\$ 185
Section 31 fees payable to SEC	184	243
Accrued personnel costs	156	243
Deferred revenue	558	357
Other current liabilities	140	122
Default funds and margin deposits	7,134	7,021
Short-term debt	140	664
Total current liabilities	8,511	8,835
Long-term debt	9,792	4,735
Deferred tax liabilities, net	474	456
Operating lease liabilities	427	452
Other non-current liabilities	206	226
Total liabilities	19,410	14,704
Commitments and contingencies		
Equity		
Nasdaq stockholders' equity:		
Common stock, \$0.01 par value, 900,000,000 shares authorized, shares issued: 514,060,903 at June 30, 2023 and 513,157,630 at December 31, 2022; shares outstanding: 491,274,775 at June 30, 2023 and 491,592,491 at December 31, 2022	5	5
Additional paid-in capital	1,363	1,445
Common stock in treasury, at cost: 22,786,128 shares at June 30, 2023 and 21,565,139 shares at December 31, 2022	(583)	(515)
Accumulated other comprehensive loss	(2,119)	(1,991)
Retained earnings	7,569	7,207
Total Nasdaq stockholders' equity	6,235	6,151
Noncontrolling interests	12	13
Total equity	6,247	6,164
Total liabilities and equity	\$ 25,657	\$ 20,868

See accompanying notes to condensed consolidated financial statements.

Nasdaq, Inc.
Condensed Consolidated Statements of Income
(unaudited)
(in millions, except per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Revenues:				
Market Platforms	\$ 905	\$ 1,051	\$ 1,938	\$ 2,090
Capital Access Platforms	438	422	854	841
Anti-Financial Crime	89	75	173	147
Other revenues	1	4	1	9
Total revenues	1,433	1,552	2,966	3,087
Transaction-based expenses:				
Transaction rebates	(444)	(529)	(931)	(1,111)
Brokerage, clearance and exchange fees	(64)	(130)	(197)	(191)
Revenues less transaction-based expenses	925	893	1,838	1,785
Operating expenses:				
Compensation and benefits	261	247	517	501
Professional and contract services	30	29	61	64
Computer operations and data communications	56	50	110	101
Occupancy	32	25	71	52
General, administrative and other	22	34	35	55
Marketing and advertising	9	11	19	21
Depreciation and amortization	65	65	134	132
Regulatory	9	8	17	15
Merger and strategic initiatives	45	12	47	27
Restructuring charges	14	—	33	—
Total operating expenses	543	481	1,044	968
Operating income	382	412	794	817
Interest income	8	—	15	1
Interest expense	(36)	(32)	(73)	(64)
Other income (loss)	(6)	8	(7)	2
Net income (loss) from unconsolidated investees	(11)	9	3	15
Income before income taxes	337	397	732	771
Income tax provision	70	90	165	182
Net income	267	307	567	589
Net loss attributable to noncontrolling interests	—	—	1	1
Net income attributable to Nasdaq	\$ 267	\$ 307	\$ 568	\$ 590
Per share information:				
Basic earnings per share	\$ 0.54	\$ 0.62	\$ 1.16	\$ 1.20
Diluted earnings per share	\$ 0.54	\$ 0.62	\$ 1.15	\$ 1.18
Cash dividends declared per common share	\$ 0.22	\$ 0.20	\$ 0.42	\$ 0.38

See accompanying notes to condensed consolidated financial statements.

Nasdaq, Inc.
Condensed Consolidated Statements of Comprehensive Income
(unaudited)
(in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Net income	\$ 267	\$ 307	\$ 567	\$ 589
Other comprehensive loss:				
Foreign currency translation losses	(116)	(206)	(138)	(273)
Income tax benefit (expense) ⁽¹⁾	3	(29)	10	(45)
Foreign currency translation, net	(113)	(235)	(128)	(318)
Comprehensive income	154	72	439	271
Comprehensive loss attributable to noncontrolling interests	—	—	1	1
Comprehensive income attributable to Nasdaq	<u>\$ 154</u>	<u>\$ 72</u>	<u>\$ 440</u>	<u>\$ 272</u>

⁽¹⁾ Primarily relates to the tax effect of unrealized gains and losses on Euro denominated notes.

See accompanying notes to condensed consolidated financial statements.

Nasdaq, Inc.
Condensed Consolidated Statements of Changes in Stockholders' Equity
(unaudited)
(in millions)

	Three Months Ended June 30,				Six Months Ended June 30,			
	2023		2022		2023		2022	
	Shares	\$	Shares	\$	Shares	\$	Shares	\$
Common stock	490	5	493	5	492	5	500	5
Additional paid-in capital								
Beginning balance		1,312		1,507		1,445		1,949
Share repurchase program	—	—	(3)	(166)	(3)	(159)	(5)	(308)
ASR agreement	—	—	—	—	—	—	(6)	(325)
Share-based compensation	2	34	1	25	3	60	3	49
Other issuances of common stock, net	—	17	—	16	—	17	—	17
Ending balance		1,363		1,382		1,363		1,382
Common stock in treasury, at cost								
Beginning balance		(555)		(489)		(515)		(437)
Other employee stock activity	(1)	(28)	—	(20)	(1)	(68)	(1)	(72)
Ending balance		(583)		(509)		(583)		(509)
Accumulated other comprehensive loss								
Beginning balance		(2,006)		(1,670)		(1,991)		(1,587)
Other comprehensive loss		(113)		(235)		(128)		(318)
Ending balance		(2,119)		(1,905)		(2,119)		(1,905)
Retained earnings								
Beginning balance		7,411		6,660		7,207		6,465
Net income attributable to Nasdaq		267		307		568		590
Cash dividends declared per common share		(109)		(98)		(206)		(186)
Ending balance		7,569		6,869		7,569		6,869
Total Nasdaq stockholders' equity		6,235		5,842		6,235		5,842
Noncontrolling interests								
Beginning balance		12		9		13		10
Net activity related to noncontrolling interests		—		—		(1)		(1)
Ending balance		12		9		12		9
Total Equity	491	\$ 6,247	491	\$ 5,851	491	\$ 6,247	491	\$ 5,851

See accompanying notes to condensed consolidated financial statements.

Nasdaq, Inc.
Condensed Consolidated Statements of Cash Flows
(unaudited)
(in millions)

	Six Months Ended June 30,	
	2023	2022
Cash flows from operating activities:		
Net income	\$ 567	\$ 589
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	134	132
Share-based compensation	60	49
Deferred income taxes	30	35
Extinguishment of debt and bridge fees	25	16
Non-cash restructuring charges	12	—
Net income from unconsolidated investees	(3)	(15)
Operating lease asset impairments	13	—
Other reconciling items included in net income	21	4
Net change in operating assets and liabilities, net of effects of acquisitions:		
Receivables, net	72	(75)
Other assets	10	25
Accounts payable and accrued expenses	14	6
Section 31 fees payable to SEC	(60)	113
Accrued personnel costs	(85)	(83)
Deferred revenue	189	195
Other liabilities	(20)	(11)
Net cash provided by operating activities	979	980
Cash flows from investing activities:		
Purchases of securities	(411)	(201)
Proceeds from sales and redemptions of securities	296	222
Acquisition of businesses, net of cash and cash equivalents acquired	—	(41)
Purchases of property and equipment	(79)	(77)
Investments related to default funds and margin deposits, net ⁽¹⁾	(103)	(202)
Other investing activities	5	55
Net cash used in investing activities	(292)	(244)
Cash flows from financing activities:		
Repayments of commercial paper, net	(524)	(1)
Repayments of debt and credit commitment	—	(499)
Payment of debt extinguishment cost and bridge fees	(25)	(16)
Proceeds from issuances of debt, net of issuance costs	5,016	541
Repurchases of common stock	(159)	(308)
ASR agreement	—	(325)
Dividends paid	(206)	(186)
Proceeds received from employee stock activity and other issuances	18	17
Payments related to employee shares withheld for taxes	(68)	(72)
Default funds and margin deposits	364	3,554
Other financing activities	—	(2)
Net cash provided by financing activities	4,416	2,703
Effect of exchange rate changes on cash and cash equivalents and restricted cash and cash equivalents	(230)	(682)
Net increase in cash and cash equivalents and restricted cash and cash equivalents	4,873	2,757
Cash and cash equivalents, restricted cash and cash equivalents at beginning of period	6,994	5,496
Cash and cash equivalents, restricted cash and cash equivalents at end of period	\$ 11,867	\$ 8,253
Reconciliation of Cash, Cash Equivalents and Restricted Cash and Cash Equivalents		
Cash and cash equivalents	\$ 5,347	\$ 454
Restricted cash and cash equivalents	23	30
Restricted cash and cash equivalents (default funds and margin deposits)	6,497	7,769
Total	\$ 11,867	\$ 8,253
Supplemental Disclosure Cash Flow Information		
Interest paid	\$ 67	\$ 60
Income taxes paid, net of refund	\$ 136	\$ 133

⁽¹⁾ Includes purchases and proceeds from sales and redemptions related to the default funds and margin deposits of our clearing operations. For further information, see "Default Fund Contributions and Margin Deposits," within Note 14, "Clearing Operations."

See accompanying notes to condensed consolidated financial statements.

Nasdaq, Inc.

Notes to Condensed Consolidated Financial Statements

(Unaudited)

1. ORGANIZATION AND NATURE OF OPERATIONS

Nasdaq is a global technology company serving corporate clients, investment managers, banks, brokers, and exchange operators as they navigate and interact with the global capital markets and the broader financial system. We aspire to deliver world-leading platforms that improve the liquidity, transparency, and integrity of the global economy. Our diverse offering of data, analytics, software, exchange capabilities, and client-centric services enables clients to optimize and execute their business vision with confidence.

In September 2022, we announced a new organizational structure which aligns our businesses more closely with the foundational shifts that are driving the evolution of the global financial system. In order to amplify our strategy, we aligned the Company more closely with evolving client needs. As a result, our four previous business segments, Market Technology, Investment Intelligence, Corporate Platforms and Market Services, have been changed to align with our new corporate structure that now includes three business segments: Capital Access Platforms, Market Platforms, and Anti-Financial Crime.

Market Platforms

Our Market Platforms segment includes our Trading Services and Marketplace Technology businesses. Our Trading Services business primarily includes revenues from equity derivatives trading, cash equity trading, Nordic fixed income trading & clearing, Nordic commodities and U.S. Tape plans data. We operate multiple exchanges and other marketplace facilities across several asset classes, including derivatives, commodities, cash equity, debt, structured products and ETPs. In addition, in certain countries where we operate exchanges, we also provide clearing, settlement and central depository services. In June 2023, we entered into an agreement to sell our European energy trading and clearing business, subject to regulatory approval. Beginning in the third quarter of 2023, we will reflect revenues from this business in Other Revenues in the Condensed Consolidated Statements of Income for all periods, and in our Corporate segment for our segment disclosures.

Our transaction-based platforms provide market participants with the ability to access, process, display and integrate orders and quotes. The platforms allow the routing and execution of buy and sell orders as well as the reporting of transactions, providing fee-based revenues.

Our Trading Services business also includes our carbon removal offering through Puro.earth, a Finnish-based leading carbon crediting platform, in which Nasdaq holds a majority stake.

Our Marketplace Technology business includes our trade management services and our market technology businesses.

Trade management services provides market participants with a wide variety of alternatives for connecting to and accessing our markets for a fee. Our marketplaces may be accessed via a number of different protocols used for quoting, order entry, trade reporting and connectivity to various data feeds. We also provide colocation services to market participants, whereby we offer firms cabinet space and power to house their own equipment and servers within our data centers. Additionally, we offer a number of wireless connectivity offerings between select data centers using millimeter wave and microwave technology. In June 2022, we completed the wind-down of our Nordic broker services business.

Our market technology business is a leading global technology solutions provider and partner to exchanges, clearing organizations, central securities depositories, regulators, banks, brokers, buy-side firms and corporate businesses. Our solutions are utilized by leading markets in the U.S., Europe and Asia as well as emerging markets in the Middle East, Latin America, and Africa.

Capital Access Platforms

Our Capital Access Platforms segment includes our Data & Listing Services, Index and Workflow & Insights businesses.

Our Data business sells and distributes historical and real-time market data to the sell-side, the institutional investing community, retail online brokers, proprietary trading firms and other venues, as well as internet portals and data distributors. Our data products can enhance transparency of market activity within our exchanges and provide critical information to professional and non-professional investors globally. Additionally, our Nasdaq Cloud Data Service provides a flexible and efficient method of delivery for real-time exchange data and other financial information.

Our Listing Services business operates in the U.S. and Europe on a variety of listing platforms around the world to provide multiple global capital raising solutions for public companies. Our main listing markets are The Nasdaq Stock Market and the Nasdaq Nordic and Nasdaq Baltic exchanges. Through Nasdaq First North, our Nordic and Baltic operations also offer alternative marketplaces for smaller companies and growth companies.

As of June 30, 2023, there were 4,106 total listings on The Nasdaq Stock Market, including 547 ETPs. The combined market capitalization was approximately \$24.6 trillion. In Europe, the Nasdaq Nordic and Nasdaq Baltic exchanges, together with Nasdaq First North, were home to 1,249 listed companies with a combined market capitalization of approximately \$1.9 trillion.

Our Index business develops and licenses Nasdaq-branded indexes and financial products. We also license cash-settled options, futures and options on futures on our indexes. As of June 30, 2023, 386 ETPs listed on 26 exchanges in over 20 countries tracked a Nasdaq index and accounted for \$418 billion in AUM.

Workflow & Insights includes our analytics and corporate solutions businesses. Our analytics business provides asset managers, investment consultants and institutional asset owners with information and analytics to make data-driven investment decisions, deploy their resources more productively, and provide liquidity solutions for private funds. Through our eVestment and Solovis solutions, we provide a suite of cloud-based solutions that help institutional investors and consultants conduct pre-investment due diligence, and monitor their portfolios post-investment. The eVestment platform also enables asset managers to efficiently distribute information about their firms and funds to asset owners and consultants worldwide.

Through our Solovis platform, endowments, foundations, pensions and family offices transform how they collect and aggregate investment data, analyze portfolio performance, model and predict future outcomes, and share meaningful portfolio insights with key stakeholders. The Nasdaq Fund Network and Nasdaq Data Link are additional platforms in our suite of investment data analytics offerings and data management tools.

Our corporate solutions business includes our Investor Relations Intelligence, ESG Solutions and Governance Solutions products, which serve both public and private companies and organizations. Our public company clients can be companies listed on our exchanges or other U.S. and global exchanges. Our private company clients include a diverse group of organizations ranging from family-owned companies, government organizations, law firms, privately held entities, and various non-profit organizations to hospitals and healthcare systems. We help organizations enhance their ability to understand and expand their global shareholder base, improve corporate governance, and navigate the evolving ESG landscape through our suite of advanced technology, analytics, reporting and consulting services. In June 2022, we acquired Metrio, a provider of ESG data collection, analytics and reporting services based in Montreal, Canada. We are integrating Metrio's SaaS platform into our suite of ESG solutions.

Anti-Financial Crime

Our Anti-Financial Crime segment provides cloud-based anti-financial crime management solutions to help financial institutions detect, investigate, and report money laundering and financial fraud. This segment also includes Nasdaq Trade Surveillance, a SaaS solution designed for brokers and other market participants to assist them in complying with market rules, regulations and internal market surveillance policies, as well as Nasdaq Market Surveillance, a market surveillance solution for markets and regulators.

2. BASIS OF PRESENTATION AND PRINCIPLES OF CONSOLIDATION

The condensed consolidated financial statements are prepared in accordance with U.S. GAAP and include the accounts of Nasdaq, its wholly-owned subsidiaries and other entities in which Nasdaq has a controlling financial interest. When we do not have a controlling interest in an entity, but exercise significant influence over the entity's operating and financial policies, such investment is accounted for under the equity method of accounting. We recognize our share of earnings or losses of an equity method investee based on our ownership percentage. See "Equity Method Investments," of Note 6, "Investments," for further discussion of our equity method investments.

The accompanying condensed consolidated financial statements reflect all adjustments which are, in the opinion of management, necessary for a fair statement of the results. These adjustments are of a normal recurring nature. All significant intercompany accounts and transactions have been eliminated in consolidation.

As permitted under U.S. GAAP, certain footnotes or other financial information can be condensed or omitted in the interim condensed consolidated financial statements. The information included in this Quarterly Report on Form 10-Q should be read in conjunction with the consolidated financial statements and accompanying notes included in Nasdaq's Form 10-K. The year-end condensed balance sheet data was derived from the audited financial statements, but does not include all disclosures required by U.S. GAAP.

Certain prior year amounts have been reclassified to conform to the current year presentation.

Accounting Estimates

In preparing our condensed consolidated financial statements, we make assumptions, judgments and estimates that can have a significant impact on our revenue, operating income and net income, as well as on the value of certain assets and liabilities in our Condensed Consolidated Balance Sheets. At least quarterly, we evaluate our assumptions, judgments and estimates, and make changes as deemed necessary.

Stock Split Effected in the Form of a Stock Dividend

On August 26, 2022, we effected a 3-for-1 stock split of the Company's common stock in the form of a stock dividend to shareholders of record as of August 12, 2022. The par value per share of our common stock remains \$0.01 per share. All references made with respect to a number of shares or per share amounts throughout this Quarterly Report on Form 10-Q have been retroactively adjusted to reflect the stock split.

Subsequent Events

There have been no subsequent events through the issuance date of this Quarterly Report on Form 10-Q that would require disclosure in, or adjustment to, the condensed consolidated financial statements.

3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Disaggregation of Revenue

The following tables summarize the disaggregation of revenue by major product and service and by segment for the three and six months ended June 30, 2023 and 2022:

	Three Months Ended June 30,	
	2023	2022
	(in millions)	
Market Platforms		
Trading Services, net	\$ 250	\$ 252
Marketplace Technology	147	140
Capital Access Platforms		
Data & Listing Services	187	183
Index	129	124
Workflow & Insights	122	115
Anti-Financial Crime	89	75
Other revenues	1	4
Revenues less transaction-based expenses	<u>\$ 925</u>	<u>\$ 893</u>

	Six Months Ended June 30,	
	2023	2022
	(in millions)	
Market Platforms		
Trading Services, net	\$ 518	\$ 516
Marketplace Technology	292	272
Capital Access Platforms		
Data & Listing Services	373	365
Index	239	246
Workflow & Insights	242	230
Anti-Financial Crime	173	147
Other revenues	1	9
Revenues less transaction-based expenses	<u>\$ 1,838</u>	<u>\$ 1,785</u>

Substantially all revenues from the Capital Access Platforms and Anti-Financial Crime segments as well as our Marketplace Technology business were recognized over time for the three and six months ended June 30, 2023 and 2022. For the three and six months ended June 30, 2023 and 2022 approximately 92.9% and 93.8%, respectively, of Trading Services revenues were recognized at a point in time and 7.1% and 6.2%, respectively, were recognized over time.

Contract Balances

Substantially all of our revenues are considered to be revenues from contracts with customers. The related accounts receivable balances are recorded in our Condensed Consolidated Balance Sheets as receivables, which are net of allowance for doubtful accounts of \$12 million as of June 30, 2023 and \$15 million as of December 31, 2022. There were no material upward or downward adjustments to the allowance during the six months ended June 30, 2023. We do not have obligations for warranties, returns or refunds to customers.

For the majority of our contracts with customers, except for our market technology and listing services contracts, our performance obligations range from three months to three years and there is no significant variable consideration.

Deferred revenue is the only significant contract asset or liability as of June 30, 2023. Deferred revenue represents consideration received that is yet to be recognized as revenue for unsatisfied performance obligations. Deferred revenue primarily represents our contract liabilities related to our fees for Annual and Initial Listings, Workflow & Insights, Market Technology and Anti-Financial Crime contracts. See Note 7, "Deferred Revenue," for our discussion on deferred revenue balances, activity, and expected timing of recognition.

We do not have a material amount of revenue recognized from performance obligations that were satisfied in prior periods. We do not provide disclosures about transaction price allocated to unsatisfied performance obligations if contract durations are less than one year. For our initial listings, the transaction price allocated to remaining performance obligations is included in deferred revenue. For our Market Technology, Anti-Financial Crime, and Workflow & Insights contracts, the portion of transaction price allocated to unsatisfied performance obligations is presented in the table below. To the extent consideration has been received, unsatisfied performance obligations would be included in the table below as well as deferred revenue.

The following table summarizes the amount of the transaction price allocated to performance obligations that are unsatisfied, for contract durations greater than one year, as of June 30, 2023:

	Market Technology	Anti-Financial Crime	Workflow & Insights	Total
	(in millions)			
Remainder of 2023	\$ 92	\$ 209	\$ 77	\$ 378
2024	164	332	108	604
2025	131	131	51	313
2026	101	51	14	166
2027	68	14	9	91
2028+	119	6	2	127
Total	<u>\$ 675</u>	<u>\$ 743</u>	<u>\$ 261</u>	<u>\$ 1,679</u>

4. ACQUISITIONS

2023 Announced Acquisition

In June 2023, we entered into a definitive agreement to acquire Adenza Holdings, Inc., or Adenza, a provider of mission-critical risk management and regulatory software to the financial services industry, for \$10.5 billion, comprised of \$5.75 billion in cash and a fixed amount of 85.6 million shares of Nasdaq common stock, based on the volume-weighted average price per share over 15 consecutive trading days prior to signing. Nasdaq issued \$5.0 billion of debt and entered into a \$600 million term loan and will use the proceeds for the cash portion of the consideration. See “Financing of the Adenza Transaction” and “Acquisition Term Loan Agreement” of Note 8, “Debt Obligations,” for further discussion.

At the closing of the transaction, Nasdaq will issue the shares to Thoma Bravo, the sole shareholder of Adenza. These shares will represent approximately 14.9% of the outstanding shares of Nasdaq as of the date of the merger agreement. As previously announced, at the closing of the transaction, Nasdaq and Thoma Bravo will enter into a stockholders' agreement providing for certain post-closing governance arrangements with respect to the Nasdaq shares to be received by Thoma Bravo in the transaction. For further discussion on the rights of common stockholders refer to “Common Stock” of Note 11, “Nasdaq Stockholders' Equity.” The closing of this transaction is subject to regulatory approvals and other customary closing conditions.

2022 Acquisition

In June 2022, we acquired Metrio, a provider of ESG data collection, analytics and reporting services based in Montreal, Canada. We are integrating Metrio's SaaS platform into our suite of ESG solutions. Metrio is part of our Workflow & Insights business in our Capital Access Platforms segment.

Pro Forma Results and Acquisition-Related Costs

The condensed consolidated financial statements for the six months ended June 30, 2023 include the financial results of the 2022 acquisition from the date of the acquisition. Pro forma financial results have not been presented since this acquisition was not material to our financial results.

Acquisition-related costs for the transactions described above were expensed as incurred and are included in merger and strategic initiatives expense in the Condensed Consolidated Statements of Income. For the three and six months ended June 30, 2023 these costs primarily related to our planned acquisition of Adenza and mainly included fees for the transaction bridge financing, which was subsequently terminated, consulting and legal fees. Subject to the closing of the Adenza acquisition we expect to incur customary costs related to transaction advisors which will be included in merger and strategic initiatives expense in the Condensed Consolidated Statements of Income.

5. GOODWILL AND ACQUIRED INTANGIBLE ASSETS

Goodwill

The following table presents the changes in goodwill by business segment during the six months ended June 30, 2023:

	(in millions)
Market Platforms	
Balance at December 31, 2022	\$ 2,912
Foreign currency translation adjustments	(50)
Balance at June 30, 2023	\$ 2,862
Capital Access Platforms	
Balance at December 31, 2022	\$ 4,178
Foreign currency translation adjustments	(27)
Balance at June 30, 2023	\$ 4,151
Anti-Financial Crime	
Balance at December 31, 2022	\$ 1,009
Foreign currency translation adjustments	(2)
Balance at June 30, 2023	\$ 1,007
Total	
Balance at December 31, 2022	\$ 8,099
Foreign currency translation adjustments	(79)
Balance at June 30, 2023	\$ 8,020

Goodwill represents the excess of purchase price over the value assigned to the net assets, including identifiable intangible assets, of a business acquired. Goodwill is allocated to our reporting units based on the assignment of the fair values of each reporting unit of the acquired company. We test goodwill for impairment at the reporting unit level annually, or in interim periods if certain events occur indicating that the carrying amount may be impaired, such as changes in the business climate, poor indicators of operating performance or the sale or disposition of a significant portion of a reporting unit. There was no impairment of goodwill for the three and six months ended June 30, 2023 and 2022; however, events such as prolonged economic weakness or unexpected significant declines in operating results of any of our reporting units or businesses may result in goodwill impairment charges in the future.

Acquired Intangible Assets

The following table presents details of our total acquired intangible assets, both finite- and indefinite-lived:

	June 30, 2023	December 31, 2022
	(in millions)	
Finite-Lived Intangible Assets		
Gross Amount		
Technology	\$ 304	\$ 304
Customer relationships	2,005	2,005
Trade names and other	57	60
Foreign currency translation adjustment	(220)	(209)
Total gross amount	\$ 2,146	\$ 2,160
Accumulated Amortization		
Technology	\$ (119)	\$ (97)
Customer relationships	(833)	(778)
Trade names and other	(16)	(17)
Foreign currency translation adjustment	131	120
Total accumulated amortization	\$ (837)	\$ (772)
Net Amount		
Technology	\$ 185	\$ 207
Customer relationships	1,172	1,227
Trade names and other	41	43
Foreign currency translation adjustment	(89)	(89)
Total finite-lived intangible assets	\$ 1,309	\$ 1,388
Indefinite-Lived Intangible Assets		
Exchange and clearing registrations	\$ 1,257	\$ 1,257
Trade names	121	121
Licenses	52	52
Foreign currency translation adjustment	(249)	(237)
Total indefinite-lived intangible assets	\$ 1,181	\$ 1,193
Total intangible assets, net	\$ 2,490	\$ 2,581

There was no impairment of indefinite-lived intangible assets for the three and six months ended June 30, 2023 and 2022.

The following table presents our amortization expense for acquired finite-lived intangible assets:

	Three Months Ended June 30,	
	2023	2022
	(in millions)	
Amortization expense	\$ 37	\$ 39

	Six Months Ended June 30,	
	2023	2022
	(in millions)	
Amortization expense	\$ 75	\$ 78

The table below presents the estimated future amortization expense (excluding the impact of foreign currency translation adjustments of \$89 million as of June 30, 2023) of acquired finite-lived intangible assets as of June 30, 2023:

	(in millions)
Remainder of 2023	\$ 80
2024	153
2025	151
2026	148
2027	147
2028+	719
Total	\$ 1,398

6. INVESTMENTS

The following table presents the details of our investments:

	June 30, 2023	December 31, 2022
	(in millions)	
Financial investments	\$ 288	\$ 181
Equity method investments	390	390
Equity securities	78	86

Financial Investments

Financial investments are comprised of trading securities, primarily highly rated European government debt securities, of which \$156 million as of June 30, 2023 and \$161 million as of December 31, 2022 are assets primarily utilized to meet regulatory capital requirements, mainly for our clearing operations at Nasdaq Clearing.

Equity Method Investments

We record our estimated pro-rata share of earnings or losses each reporting period and record any dividends as a reduction in the investment balance. As of June 30, 2023 and 2022, our equity method investments primarily included our 40.0% equity interest in OCC.

The carrying amounts of our equity method investments are included in other non-current assets in the Condensed Consolidated Balance Sheets. No impairments were recorded for the three and six months ended June 30, 2023 and 2022.

Net income (loss) recognized from our equity interest in the earnings and losses of these equity method investments, primarily OCC and Nasdaq Private Market, LLC or NPM, was \$(11) million and \$9 million for the three months ended June 30, 2023 and 2022, respectively, and \$3 million and \$15 million for the six months ended June 30, 2023 and 2022, respectively.

Equity Securities

The carrying amounts of our equity securities are included in other non-current assets in the Condensed Consolidated Balance Sheets. We elected the measurement alternative for substantially all of our equity securities as they do not have a readily determinable fair value. No material adjustments were made to the carrying value of our equity securities for the three and six months ended June 30, 2023 and 2022. As of June 30, 2023 and December 31, 2022, our equity securities primarily represent various strategic investments made through our corporate venture program.

7. DEFERRED REVENUE

Deferred revenue represents consideration received that is yet to be recognized as revenue. The changes in our deferred revenue during the six months ended June 30, 2023 are reflected in the following table:

	Balance at December 31, 2022	Additions	Revenue Recognized (in millions)	Adjustments	Balance at June 30, 2023
Market Platforms:					
Market Technology	\$ 29	\$ 18	\$ (22)	\$ (1)	\$ 24
Capital Access Platforms:					
Initial Listings	116	9	(20)	—	105
Annual Listings	2	182	(1)	(1)	182
Workflow & Insights	172	131	(119)	—	184
Anti-Financial Crime	108	91	(82)	—	117
Other	21	11	(8)	—	24
Total	\$ 448	\$ 442	\$ (252)	\$ (2)	\$ 636

In the above table:

- Additions primarily reflect deferred revenue billed in the current period, net of recognition.
- Revenue recognized includes revenue recognized during the current period that was included in the beginning balance.
- Adjustments reflect foreign currency translation adjustments.
- Other primarily includes deferred revenue from our non-U.S. listing of additional shares fees and our Index business. These fees are included in our Capital Access Platforms segment.

As of June 30, 2023, we estimate that our deferred revenue will be recognized in the following years:

Fiscal year ended:	2023	2024	2025	2026	2027	2028+	Total
	(in millions)						
Market Platforms:							
Market Technology	\$ 21	\$ 3	\$ —	\$ —	\$ —	\$ —	\$ 24
Capital Access Platforms:							
Initial Listings	21	32	23	18	9	2	105
Annual Listings	182	—	—	—	—	—	182
Workflow & Insights	139	45	—	—	—	—	184
Anti-Financial Crime	88	29	—	—	—	—	117
Other	11	7	4	2	—	—	24
Total	\$ 462	\$ 116	\$ 27	\$ 20	\$ 9	\$ 2	\$ 636

In the above table, the amounts shown under the column for 2023 represent the remaining six months of 2023.

The timing of recognition of deferred revenue related to certain market technology contracts represents our best estimates as the recognition is primarily dependent upon the completion of customization and any significant modifications made pursuant to existing market technology contracts.

8. DEBT OBLIGATIONS

The following table presents the carrying amounts of our debt outstanding, net of unamortized debt issuance costs:

	June 30, 2023	December 31, 2022
	(in millions)	
Short-term debt:		
Commercial paper	\$ 140	\$ 664
Long-term debt - senior unsecured notes:		
2025 Notes, \$500 million, 5.650% notes due June 28, 2025	497	—
2026 Notes, \$500 million, 3.850% notes due June 30, 2026	499	498
2028 Notes, \$1 billion, 5.350% notes due June 28, 2028	992	—
2029 Notes, €600 million, 1.75% notes due March 28, 2029	650	637
2030 Notes, €600 million, 0.875% notes due February 13, 2030	650	637
2031 Notes, \$650 million, 1.650% notes due January 15, 2031	644	644
2032 Notes, €750 million, 4.500% notes due February 15, 2032	810	—
2033 Notes, €615 million, 0.900% notes due July 30, 2033	666	653
2034 Notes \$1.25 billion, 5.550% notes due February 15, 2034	1,240	—
2040 Notes, \$650 million, 2.500% notes due December 21, 2040	644	644
2050 Notes, \$500 million, 3.250% notes due April 28, 2050	487	486
2052 Notes, \$550 million, 3.950% notes due March 7, 2052	541	541
2053 Notes, \$750 million, 5.950% notes due August 15, 2053	739	—
2063 Notes, \$750 million, 6.100% notes due June 28, 2063	738	—
2022 Revolving Credit Agreement	(5)	(5)
Total long-term debt	\$ 9,792	\$ 4,735
Total debt obligations	\$ 9,932	\$ 5,399

Commercial Paper Program

Our U.S. dollar commercial paper program is supported by our 2022 Revolving Credit Agreement, which provides liquidity support for the repayment of commercial paper issued through this program. See “2022 Revolving Credit Agreement” below for further discussion. The effective interest rate of commercial paper issuances fluctuates as short-term interest rates and demand fluctuate. The fluctuation of these rates may impact our interest expense.

As of June 30, 2023, commercial paper notes in the table above reflect the aggregate principal amount, less the unamortized discount, which is being accreted through interest expense over the life of the applicable notes. The original maturities of these notes range from 70 days to 91 days and as of June 30, 2023, the weighted-average maturity is 16 days with a weighted-average effective interest rate of 5.28% per annum.

Senior Unsecured Notes

Our 2040 Notes were issued at par. All of our other outstanding senior unsecured notes were issued at a discount. As a result of the discount, the proceeds received from each issuance were less than the aggregate principal amount. As of June 30, 2023, the amounts in the table above reflect the aggregate principal amount, less the unamortized debt discount and the unamortized debt issuance costs, which are being accreted through interest expense over the life of the applicable notes. The accretion of these costs is immaterial for the six months ended June 30, 2023. Our Euro denominated notes are adjusted for the impact of foreign currency translation. Our senior unsecured notes are general unsecured obligations which rank equally with all of our existing and future unsubordinated obligations and are not guaranteed by any of our subsidiaries. The senior unsecured notes were issued under indentures that, among other things, limit our ability to consolidate, merge or sell all or substantially all of our assets, create liens, and enter into sale and leaseback transactions. The senior unsecured notes may be redeemed by Nasdaq at any time, subject to a make-whole amount.

Upon a change of control triggering event (as defined in the various supplemental indentures governing the applicable notes), the terms require us to repurchase all or part of each holder’s notes for cash equal to 101% of the aggregate principal amount purchased plus accrued and unpaid interest, if any.

The 2029 Notes, 2030 Notes, 2032 Notes and 2033 Notes pay interest annually. All other notes pay interest semi-annually. The U.S senior unsecured notes coupon rates may vary with Nasdaq’s debt rating, to the extent Nasdaq is downgraded below investment grade, up to an upward rate adjustment not to exceed 2%.

Net Investment Hedge

Our Euro denominated notes have been designated as a hedge of our net investment in certain foreign subsidiaries to mitigate the foreign exchange risk associated with certain investments in these subsidiaries. Accordingly, the remeasurement of these notes is recorded in accumulated other comprehensive loss within Nasdaq’s stockholders’ equity in the Condensed Consolidated Balance Sheets. As of June 30, 2023, the impact of the translation of our Euro denominated notes was \$39 million.

Financing of the Adenza Transaction

Senior Unsecured Notes

In June 2023, Nasdaq issued a series of six notes for total proceeds of \$5,016 million, net of debt issuance costs, with various maturity dates ranging from 2025 to 2063. The net proceeds from these notes will be used to finance the majority of the cash consideration due in connection with the Adenza acquisition. The notes issued in connection with the Adenza financing (the 2025 Notes, 2028 Notes, the 2032 Notes, the 2034 Notes, the 2053 Notes and the 2063 Notes) are subject to a special mandatory redemption feature pursuant to which we will be required to redeem all of the outstanding notes at a redemption price equal to 101% of the aggregate principal amount of all the notes, plus accrued and unpaid interest, in the event that either Nasdaq notifies the trustee in respect of such notes that Nasdaq will no longer pursue the Adenza acquisition or that the closing of the Adenza acquisition does not occur on or before the later of (i) the date that is five business days after September 10, 2024 and (ii) the date that is five business days after any later date to which the seller and Nasdaq mutually agree to extend. For further discussion of the Adenza acquisition, see “2023 Announced Acquisition,” of Note 4, “Acquisitions.”

Acquisition Term Loan Agreement

In June 2023, in connection with the financing of the Adenza acquisition, we entered into a term loan credit agreement, or the Acquisition Term Loan Agreement. The Acquisition Term Loan Agreement provides us with the ability to borrow up to \$600 million to finance a portion of the cash consideration for the Adenza acquisition, for repayment of certain debt of Adenza and its subsidiaries, and to pay fees, costs and expenses related to the transaction.

Under the Acquisition Term Loan Agreement, borrowings bear interest on the principal amount outstanding at a variable interest rate based on either the SOFR or the base rate (or other applicable rate with respect to non-dollar borrowings), plus an applicable margin that varies with Nasdaq's credit rating. As of June 30, 2023, no amounts were outstanding.

Credit Facilities

2022 Revolving Credit Agreement

In December 2020, Nasdaq entered into the 2020 Credit Facility, which replaced a former credit facility and consists of a \$1.25 billion five-year revolving credit facility (with sublimits for non-dollar borrowings, swingline borrowings and letters of credit). We amended and restated the 2020 Credit Facility in December 2022 with a new maturity date of December 16, 2027. Nasdaq intends to use funds available under the 2022 Revolving Credit Agreement for general corporate purposes and to provide liquidity support for the repayment of commercial paper issued through the commercial paper program. Nasdaq is permitted to repay borrowings under our 2022 Revolving Credit Agreement at any time in whole or in part, without penalty.

As of June 30, 2023, no amounts were outstanding on the 2022 Revolving Credit Agreement. The \$(5) million balance represents unamortized debt issuance costs which are being accreted through interest expense over the life of the credit facility.

Borrowings under the revolving credit facility and swingline borrowings bear interest on the principal amount outstanding at a variable interest rate based on either the SOFR (or a successor rate to SOFR), the base rate (as defined in the 2022 credit agreement), or other applicable rate with respect to non-dollar borrowings, plus an applicable margin that varies with Nasdaq's debt rating. We are charged commitment fees of 0.100% to 0.250%, depending on our credit rating, whether or not amounts have been borrowed. These commitment fees are included in interest expense and were not material for the three and six months ended June 30, 2023 and 2022.

The 2022 Revolving Credit Agreement contains financial and operating covenants. Financial covenants include a maximum leverage ratio. Operating covenants include, among other things, limitations on Nasdaq's ability to incur additional indebtedness, grant liens on assets, dispose of assets and make certain restricted payments. The facility also contains customary affirmative covenants, including access to financial statements, notice of defaults and certain other material events, maintenance of properties and insurance, and customary events of default, including cross-defaults to our material indebtedness.

The 2022 Revolving Credit Agreement includes an option for Nasdaq to increase the available aggregate amount by up to \$750 million, subject to the consent of the lenders funding the increase and certain other conditions.

Other Credit Facilities

Certain of our European subsidiaries have several other credit facilities, which are available in multiple currencies, primarily to support our Nasdaq Clearing operations in Europe, as well as to provide a cash pool credit line for one subsidiary. These credit facilities, in aggregate, totaled \$178 million as of June 30, 2023 and \$184 million as of December 31, 2022 in available liquidity, none of which was utilized. Generally, these facilities each have a one-year term. The amounts borrowed under these various credit facilities bear interest on the principal amount outstanding at a variable interest rate based on a base rate (as defined in the applicable credit agreement), plus an applicable margin. We are charged commitment fees (as defined in the applicable credit agreement), whether or not amounts have been borrowed. These commitment fees are included in interest expense and were not material for the three and six months ended June 30, 2023 and 2022.

These facilities include customary affirmative and negative operating covenants and events of default.

Debt Covenants

As of June 30, 2023, we were in compliance with the covenants of all of our debt obligations.

9. RETIREMENT PLANS

Defined Contribution Savings Plan

We sponsor a 401(k) plan, which is a voluntary defined contribution savings plan, for U.S. employees. Employees are immediately eligible to make contributions to the plan and are also eligible for an employer contribution match at an amount equal to 100.0% of the first 6.0% of eligible employee contributions. The following table presents the savings plan expense for the three and six months ended June 30, 2023 and 2022, which is included in compensation and benefits expense in the Condensed Consolidated Statements of Income:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
	(in millions)			
Savings Plan expense	\$ 5	\$ 4	\$ 10	\$ 8

Pension and Supplemental Executive Retirement Plans

We maintain non-contributory, defined-benefit pension plans, non-qualified SERPs for certain senior executives and other post-retirement benefit plans for eligible employees in the U.S. Our pension plans and SERPs are frozen. Future service and salary for all participants do not count toward an accrual of benefits under the pension plans and SERPs. Most employees outside the U.S. are covered by local retirement plans or by applicable social laws. Benefits under social laws are generally expensed in the periods in which the costs are incurred. The following table presents the total expense for these plans for the three and six months ended June 30, 2023 and 2022, which is included in compensation and benefits expense in the Condensed Consolidated Statements of Income:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
	(in millions)			
Retirement Plans expense	\$ 7	\$ 6	\$ 13	\$ 12

Nonqualified Deferred Compensation Plan

In June 2022, we established the Nasdaq, Inc. Deferred Compensation Plan, a nonqualified plan. This plan provides certain eligible employees with the opportunity to defer a portion of their annual salary and bonus up to certain approval limits. All deferrals and associated earnings are our general unsecured obligations and were immaterial for the three and six months ended June 30, 2023.

10. SHARE-BASED COMPENSATION

We have a share-based compensation program for employees and non-employee directors. Share-based awards granted under this program include restricted stock (consisting of restricted stock units), PSUs and stock options. For accounting purposes, we consider PSUs to be a form of restricted stock. Generally, annual employee awards are granted on April 1st of each year.

Summary of Share-Based Compensation Expense

The following table presents the total share-based compensation expense resulting from equity awards and the 15.0% discount for the ESPP for the three and six months ended June 30, 2023 and 2022, which is included in compensation and benefits expense in the Condensed Consolidated Statements of Income:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
	(in millions)			
Share-based compensation expense before income taxes	\$ 34	\$ 25	\$ 60	\$ 49

Common Shares Available Under Our Equity Plan

As of June 30, 2023, we had approximately 24.7 million shares of common stock authorized for future issuance under our Equity Plan.

Restricted Stock

We grant restricted stock to most employees. The grant date fair value of restricted stock awards is based on the closing stock price at the date of grant less the present value of future cash dividends. Restricted stock awards granted to employees below the manager level generally vest 33% on the first anniversary of the grant date, 33% on the second anniversary of the grant date, and the remainder on the third anniversary of the grant date. Restricted stock awards granted to employees at or above the manager level generally vest 33% on the second anniversary of the grant date, 33% on the third anniversary of the grant date, and the remainder on the fourth anniversary of the grant date.

Summary of Restricted Stock Activity

The following table summarizes our restricted stock activity for the six months ended June 30, 2023:

	Restricted Stock	
	Number of Awards	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2022	4,380,513	\$ 45.48
Granted	1,642,971	52.63
Vested	(1,548,315)	36.40
Forfeited	(163,113)	49.67
Unvested at June 30, 2023	4,312,056	\$ 51.32

As of June 30, 2023, \$144 million of total unrecognized compensation cost related to restricted stock is expected to be recognized over a weighted-average period of 1.9 years.

PSUs

We grant three-year PSUs to certain eligible employees. PSUs are based on performance measures that impact the amount of shares that each recipient will receive upon vesting. Each eligible individual receives PSUs, subject to the satisfaction of applicable market performance conditions, with a three-year cumulative performance period that vest at the end of the performance period and which settle in shares of our common stock. Compensation cost is recognized over the three-year performance period, taking into account an estimated forfeiture rate, regardless of whether the market condition is satisfied, provided that the requisite service period has been completed. Performance will be determined by comparing Nasdaq's TSR to two peer groups, each weighted 50.0%. The first peer group consists of exchange companies, and the second peer group consists of all companies in the S&P 500. Nasdaq's relative performance ranking against each of these groups will determine the final number of shares delivered to each individual under the program. The award issuance under this program will be between 0.0% and 200.0% of the number of PSUs granted and will be determined by Nasdaq's overall performance against both peer groups. However, if Nasdaq's TSR is negative for the three-year performance period, regardless of TSR ranking, the award issuance will not exceed 100.0% of the number of PSUs granted. We estimate the fair value of PSUs granted under the three-year PSU program using the Monte Carlo simulation model, as these awards contain a market condition.

Grants of PSUs that were issued in 2020 with a three-year performance period exceeded the applicable performance parameters. As a result, an additional 764,748 units above the original target were granted in the first quarter of 2023 and were fully vested upon issuance.

The following weighted-average assumptions were used to determine the weighted-average fair values of the outstanding PSU awards granted under the three-year PSU program during the six months ended June 30, 2023 and 2022:

Grant date	April 3, 2023	April 1, 2022
Weighted-average risk-free interest rate	3.75 %	2.55 %
Expected volatility	23.88 %	30.30 %
Weighted-average grant date share price	\$ 54.40	\$ 60.64
Weighted-average fair value at grant date	\$ 52.56	\$ 63.50

In the table above, the risk-free interest rate for periods within the expected life of the award is based on the U.S. Treasury yield curve in effect at the time of grant; and we use historic volatility for PSU awards issued under the three-year PSU program, as implied volatility data could not be obtained for all the companies in the peer groups used for relative performance measurement within the program.

In addition, the annual dividend assumption utilized in the Monte Carlo simulation model is based on Nasdaq's dividend yield at the date of grant.

Summary of PSU Activity

The following table summarizes our PSU activity for the six months ended June 30, 2023:

	PSUs	
	Number of Awards	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2022	1,966,542	\$ 56.44
Granted	1,513,538	44.78
Vested	(1,529,496)	37.17
Forfeited	(20,455)	63.98
Unvested at June 30, 2023	1,930,129	\$ 62.18

In the table above, the granted amount also includes additional awards granted based on overachievement of performance parameters.

As of June 30, 2023, total unrecognized compensation cost related to the PSU program is \$63 million and is expected to be recognized over a weighted-average period of 1.6 years.

Stock Options

We had no stock option activity for the six months ended June 30, 2023. A summary of our outstanding and exercisable stock options at June 30, 2023 is as follows:

	Number of Stock Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at June 30, 2023	1,420,323	\$ 41.79	5.7	\$ 22
Exercisable at June 30, 2023	806,451	\$ 22.23	3.5	\$ 22

As of June 30, 2023, the aggregate pre-tax intrinsic value of the outstanding and exercisable stock options in the above table was \$22 million and represents the difference between our closing stock price on June 30, 2023 of \$49.85 and the exercise price, times the number of shares that would have been received by the option holder had the option holder exercised the stock options on that date. This amount can change based on the fair market value of our common stock. As of June 30, 2022, 0.8 million outstanding stock options were exercisable and the weighted-average exercise price was \$22.23.

ESPP

We have an ESPP under which approximately 11.7 million shares of our common stock were available for future issuance as of June 30, 2023. Under our ESPP, employees may purchase shares having a value not exceeding 10.0% of their annual compensation, subject to applicable annual Internal Revenue Service limitations. We record compensation expense related to the 15.0% discount that is given to our employees.

11. NASDAQ STOCKHOLDERS' EQUITY

Common Stock

As of June 30, 2023, 900,000,000 shares of our common stock were authorized, 514,060,903 shares were issued and 491,274,775 shares were outstanding. As of December 31, 2022, 900,000,000 shares of our common stock were authorized, 513,157,630 shares were issued and 491,592,491 shares were outstanding. The holders of common stock are entitled to one vote per share, except that our certificate of incorporation limits the ability of any shareholder to vote in excess of 5.0% of the then-outstanding shares of Nasdaq common stock.

Common Stock in Treasury, at Cost

We account for the purchase of treasury stock under the cost method with the shares of stock repurchased reflected as a reduction to Nasdaq stockholders' equity and included in common stock in treasury, at cost in the Condensed Consolidated Balance Sheets. Shares repurchased under our share repurchase program are currently retired and canceled and are therefore not included in the common stock in treasury balance. If treasury shares are reissued, they are recorded at the average cost of the treasury shares acquired. We held 22,786,128 shares of common stock in treasury as of June 30, 2023 and 21,565,139 shares as of December 31, 2022, most of which are related to shares of our common stock withheld for the settlement of employee tax withholding obligations arising from the vesting of restricted stock and PSUs.

Share Repurchase Program

As of June 30, 2023, the remaining aggregate authorized amount under the existing share repurchase program was \$491 million.

These repurchases may be made from time to time at prevailing market prices in open market purchases, privately-negotiated transactions, block purchase techniques, an accelerated share repurchase program or otherwise, as determined by our management. The repurchases are primarily funded from existing cash balances. The share repurchase program may be suspended, modified or discontinued at any time, and has no defined expiration date.

The following is a summary of our share repurchase activity, reported based on settlement date, for the six months ended June 30, 2023:

	Six Months Ended June 30, 2023
Number of shares of common stock repurchased	2,610,000
Average price paid per share	\$ 61.08
Total purchase price (in millions)	\$ 159

In the table above, the number of shares of common stock repurchased excludes an aggregate of 1,220,989 shares withheld upon the vesting of restricted stock and PSUs for the six months ended June 30, 2023.

As discussed above in "Common Stock in Treasury, at Cost," shares repurchased under our share repurchase program are currently retired and cancelled.

Preferred Stock

Our certificate of incorporation authorizes the issuance of 30,000,000 shares of preferred stock, par value \$0.01 per share, issuable from time to time in one or more series. As of June 30, 2023 and December 31, 2022, no shares of preferred stock were issued or outstanding.

Cash Dividends on Common Stock

During the first six months of 2023, our board of directors declared and paid the following cash dividends:

Declaration Date	Dividend Per Common Share	Record Date	Total Amount Paid	Payment Date
(in millions)				
January 24, 2023	\$ 0.20	March 17, 2023	\$ 97	March 31, 2023
April 18, 2023	0.22	June 16, 2023	109	June 30, 2023
			<u>\$ 206</u>	

The total amount paid of \$206 million was recorded in retained earnings within Nasdaq's stockholders' equity in the Condensed Consolidated Balance Sheets at June 30, 2023.

In July 2023, the board of directors approved a regular quarterly cash dividend of \$0.22 per share on our outstanding common stock. The dividend is payable on September 29, 2023 to shareholders of record at the close of business on September 15, 2023. The estimated aggregate payment of this dividend is \$108 million. Future declarations of quarterly dividends and the establishment of future record and payment dates are subject to approval by the board of directors.

The board of directors maintains a dividend policy with the intention to provide stockholders with regular and increasing dividends as earnings and cash flows increase.

12. EARNINGS PER SHARE

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

	Three Months Ended June 30,	
	2023	2022
(in millions, except share and per share amounts)		
Numerator:		
Net income attributable to common shareholders	\$ 267	\$ 307
Denominator:		
Weighted-average common shares outstanding for basic earnings per share	490,778,304	492,235,377
Weighted-average effect of dilutive securities - Employee equity awards	2,852,781	4,344,750
Weighted-average common shares outstanding for diluted earnings per share	493,631,085	496,580,127
Basic and diluted earnings per share:		
Basic earnings per share	\$ 0.54	\$ 0.62
Diluted earnings per share	\$ 0.54	\$ 0.62
Six Months Ended June 30,		
(in millions, except share and per share amounts)		
Numerator:		
Net income attributable to common shareholders	\$ 568	\$ 590
Denominator:		
Weighted-average common shares outstanding for basic earnings per share	490,357,081	493,681,821
Weighted-average effect of dilutive securities - Employee equity awards	3,845,307	5,472,414
Weighted-average common shares outstanding for diluted earnings per share	494,202,388	499,154,235
Basic and diluted earnings per share:		
Basic earnings per share	\$ 1.16	\$ 1.20
Diluted earnings per share	\$ 1.15	\$ 1.18

In the table above, employee equity awards from our PSU program, which are considered contingently issuable, are included in the computation of diluted earnings per share on a weighted average basis when management determines that the applicable performance criteria would have been met if the performance period ended as of the date of the relevant computation.

Securities that were not included in the computation of diluted earnings per share because their effect was antidilutive were immaterial for the three and six months ended June 30, 2023 and 2022.

13. FAIR VALUE OF FINANCIAL INSTRUMENTS

The following tables present our financial assets and financial liabilities that were measured at fair value on a recurring basis as of June 30, 2023 and December 31, 2022.

	June 30, 2023			
	Total	Level 1	Level 2	Level 3
(in millions)				
European government debt securities	\$ 144	\$ 144	\$ —	\$ —
State-owned enterprises and municipal securities	120	—	120	—
Swedish mortgage bonds	19	—	19	—
Corporate debt securities	5	—	5	—
Total assets at fair value	\$ 288	\$ 144	\$ 144	\$ —
December 31, 2022				
(in millions)				
European government debt securities	\$ 147	\$ 147	\$ —	\$ —
State-owned enterprises and municipal securities	7	—	7	—
Swedish mortgage bonds	20	—	20	—
Corporate debt securities	7	—	7	—
Total assets at fair value	\$ 181	\$ 147	\$ 34	\$ —

Financial Instruments Not Measured at Fair Value on a Recurring Basis

Some of our financial instruments are not measured at fair value on a recurring basis but are recorded at amounts that approximate fair value due to their liquid or short-term nature. Such financial assets and financial liabilities include: cash and cash equivalents, restricted cash and cash equivalents, receivables, net, certain other current assets, accounts payable and accrued expenses, Section 31 fees payable to SEC, accrued personnel costs, commercial paper and certain other current liabilities.

Our investment in OCC is accounted for under the equity method of accounting. We have elected the measurement alternative for the majority of our equity securities, which primarily represent various strategic investments made through our corporate venture program. See "Equity Method Investments," and "Equity Securities," of Note 6, "Investments," for further discussion.

We also consider our debt obligations to be financial instruments. As of June 30, 2023, the majority of our debt obligations were fixed-rate obligations. We are exposed to changes in interest rates as a result of borrowings under our 2022 Revolving Credit Agreement, as the interest rates on this facility have a variable rate depending on the maturity of the borrowing and the implied underlying reference rate. As of June 30, 2023, we had no outstanding borrowings under our 2022 Revolving Credit Agreement. We are also exposed to changes in interest rates as a result of the amounts outstanding from the sale of commercial paper under our commercial paper program. As of June 30, 2023, we had \$140 million outstanding under our commercial paper program. The fair value of our remaining debt obligations utilizing discounted cash flow analyses for our floating rate debt, and prevailing market rates for our fixed rate debt was \$9.0 billion as of June 30, 2023 and \$4.4 billion as of December 31, 2022. The discounted cash flow analyses are based on borrowing rates currently available to us for debt with similar terms and maturities. The fair value of our commercial paper as of June 30, 2023 approximated the carrying value since the rates of interest on this short-term debt approximated market rates. Our commercial paper and our fixed rate and floating rate debt are categorized as Level 2 in the fair value hierarchy.

For further discussion of our debt obligations, see Note 8, “Debt Obligations.”

Non-Financial Assets Measured at Fair Value on a Non-Recurring Basis

Our non-financial assets, which include goodwill, intangible assets, and other long-lived assets, are not required to be carried at fair value on a recurring basis. Fair value measures of non-financial assets are primarily used in the impairment analysis of these assets. Any resulting asset impairment would require that the non-financial asset be recorded at its fair value. Nasdaq uses Level 3 inputs to measure the fair value of the above assets on a non-recurring basis. As of June 30, 2023 and December 31, 2022, there were no non-financial assets measured at fair value on a non-recurring basis.

14. CLEARING OPERATIONS

Nasdaq Clearing

Nasdaq Clearing is authorized and supervised under EMIR as a multi-asset clearinghouse by the SFSA. Such authorization is effective for all member states of the European Union and certain other non-member states that are part of the European Economic Area, including Norway. The clearinghouse acts as the CCP for exchange and OTC trades in equity derivatives, fixed income derivatives, resale and repurchase contracts, power derivatives, emission allowance derivatives, and seafood derivatives. In June 2023, we entered into an agreement to sell our European energy trading and clearing business, subject to regulatory approval.

Through our clearing operations in the financial markets, which include the resale and repurchase market, the commodities markets, and the seafood market, Nasdaq Clearing is the legal counterparty for, and guarantees the fulfillment of, each contract cleared. These contracts are not used by Nasdaq Clearing for the purpose of trading on its own behalf. As the legal counterparty of each transaction, Nasdaq Clearing bears the counterparty risk between the purchaser and seller in the contract. In its guarantor role, Nasdaq Clearing has precisely equal and offsetting claims to and from clearing members on opposite sides of each contract, standing as the CCP on every contract cleared. In accordance with the rules and regulations of Nasdaq Clearing, default fund and margin collateral requirements are calculated for each clearing member’s positions in accounts with the CCP. See “Default Fund Contributions and Margin Deposits” below for further discussion of Nasdaq Clearing’s default fund and margin requirements.

Nasdaq Clearing maintains three member sponsored default funds: one related to financial markets, one related to commodities markets and one related to the seafood market. Under this structure, Nasdaq Clearing and its clearing members must contribute to the total regulatory capital related to the clearing operations of Nasdaq Clearing. This structure applies an initial separation of default fund contributions for the financial, commodities and seafood markets in order to create a buffer for each market’s counterparty risks. See “Default Fund Contributions” below for further discussion of Nasdaq Clearing’s default fund. A power of assessment and a liability waterfall have also been implemented to further align risk between Nasdaq Clearing and its clearing members. See “Power of Assessment” and “Liability Waterfall” below for further discussion.

Default Fund Contributions and Margin Deposits

As of June 30, 2023, clearing member default fund contributions and margin deposits were as follows:

	June 30, 2023		
	Cash Contributions	Non-Cash Contributions	Total Contributions
	(in millions)		
Default fund contributions \$	1,187	\$ 209	\$ 1,396
Margin deposits	5,947	5,434	11,381
Total	\$ 7,134	\$ 5,643	\$ 12,777

Of the total default fund contributions of \$1,396 million, Nasdaq Clearing can utilize \$1,284 million as capital resources in the event of a counterparty default. The remaining balance of \$112 million pertains to member posted surplus balances.

Our clearinghouse holds material amounts of clearing member cash deposits which are held or invested primarily to provide security of capital while minimizing credit, market and liquidity risks. While we seek to achieve a reasonable rate of return, we are primarily concerned with preservation of capital and managing the risks associated with these deposits.

Clearing member cash contributions are maintained in demand deposits held at central banks and large, highly rated financial institutions or secured through direct investments, primarily central bank certificates and highly rated European government debt securities with original maturities primarily one year or less, reverse repurchase agreements and multilateral development bank debt securities. Investments in reverse repurchase agreements range in maturity from 3 to 7 days and are secured with highly rated government securities and multilateral development banks. The carrying value of these securities approximates their fair value due to the short-term nature of the instruments and reverse repurchase agreements.

Nasdaq Clearing has invested the total cash contributions of \$7,134 million as of June 30, 2023 and \$7,021 million as of December 31, 2022, in accordance with its investment policy as follows:

	June 30, 2023	December 31, 2022
	(in millions)	
Demand deposits	\$ 5,226	\$ 4,775
Central bank certificates	1,271	1,695
Restricted cash and cash equivalents	\$ 6,497	\$ 6,470
European government debt securities	130	222
Reverse repurchase agreements	447	192
Multilateral development bank debt securities	60	137
Investments	\$ 637	\$ 551
Total	\$ 7,134	\$ 7,021

In the table above, the change from December 31, 2022 to June 30, 2023 includes currency translation adjustments of \$234 million for restricted cash and cash equivalents and \$17 million for investments.

For the six months ended June 30, 2023 and 2022, investments related to default funds and margin deposits, net includes purchases of investment securities of \$19,956 million and \$17,539 million, respectively, and proceeds from sales and redemptions of investment securities of \$19,853 million and \$17,337 million, respectively.

In the investment activity related to default fund and margin contributions, we are exposed to counterparty risk related to reverse repurchase agreement transactions, which reflect the risk that the counterparty might become insolvent and, thus, fail to meet its obligations to Nasdaq Clearing. We mitigate this risk by only engaging in transactions with high credit quality reverse repurchase agreement counterparties and by

limiting the acceptable collateral under the reverse repurchase agreement to high quality issuers, primarily government securities and other securities explicitly guaranteed by a government. The value of the underlying security is monitored during the lifetime of the contract, and in the event the market value of the underlying security falls below the reverse repurchase amount, our clearinghouse may require additional collateral or a reset of the contract.

Default Fund Contributions

Required contributions to the default funds are proportional to the exposures of each clearing member. When a clearing member is active in more than one market, contributions must be made to all markets' default funds in which the member is active. Clearing members' eligible contributions may include cash and non-cash contributions. Cash contributions received are maintained in demand deposits held at central banks and large, highly rated financial institutions or invested by Nasdaq Clearing, in accordance with its investment policy, either in central bank certificates, highly rated government debt securities, reverse repurchase agreements with highly rated government debt securities as collateral, or multilateral development bank debt securities. Nasdaq Clearing maintains and manages all cash deposits related to margin collateral. All risks and rewards of collateral ownership, including interest, belong to Nasdaq Clearing. Clearing members' cash contributions are included in default funds and margin deposits in the Condensed Consolidated Balance Sheets as both a current asset and a current liability. Non-cash contributions include highly rated government debt securities that must meet specific criteria approved by Nasdaq Clearing. Non-cash contributions are pledged assets that are not recorded in the Condensed Consolidated Balance Sheets as Nasdaq Clearing does not take legal ownership of these assets and the risks and rewards remain with the clearing members. These balances may fluctuate over time due to changes in the amount of deposits required and whether members choose to provide cash or non-cash contributions. Assets pledged are held at a nominee account in Nasdaq Clearing's name for the benefit of the clearing members and are immediately accessible by Nasdaq Clearing in the event of a default.

In addition to clearing members' required contributions to the liability waterfall, Nasdaq Clearing is also required to contribute capital to the liability waterfall and overall regulatory capital as specified under its clearinghouse rules. As of June 30, 2023, Nasdaq Clearing committed capital totaling \$120 million to the liability waterfall and overall regulatory capital, in the form of government debt securities, which are recorded as financial investments in the Condensed Consolidated Balance Sheets. The combined regulatory capital of the clearing members and Nasdaq Clearing is intended to secure the obligations of a clearing member exceeding such member's own margin and default fund deposits and may be used to cover losses sustained by a clearing member in the event of a default.

Margin Deposits

Nasdaq Clearing requires all clearing members to provide collateral, which may consist of cash and non-cash contributions, to guarantee performance on the clearing members' open positions, or initial margin. In addition, clearing members must also provide collateral to cover the daily margin call if needed. See "Default Fund Contributions" above for further discussion of cash and non-cash contributions.

Similar to default fund contributions, Nasdaq Clearing maintains and manages all cash deposits related to margin collateral. All risks and rewards of collateral ownership, including interest, belong to Nasdaq Clearing and are recorded in revenues. These cash deposits are recorded in default funds and margin deposits in the Condensed Consolidated Balance Sheets as both a current asset and a current liability. Pledged margin collateral is not recorded in our Condensed Consolidated Balance Sheets as all risks and rewards of collateral ownership, including interest, belong to the counterparty. Assets pledged are held at a nominee account in Nasdaq Clearing's name for the benefit of the clearing members and are immediately accessible by Nasdaq Clearing in the event of a default.

Nasdaq Clearing marks to market all outstanding contracts and requires payment from clearing members whose positions have lost value. The mark-to-market process helps identify any clearing members that may not be able to satisfy their financial obligations in a timely manner allowing Nasdaq Clearing the ability to mitigate the risk of a clearing member defaulting due to exceptionally large losses. In the event of a default, Nasdaq Clearing can access the defaulting member's margin and default fund deposits to cover the defaulting member's losses.

Regulatory Capital and Risk Management Calculations

Nasdaq Clearing manages risk through a comprehensive counterparty risk management framework, which is comprised of policies, procedures, standards and financial resources. The level of regulatory capital is determined in accordance with Nasdaq Clearing's regulatory capital and default fund policy, as approved by the SFSA. Regulatory capital calculations are continuously updated through a proprietary capital-at-risk calculation model that establishes the appropriate level of capital.

As mentioned above, Nasdaq Clearing is the legal counterparty for each contract cleared and thereby guarantees the fulfillment of each contract. Nasdaq Clearing accounts for this guarantee as a performance guarantee. We determine the fair value of the performance guarantee by considering daily settlement of contracts and other margining and default fund requirements, the risk management program, historical evidence of default payments, and the estimated probability of potential default payouts. The calculation is determined using proprietary risk management software that simulates gains and losses based on historical market prices, extreme but plausible market scenarios, volatility and other factors

present at that point in time for those particular unsettled contracts. Based on this analysis, excluding any liability related to the Nasdaq commodities clearing default (see discussion above), the estimated liability was nominal and no liability was recorded as of June 30, 2023.

Power of Assessment

To further strengthen the contingent financial resources of the clearinghouse, Nasdaq Clearing has power of assessment that provides the ability to collect additional funds from its clearing members to cover a defaulting member's remaining obligations up to the limits established under the terms of the clearinghouse rules. The power of assessment corresponds to 230.0% of the clearing member's aggregate contribution to the financial, commodities and seafood markets' default funds.

Liability Waterfall

The liability waterfall is the priority order in which the capital resources would be utilized in the event of a default where the defaulting clearing member's collateral and default fund contribution would not be sufficient to cover the cost to settle its portfolio. If a default occurs and the defaulting clearing member's collateral, including cash deposits and pledged assets, is depleted, then capital is utilized in the following amount and order:

- junior capital contributed by Nasdaq Clearing, which totaled \$40 million as of June 30, 2023;
- a loss-sharing pool related only to the financial market that is contributed to by clearing members and only applies if the defaulting member's portfolio includes interest rate swap products;
- specific market default fund where the loss occurred (i.e., the financial, commodities, or seafood market), which includes capital contributions of the clearing members on a pro-rata basis; and
- fully segregated senior capital for each specific market contributed by Nasdaq Clearing, calculated in accordance with clearinghouse rules, which totaled \$17 million as of June 30, 2023.

If additional funds are needed after utilization of the liability waterfall, or if part of the waterfall has been utilized and needs to be replenished, then Nasdaq Clearing will utilize its power of assessment and additional capital contributions will be required by non-defaulting members up to the limits established under the terms of the clearinghouse rules.

In addition to the capital held to withstand counterparty defaults described above, Nasdaq Clearing also has committed capital of \$63 million to ensure that it can handle an orderly wind-down of its operation, and that it is adequately protected against investment, operational, legal, and business risks.

Market Value of Derivative Contracts Outstanding

The following table presents the market value of derivative contracts outstanding prior to netting:

	June 30, 2023
	(in millions)
Commodity and seafood options, futures and forwards \$	340
Fixed-income options and futures	2,162
Stock options and futures	158
Index options and futures	26
Total	\$ 2,686

In the table above:

- We determined the fair value of our option contracts using standard valuation models that were based on market-based observable inputs including implied volatility, interest rates and the spot price of the underlying instrument.
- We determined the fair value of our futures contracts based upon quoted market prices and average quoted market yields.
- We determined the fair value of our forward contracts using standard valuation models that were based on market-based observable inputs including benchmark rates and the spot price of the underlying instrument.

Derivative Contracts Cleared

The following table presents the total number of derivative contracts cleared through Nasdaq Clearing for the six months ended June 30, 2023 and 2022:

	Six Months Ended June 30,	
	2023	2022
Commodity and seafood options, futures and forwards	111,406	182,341
Fixed-income options and futures	9,765,001	12,287,280
Stock options and futures	10,695,634	8,980,694
Index options and futures	21,203,826	23,463,638
Total	41,775,867	44,913,953

In the table above, the total volume in cleared power related to commodity contracts was 162 Terawatt hours (TWh) and 250 TWh for the six months ended June 30, 2023 and 2022, respectively.

Resale and Repurchase Agreements Contracts Outstanding and Cleared

The outstanding contract value of resale and repurchase agreements was \$2.4 billion and \$3.0 billion as of June 30, 2023 and 2022, respectively. The total number of resale and repurchase agreements contracts cleared was 2,418,638 and 3,117,583 for the six months ended June 30, 2023 and 2022, respectively.

15. LEASES

We have operating leases which are primarily real estate leases predominantly for our U.S. and European headquarters, data centers and for general office space. The following table provides supplemental balance sheet information related to Nasdaq's operating leases:

Leases	Balance Sheet Classification	(in millions)	
		June 30, 2023	December 31, 2022
Assets:			
Operating lease assets	Operating lease assets	\$ 410	\$ 444
Liabilities:			
Current lease liabilities	Other current liabilities	\$ 58	\$ 54
Non-current lease liabilities	Operating lease liabilities	427	452
Total lease liabilities		\$ 485	\$ 506

The following table summarizes Nasdaq's lease cost:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
	(in millions)			
Operating lease cost	\$ 22	\$ 19	\$ 50	\$ 38
Variable lease cost	11	7	23	16
Sublease income	(1)	(1)	(2)	(2)
Total lease cost	\$ 32	\$ 25	\$ 71	\$ 52

In the table above, operating lease costs include short-term lease cost, which was immaterial.

In the first quarter of 2023, we initiated a review of our real estate and facility capacity requirements due to our new and evolving work models. As a result of this ongoing review, for the three months ended June 30, 2023 we recorded impairment charges of \$5 million, of which \$3 million related to operating lease asset impairment and is included in operating lease cost in the table above and \$2 million related to exit costs and is included in variable lease cost in the table above. For the six months ended June 30, 2023, we recorded impairment charges of \$23 million, of which \$13 million related to operating lease asset impairment and is included in operating lease cost in the table above, \$5 million related to exit costs and is included in variable lease cost in the table above and \$5 million related to impairment of leasehold improvements, which are recorded in depreciation and amortization expense in the Condensed Consolidated Statements of Income. We fully impaired our lease assets for locations that we vacated with no intention to sublease. Substantially all of the property, equipment and leasehold improvements associated with the vacated leased office space were fully impaired as there are no expected future cash flows for these items.

The following table reconciles the undiscounted cash flows for each of the first five years and total of the remaining years to the operating lease liabilities recorded in our Condensed Consolidated Balance Sheets.

	June 30, 2023	
	(in millions)	
Remainder of 2023	\$	37
2024		71
2025		62
2026		51
2027		48
2028+		316
Total lease payments		585
Less: interest		(100)
Present value of lease liabilities	\$	485

In the table above, interest is calculated using the interest rate for each lease. Present value of lease liabilities includes the current portion of \$58 million.

Total lease payments in the table above exclude \$44 million of legally binding minimum lease payments for leases signed but not yet commenced.

The following table provides information related to Nasdaq's lease term and discount rate:

	June 30, 2023	
Weighted-average remaining lease term (in years)	10.2	
Weighted-average discount rate	3.7 %	

The following table provides supplemental cash flow information related to Nasdaq's operating leases:

	Six Months Ended June 30,	
	2023	2022
	(in millions)	
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 38	\$ 28
Lease assets obtained in exchange for operating lease liabilities	\$ 8	\$ 126

16. INCOME TAXES

Income Tax Provision

The following table presents our income tax provision and effective tax rate:

	Three Months Ended June 30,	
	2023	2022
	(in millions)	
Income tax provision	\$ 70	\$ 90
Effective tax rate	20.8 %	22.7 %
	Six Months Ended June 30,	
	2023	2022
	(in millions)	
Income tax provision	\$ 165	\$ 182
Effective tax rate	22.5 %	23.6 %

The lower effective tax rate for both the three and six months ended June 30, 2023, as compared to the prior year periods, was primarily due to the income tax effect on geographic mix of earnings and higher tax benefit from a favorable audit settlement. The lower effective tax rate for the three months ended June 30, 2023, was also due to a higher tax benefit from vested share-based awards. The effective tax rate may vary from period to period depending on, among other factors, the geographic and business mix of earnings and losses. These and other factors, including history of pre-tax earnings and losses, are taken into account in assessing the ability to realize deferred tax assets.

Tax Audits

Nasdaq and its eligible subsidiaries file a consolidated U.S. federal income tax return, applicable state and local income tax returns and non-U.S. income tax returns. We are subject to examination by federal, state and local, and foreign tax authorities. Our federal income tax returns for the years 2018 through 2021 are subject to examination by the Internal Revenue Service. Several state tax returns are currently under examination by the respective tax authorities for the years 2012 through 2021. Non-U.S. tax returns are subject to examination by the respective tax authorities for the years 2017 through 2022.

We regularly assess the likelihood of additional assessments by each jurisdiction and have established tax reserves that we believe are adequate in relation to the potential for additional assessments. Examination outcomes and the timing of examination settlements are subject to uncertainty. Although the results of such examinations may have an impact on our unrecognized tax benefits, we do not anticipate that such impact will be material to our condensed consolidated financial position or results of operations, but may be material to our operating results for a particular period and the effective tax rate for that period. We do not expect the settlement of any tax audits to be material in the next twelve months.

17. COMMITMENTS, CONTINGENCIES AND GUARANTEES

Guarantees Issued and Credit Facilities Available

In addition to the default fund contributions and margin collateral pledged by clearing members discussed in Note 14, "Clearing Operations," we have obtained financial guarantees and credit facilities, which are guaranteed by us through counter indemnities, to provide further liquidity related to our clearing businesses. Financial guarantees issued to us totaled \$4 million as of June 30, 2023 and December 31, 2022. As discussed in "Other Credit Facilities," of Note 8, "Debt Obligations," we also have credit facilities primarily related to our Nasdaq Clearing operations, which are available in multiple currencies, and totaled \$178 million as of June 30, 2023 and \$184 million as of December 31, 2022 in available liquidity, none of which was utilized.

Other Guarantees

Through our clearing operations in the financial markets, Nasdaq Clearing is the legal counterparty for, and guarantees the performance of, its clearing members. See Note 14, "Clearing Operations," for further discussion of Nasdaq Clearing performance guarantees.

We have provided a guarantee related to lease obligations for The Nasdaq Entrepreneurial Center, Inc., which is a not-for-profit organization designed to convene, connect and engage aspiring and current entrepreneurs. This entity is not included in the condensed consolidated financial statements of Nasdaq.

We believe that the potential for us to be required to make payments under these arrangements is unlikely. Accordingly, no contingent liability is recorded in the Condensed Consolidated Balance Sheets for the above guarantees.

Routing Brokerage Activities

One of our broker-dealer subsidiaries, Nasdaq Execution Services, provides a guarantee to securities clearinghouses and exchanges under its standard membership agreements, which require members to guarantee the performance of other members. If a member becomes unable to satisfy its obligations to a clearinghouse or exchange, other members would be required to meet its shortfalls. To mitigate these performance risks, the exchanges and clearinghouses often require members to post collateral, as well as meet certain minimum financial standards. Nasdaq Execution Services' maximum potential liability under these arrangements cannot be quantified. However, we believe that the potential for Nasdaq Execution Services to be required to make payments under these arrangements is unlikely. Accordingly, no contingent liability is recorded in the Condensed Consolidated Balance Sheets for these arrangements.

Legal and Regulatory Matters

Armenian Stock Exchange Investigation

As disclosed in our prior filings with the SEC, a former non-U.S. subsidiary of Nasdaq, NASDAQ OMX Armenia OJSC, operated the Armenian Stock Exchange and the Central Depository of Armenia, which are regulated by the Central Bank of Armenia under Armenian law. In accordance with the requirements of Armenian law, Mellat Bank SB CJSC, an Armenian entity that is designated under Executive Order 13382, was a market participant on the Armenian Stock Exchange and, as a result, paid participation and transaction fees to the Armenian Stock Exchange during the period from 2012-2014. In 2014, we voluntarily self-disclosed this matter to the U.S. Department of Treasury's Office of Foreign Assets Control, or OFAC, and received authorization from OFAC to continue, if necessary, certain activities pertaining to Mellat Bank SB CJSC in Armenia in a limited manner. In 2015, Nasdaq sold a majority of its ownership of Nasdaq OMX Armenia OJSC, with the remaining minority interest sold in 2018.

OFAC has been conducting an inquiry into the Armenian Stock Exchange matter described above and in our prior filings since 2016, and during the first quarter of 2021, we were advised that OFAC is considering a civil monetary penalty in connection with that matter. We are currently in discussions with OFAC.

We believe our decision to voluntarily self-report this issue and our continued cooperation with OFAC, along with the permit we received from OFAC in connection with our transactions involving the Armenian Stock Exchange, will be mitigating factors with respect to the matter, and that any monetary fines or restrictions will not be material to our financial results. Accordingly, we expect to reach a settlement with OFAC during the second half of 2023 and have accrued for an immaterial loss contingency.

CFTC Matter

In June 2022, NASDAQ Futures, Inc. ("NFX"), a non-operational, wholly-owned subsidiary of Nasdaq, received a telephonic "Wells Notice" from the staff of the CFTC relating to certain alleged potential violations by NFX of provisions of the Commodity Exchange Act and CFTC rules thereunder during the period beginning July 2015 through October 2018. The Wells Notice informed NFX that the CFTC staff has made, subject to consideration of NFX's response, a preliminary determination to recommend that the CFTC authorize an enforcement action against NFX in connection with its former futures exchange business. Nasdaq sold NFX's futures exchange business to a third-party in November 2019, including the portfolio of open interest in NFX contracts. During 2020, all remaining open interest in NFX contracts was migrated to other exchanges and NFX ceased operation. A Wells Notice is neither a formal charge of wrongdoing nor a final determination that

the recipient has violated any law. NFX has submitted a response to the Wells Notice that contests all aspects of the CFTC staff's position. The CFTC staff subsequently informed us that it plans to formally recommend that the CFTC authorize a civil enforcement action. We cannot predict if or when such an action will be brought, including the scope of the claims or the remedy sought, but such action could commence at any time, and the scope of claims or remedies sought could be material. We believe that NFX would have defenses to any claims if they are the same as those alleged by the CFTC staff during the Wells Notice process. We are unable to predict the ultimate outcome of this matter or the amount or type of remedies that the CFTC may seek or obtain, but any such remedies could have a material negative effect on our operating results and reputation. Accordingly, we are unable to reasonably estimate any potential loss or range of loss, and therefore, we have not accrued for a loss contingency.

Other Matters

Except as disclosed above and in our prior reports filed under the Exchange Act, we are not currently a party to any litigation or proceeding that we believe could have a material adverse effect on our business, consolidated financial condition, or operating results. However, from time to time, we have been threatened with, or named as a defendant in, lawsuits or involved in regulatory proceedings.

In the normal course of business, Nasdaq discusses matters with its regulators raised during regulatory examinations or otherwise subject to their inquiries. Management believes that censures, fines, penalties or other sanctions that could result from any ongoing examinations or inquiries will not have a material impact on its consolidated financial position or results of operations. However, we are unable to predict the outcome or the timing of the ultimate resolution of these matters, or the potential fines, penalties or injunctive or other equitable relief, if any, that may result from these matters.

Tax Audits

We are engaged in ongoing discussions and audits with taxing authorities on various tax matters, the resolutions of which are uncertain. Currently, there are matters that may lead to assessments, some of which may not be resolved for several years. Based on currently available information, we believe we have adequately provided for any assessments that could result from those proceedings where it is more likely than not that we will be assessed. We review our positions on these matters as they progress. See "Tax Audits," of Note 16, "Income Taxes," for further discussion.

18. BUSINESS SEGMENTS

In 2022, we announced a new organizational structure, which aligns our businesses more closely with the foundational shifts that are driving the evolution of the global financial system. In order to amplify our strategy, we aligned the Company more closely with evolving client needs. During the fourth quarter of 2022, we began to manage, operate and provide our products and services in line with this new divisional structure. As a result, our four previous business segments, Market Technology, Investment Intelligence, Corporate Platforms and Market Services have been changed to align with our new corporate structure that includes three business segments: Market Platforms, Capital Access Platforms and Anti-Financial Crime. See Note 1, "Organization and Nature of Operations," for further discussion of our reportable segments.

This Quarterly Report on Form 10-Q presents our results in alignment with the new corporate structure. All periods presented are restated to reflect the new structure.

Our management allocates resources, assesses performance and manages these businesses as three separate segments. We evaluate the performance of our segments based on several factors, of which the primary financial measure is operating income. Results of individual businesses are presented based on our management accounting practices and structure. Our chief operating decision maker does not review total assets or statements of income below operating income by segments as key performance metrics; therefore, such information is not presented below.

The following tables present certain information regarding our business segments for the three and six months ended June 30, 2023 and 2022:

	Three Months Ended June 30,	
	2023	2022
(in millions)		
Market Platforms		
Total revenues	\$ 905	\$ 1,051
Transaction-based expenses	(508)	(659)
Revenues less transaction-based expenses	397	392
Operating income	211	217
Capital Access Platforms		
Total revenues	438	422
Operating income	241	241
Anti-Financial Crime		
Total revenues	89	75
Operating income	32	20
Corporate Items		
Total revenues	1	4
Operating loss	(102)	(66)
Consolidated		
Total revenues	\$ 1,433	\$ 1,552
Transaction-based expenses	(508)	(659)
Revenues less transaction-based expenses	\$ 925	\$ 893
Operating income	\$ 382	\$ 412
Six Months Ended June 30,		
(in millions)		
	2023	2022
Market Platforms		
Total revenues	\$ 1,938	\$ 2,090
Transaction-based expenses	(1,128)	(1,302)
Revenues less transaction-based expenses	810	788
Operating income	440	430
Capital Access Platforms		
Total revenues	854	841
Operating income	467	472
Anti-Financial Crime		
Total revenues	173	147
Operating income	55	35
Corporate Items		
Total revenues	1	9
Operating loss	(168)	(120)
Consolidated		
Total revenues	\$ 2,966	\$ 3,087
Transaction-based expenses	(1,128)	(1,302)
Revenues less transaction-based expenses	\$ 1,838	\$ 1,785
Operating income	\$ 794	\$ 817

Certain amounts are allocated to Corporate Items in our management reports as we believe they do not contribute to a meaningful evaluation of a particular segment's ongoing operating performance. Management does not consider these items for the purpose of evaluating the performance of our segments or their managers or when making decisions to allocate resources. Therefore, we believe performance measures excluding the below items provide management with a useful representation of our segments' ongoing activity in each period. These items, which are presented in the table below, include the following:

- *Amortization expense of acquired intangible assets:* We amortize intangible assets acquired in connection with various acquisitions. Intangible asset amortization expense can vary from period to period due to episodic acquisitions completed, rather than from our ongoing business operations. As such, if intangible asset amortization is included in performance measures, it is more difficult to assess the day-to-day operating performance of the segments, and the relative operating performance of the segments between periods.
- *Merger and strategic initiatives expense:* We have pursued various strategic initiatives and completed acquisitions and divestitures in recent years that have resulted in expenses which would not have otherwise been incurred. These expenses generally include integration costs, as well as legal, due diligence and other third-party transaction costs. The frequency and the amount of such expenses vary significantly based on the size, timing and complexity of the transaction. The increase for the three and six months ended June 30, 2023 compared to the same periods in 2022 primarily reflects higher expenses related to the announced Adenza acquisition.
- *Restructuring charges:* In October 2022, following our September 2022 announcement to realign our segments and leadership, we initiated a divisional alignment program with a focus on realizing the full potential of this structure. See Note 19, "Restructuring Charges," for further discussion of this plan.
- *Revenues and expenses - divested businesses:* For the three and six months ended June 30, 2022 these amounts include revenues related to our Nordic broker services business, for which we completed the wind-down in June 2022. Prior to the closing of the transaction, these revenues were included in our Market Platforms results. For the three and six months ended June 30, 2023 and 2022, other revenues also include a transitional services agreement associated with a divested business.
- *Other items:* We have included certain other charges or gains in corporate items, to the extent we believe they should be excluded when evaluating the ongoing operating performance of each individual segment. Other items primarily include:

- for the three and six months ended June 30, 2023 impairment charges related to our lease assets and leasehold improvements associated with vacating certain leased office space which are recorded in occupancy expense and depreciation and amortization expense in our Condensed Consolidated Statements of Income;
- for the three and six months ended June 30, 2023, other items include insurance recoveries related to certain legal matters, which are recorded in professional and contract services and general, administrative and other expense in the Condensed Consolidated Statements of Income; and
- for the three and six months ended June 30, 2022, other items primarily include a loss on extinguishment of debt, which is recorded in general administrative and other expense in the Condensed Consolidated Statements of Income.

The following table summarizes our Corporate Items:

	Three Months Ended June 30,	
	2023	2022
	(in millions)	
Revenues - divested businesses	\$ 1	\$ 4
Expenses:		
Amortization expense of acquired intangible assets	\$ 37	\$ 39
Merger and strategic initiatives expense	45	12
Restructuring charges	14	—
Lease asset impairments	5	—
Extinguishment of debt	—	16
Expenses - divested businesses	1	2
Other	1	1
Total expenses	103	70
Operating loss	\$ (102)	\$ (66)

	Six Months Ended June 30,	
	2023	2022
	(in millions)	
Revenues - divested businesses	\$ 1	\$ 9
Expenses:		
Amortization expense of acquired intangible assets	75	78
Merger and strategic initiatives expense	47	27
Restructuring charges	33	—
Lease asset impairments	23	—
Extinguishment of debt	—	16
Expenses - divested businesses	1	2
Other	(10)	6
Total expenses	169	129
Operating loss	\$ (168)	\$ (120)

For further discussion of our segments' results, see "Segment Operating Results," of "Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations."

19. RESTRUCTURING CHARGES

In October 2022, following our September 2022 announcement to realign our segments and leadership, we initiated a divisional alignment program with a focus on realizing the full potential of this structure. In connection with the program, we expect to incur \$115 million to \$145 million in pre-tax charges principally related to employee-related costs, consulting, asset impairments and contract terminations over a two-year period. Costs related to the divisional alignment program will be recorded as restructuring charges in the Condensed Consolidated Statements of Income.

The following table presents a summary of the divisional alignment program charges for the three and six months ended June 30, 2023 as well as total program costs incurred since the initiation in October 2022.

	Three Months Ended	Six Months Ended	Total Program Costs
	June 30, 2023	June 30, 2023	
	(in millions)		
Asset impairment charges	\$ —	\$ 12	\$ 20
Consulting services	7	10	13
Employee-related costs	4	7	10
Other	3	4	5
Total restructuring charges	\$ 14	\$ 33	\$ 48

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

The following discussion and analysis of the financial condition and results of operations of Nasdaq should be read in conjunction with our condensed consolidated financial statements and related notes included in this Form 10-Q.

OVERVIEW

Nasdaq is a global technology company serving corporate clients, investment managers, banks, brokers, and exchange operators as they navigate and interact with the global capital markets and the broader financial system. We aspire to deliver world-leading platforms that improve the liquidity, transparency, and integrity of the global economy. Our diverse offering of data, analytics, software, exchange capabilities, and client-centric services enables clients to optimize and execute their business vision with confidence.

In September 2022, we announced a new organizational structure, which aligns our businesses more closely with the foundational shifts that are driving the evolution of the global financial system. The new corporate structure includes three business segments: Market Platforms, Capital Access Platforms and Anti-Financial Crime. See Note 18, "Business Segments," to the condensed consolidated financial statements for further discussion of our reportable segments as well as how management allocates resources, assesses performance and manages these businesses as three separate segments. All prior periods have been restated to conform to the current period presentation.

Second Quarter 2023 and Recent Developments

- In June 2023, Nasdaq announced it entered into a definitive agreement to acquire Adenza, a provider of mission-critical risk management and regulatory software to the financial services industry, for \$10.5 billion in cash and shares of common stock. See "2023 Announced Acquisition," of Note 4, "Acquisitions," to the condensed consolidated financial statements for further discussion.
- The Nasdaq Stock Market led U.S. exchanges for operating company IPOs during the first half of 2023 with a 77% total win rate.
- In June 2023, Nasdaq entered into an agreement to sell its European energy trading and clearing business, subject to regulatory approval.
- During the annual Russell U.S. indexes reconstitution, which occurred in late June, Nasdaq successfully executed approximately 2.6 billion shares representing \$62 billion in market value in 0.86 seconds across Nasdaq-listed securities. This represented the second highest volume of shares crossed since implementing the Closing Cross in 2004, demonstrating Nasdaq's robust and resilient market infrastructure.

- For the three months ended June 30, 2023, we returned \$109 million to shareholders through dividend payments.
- In July 2023, the board of directors approved a regular quarterly cash dividend of \$0.22 per share on our outstanding common stock.
- As of June 30, 2023, the remaining amount authorized for share repurchases under our share repurchase program was \$491 million.

Nasdaq's Operating Results

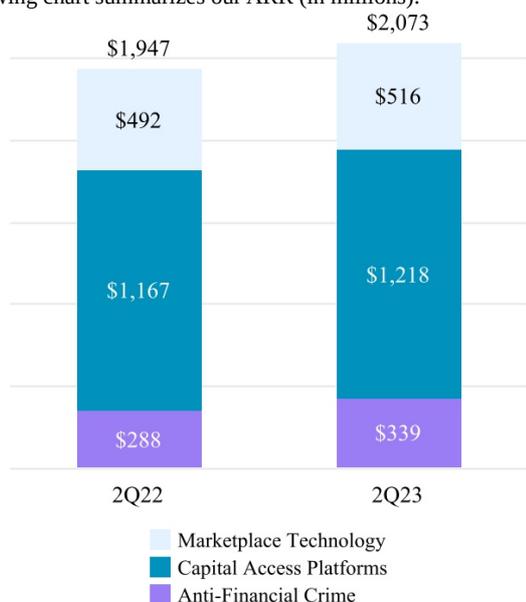
The following tables summarize our financial performance for the three and six months ended June 30, 2023 compared to the same periods in 2022. For a detailed discussion of our results of operations, see "Segment Operating Results" below.

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions, except per share amounts)		
Revenues less transaction-based expenses	\$ 925	\$ 893	3.6 %
Operating expenses	543	481	12.9 %
Operating income	382	412	(7.3)%
Net income attributable to Nasdaq	\$ 267	\$ 307	(13.0)%
Diluted earnings per share	\$ 0.54	\$ 0.62	(12.9)%
Cash dividends declared per common share	\$ 0.22	\$ 0.20	10.0 %

	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions, except per share amounts)		
Revenues less transaction-based expenses	\$ 1,838	\$ 1,785	3.0 %
Operating expenses	1,044	968	7.9 %
Operating income	794	817	(2.8)%
Net income attributable to Nasdaq	\$ 568	\$ 590	(3.7)%
Diluted earnings per share	\$ 1.15	\$ 1.18	(2.5)%
Cash dividends declared per common share	\$ 0.42	\$ 0.38	10.5 %

In countries with currencies other than the U.S. dollar, revenues and expenses are translated using monthly average exchange rates. Impacts on our revenues less transaction-based expenses and operating income associated with fluctuations in foreign currency are discussed in more detail under "Item 3. Quantitative and Qualitative Disclosures about Market Risk."

The following chart summarizes our ARR (in millions):



ARR for a given period is the annualized revenue derived from subscription contracts with a defined contract value. This excludes contracts that are not recurring, are one-time in nature, or where the contract value fluctuates based on defined metrics. Also excluded are contracts that are signed but not yet commenced. ARR is one of our key performance metrics to assess the health and trajectory of our recurring business. ARR does not have any standardized definition and is therefore unlikely to be comparable to similarly titled measures presented by other companies. ARR should be viewed independently of revenue and deferred revenue and is not intended to be combined with or to replace either of those items. ARR is not a forecast and the active contracts at the end of a reporting period used in calculating ARR may or may not be extended or renewed by our customers.

The ARR chart includes:

- Anti-Financial Crime support and SaaS subscription contracts.
- Proprietary market data subscriptions and annual listing fees within our Data & Listing Services business, index data subscriptions and guaranteed minimum on futures contracts within our Index business and subscription contracts under our Workflow & Insights business.
- Market technology support and SaaS subscription contracts as well as trade management services contracts, excluding one-time service requests.

The following chart summarizes our quarterly annualized SaaS revenues for our Solutions Businesses, which are comprised of the Capital Access Platforms and Anti-Financial Crime segments and the Marketplace Technology business within the Market Platforms segment, for June 30, 2023 and 2022 (in millions):

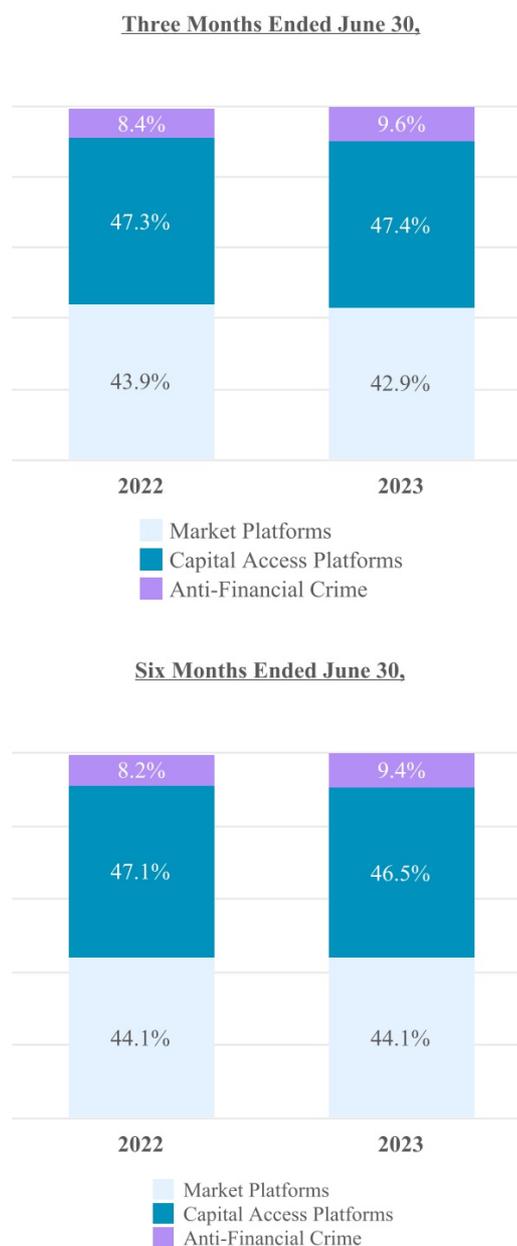


Segment Operating Results

The following table presents our revenues by segment, transaction-based expenses for our Market Platforms segment and total revenues less transaction-based expenses:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Market Platforms	\$ 905	\$ 1,051	(13.9)%
Capital Access Platforms	438	422	3.8 %
Anti-Financial Crime	89	75	18.7 %
Other revenues	1	4	(75.0)%
Total revenues	\$ 1,433	\$ 1,552	(7.7)%
Transaction rebates	(444)	(529)	(16.1)%
Brokerage, clearance and exchange fees	(64)	(130)	(50.8)%
Total revenues less transaction-based expenses	\$ 925	\$ 893	3.6 %
	(in millions)		
	Six Months Ended June 30,		Percentage Change
	2023	2022	
Market Platforms	\$ 1,938	\$ 2,090	(7.3)%
Capital Access Platforms	854	841	1.5 %
Anti-Financial Crime	173	147	17.7 %
Other revenues	1	9	(88.9)%
Total revenues	2,966	3,087	(3.9)%
Transaction rebates	(931)	(1,111)	(16.2)%
Brokerage, clearance and exchange fees	(197)	(191)	3.1 %
Total revenues less transaction-based expenses	\$ 1,838	\$ 1,785	3.0 %

The following charts present our Market Platforms, Capital Access Platforms and Anti-Financial Crime segments as a percentage of our total revenues, less transaction-based expenses. Percentage of Revenues Less Transaction-based Expenses by Segment for the three and six months June 30, 2023 and 2022:



In the charts above, Other revenues are not shown as they account for less than 1.0%.

MARKET PLATFORMS

The following tables present revenues from our Market Platforms segment:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Trading Services	\$ 758	\$ 911	(16.8)%
Marketplace Technology	147	140	5.0 %
Total Market Platforms	\$ 905	\$ 1,051	(13.9)%
Transaction-based expenses:			
Transaction rebates	(444)	(529)	(16.1)%
Brokerage, clearance and exchange fees	(64)	(130)	(50.8)%
Total Market Platforms, net	\$ 397	\$ 392	1.3 %
	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Trading Services	\$ 1,646	\$ 1,818	(9.5)%
Marketplace Technology	292	272	7.4 %
Total Market Platforms	\$ 1,938	\$ 2,090	(7.3)%
Transaction-based expenses:			
Transaction rebates	(931)	(1,111)	(16.2)%
Brokerage, clearance and exchange fees	(197)	(191)	3.1 %
Total Market Platforms, net	\$ 810	\$ 788	2.8 %

Trading Services

Our Trading Services business includes equity derivatives trading, cash equity trading, Nordic fixed income trading & clearing, U.S. Tape plans and other revenues. The following tables present net revenues by product from our Trading Services business:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
U.S. Equity Derivative Trading	\$ 89	\$ 88	1.1 %
Cash Equity Trading	103	105	(1.9)%
U.S. Tape plans	35	36	(2.8)%
Other	23	23	— %
Trading Services, net	\$ 250	\$ 252	(0.8)%

	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
U.S. Equity Derivative Trading	\$ 191	\$ 182	4.9 %
Cash Equity Trading	206	206	— %
U.S. Tape plans	72	77	(6.5)%
Other	49	51	(3.9)%
Trading Services, net	\$ 518	\$ 516	0.4 %

In the tables above, Other includes Nordic fixed income trading & clearing, Nordic derivatives, Nordic commodities, and Canadian cash equities trading.

U.S. Equity Derivative Trading

The following tables present total revenues, transaction-based expenses, and total revenues less transaction-based expenses as well as key drivers from our U.S. Equity Derivative Trading business:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
U.S. Equity Derivative Trading Revenues	\$ 297	\$ 295	0.7 %
Section 31 fees	10	14	(28.6)%
Transaction-based expenses:			
Transaction rebates	(207)	(206)	0.5 %
Section 31 fees	(10)	(14)	(28.6)%
Brokerage and clearance fees	(1)	(1)	— %
U.S. Equity derivative trading revenues, net	\$ 89	\$ 88	1.1 %

	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
U.S. Equity Derivative Trading Revenues	\$ 624	\$ 622	0.3 %
Section 31 fees	33	19	73.7 %
Transaction-based expenses:			
Transaction rebates	(431)	(438)	(1.6)%
Section 31 fees	(33)	(19)	73.7 %
Brokerage and clearance fees	(2)	(2)	— %
U.S. Equity derivative trading revenues, net	\$ 191	\$ 182	4.9 %

Section 31 fees are recorded as U.S. equity derivative and cash equity trading revenues with a corresponding amount recorded in transaction-based expenses. We are assessed these fees from the SEC and pass them through to our customers in the form of incremental fees. Pass-through fees can increase or decrease due to rate changes by the SEC, our percentage of the overall industry volumes processed on our systems, and differences in actual dollar value traded. Section 31 fees decreased in the second quarter of 2023 compared with the same period in 2022 primarily due to lower average SEC fee rates. Section 31 fees increased in the first six months of 2023 compared with the same period in 2022 primarily due to higher average SEC fee rates. Since the amount recorded in revenues is equal to the amount recorded as Section 31 fees, there is no impact on our net revenues.

	<u>Three Months Ended June 30,</u>	
	<u>2023</u>	<u>2022</u>
<i>U.S. equity options</i>		
Total industry average daily volume (in millions)	39.2	36.7
Nasdaq PHLX matched market share	11.5 %	11.7 %
The Nasdaq Options Market matched market share	6.4 %	8.2 %
Nasdaq BX Options matched market share	3.0 %	2.1 %
Nasdaq ISE Options matched market share	6.0 %	5.4 %
Nasdaq GEMX Options matched market share	2.2 %	2.4 %
Nasdaq MRX Options matched market share	1.6 %	1.6 %
Total matched market share executed on Nasdaq's exchanges	30.7 %	31.4 %

	<u>Six Months Ended June 30,</u>	
	<u>2023</u>	<u>2022</u>
<i>U.S. equity options</i>		
Total industry average daily volume (in millions)	40.8	38.3
Nasdaq PHLX matched market share	11.3 %	11.6 %
The Nasdaq Options Market matched market share	6.8 %	8.3 %
Nasdaq BX Options matched market share	3.1 %	2.1 %
Nasdaq ISE Options matched market share	5.8 %	5.6 %
Nasdaq GEMX Options matched market share	2.1 %	2.4 %
Nasdaq MRX Options matched market share	1.6 %	1.7 %
Total matched market share executed on Nasdaq's exchanges	30.7 %	31.7 %

U.S. equity derivative trading revenues and U.S. equity derivative trading revenues less transaction-based expenses increased in the second quarter compared with the same period in 2022 primarily due to higher industry trading volumes, partially offset by lower capture rates and lower overall matched market share executed on Nasdaq's exchanges.

U.S. equity derivative trading revenues and U.S. equity derivative trading revenues less transaction-based expenses increased in first six months of 2023 compared with the same period in 2022 primarily due to higher industry trading volumes, partially offset by lower overall matched market share executed on Nasdaq's exchanges.

Transaction rebates, in which we credit a portion of the execution charge to the market participant, remained relatively flat in the second quarter of 2023 compared with the same period in 2022. Transaction rebates decreased in the first six months of 2023 compared with the same period in 2022 primarily due to lower rebate capture rate and lower overall U.S. matched market share executed on Nasdaq's exchanges, partially offset by higher industry trading volumes.

Cash Equity Trading Revenues

The following tables present total revenues, transaction-based expenses, and total revenues less transaction-based expenses as well as key drivers and other metrics from our Cash Equity Trading business:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Cash Equity Trading Revenues	\$ 339	\$ 427	(20.6)%
Section 31 fees	49	108	(54.6)%
Transaction-based expenses:			
Transaction rebates	(232)	(315)	(26.3)%
Section 31 fees	(49)	(108)	(54.6)%
Brokerage, clearance and exchange fees	(4)	(7)	(42.9)%
Cash equity trading revenues less transaction-based expenses	\$ 103	\$ 105	(1.9)%
	Six Months Ended June 30,		
	2023	2022	Percentage Change
	(in millions)		
Cash Equity Trading Revenues	\$ 705	\$ 875	(19.4)%
Section 31 fees	152	157	(3.2)%
Transaction-based expenses:			
Transaction rebates	(489)	(656)	(25.5)%
Section 31 fees	(152)	(157)	(3.2)%
Brokerage and clearance fees	(10)	(13)	(23.1)%
Cash equity trading revenues, net	\$ 206	\$ 206	— %

See the discussion in "U.S. Equity Derivative Trading" for an explanation of Section 31 fees for the second quarter of 2023 as compared to the same period in 2022. Section 31 fees decreased in the first six months of 2023 compared with the same period in 2022 primarily due to lower U.S. industry trading volumes partially offset by higher average SEC fee rates. Since the amount recorded in revenues is equal to the amount recorded as Section 31 fees, there is no impact on our net revenues.

	Three Months Ended June 30,	
	2023	2022

<u>Total U.S.-listed securities</u>		
Total industry average daily share volume (in billions)	10.8	12.6
Matched share volume (in billions)	113.7	139.0
The Nasdaq Stock Market matched market share	16.3 %	16.5 %
Nasdaq BX matched market share	0.4 %	0.5 %
Nasdaq PSX matched market share	0.4 %	0.8 %
Total matched market share executed on Nasdaq's exchanges	17.1 %	17.8 %
Market share reported to the FINRA/Nasdaq Trade Reporting Facility	34.2 %	34.3 %
Total market share	51.3 %	52.1 %

<u>Nasdaq Nordic and Nasdaq Baltic securities</u>		
Average daily number of equity trades executed on Nasdaq's exchanges	687,158	948,874
Total average daily value of shares traded (in billions)	\$ 4.7	\$ 5.7
Total market share executed on Nasdaq's exchanges	71.4 %	72.2 %
	Six Months Ended June 30,	
	2023	2022

<u>Total U.S.-listed securities</u>		
Total industry average daily share volume (in billions)	11.3	12.7
Matched share volume (in billions)	235.5	281.2
The Nasdaq Stock Market matched market share	16.1 %	16.4 %
Nasdaq BX matched market share	0.3 %	0.5 %
Nasdaq PSX matched market share	0.4 %	0.8 %
Total matched market share executed on Nasdaq's exchanges	16.8 %	17.7 %
Market share reported to the FINRA/Nasdaq Trade Reporting Facility	32.9 %	33.9 %
Total market share	49.7 %	51.6 %

<u>Nasdaq Nordic and Nasdaq Baltic securities</u>		
Average daily number of equity trades executed on Nasdaq's exchanges	739,480	1,043,461
Total average daily value of shares traded (in billions)	\$ 5.0	\$ 6.4
Total market share executed on Nasdaq's exchanges	70.1 %	72.6 %

In the tables above, total market share includes transactions executed on The Nasdaq Stock Market's, Nasdaq BX's and Nasdaq PSX's systems plus trades reported through the FINRA/Nasdaq Trade Reporting Facility.

Cash equity trading revenues decreased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to lower U.S. industry trading volumes, lower overall U.S. matched market share executed on Nasdaq's exchanges, as well as lower capture rates.

Cash equity trading revenues less transaction-based expenses remained relatively flat in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to higher U.S. capture rate, partially offset by lower industry trading volumes and lower overall U.S. matched market share executed on Nasdaq's exchanges.

Transaction rebates decreased in the second quarter and first six months of 2023 compared with the same periods in 2022. For The Nasdaq Stock Market and Nasdaq PSX, we credit a portion of the per share execution charge to the market participant that provides the liquidity, and for Nasdaq BX, we credit a portion of the per share execution charge to the market participant that takes the liquidity. The decrease was primarily due to lower U.S. industry volumes, lower rebate capture rate and lower U.S. matched market share executed on Nasdaq's exchanges.

U.S. Tape Plans

The following table presents revenues from our U.S. Tape plans business:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
U.S. Tape plans	\$ 35	\$ 36	(2.8)%
	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
U.S. Tape plans	\$ 72	\$ 77	(6.5)%

U.S. Tape plans revenues remained relatively flat in the second quarter of 2023 compared with the same period in 2022. U.S. Tape plans revenues decreased in the first six months of 2023 compared with the same period in 2022 primarily due to lower collections from under-reported usage.

Other

Other includes Nordic fixed income trading and clearing, Nordic derivatives, Nordic commodities and Canadian cash equities trading. The following table presents revenue and a key driver from our Other business:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Other	\$ 23	\$ 23	— %
	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Other	\$ 49	\$ 51	(3.9)%

In the table above, Other includes transaction rebates of \$5 million and \$8 million for the three months ended June 30, 2023 and 2022, respectively, and \$11 million and \$17 million for the six months ended June 30, 2023 and 2022, respectively.

	Three Months Ended June 30,	
	2023	2022
<i>Nasdaq Nordic and Nasdaq Baltic options and futures</i>		
Total average daily volume of options and futures contracts	307,754	277,008
	Six Months Ended June 30,	
	2023	2022
<i>Nasdaq Nordic and Nasdaq Baltic options and futures</i>		
Total average daily volume of options and futures contracts	326,687	322,390

In the tables above, Nasdaq Nordic and Nasdaq Baltic total average daily volume of options and futures contracts include Finnish option contracts traded on Eurex for which Nasdaq and Eurex have a revenue sharing arrangement.

Other revenues remained relatively flat in the second quarter and the first six months of 2023 compared with the same periods in 2022.

Marketplace Technology

Marketplace Technology includes our trade management services and market technology businesses.

The following tables present revenues and key drivers from our Marketplace Technology business:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Marketplace Technology	\$ 147	\$ 140	5.0 %
	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Marketplace Technology	\$ 292	\$ 272	7.4 %

	As of or Three Months Ended June 30,	
	2023	2022
	(in millions)	
ARR	\$ 516	\$ 492
Quarterly annualized SaaS revenues	38	39
Order intake	90	89
	Six Months Ended June 30,	
	2023	2022
	(in millions)	
Order intake	122	127

In the table above, order intake is for our market technology business and represents the total contract value of orders signed during the period.

Marketplace technology revenues increased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to higher trade management services revenues associated with increased demand for connectivity services, including testing for FINRA services,

as well as higher market technology revenues due to higher support licensing and higher professional services fees.

CAPITAL ACCESS PLATFORMS

The following tables present revenues and key drivers from our Capital Access Platforms segment:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Data & Listing Services	\$ 187	\$ 183	2.2 %
Index	129	124	4.0 %
Workflow & Insights	122	115	6.1 %
Total Capital Access Platforms	\$ 438	\$ 422	3.8 %

	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Data & Listing Services	\$ 373	\$ 365	2.2 %
Index	239	246	(2.8)%
Workflow & Insights	242	230	5.2 %
Total Capital Access Platforms	\$ 854	\$ 841	1.5 %

	As of or Three Months Ended June 30,	
	2023	2022
	(in millions)	
ARR	\$ 1,218	\$ 1,167
Quarterly annualized SaaS revenues	394	367

Data & Listing Services Revenues

The following table presents key drivers from our Data & Listing Services business:

	Three Months Ended June 30,	
	2023	2022
<u>IPOs</u>		
The Nasdaq Stock Market	23	38
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	1	17
<u>Total new listings</u>		
The Nasdaq Stock Market	62	84
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	6	25

	Six Months Ended June 30,	
	2023	2022
<u>IPOs</u>		
The Nasdaq Stock Market	63	108
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	3	30
<u>Total new listings</u>		
The Nasdaq Stock Market	143	194
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	13	44
<u>Number of listed companies</u>		
The Nasdaq Stock Market	4,106	4,269
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	1,249	1,260

In the tables above:

- The Nasdaq Stock Market new listings include IPOs, including issuers that switched from other listing venues and separately listed ETPs. For the three months ended June 30, 2023 and 2022, IPOs included 5 and 16 SPACs, respectively. For the six months ended June 30, 2023 and 2022, IPOs included 15 and 59 SPACs, respectively.
- Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic new listings include IPOs and represent companies listed on the Nasdaq Nordic and Nasdaq Baltic exchanges and companies on the alternative markets of Nasdaq First North.
- Number of total listed companies on The Nasdaq Stock Market for the six months ended June 30, 2023 and 2022 included 547 and 465 ETPs, respectively.
- Number of total listed companies on the exchanges that comprise Nasdaq Nordic and Nasdaq Baltic represents companies listed on these exchanges and companies on the alternative markets of Nasdaq First North.

Data & Listing Services revenues increased in the second quarter and first six months of 2023 compared with the same periods in 2022. The increase was primarily due to an increase in proprietary data revenues driven largely by higher international demand and annual listing fee growth, partially offset by lower initial listings fees. The increase in the first six months of 2023 was also partially offset by the unfavorable impact of changes in foreign exchange rates.

Index Revenues

The following tables present key drivers from our Index business:

	As of or Three Months Ended June 30,	
	2023	2022
Number of licensed ETPs	386	374
TTM change in period end ETP AUM tracking Nasdaq indexes (in billions)		
Beginning balance	\$ 321	\$ 415
Net appreciation (depreciation)	73	(90)
Net impact of ETP sponsor switches	(1)	(75)
Net inflows	25	71
Ending balance	\$ 418	\$ 321
Quarterly average ETP AUM tracking Nasdaq indexes (in billions)	\$ 381	\$ 350

In the table above, TTM represents trailing twelve months.

Index revenues increased in the second quarter of 2023, compared with the same period in 2022, primarily due to higher AUM in exchange traded products linked to Nasdaq indexes, which was partially offset by lower futures volumes. Index revenues decreased in the first six months of 2023, compared with the same period in 2022, primarily due to lower AUM in exchange traded products linked to Nasdaq indexes and lower futures volumes.

Workflow & Insights Revenues

Workflow & Insights revenues increased in the second quarter and first six months of 2023 compared with the same periods in 2022. The increase was due to an increase in both corporate solutions and analytics revenues. The increase in our corporate solutions revenues was primarily due to continued demand for our Investor Relations Intelligence and ESG solutions. The increase in analytics revenues was primarily due to the growth in our eVestment and Solovis product offerings.

ANTI-FINANCIAL CRIME

The following tables present revenues and key drivers from our Anti-Financial Crime segment:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Anti-Financial Crime	\$ 89	\$ 75	18.7 %
	Six Months Ended June 30,		
	2023	2022	Percentage Change
	(in millions)		
Anti-Financial Crime	\$ 173	\$ 147	17.7 %
	As of or Three Months Ended June 30,		
	2023	2022	
	(in millions)		
ARR	\$ 339	\$ 288	
Total signed ARR	365	305	
Quarterly annualized SaaS revenues	323	273	

In the table above, total signed ARR reflects ARR recognized as revenue in the current period as well as ARR for new contracts signed but not yet commenced.

Anti-Financial Crime revenues increased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to an increase in demand for fraud detection and anti-money laundering solutions and strong performance by our surveillance business.

OTHER REVENUES

For the three and six months ended June 30, 2023 and 2022, Other revenues include a transitional services agreement associated with a divested business.

EXPENSES

Operating Expenses

The following table presents our operating expenses:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Compensation and benefits	\$ 261	\$ 247	5.7 %
Professional and contract services	30	29	3.4 %
Computer operations and data communications	56	50	12.0 %
Occupancy	32	25	28.0 %
General, administrative and other	22	34	(35.3)%
Marketing and advertising	9	11	(18.2)%
Depreciation and amortization	65	65	— %
Regulatory	9	8	12.5 %
Merger and strategic initiatives	45	12	275.0 %
Restructuring charges	14	—	N/M
Total operating expenses	\$ 543	\$ 481	12.9 %

	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Compensation and benefits	\$ 517	\$ 501	3.2 %
Professional and contract services	61	64	(4.7)%
Computer operations and data communications	110	101	8.9 %
Occupancy	71	52	36.5 %
General, administrative and other	35	55	(36.4)%
Marketing and advertising	19	21	(9.5)%
Depreciation and amortization	134	132	1.5 %
Regulatory	17	15	13.3 %
Merger and strategic initiatives	47	27	74.1 %
Restructuring charges	33	—	N/M
Total operating expenses	\$ 1,044	\$ 968	7.9 %

N/M Not meaningful.

The increase in compensation and benefits expense in the second quarter and first six months of 2023 compared with the same periods in 2022 was primarily driven by increased headcount and the impact of merit increases, partially offset by a favorable impact from foreign exchange rates of \$5 million and \$13 million, respectively.

Headcount, including employees of non-wholly owned consolidated subsidiaries, increased to 6,565 employees as of June 30, 2023 from 6,214 as of June 30, 2022, reflecting growth across each of our three segments.

Professional and contract services expense remained relatively flat in the second quarter of 2023 compared with the same period in 2022. Professional and contract services expense decreased in the first six months of 2023 compared with the same period in 2022 primarily due to reduced consulting costs and legal fees.

Computer operations and data communications expense increased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to higher costs related to our cloud initiatives.

Occupancy expense increased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to asset impairment charges related to our lease assets. In the first quarter of 2023, we initiated a review of our real estate and facility capacity requirements due to our new and evolving work models. As a result of this ongoing review, for the three and six months ended June 30, 2023, we recorded \$5 million and \$18 million, respectively, in impairment charges and exit related costs following the abandonment of leased office space.

General, administrative and other expense decreased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to a loss on extinguishment of debt in the second quarter of 2022. The decrease in the first six months of 2023 also includes an insurance recovery related to a legal matter.

Marketing and advertising expense decreased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to lower client incentives resulting from lower IPO activity.

Depreciation and amortization expense remained flat in the second quarter of 2023 compared with 2022. Depreciation and amortization expense increased in the first six months of 2023 compared with the same period in 2022 as a result of our impairment of leasehold improvements related to vacated leased office space, partially offset by a favorable impact from foreign exchange rates. See Note 15, "Leases," to the condensed consolidated financial statements for further discussion of our asset impairment charges related to vacated leased office space.

Regulatory expense remained relatively flat in the second quarter and first six months of 2023 compared with the same periods in 2022.

We have pursued various strategic initiatives and completed acquisitions and divestitures in recent years, which have resulted in expenses which would not have otherwise been incurred. These expenses generally include integration costs, as well as legal, due diligence and other third-party transaction costs and vary based on the size and frequency of the activities described above. The increase for the three and six months ended June 30, 2023 compared to the same periods in 2022 primarily reflects higher expenses related to the announced Adenza acquisition.

Restructuring charges increased in the second quarter and first six months of 2023 as a result of charges from our 2022 divisional alignment program. See Note 19, "Restructuring Charges," to the condensed consolidated financial statements for further discussion. We expect to achieve benefits, in the form of combined annual run rate operating efficiencies and revenue synergies of approximately \$30 million annually by 2025.

Non-operating Income and Expenses

The following table presents our non-operating income and expenses:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Interest income	\$ 8	\$ —	N/M
Interest expense	(36)	(32)	12.5 %
Net interest expense	(28)	(32)	(12.5)%
Other income (loss)	(6)	8	(175.0)%
Net income (loss) from unconsolidated investees	(11)	9	(222.2)%
Total non-operating expense	\$ (45)	\$ (15)	200.0 %
	Six Months Ended June 30,		
	2023	2022	Percentage Change
	(in millions)		
Interest income	\$ 15	\$ 1	1,400.0 %
Interest expense	(73)	(64)	14.1 %
Net interest expense	(58)	(63)	(7.9)%
Other income (loss)	(7)	2	(450.0)%
Net income from unconsolidated investees	3	15	(80.0)%
Total non-operating expenses	\$ (62)	\$ (46)	34.8 %

N/M Not meaningful.

The following table presents our interest expense:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Interest expense on debt	\$ 34	\$ 30	13.3 %
Accretion of debt issuance costs and debt discount	1	1	— %
Other fees	1	1	— %
Interest expense	\$ 36	\$ 32	12.5 %
	Six Months Ended June 30,		
	2023	2022	Percentage Change
	(in millions)		
Interest expense on debt	\$ 69	\$ 59	16.9 %
Accretion of debt issuance costs and debt discount	3	4	(25.0)%
Other fees	1	1	— %
Interest expense	\$ 73	\$ 64	14.1 %

Interest income increased in the second quarter of 2023 compared with the same period in 2022 primarily due to an increase in interest rates and a higher cash balance.

Interest expense increased in the second quarter and first six months of 2023 compared with the same periods in 2022 primarily due to an increase in interest rates related to borrowings under our commercial paper program as well as the new debt issued in June 2023 to finance the Adenza acquisition.

Other income (loss) primarily represents realized and unrealized gains and losses from strategic investments related to our corporate venture program.

Net income (loss) from unconsolidated investees decreased in the second quarter of 2023 compared with 2022 primarily due losses recognized from our equity method investments in OCC and NPM. See "Equity Method Investments," of Note 6, "Investments," to the condensed consolidated financial statements for further discussion.

Tax Matters

The following table presents our income tax provision and effective tax rate:

	Three Months Ended June 30,		Percentage Change
	2023	2022	
	(\$ in millions)		
Income tax provision	\$ 70	\$ 90	(22.2)%
Effective tax rate	20.8 %	22.7 %	
	Six Months Ended June 30,		Percentage Change
	2023	2022	
	(in millions)		
Income tax provision	\$ 165	\$ 182	(9.3)%
Effective tax rate	22.5 %	23.6 %	

For further discussion of our tax matters, see Note 16, "Income Taxes," to the condensed consolidated financial statements.

NON-GAAP FINANCIAL MEASURES

In addition to disclosing results determined in accordance with U.S. GAAP, we also provide non-GAAP net income attributable to Nasdaq and non-GAAP diluted earnings per share. Management uses this non-GAAP information internally, along with U.S. GAAP information, in evaluating our performance and in making financial and operational decisions. We believe our presentation of these measures provides investors with greater transparency and supplemental data relating to our financial condition and results of operations. In addition, we believe the presentation of these measures is useful to investors for period-to-period comparisons of our ongoing operating performance.

These measures are not in accordance with, or an alternative to, U.S. GAAP, and may be different from non-GAAP measures used by other companies. In addition, other companies, including companies in our industry, may calculate such measures differently, which reduces their usefulness as comparative measures. Investors should not rely on any single financial measure when evaluating our business. This non-GAAP information should be considered as supplemental in nature and is not meant as a substitute for our operating results in accordance with U.S. GAAP. We recommend investors review the U.S. GAAP financial measures included in this Quarterly Report on Form 10-Q, including our condensed consolidated financial statements and the notes thereto. When viewed in conjunction with our U.S. GAAP results and the accompanying reconciliation, we believe these non-GAAP measures provide greater transparency and a more complete understanding of factors affecting our business than U.S. GAAP measures alone.

We understand that analysts and investors regularly rely on non-GAAP financial measures, such as non-GAAP net income attributable to Nasdaq and non-GAAP diluted earnings per share, to assess operating performance. We use non-GAAP net income attributable to Nasdaq and non-GAAP diluted earnings per share because they highlight trends more clearly in our business that may not otherwise be apparent when relying solely on U.S. GAAP financial measures, since these measures eliminate from our results specific financial items that have less bearing on our ongoing operating performance. We believe that excluding the following items from the non-GAAP net income attributable to Nasdaq provides a more meaningful analysis of Nasdaq's ongoing operating performance and comparisons in Nasdaq's performance between periods:

- *Amortization expense of acquired intangible assets:* We amortize intangible assets acquired in connection with various acquisitions. Intangible asset amortization expense can vary from period to period due to episodic acquisitions completed, rather than from our ongoing business operations. As such, if intangible asset amortization is included in performance measures, it is more difficult to assess the day-to-day operating performance of the businesses and the relative operating performance of the businesses between periods.
- *Merger and strategic initiatives expense:* We have pursued various strategic initiatives and completed acquisitions and divestitures in recent years that have resulted in expenses which would not have otherwise been incurred. The frequency and the amount of such expenses vary significantly based on the size, timing and complexity of the transaction. These expenses primarily include integration costs, as well as legal, due diligence and other third-party transaction costs. The increase for the three and six months ended June 30, 2023 compared to the same periods in 2022 primarily reflects higher expenses related to the announced Adenza acquisition.
- *Restructuring charges:* In October 2022, following our September 2022 announcement to realign our segments and leadership, we initiated a divisional alignment program with a focus on realizing the full potential of this structure. See Note 19, "Restructuring Charges," to the condensed consolidated financial statements for further discussion of our 2022 divisional alignment program.
- *Net income from unconsolidated investees:* We exclude our share of the earnings and losses of our equity method investments, primarily our equity interest in OCC and NPM. This provides a more meaningful analysis of Nasdaq's ongoing operating performance or comparisons in Nasdaq's performance between periods. See "Equity Method Investments," of Note 6, "Investments," to the condensed consolidated financial statements for further discussion.

- *Other items:* We have excluded certain other charges or gains, including certain tax items, that are the result of other non-comparable events to measure operating performance. We believe the exclusion of such amounts allows management and investors to better understand the ongoing financial results of Nasdaq. Other significant items include:

- for the three and six months ended June 30, 2023, other items include impairment charges related to our operating lease assets and leasehold improvements associated with vacating certain leased office space, which are recorded in occupancy and depreciation and amortization expense in our Condensed Consolidated Statements of Income;
 - for the three and six months ended June 30, 2023, other items also include insurance recoveries related to certain legal matters, which are recorded in professional and contract services and general, administrative and other expense in the Condensed Consolidated Statements of Income;
 - for the three and six months ended June 30, 2023 and 2022, other items also include net gains and losses from strategic investments entered into through our corporate venture program included in other income in our Condensed Consolidated Statements of Income; and
 - for the three and six months ended June 30, 2022, other items primarily include a loss on extinguishment of debt, which is recorded under general, administrative and other expense in our Condensed Consolidated Statements of Income.
- *Significant tax items:* The non-GAAP adjustment to the income tax provision for the three and six months ended June 30, 2023 and 2022 primarily includes the tax impact of each non-GAAP adjustment.

The following tables present reconciliations between U.S. GAAP net income attributable to Nasdaq and diluted earnings per share and non-GAAP net income attributable to Nasdaq and diluted earnings per share:

	Three Months Ended June 30,	
	2023	2022
	(in millions, except per share amounts)	
U.S. GAAP net income attributable to Nasdaq	\$ 267	\$ 307
Non-GAAP adjustments:		
Amortization expense of acquired intangible assets	37	39
Merger and strategic initiatives expense	45	12
Restructuring charges	14	—
Lease asset impairments	5	—
Extinguishment of debt	—	16
Net loss (income) from unconsolidated investees	11	(9)
Other income (loss)	8	(8)
Total non-GAAP adjustments	120	50
Total non-GAAP tax adjustments	(37)	(15)
Total non-GAAP adjustments, net of tax	83	35
Non-GAAP net income attributable to Nasdaq	\$ 350	\$ 342
U.S. GAAP effective tax rate	20.8 %	22.7 %
Total adjustments from non-GAAP tax rate	2.6 %	0.8 %
Non-GAAP effective tax rate	23.4 %	23.5 %
Weighted-average common shares outstanding for diluted earnings per share	493.6	496.6
U.S. GAAP diluted earnings per share	\$ 0.54	\$ 0.62
Total adjustments from non-GAAP net income	0.17	0.07
Non-GAAP diluted earnings per share	\$ 0.71	\$ 0.69

	Six Months Ended June 30,	
	2023	2022
(in millions, except per share amounts)		
U.S. GAAP net income attributable to Nasdaq	\$ 568	\$ 590
Non-GAAP adjustments:		
Amortization expense of acquired intangible assets	75	78
Merger and strategic initiatives expense	47	27
Restructuring charges	33	—
Lease asset impairments	23	—
Extinguishment of debt	—	16
Net income from unconsolidated investees	(3)	(14)
Other income (loss)	(2)	2
Total non-GAAP adjustments	173	109
Total non-GAAP tax adjustments	(52)	(29)
Total non-GAAP adjustments, net of tax	121	80
Non-GAAP net income attributable to Nasdaq	\$ 689	\$ 670
U.S. GAAP effective tax rate	22.5 %	23.6 %
Total adjustments from non-GAAP tax rate	1.5 %	0.4 %
Non-GAAP effective tax rate	24.0 %	24.0 %
Weighted-average common shares outstanding for diluted earnings per share	494.2	499.2
U.S. GAAP diluted earnings per share	\$ 1.15	\$ 1.18
Total adjustments from non-GAAP net income	0.24	0.16
Non-GAAP diluted earnings per share	\$ 1.39	\$ 1.34

LIQUIDITY AND CAPITAL RESOURCES

Historically, we have funded our operating activities and met our commitments through cash generated by operations, augmented by the periodic issuance of debt. Currently, our cost and availability of funding remain healthy. We continue to prudently assess our capital deployment strategy through balancing acquisitions, internal investments, debt repayments, and shareholder return activity, including share repurchases and dividends.

In the near term, we expect that our operations and the availability under our revolving credit facility and commercial paper program will provide sufficient cash to fund our operating expenses, capital expenditures, debt repayments, any share repurchases and any dividends.

The value of various assets and liabilities, including cash and cash equivalents, receivables, accounts payable and accrued expenses, the current portion of long-term debt, and commercial paper, can fluctuate from month to month. Working capital (calculated as current assets less current liabilities) was \$5,067 million as of June 30, 2023, compared with \$(231) million as of December 31, 2022, an increase of \$5,298 million. The increase was primarily driven by an increase in cash and cash equivalents and financial investments and a decrease in short-term debt, partially offset by an increase in deferred revenue. We expect that our cash and cash equivalents combined with cash provided by operating activities will be sufficient to meet our ongoing obligations. In addition, we believe our currently-available borrowing capacity and access to additional financing, including our commercial paper program, provides us additional flexibility to meet our ongoing obligations.

Principal factors that could affect the availability of our internally-generated funds include:

- deterioration of our revenues in any of our business segments;
- changes in regulatory and working capital requirements; and
- an increase in our expenses.

Principal factors that could affect our ability to obtain cash from external sources include:

- operating covenants contained in our credit facilities that limit our total borrowing capacity;
- credit rating downgrades, which could limit our access to additional debt;
- a significant decrease in the market price of our common stock; and
- volatility or disruption in the public debt and equity markets.

The following table summarizes our financial assets:

	June 30, 2023		December 31, 2022	
	(in millions)			
Cash and cash equivalents	\$	5,347	\$	502
Financial investments		288		181
Total financial assets	\$	5,635	\$	683

Cash and Cash Equivalents

Cash and cash equivalents includes all non-restricted cash in banks and highly liquid investments with original maturities of 90 days or less at the time of purchase. The balance retained in cash and cash equivalents is a function of anticipated or possible short-term cash needs, prevailing interest rates, our investment policy, and alternative investment choices. As of June 30, 2023, our cash and cash equivalents of \$5,347 million were primarily invested in bank deposits, commercial paper and money market funds. In the long-term, we may use both internally generated funds and external sources to satisfy our debt obligations and other long-term liabilities. Cash and cash equivalents as of June 30,

2023 increased \$4,845 million from December 31, 2022. The increase reflected proceeds from issuances of long-term debt, net of issuance costs, in connection with the financing of the Adenza transaction. For further discussion, see “Financing of the Adenza Transaction,” of Note 8, “Debt Obligations,” to the condensed consolidated financial statements.

Repatriation of Cash

Our cash and cash equivalents held outside of the U.S. in various foreign subsidiaries totaled \$253 million as of June 30, 2023 and \$275 million as of December 31, 2022. The remaining balance held in the U.S. totaled \$5,094 million as of June 30, 2023 and \$227 million as of December 31, 2022.

Unremitted earnings of certain subsidiaries outside of the U.S. are used to finance our international operations and are considered to be indefinitely reinvested.

Cash Flow Analysis

The following table summarizes the changes in cash flows:

	Six Months Ended June 30,	
	2023	2022
	(in millions)	
Net cash provided by (used in):		
Operating activities	\$ 979	\$ 980
Investing activities	(292)	(244)
Financing activities	4,416	2,703
Effect of exchange rate changes on cash and cash equivalents and restricted cash and cash equivalents	(230)	(682)
Net increase (decrease) in cash and cash equivalents and restricted cash and cash equivalents	4,873	2,757
Cash and cash equivalents, restricted cash and cash equivalents at beginning of period	6,994	5,496
Cash and cash equivalents, restricted cash and cash equivalents at end of period	<u>\$ 11,867</u>	<u>\$ 8,253</u>
Reconciliation of Cash, Cash Equivalents and Restricted Cash and Cash Equivalents		
Cash and cash equivalents	\$ 5,347	\$ 454
Restricted cash and cash equivalents	23	30
Restricted cash and cash equivalents (default funds and margin deposits)	6,497	7,769
Total	<u>\$ 11,867</u>	<u>\$ 8,253</u>

Net Cash Provided by Operating Activities

Net cash provided by operating activities primarily consists of net income adjusted for certain non-cash items such as: depreciation and amortization expense of property and equipment, amortization expense of acquired finite-lived intangible assets, expense associated with share-based compensation, deferred income taxes, extinguishment of debt and bridge fees, non-cash restructuring charges, operating lease asset impairments and net income from unconsolidated investees.

Net cash provided by operating activities is also impacted by the effects of changes in operating assets and liabilities such as: accounts receivable and deferred revenue which are impacted by the timing of customer billings and related collections from our customers; accounts payable and

accrued expenses due to timing of payments; accrued personnel costs, which are impacted by employee performance targets and the timing of payments related to employee bonus incentives; and Section 31 fees payable to the SEC, which is impacted by the changes in SEC fee rates and the timing of collections from customers and payments to the SEC.

Net cash provided by operating activities decreased \$1 million for the six months ended June 30, 2023 compared with the same period in 2022. The decrease was primarily driven by Section 31 fees payable to the SEC due to lower average SEC fee rates in 2023 as compared to 2022 and timing of payment, partially offset by a decrease in receivables primarily due to a decrease in SEC 31 fees receivable as well as timing of collection. The remaining change was primarily due to other fluctuations in our working capital.

Net Cash Used in Investing Activities

Net cash used in investing activities for the six months ended June 30, 2023 primarily related to net purchases of trading securities of \$115 million, net purchases of investments related to default funds and margin deposits of \$103 million and purchases of property and equipment of \$79 million, partially offset by proceeds of \$5 million from other investing activities.

Net cash used in investing activities for the six months ended June 30, 2022 primarily related to net purchases of investments related to default funds and margin deposits of \$202 million, purchases of property and equipment of \$77 million and \$41 million of cash used for acquisitions, net of cash and cash equivalents acquired, partially offset by proceeds of \$55 million from other investing activities and net proceeds from sales and redemptions of securities of \$21 million.

Net Cash Provided by Financing Activities

Net cash provided by financing activities for the six months ended June 30, 2023 primarily related to \$5,016 million proceeds from issuances of senior unsecured notes, in connection with the Adenza transaction, net of debt issuance costs and an increase in default funds and margin deposits of \$364 million, partially offset by \$524 million from repayments of our commercial paper, net, \$206 million of dividend payments to our shareholders, \$159 million in repurchases of common stock and \$68 million of payments related to employee shares withheld for taxes.

Net cash provided by financing activities for the six months ended June 30, 2022 primarily related to an increase in default funds and margin deposits of \$3,554 million, proceeds of \$541 million from the issuances of long-term debt, partially offset by \$499 million for extinguishment of our 2024 Notes, \$325 million of repurchases of common stock pursuant to the ASR agreement, \$308 million in other repurchases of common stock and \$186 million of dividend payments to our shareholders.

See Note 8, “Debt Obligations,” to the condensed consolidated financial statements for further discussion of our debt obligations.

See “Share Repurchase Program,” and “Cash Dividends on Common Stock,” of Note 11, “Nasdaq Stockholders’ Equity,” to the condensed consolidated financial statements for further discussion of our share repurchase program and cash dividends paid on our common stock.

Financial Investments

Our financial investments totaled \$288 million as of June 30, 2023 and \$181 million as of December 31, 2022. Of these securities, \$156 million as of June 30, 2023 and \$161 million as of December 31, 2022 are assets primarily utilized to meet regulatory capital requirements, mainly for our clearing operations at Nasdaq Clearing. See Note 6, “Investments,” to the condensed consolidated financial statements for further discussion.

Regulatory Capital Requirements

Clearing Operations Regulatory Capital Requirements

We are required to maintain minimum levels of regulatory capital for the clearing operations of Nasdaq Clearing. The level of regulatory capital required to be maintained is dependent upon many factors, including market conditions and creditworthiness of the counterparty. As of June 30, 2023, our required regulatory capital of \$120 million was primarily comprised of highly rated European government debt securities that are included in financial investments in the Condensed Consolidated Balance Sheets.

Broker-Dealer Net Capital Requirements

Our broker-dealer subsidiaries, Nasdaq Execution Services, NFSTX, LLC, and Nasdaq Capital Markets Advisory, are subject to regulatory requirements intended to ensure their general financial soundness and liquidity. These requirements obligate these subsidiaries to comply with minimum net capital requirements. As of June 30, 2023, the combined required minimum net capital totaled \$1 million and the combined excess capital totaled \$26 million, substantially all of which is held in cash and cash equivalents in the Condensed Consolidated Balance Sheets. The required minimum net capital is included in restricted cash and cash equivalents in the Condensed Consolidated Balance Sheets.

Nordic and Baltic Exchange Regulatory Capital Requirements

The entities that operate trading venues in the Nordic and Baltic countries are each subject to local regulations and are required to maintain regulatory capital intended to ensure their general financial soundness and liquidity. As of June 30, 2023, our required regulatory capital of \$34 million was primarily invested in European mortgage bonds and Icelandic government bonds that are included in financial investments in the Condensed Consolidated Balance Sheets and cash, which is included in restricted cash and cash equivalents in the Condensed Consolidated Balance Sheets.

Other Capital Requirements

We operate several other businesses which are subject to local regulation and are required to maintain certain levels of regulatory capital. As of June 30, 2023, other required regulatory capital of \$10 million, primarily related to Nasdaq Central Securities Depository, was primarily invested in European government debt securities that are included in financial investments in the Condensed Consolidated Balance Sheets and cash, which is included in restricted cash and cash equivalents in the Condensed Consolidated Balance Sheets.

Equity and dividends

Stock Split Effected in the Form of a Stock Dividend

On August 26, 2022, we effected a 3-for-1 stock split of the Company's common stock in the form of a stock dividend to shareholders of record as of August 12, 2022. The par value per share of our common stock remains \$0.01 per share. All references made with respect to a number of shares or per share amounts throughout this Quarterly Report on Form 10-Q have been retroactively adjusted to reflect the stock split.

Share Repurchase Program

See “Share Repurchase Program,” of Note 11, “Nasdaq Stockholders’ Equity,” to the condensed consolidated financial statements for further discussion of our share repurchase program.

Cash Dividends on Common Stock

The following table presents our quarterly cash dividends paid per common share on our outstanding common stock:

	2023	2022
First quarter	\$ 0.20	\$ 0.18
Second quarter	0.22	0.20
Total	<u>\$ 0.42</u>	<u>\$ 0.38</u>

See “Cash Dividends on Common Stock,” of Note 11, “Nasdaq Stockholders’ Equity,” to the condensed consolidated financial statements for further discussion of the dividends.

Debt Obligations

The following table summarizes our debt obligations by contractual maturity:

	Maturity Date	June 30, 2023	December 31, 2022
(in millions)			
Short-term debt:			
Commercial paper	Weighted-average maturity of 16 days	\$ 140	\$ 664
Total short-term debt		\$ 140	\$ 664
Long-term debt - senior unsecured notes:			
2025 Notes	May 2025	497	—
2026 Notes	June 2026	499	498
2028 Notes	May 2028	992	—
2029 Notes	March 2029	650	637
2030 Notes	February 2030	650	637
2031 Notes	January 2031	644	644
2032 Notes	February 2032	810	—
2033 Notes	July 2033	666	653
2034 Notes	February 2034	1,240	—
2040 Notes	December 2040	644	644
2050 Notes	April 2050	487	486
2052 Notes	March 2052	541	541
2053 Notes	August 2053	739	—
2063 Notes	June 2063	738	—
2022 Revolving Credit Agreement	December 2027	(5)	(5)
Total long-term debt		\$ 9,792	\$ 4,735
Total debt obligations		\$ 9,932	\$ 5,399

In December 2022, Nasdaq amended and restated the 2020 Credit Facility with a new maturity date of December 16, 2027. In addition to the 2022 Revolving Credit Agreement, we also have other credit facilities primarily to support our Nasdaq Clearing operations in Europe, as well as to provide a cash pool credit line for one subsidiary. These European credit facilities, which are available in multiple currencies, totaled \$178 million as of June 30, 2023 and \$184 million as of December 31, 2022 in available liquidity, none of which was utilized.

Financing of the Adenza Transaction

In June 2023, Nasdaq issued a series of six notes for total proceeds of \$5,016 million, net of debt issuance costs, with various maturity dates ranging from 2025 to 2063. The net proceeds from these notes will be used to finance the majority of the cash consideration due in connection with the Adenza acquisition. The notes issued in connection with the Adenza financing (the 2025 Notes, the 2028 Notes, the 2032 Notes, the 2034 Notes, the 2053 Notes and the 2063 Notes) are subject to a special mandatory redemption feature pursuant to which we will be required to redeem all of the outstanding notes at a redemption price equal to 101% of the aggregate principal amount of all the notes, plus accrued and unpaid interest, in the event that the closing of the Adenza acquisition does not occur on or before the later of (i) the date that is five business days after September 10, 2024 and (ii) the date that is five business days after any later date to which the seller and Nasdaq mutually agree to extend.

In addition, in connection with the financing of the Adenza acquisition, we entered into the Acquisition Term Loan Agreement. The Acquisition Term Loan Agreement provides us with the ability to borrow up to \$600 million to finance a portion of the cash consideration for the Adenza acquisition and other amounts incurred in connection with this transaction.

Under the Acquisition Term Loan Agreement, borrowings bear interest on the principal amount outstanding at a variable interest rate based on either the SOFR or the base rate (or other applicable rate with respect to non-dollar borrowings), plus an applicable margin that varies with Nasdaq's debt rating. As of June 30, 2023, no amounts were outstanding.

As of June 30, 2023, we were in compliance with the covenants of all of our debt obligations.

See Note 8, "Debt Obligations," to the condensed consolidated financial statements for further discussion of our debt obligations.

Contractual Obligations and Contingent Commitments

Nasdaq has contractual obligations to make future payments under debt obligations by contract maturity, minimum rental commitments under non-cancelable operating leases, net and other obligations. The following table shows these contractual obligations as of June 30, 2023:

(in millions)	Payments Due by Period				
	Total	<1 year	1-3 years	3-5 years	5+ years
Debt obligation by contractual maturity	\$ 16,266	\$ 461	\$ 1,753	\$ 1,677	\$ 12,375
Operating lease obligations	629	76	134	107	312
Purchase obligations	424	78	106	90	150
Total	\$ 17,319	\$ 615	\$ 1,993	\$ 1,874	\$ 12,837

In the preceding table:

- Debt obligations by contractual maturity include both principal and interest obligations. As of June 30, 2023, an interest rate of 5.2% was used to compute the amount of the contractual obligations for interest on the 2022 Revolving Credit Agreement. All other debt obligations were primarily calculated on a 365-day basis at the contractual fixed rate multiplied by the aggregate principal amount as of June 30, 2023. See Note 8, “Debt Obligations,” to the condensed consolidated financial statements for further discussion.
- Operating lease obligations represent our undiscounted operating lease liabilities as of June 30, 2023, as well as legally binding minimum lease payments for leases signed but not yet commenced. See Note 15, “Leases,” to the condensed consolidated financial statements for further discussion of our leases.

Acquisition of Adenza

For further discussion of our acquisition of Adenza, see “2023 Announced Acquisition,” of Note 4, “Acquisitions,” to the condensed consolidated financial statements.

Off-Balance Sheet Arrangements

For discussion of off-balance sheet arrangements see:

- Note 14, “Clearing Operations,” to the condensed consolidated financial statements for further discussion of our non-cash default fund contributions and margin deposits received for clearing operations; and
- Note 17, “Commitments, Contingencies and Guarantees,” to the condensed consolidated financial statements for further discussion of:
 - Guarantees issued and credit facilities available;
 - Other guarantees;
 - Routing brokerage activities;
 - Legal and regulatory matters; and
 - Tax audits.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

As a result of our operating, investing and financing activities, we are exposed to market risks such as interest rate risk and foreign currency exchange rate risk. We are also exposed to credit risk as a result of our normal business activities.

We have implemented policies and procedures to measure, manage, monitor and report risk exposures, which are reviewed regularly by management and the board of directors. We identify risk exposures and monitor and manage such risks on a daily basis.

We perform sensitivity analyses to determine the effects of market risk exposures. We may use derivative instruments solely to hedge financial risks related to our financial positions or risks that are incurred during the normal course of business. We do not use derivative instruments for speculative purposes.

Interest Rate Risk

We are subject to the risk of fluctuating interest rates in the normal course of business. Our exposure to market risk for changes in interest rates relates primarily to our financial investments and debt obligations, which are discussed below.

Financial Investments

As of June 30, 2023, our investment portfolio was primarily comprised of highly rated European government debt securities, which pay a fixed rate of interest. These securities are subject to interest rate risk and the fair value of these securities will decrease if market interest rates increase. If market interest rates were to increase immediately and uniformly by a hypothetical 100 basis points from levels as of June 30, 2023, the fair value of this portfolio would decline by \$2 million.

Debt Obligations

As of June 30, 2023, substantially all of our debt obligations were fixed-rate obligations. Interest rates on certain tranches of notes are subject to adjustment to the extent our debt rating is downgraded below investment grade, as further discussed in Note 8, “Debt Obligations,” to the condensed consolidated financial statements. While changes in interest rates will have no impact on the interest we pay on fixed-rate obligations, we are exposed to changes in interest rates as a result of the borrowings under our 2022 Revolving Credit Agreement, as this facility has a variable interest rate. We are also exposed to changes in interest rates as a result of the amounts outstanding from the sale of commercial paper under our commercial paper program, which have variable interest rates. As of June 30, 2023, we had principal amounts outstanding of \$140 million of commercial paper and no amounts outstanding under our 2022 Revolving Credit Agreement. A hypothetical 100 basis points increase in interest rates on our outstanding commercial paper would increase our annual interest expense by approximately \$1 million based on borrowings as of June 30, 2023.

We may utilize interest rate swap agreements to achieve a desired mix of variable and fixed rate debt.

Foreign Currency Exchange Rate Risk

We are subject to foreign currency exchange rate risk. Our primary transactional exposure to foreign currency denominated revenues less transaction-based expenses and operating income for the six months ended June 30, 2023 is presented in the following table:

	Euro	Swedish Krona	Canadian Dollar	Other Foreign Currencies	U.S. Dollar	Total
(in millions, except currency rate)						
Three Months Ended June 30, 2023						
Average foreign currency rate to the U.S. dollar	1.089	0.095	0.745	#	N/A	N/A
Percentage of revenues less transaction-based expenses	6.4%	4.1%	0.9%	3.0%	85.6%	100.0%
Percentage of operating income	11.2%	(4.7)%	(7.7)%	(5.6)%	106.8%	100.0%
Impact of a 10% adverse currency fluctuation on revenues less transaction-based expenses	\$(6)	\$(4)	\$(1)	\$(2)	\$—	\$(13)
Impact of a 10% adverse currency fluctuation on operating income	\$(4)	\$(2)	\$(3)	\$(2)	\$—	\$(11)

	Euro	Swedish Krona	Canadian Dollar	Other Foreign Currencies	U.S. Dollar	Total
(in millions, except currency rate)						
Six Months Ended June 30, 2023						
Average foreign currency rate to the U.S. dollar	1.081	0.095	0.742	#	N/A	N/A
Percentage of revenues less transaction-based expenses	6.4%	4.4%	0.9%	3.0%	85.3%	100.0%
Percentage of operating income	10.7%	(4.0)%	(7.1)%	(6.0)%	106.4%	100.0%
Impact of a 10% adverse currency fluctuation on revenues less transaction-based expenses	\$(12)	\$(8)	\$(2)	\$(5)	\$—	\$(27)
Impact of a 10% adverse currency fluctuation on operating income	\$(8)	\$(3)	\$(6)	\$(5)	\$—	\$(22)

Represents multiple foreign currency rates.
N/A Not applicable.

Our investments in foreign subsidiaries are exposed to volatility in currency exchange rates through translation of the foreign subsidiaries' net assets or equity to U.S. dollars. Substantially all of our foreign subsidiaries operate in functional currencies other than the U.S. dollar. The financial statements of these subsidiaries are translated into U.S. dollars for consolidated reporting using a current rate of exchange, with net gains or losses recorded in accumulated other comprehensive loss within stockholders' equity in the Condensed Consolidated Balance Sheets.

Our primary exposure to net assets in foreign currencies as of June 30, 2023 is presented in the following table:

	Net Assets		Impact of a 10% Adverse Currency Fluctuation	
	(in millions)			
Swedish Krona	\$	2,953	\$	295
British Pound		152		15
Norwegian Krone		136		14
Canadian Dollar		110		11
Australian Dollar		105		10
Euro		50		5

In the table above, Swedish Krona includes goodwill of \$2,079 million and intangible assets, net of \$471 million.

Credit Risk

Credit risk is the potential loss due to the default or deterioration in credit quality of customers or counterparties. We are exposed to credit risk from third parties, including customers, counterparties and clearing agents. These parties may default on their obligations to us due to bankruptcy, lack of liquidity, operational failure or other reasons. We limit our exposure to credit risk by evaluating the counterparties with which we make investments and execute agreements. For our investment portfolio, our objective is to invest in securities to preserve principal while maximizing yields, without significantly increasing risk. Credit risk associated with investments is minimized substantially by ensuring that these financial assets are placed with governments which have investment grade ratings, well-capitalized financial institutions and other creditworthy counterparties.

Our subsidiary, Nasdaq Execution Services, may be exposed to credit risk due to the default of trading counterparties in connection with the routing services it provides for our trading customers. System trades in cash equities routed to other market centers for members of our cash equity exchanges are routed by Nasdaq Execution Services for clearing to the NSCC. In this function, Nasdaq Execution Services is to be neutral by the end of the trading day, but may be exposed to intraday risk if a trade extends beyond the trading day and into the next day, thereby leaving Nasdaq Execution Services susceptible to counterparty risk in the period between accepting the trade and routing it to the clearinghouse. In this interim period, Nasdaq Execution Services is not novating like a clearing broker but instead is subject to the short-term risk of counterparty failure before the clearinghouse enters the transaction. Once the clearinghouse officially accepts the trade for novation, Nasdaq Execution Services is legally removed from trade execution risk. However, Nasdaq has membership obligations to NSCC independent of Nasdaq Execution Services' arrangements.

Pursuant to the rules of the NSCC and Nasdaq Execution Services' clearing agreement, Nasdaq Execution Services is liable for any losses incurred due to a counterparty or a clearing agent's failure to satisfy its contractual obligations, either by making payment or delivering securities. Adverse movements in the prices of securities that are subject to these transactions can increase our credit risk. However, we believe that the risk of material loss is limited, as Nasdaq Execution Services' customers are not permitted to trade on margin and NSCC rules limit counterparty risk on self-cleared transactions by establishing credit limits and capital deposit requirements for all brokers that clear with NSCC. Historically, Nasdaq Execution Services has never incurred a liability due to a customer's failure to satisfy its contractual obligations as counterparty to a system trade. Credit difficulties or insolvency, or the perceived possibility of credit difficulties or insolvency, of one or more larger or visible market participants could also result in market-wide credit difficulties or other market disruptions.

We have credit risk related to transaction and subscription-based revenues that are billed to customers on a monthly or quarterly basis, in arrears. Our potential exposure to credit losses on these transactions is represented by the receivable balances in our Condensed Consolidated Balance Sheets. We review and evaluate changes in the status of our counterparties' creditworthiness. Credit losses such as those described above could adversely affect our consolidated financial position and results of operations.

We also are exposed to credit risk through our clearing operations with Nasdaq Clearing. See Note 14, "Clearing Operations," to the condensed consolidated financial statements for further discussion. Our clearinghouse holds material amounts of clearing member cash deposits, which are held or invested primarily to provide security of capital while minimizing credit, market and liquidity risks. While we seek to achieve a reasonable rate of return, we are primarily concerned with preservation of capital and managing the risks associated with these deposits. As the clearinghouse may pass on interest revenues (minus costs) to the members, this could include negative or reduced yield due to market conditions. The following is a summary of the risks associated with these deposits and how these risks are mitigated.

- **Credit Risk.** When the clearinghouse has the ability to hold cash collateral at a central bank, the clearinghouse utilizes its access to the central bank system to minimize credit risk exposures. When funds are not held at a central bank, we seek to substantially mitigate credit risk by ensuring that investments are primarily placed in large, highly rated financial institutions, highly rated government debt instruments and other creditworthy counterparties.

- **Liquidity Risk.** Liquidity risk is the risk a clearinghouse may not be able to meet its payment obligations in the right currency, in the right place and the right time. To mitigate this risk, the clearinghouse monitors liquidity requirements closely and maintains funds and assets in a manner which minimizes the risk of loss or delay in the access by the clearinghouse to such funds and assets. For example, holding funds with a central bank where possible or investing in highly liquid government debt instruments serves to reduce liquidity risks.
- **Interest Rate Risk.** Interest rate risk is the risk that interest rates rise causing the value of purchased securities to decline. If we were required to sell securities prior to maturity, and interest rates had risen, the sale of the securities might be made at a loss relative to the latest market price. Our clearinghouse seeks to manage this risk by making short term investments of members' cash deposits. In addition, the clearinghouse investment guidelines allow for direct purchases or repurchase agreements with short dated maturities of high quality sovereign debt (for example, European government and U.S. Treasury securities), central bank certificates and multilateral development bank debt instruments.
- **Security Issuer Risk.** Security issuer risk is the risk that an issuer of a security defaults on its payment when the security matures. This risk is mitigated by limiting allowable investments and collateral under reverse repurchase agreements to high quality sovereign, government agency or multilateral development bank debt instruments.

Item 4. Controls and Procedures

Disclosure controls and procedures. Nasdaq's management, with the participation of Nasdaq's Chief Executive Officer, and Executive Vice President and Chief Financial Officer, has evaluated the effectiveness of Nasdaq's disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Based upon that evaluation, Nasdaq's Chief Executive Officer and Executive Vice President and Chief Financial Officer, have concluded that, as of the end of such period, Nasdaq's disclosure controls and procedures are effective.

Changes in internal control over financial reporting. There have been no changes in Nasdaq's internal control over financial reporting (as defined in Rule 13a-15(f) and Rule 15d-15(f) under the Exchange Act) that occurred during the quarter ended June 30, 2023 that have materially affected, or are reasonably likely to materially affect, Nasdaq's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

For a description of our legal proceedings, if any, see “Legal and Regulatory Matters” of Note 17, “Commitments, Contingencies and Guarantees,” to the condensed consolidated financial statements, which is incorporated herein by reference.

Item 1A. Risk Factors

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors discussed under “Risk Factors” in our most recent Form 10-K. These risks could materially and adversely affect our business, financial condition and results of operations. These risks and uncertainties are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

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

Issuer Purchases of Equity Securities

Share Repurchase Program

See “Share Repurchase Program,” of Note 11, “Nasdaq Stockholders’ Equity,” to the condensed consolidated financial statements for further discussion of our share repurchase program.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The table below represents repurchases made by or on behalf of us or any “affiliated purchaser” of our common stock during the fiscal quarter ended June 30, 2023:

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid Per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in millions)
April 2023				
Share repurchase program	—	\$ —	—	\$ 491
Employee transactions	511,507	\$ 54.40	N/A	N/A
May 2023				
Share repurchase program	—	\$ —	—	\$ 491
Employee transactions	328	\$ 55.20	N/A	N/A
June 2023				
Share repurchase program	—	\$ —	—	\$ 491
Employee transactions	12,324	\$ 54.95	N/A	N/A
Total Quarter Ended June 30, 2023				
Share repurchase program	—	\$ —	—	\$ 491
Employee transactions	524,159	\$ 54.41	N/A	N/A

In the preceding table:

- N/A - Not applicable.
- See “Share Repurchase Program,” of Note 11, “Nasdaq Stockholders’ Equity,” to the condensed consolidated financial statements for further discussion of our share repurchase program.
- Employee transactions represents shares surrendered to us to satisfy tax withholding obligations arising from the vesting of restricted stock and PSUs previously issued to employees.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

During the three months ended June 30, 2023, none of the Company's directors or officers adopted, terminated or modified a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement" (as such terms are defined in Item 408 of Regulation S-K).

Item 6. Exhibits

Exhibit Number	
2.1	Agreement and Plan of Merger, dated as of June 10, 2023, by and among Nasdaq, Inc., Argus Merger Sub 1, Inc., Argus Merger Sub 2, LLC, Adenza Holdings, Inc. and Adenza Parent, LP. (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed on June 12, 2023).*
4.1	Fourteenth Supplemental Indenture, dated as of June 28, 2023, by and between Nasdaq, Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as trustee (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed on June 28, 2023).
4.2	Fifteenth Supplemental Indenture, dated as of June 28, 2023, by and between Nasdaq, Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as trustee (incorporated by reference to Exhibit 4.3 to the Current Report on Form 8-K filed on June 28, 2023).
4.3	Sixteenth Supplemental Indenture, dated as of June 28, 2023, by and between Nasdaq, Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as trustee (incorporated by reference to Exhibit 4.4 to the Current Report on Form 8-K filed on June 28, 2023).
4.4	Seventeenth Supplemental Indenture, dated as of June 28, 2023, by and between Nasdaq, Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as trustee (incorporated by reference to Exhibit 4.5 to the Current Report on Form 8-K filed on June 28, 2023).
4.5	Eighteenth Supplemental Indenture, dated as of June 28, 2023, by and between Nasdaq, Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as trustee (incorporated by reference to Exhibit 4.6 to the Current Report on Form 8-K filed on June 28, 2023).

4.6	Nineteenth Supplemental Indenture, dated as of June 28, 2023, by and between Nasdaq, Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as trustee and HSBC Bank USA, National Association, as paying agent, registrar and transfer agent (incorporated by reference to Exhibit 4.7 to the Current Report on Form 8-K filed on June 28, 2023).
10.1	Amended and Restated Board Compensation Policy, effective on June 21, 2023.**
10.2	Form of Nasdaq Restricted Stock Unit Award Certificate (employees).**
10.3	Form of Nasdaq Restricted Stock Unit Award Certificate (directors).**
10.4	Form of Nasdaq Three-Year Performance Share Unit Agreement.**
10.5	Amendment No. 2 to Amended and Restated Credit Agreement, dated as of June 16, 2023, among Nasdaq, Inc., a Delaware corporation, the lenders party thereto and Bank of America, N.A., as administrative agent (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on June 20, 2023).
10.6	Term Loan Credit Agreement, dated as of June 28, 2023, among Nasdaq, Inc., the lenders and other parties party thereto, and Bank of America, N.A., as Administrative Agent (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on June 28, 2023).
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley").
31.2	Certification of Executive Vice President and Chief Financial Officer pursuant to Section 302 of Sarbanes-Oxley.
32.1	Certifications Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of Sarbanes-Oxley.

Nasdaq, Inc. Board Compensation Policy

Amended and Restated as of June 21, 2023

Version 3.1

Purpose & Statement Of Policy

Annual Non-Employee Director (“Director”) compensation consists of the following elements, each of which is discussed further below: (i) annual retainer, (ii) annual equity award, (iii) annual committee chair fees and (v) annual committee member fees.

Director compensation will be based on a compensation year in connection with the annual meeting of stockholders (the “Annual Meeting”). This enables Directors to receive equity immediately following election and appointment to the Board at the Annual Meeting.

Applicability & Scope

This Policy is applicable to all non-employee Directors of Nasdaq, Inc.

Annual Retainer

- Annual Director Retainer compensation is equal to a total value of \$85,000 for each Director, other than the Chairman of the Board.
- The Lead Independent Director, if any, will receive the Annual Director Retainer plus an additional Lead Independent Director Retainer of \$75,000.
- The Chairman of the Board will receive Annual Board Chairman Retainer compensation equal to a total value of \$240,000.
- Annual Retainer compensation will be delivered in the form of equity; however, Directors may annually elect to receive the entire Retainer compensation in cash or equity. Each Director will have the opportunity to make this election during the thirty (30) day period preceding the Annual Meeting. If the Director declines to make an election, the entire Annual Retainer will be paid in equity.
- Equity will be issued as Restricted Stock Units to each eligible director automatically on the date of the Annual Meeting immediately following the Director’s election and appointment by the Board. The equity portion.

QUESTIONS?

Please contact the Office of the Corporate Secretary with questions about this policy.

selected will be paid in accordance with the “Policies and Procedures Relating to Equity Grants” below.

- If cash is selected, the cash portion will be paid semi-annually in arrears, in equal installments, no later than the fifteenth day of the third month following the end of the semi-annual period; provided, however, that a Director will have a right to receive a cash payment for any given period only if that person serves as a Director during all or a portion of that period, with the cash payment for the period being prorated in the case of a person who serves as a Director during only a portion of a period (other than on account of death or disability).
- A Director appointed after the annual shareholders meeting will be eligible to receive a prorated share of the Annual Retainer compensation. Such a Director may elect to receive the entire prorated share of the Annual Retainer compensation in cash or equity. Any cash portion will be paid semi-annually in arrears.

Annual Equity Award

- All Directors, including the Chairman and Lead Independent Director, will receive an additional annual equity award in the form of Restricted Stock Units, in the amount of \$260,000 per annum.
- The annual equity award will be granted to each Director automatically on the date of the Annual Meeting immediately following the Director’s election and appointment to the Board. A Director appointed to the Board at any time after the annual shareholders meeting will be eligible to receive a prorated share of the annual equity award.
- The annual equity award will be paid in accordance with the “Policies and Procedures Relating to Equity Grants” below.

Annual Committee Chair Fees

- The Chairperson of the Audit & Risk Committee will receive an Annual Chair Fee of \$40,000.
- The Chairperson of the Management Compensation Committee will receive an Annual Chair Fee of \$30,000.
- The Chairperson of the Finance and Nominating & ESG Committees will receive an Annual Chair Fee of \$20,000.
- The Annual Chair fees will be paid in equity; however, each Chairperson may elect to receive the entire Annual Chair fees in cash. The Annual Chair fees will be issued as Restricted Stock Units to each eligible director automatically on the date of the Annual Meeting immediately following the Director’s election and appointment by the Board. A Chairperson appointed to the Board at any time after the annual shareholders meeting will be eligible to receive a prorated share of the Annual Committee Chair Fees. Fees paid in equity will be paid in accordance with the “Policies and Procedures Relating to Equity Grants” below.
- If cash is selected, the cash portion will be paid semi-annually in arrears, in equal installments, no later

than the fifteenth day of the third month following the end of the semi-annual period; provided, however, that a Director will have a right to receive a cash payment for any given period only if that person serves as a Director during all or a portion of that period, with the cash payment for the period being prorated in the case of a person who serves as a Director during only a portion of a period (other than on account of death or disability).

Annual Committee Member Fees

- Each Non-Chair Member of the Audit & Risk Committee will receive an annual membership fee of \$20,000.
- Each Non-Chair Member of the Management Compensation Committee and Nominating & ESG Committee will receive an annual membership fee of \$10,000.
- Each Non-Chair Member of the Finance Committee will receive an annual membership fee of \$5,000.
- The Annual Committee Member fees will be paid in equity; however, each Non-Chair Member may elect to receive the entire Annual Committee Member fees in cash. The Annual Committee Member fees will be issued as Restricted Stock Units to each eligible director automatically on the date of the Annual Meeting immediately following the Director’s election and appointment by the Board. A Director appointed to the Board at any time after the annual shareholders meeting will be eligible to receive a prorated share of the Annual Committee Member Fees. Fees paid in equity will be paid in accordance with the “Policies and Procedures Relating to Equity Grants” below.
- If cash is selected, the cash portion will be paid semi-annually in arrears, in equal installments, no later than the fifteenth day of the third month following the end of the semi-annual period; provided, however, that a Director will have a right to receive a cash payment for any given period only if that person serves as a Director during all or a portion of that period, with the cash payment for the period being prorated in the case of a person who serves as a Director during only a portion of a period (other than on account of death or disability)

Policies And Procedures Relating To Equity Grants **General**

- All Director equity will be granted under the Equity Plan.
- Calculation of the number of shares of equity to be awarded to Directors will be valued at 100% of face value and based on the closing price of Nasdaq’s common stock on the date of the grant. Equity awards are non-transferable and must be issued to the Director.

- Any grants of equity under this policy shall be exempt pursuant to Rule 16b-3 under the Securities Exchange Act of 1934, as amended.

Vesting

- Equity awards will vest 100% one (1) year from the date of the grant. Equity awards will also vest upon the scheduled expiration of a Director’s term, if such term is not renewed.
- Upon a Director’s resignation (other than for death or disability) prior to the end of the Director’s term, unvested equity awards will be forfeited. However, the Management Compensation Committee, in its sole discretion, may approve the vesting of unvested equity awards either pro-rated or in full, as of the final vesting date.
- Upon termination of a Director for “Misconduct,” all unvested equity awards will be forfeited without further consideration to the Director.
- Upon termination of a Director on account of his death or disability, unvested equity awards will vest.
- Shortly after vesting, vested shares will appear in the Director’s account at E*Trade. To view this information, a Director may log directly onto his or her online E*Trade account at *******. Additionally, a Director may contact E*Trade’s Executive Services Team at 1.972.218.0187 or via email at executiveservices@etrade.com

Equity Agreements, Share Restrictions & Voting Rights

- Equity awards will be evidenced by an Equity Award Agreement to be entered into with each Director.
- Once vested, shares will be freely tradeable. Nasdaq does not have a repurchase right or obligation.
- Trading in Nasdaq shares, however, is subject to the Director and Executive Officers Trading Policy and to any contractual restrictions on transfer, such as lock-up agreements, that may be applicable.

Reporting and Disclosure

- SEC Form 4s (Change in Beneficial Ownership) must be filed by each Director with the SEC within 2 business days of equity grants. The Director may request Nasdaq’s assistance with the preparation and filing of Form 4s and other Section 16 reports by providing a completed Power of Attorney and CIK/CCC Code, if the Director has a CIK/CCC Code currently assigned.
- Equity will be reflected as stock owned by Directors, if required, in the Beneficial Ownership Table of the Nasdaq Proxy and will be disclosed under the general Director Compensation section of the Proxy.

Stock Ownership Guidelines For Directors

- Stock ownership guidelines for Directors of Nasdaq are as follows.

	Value of Shares Owned
Chairman of the Board	6x Annual Board Chairman Equity Grant
All Other Directors	2x Annual Director Equity Grant

- New Directors are expected to meet the applicable level of ownership within four years of their election to the Board of Directors.
- The value of shares owned will be calculated based upon Nasdaq’s average closing common stock price for a 90-day period prior to the date on which the Director is expected to meet the applicable level of stock ownership.
- Shares that count toward meeting the stock ownership guidelines include:
 - Shares owned outright (e.g., shares obtained upon option exercise, shares purchased in the open market, etc.)
 - Shared ownership (e.g., shares owned or held in trust by immediate family)
 - Vested and unvested restricted shares
- Shares that do not count toward meeting the stock ownership guidelines:
 - Vested stock Options
 - Unvested stock options
- Once an applicable guideline threshold has been attained, the Director is expected to continuously retain sufficient share ownership to meet the guideline for as long as the Director is subject to the Stock Ownership Guidelines.
- There may be instances where an exception to the guidelines is necessary or appropriate, including in cases where the satisfaction of the guidelines would place a severe hardship on the Director. In such cases, the Chairman of the Board will make a final determination as to whether an exception to the Stock Ownership Guidelines, in whole or in part, will be granted.

**NASDAQ, INC.
RESTRICTED STOCK UNIT AWARD CERTIFICATE**

Award Date: [Date]	Number of Restricted Stock Units: <u>TOTAL SHARES GRANTED</u>	Final Vesting Date: __ (See below)
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THIS CERTIFIES THAT Nasdaq, Inc. (the “Company”) has on the Award Date specified above granted to

FIRST NAME LAST NAME

(the “Participant”) an award (the “Award”) to receive the number of Restricted Stock Units (the “RSUs”) indicated in the box above labeled “Number of Restricted Stock Units,” each RSU representing the right to receive one share of the Company’s common stock, \$0.01 per value per share (the “Share”), subject to certain restrictions and on the terms and conditions contained in this award certificate (“Award Certificate”) and the Nasdaq, Inc. Equity Incentive Plan (as amended and restated April 24, 2018) (the “Plan”). Capitalized terms not otherwise defined have the meanings set forth in the Plan. A copy of the Plan is available from Human Resources, and is also available on the Company’s website.

* * *

1. Rights of the Participant with Respect to the Restricted Stock Units.

(a) Prior to vesting of the RSUs pursuant to Section 2, (i) the Participant shall not be treated as a shareholder as to Shares issuable to the Participant with respect to such RSUs, and shall only have a contractual right to receive such Shares following such vesting, unsecured by any assets of the Company or its Subsidiaries; (ii) the Participant shall not be permitted to vote the RSUs or the Shares issuable with respect to such RSUs; and (iii) the Participant’s right to receive such Shares following vesting of the RSUs shall be subject to the adjustment provisions set forth in Section 13 of the Plan. The RSUs shall be subject to all of the restrictions hereinafter set forth.

(b) At the sole discretion of the Committee, the Participant shall be permitted to receive cash payments equal to the dividends and distributions paid on Shares (other than dividends or distributions of securities of the Company which may be issued with respect to Shares by virtue of any stock split, combination, stock dividend or recapitalization) to the same extent as if each RSU was a Share, and those Shares were not subject to the restrictions imposed by this Award Certificate and the Plan; provided, however, that no dividends or distributions shall be payable to or for the benefit of the Participant with respect to record dates for such dividends or distributions occurring on or after the date, if any, on which the Participant has forfeited the RSUs.

2. Vesting.

(a) Except as otherwise provided under this Award Certificate, the RSUs shall vest in accordance with the following vesting schedule: 33% of the RSUs shall vest on the first anniversary of the Award Date (specified above); an additional 33% of the RSUs shall vest on the second anniversary of the Award Date; and the remaining balance of the RSUs shall vest on the third anniversary of the Award Date (the "Final Vesting Date"); provided, in each case, that the Participant remains in continuous employment with the Company or any of its Subsidiaries until such date(s).

(b) If, prior to the Final Vesting Date of the RSUs under paragraph (a) above the Participant has a Separation from Service (as defined in the Plan) with the Company or any of its Subsidiaries for any reason (voluntary or involuntary), then such non-vested RSUs shall be immediately and irrevocably forfeited, except as otherwise provided in Section 8(e)(ii) of the Plan (Separation from Service by reason of death or Retirement) or Section 12 of the Plan (Separation from Service following a Change in Control). Notwithstanding anything to the contrary in the Plan or this Award Certificate, and for purposes of clarity, any Separation from Service shall be effective as of the date the Participant's active employment ends and shall not be extended by any statutory or common law notice period.

(c) If, prior to the vesting of the RSUs under paragraph (a) above the Participant is determined by the insurance carrier under the Company's then-current long-term disability plan to be entitled to receive benefits under such plan, and, by reason of such Disability, is deemed to have a Separation from Service (within the meaning of the Plan), then an amount of unvested RSUs shall vest as described in Section 8(e)(iii) of the Plan.

3. Issuance of Shares. Following the applicable vesting date with respect to the RSUs, and subject to the terms and conditions of the Plan, the Company will issue Shares with respect to such vested RSUs net of any Shares withheld by the Company to satisfy the payment of taxes as described in Section 6 of this Award Certificate. Such issuance shall take place as soon as practicable following the applicable vesting date (but in no event later than 60 days following the applicable vesting date described in Section 2(a), (b) or (c) above). The Shares issued in respect of the RSUs shall be subject to such stop transfer orders and other restrictions as the Committee may determine is required by the rules, regulations, and other requirements of the Securities and Exchange Commission, The Nasdaq Stock Market, any applicable federal, state or local laws and the Company's Certificate of Incorporation and By-Laws, and the Committee may cause a legend or legends to be put on such Shares to make appropriate reference to such restrictions. The Company may make delivery of Shares in settlement of RSUs by either (A) delivering certificates representing such Shares to the Participant, registered in the name of the Participant, or (B) by depositing such Shares into a stock brokerage account maintained for the Participant. The Company will not deliver any fractional Shares but will instead round down to the next full number the amount of Shares to be delivered.

4. No Right to Continued Employment. Neither the Plan nor this Award Certificate shall confer on the Participant any right to be retained, in any position, as an employee, consultant or director of the Company, and nothing in this Award Certificate or the Plan shall be construed to limit the discretion of the Company (or subsidiary that employs the Participant) to terminate the Participant's employment at any time, with or without cause.

5. Transferability.

(a) The RSUs are not transferable and may not be sold, assigned, transferred, disposed of, pledged or otherwise encumbered by the Participant, other than by will or the laws of descent and distribution. Upon such transfer (by will or the laws of descent and distribution), such transferee in interest shall take the rights granted herein subject to all the terms and conditions hereof.

(b) Subject to Section 5(a) hereof, in order to comply with any applicable securities laws, the Shares issued to the Participant with respect to vested RSUs may only be sold by the Participant following registration of such Shares under the U.S. Securities Act of 1933, as amended, or pursuant to an exemption therefrom.

(c) Following settlement and issuance of Shares, in the event the Company permits Participant to arrange for sale of Shares through a broker or another designated agent of the Company, Participant acknowledges and agrees that the Company may block any such sale and/or cancel any order to sell placed by the Participant, in each case if the Participant is not then permitted under the Company's insider trading policy to engage in transactions with respect to securities of the Company. If the Committee determines that the ability of the Participant to sell or transfer Shares is restricted, then the Company may notify the Participant in accordance with Section 14 of this Award Certificate. The Participant may only sell such Shares in compliance with such notification from the Company.

6. Withholding.

(a) In order to comply with all applicable federal, state and local tax laws or regulations, the Company may take such actions as it deems appropriate to ensure that all applicable federal, state and local income, payroll or other taxes are withheld or collected from the Participant.

(b) In accordance with the terms of the Plan, and such rules as may be adopted by the Committee under the Plan, the Participant may elect to satisfy the Participant's federal, state and local tax withholding obligations arising from the receipt of, the vesting of or the lapse of restrictions relating to, or the settlement of, the RSUs, by one or a combination of (i) delivering cash, check or money order payable to the Company, (ii) delivering to the Company other Shares, (iii) having the Company withhold a portion of the Shares otherwise to be delivered having a Fair Market Value sufficient to satisfy the statutory withholding required with respect thereto to the extent permitted by the Company; or (iv) having the Company (or the Subsidiary that employs the Participant) withhold any amounts necessary to pay the statutory withholding required from the Participant's salary or other amounts payable to the Participant. The Company will not deliver any fractional Shares but will instead round down to the next full number the amount of Shares to be delivered. The Participant's election must be made on or before the date that any such withholding obligation with respect to the RSUs arises. If the Participant fails to timely make such an election, the Company shall have the right to withhold a portion of the Shares otherwise to be delivered having a Fair Market Value equal to the statutory amount of withholding with respect to applicable taxes, as determined by the Company in its sole discretion. The net settlement of the shares underlying the vested RSUs and the delivery of Shares previously owned are hereby specifically authorized alternatives for the satisfaction of the foregoing withholding obligation. To the extent necessary to meet any obligation to withhold Federal Insurance Contributions Act taxes before delivery of the Shares, the Company is authorized to deduct those taxes from other current wages or other compensation.

7. Governing Law. This Award Certificate shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to the conflicts of law provisions thereof.

8. Amendments. The Company, acting by means of the Committee, has the right, as set forth in the Plan, to amend, alter, suspend, discontinue or cancel this Award, prospectively or retroactively; provided however, that no such amendment, alteration, suspension, discontinuance or cancellation of the RSUs will adversely affect the Participant's material rights under this Award Certificate without the Participant's consent. The Company has the authority to amend this Award Certificate, consistent with the foregoing, without the Participant's written agreement, except as set forth in this Section 8.

In the event that the Company is reorganized or liquidated, or if all or substantially all of its assets are sold, or if the Company is merged or consolidated with another corporation or entity (or in the event the Company consummates a written agreement to accomplish any of the foregoing), the Committee may, in its sole discretion and upon at least 10 days advance notice to the Participant, cancel any outstanding RSUs and cause the Participant to be paid (in cash or in stock, or any combination thereof) the value of such RSUs based upon the price per Share received or to be received in the transaction.

9. Administration. This Award Certificate shall at all times be subject to the terms and conditions of the Plan. The Committee shall have sole and complete discretion with respect to all matters reserved to it by the Plan and decisions of the Committee with respect thereto and this Award Certificate shall be final and binding upon the Participant and the Company. The Committee has the authority and discretion to determine any questions which arise in connection with the award of the RSUs hereunder.

10. Compliance with Code Section 409A for U.S. Taxpayers.

(a) Distributions of Shares in settlement of RSUs as described herein which represent a "deferral of compensation" within the meaning of Code section 409A shall conform to the applicable requirements of Code section 409A, including, without limitation, the requirement that a distribution to a Participant who is a "specified employee" within the meaning of Code section 409A(a)(2)(B)(i) which is made on account of the specified employee's Separation from Service shall not be made before the date which is six (6) months after the date of Separation from Service. However, distributions as aforesaid shall not be deemed to be a "deferral of compensation" subject to Code section 409A to the extent provided in the exception in Treasury Regulation Section 1.409A-1(b)(4) for short-term deferrals.

(b) It is the intention of the Company and Participant that this Award Certificate not result in an unfavorable tax consequences to Participant under Code Section 409A. Accordingly, as permitted by the Plan, the Company may at any time (without the consent of the Participant) modify or amend the Plan or this Award Certificate to the extent necessary to ensure that the Award is not "deferred compensation" subject to Code Section 409A (or, alternatively, to conform to the requirements of Code Section 409A). Any such amendments shall be made in a manner that preserves to the maximum extent possible the intended benefits to Participant. This paragraph does not create an obligation on the part of Company to modify this Award Certificate and does not guarantee that the amounts or benefits owed under this Award Certificate will not be subject to interest and penalties under Code Section 409A. For purposes of applying the provisions of Code Section 409A, to the extent applicable, each group of Restricted Stock Units that would vest in accordance with Section 2(a) shall be treated as a separate payment.

(c) While the Company intends that this Award Certificate and the RSUs granted hereunder comply with or be exempt from the requirements of Code Section 409A and any related regulations or other guidance promulgated thereunder, neither the Company or the Committee nor any of their respective affiliates shall be liable to any person for the tax consequences of any failure to comply with the requirements of Code Section 409A or any other tax consequences relating to this Award.

11. Imposition of Other Requirements. The Company reserves the right to impose other requirements on the Participant's participation in the Plan, on the RSUs and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable in order to comply with local law or facilitate the administration of the Plan, and to require the Participant, as a condition of receipt of Shares underlying an RSU, to sign any additional Award Certificates or undertakings that may be necessary to accomplish the foregoing.

12. Nature of Grant. In accepting the Award, the Participant acknowledges, understands and agrees that:

(i) the Plan is established voluntarily by the Company, it is discretionary in nature, and may be modified, amended, suspended or terminated by the Company at any time, to the extent permitted by the Plan;

(ii) all decisions with respect to future Awards or other grants, if any, will be at the sole discretion of the Company;

(iii) the grant of the RSUs and the Participant's participation in the Plan shall not create a right to employment or be interpreted as forming an employment or service contract with the Company, the Participant's employer or any Subsidiary, and shall not interfere with the ability of the Company, the Participant's employer or any Subsidiary, as applicable, to terminate the Participant's employment or service relationship (if any);

(iv) the Participant is voluntarily participating in the Plan;

(v) the RSUs and any Shares issued under the Plan and the income and value of the same are not intended to replace any pension rights or compensation;

(vi) the future value of the Shares underlying the RSUs is unknown, indeterminable and cannot be predicted with certainty;

(vii) unless otherwise agreed with the Company, the Award and the Shares subject to the Award, and the income and value of same, are not granted as consideration for, or in connection with, the service Participant may provide as a director of a Subsidiary of the Company;

(viii) no claim or entitlement to compensation or damages shall arise from forfeiture of the RSUs resulting from Separation from Service (for any reason whatsoever, whether or not later found to be invalid or in breach of employment laws in the jurisdiction where the Participant is employed or the terms of the Participant's employment agreement, if any), and in consideration of the grant of the RSUs to which the Participant is otherwise not entitled, the Participant irrevocably agrees never to institute any claim against the Company, any of its Subsidiaries or the Participant's employer, waives his ability, if any, to bring any such claim, and releases the Company, its Subsidiaries and the Participant's employer from any such claim; if, notwithstanding the foregoing, any such claim is allowed by a court of competent jurisdiction, then, by participating in the Plan, the Participant shall be deemed irrevocably to have agreed not to pursue such claim and agrees to execute any and all documents necessary to request dismissal or withdrawal of such claim; and

(ix) the Participant acknowledges and agrees that neither the Company, the Participant's employer nor any Subsidiary shall be liable for any foreign exchange rate fluctuation between the Participant's local currency and the United States Dollar that may affect the value of the RSUs or of any amounts due to the Participant pursuant to the vesting and settlement of the RSU or the subsequent sale of any Shares issued upon settlement.

13. Consent to Collection, Processing and Transfer of Personal Data. Pursuant to applicable personal data protection laws, the Company hereby notifies the Participant of the following in relation to the Participant's personal data and the collection, processing and transfer of such data in relation to the Company's grant of this Award and the Participant's participation in the Plan. The collection, processing and transfer of the Participant's personal data are necessary for the Company's administration of the Plan and the Participant's participation in the Plan. The Participant's denial and/or objection to the collection, processing and transfer of personal data may affect the Participant's participation in the Plan. As such, the Participant voluntarily explicitly and unambiguously acknowledges and consents (where required under applicable law) to the collection, use, processing and transfer of personal data as described in this Award Certificate and any other Award grant materials by and among, as applicable, the Company, its Subsidiaries and/or the Participant's employer for the purpose of implementing, administering and managing the Participant's participation in the Plan.

The Company and its Subsidiaries, including the Participant's employer hold certain personal information about the Participant, including, but not limited to his or her name, home address, email address and telephone number, date of birth, social security number, passport number or other employee identification number, salary, nationality, job title, any Shares or directorships held in the Company, details of all Awards or any other entitlement to Shares awarded, canceled, purchased, vested, unvested or outstanding in Participant's favor, for the exclusive purpose of managing and administering the Plan ("Data").

The Company and its Subsidiaries, including the Participant's employer, will transfer Data amongst themselves as necessary for the purpose of implementation, administration and management of the Participant's participation in the Plan, and the Company and its Subsidiaries, including the Participant's employer, may each further transfer Data to a designated Plan broker, administrative agent or such other stock plan service provider as may be selected by the Company presently or in the future (a "Plan Service Provider"), which may be assisting the Company in the implementation, administration and management of the Plan. These recipients may be located throughout the world. The Participant understands that if he

or she resides outside the United States, the Participant may request a list with the names and addresses of any potential recipients of the Data by contacting the Participant's local human resources representative. The Participant hereby authorizes (where required under applicable law) the Company, any Plan Service Provider and any other possible recipients which may assist the Company (presently or in the future) to receive, possess, use, retain and transfer the Data, in electronic or other form, for the sole purpose of implementing, administering and managing the Participant's participation in the Plan. Furthermore, the Participant acknowledges and understands that the transfer of the Data to the Company or its Subsidiaries, including the Participant's employer, to any Plan Service Provider, or to any third parties is necessary for the Participant's participation in the Plan. The Participant understands that Data will be held only as long as is necessary to implement, administer and manage the Participant's participation in the Plan. If the Participant does not consent, or if the Participant later seeks to revoke his or her consent, the Participant's employment status or service and career with the Company and its Subsidiaries will not be affected. The only consequence of refusing or withdrawing the Participant's consent is that the Company may not be able to grant the Participant RSUs or other awards or administer or maintain such awards. Therefore, the Participant acknowledges that withdrawal of consent may affect the Participant's ability to vest in or realize benefits from the RSUs, and the Participant's ability to participate in the Plan, in which case neither the Company nor any of its Subsidiaries, including the Participant's employer, will have any liability or obligation to the Participant related to this Award. For more information on the consequences of refusal to consent or withdrawal of consent, the Participant understands that he or she may contact his or her local human resources representative.

Finally, upon request of the Company or the Participant's employer, the Participant agrees to provide an executed data privacy consent form (or any other agreements or consents that may be required by the Company and/or the Participant's employer) that the Company and/or the Participant's employer may deem necessary to obtain from the Participant for the purpose of administering the Participant's participation in the Plan in compliance with the data privacy laws in the Participant's country, either now or in the future. The Participant understands and agrees that the Participant will not be able to participate in the Plan if the Participant fails to provide any such consent or agreement requested by the Company and/or the Participant's employer.

14. Notices. Any notice, request, instruction or other document given under this Award Certificate shall be in writing and may be delivered by such method as may be permitted by the Company, and shall be addressed and delivered, in the case of the Company, to the Secretary of the Company at the principal office of the Company and, in the case of the Participant, to the Participant's address as shown in the records of the Company or to such other address as may be designated in writing (or by such other method approved by the Company) by either party.

15. Severability. The invalidity or unenforceability of any provision of this Award Certificate shall not affect the validity or enforceability of any other provision of this Award Certificate, and each other provision of the Award Certificate shall be severable and enforceable to the extent permitted by law.

16. Award Subject to Plan; Amendments to Award. This Award is subject to the Plan as approved by the shareholders of the Company. The terms and provisions of the Plan as it may be amended from time to time are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained in this Award Certificate and a term or provision of the Plan, the applicable terms and provisions of this Award Certificate will govern and prevail.
17. Discretionary Nature of Plan; No Vested Rights. The Plan is discretionary in nature and limited in duration, and may be amended, cancelled, or terminated by the Company, in its sole discretion, at any time. The grant of the Award represented by this Award Certificate is exceptional, voluntary and occasional and does not create any contractual or other right to receive an award or benefit in lieu of an award in the future, even if awards have been granted repeatedly in the past. Future Awards, if any, will be at the sole discretion of the Company, including, but not limited to, the form and timing of an Award, the number of Shares subject to the Award, and the vesting provisions. Any amendment, modification or termination of the Plan shall not constitute a change or impairment of the terms and conditions of the Participant's employment with the Company.
18. Private Placement. The grant of the RSUs is not intended to be a public offering of securities in the Participant's country of residence (and country of employment, if different). The Company has not submitted any registration statement, prospectus or other filings with the local securities authorities (unless otherwise required under local law), and the grant of the RSUs is not subject to the supervision of the local securities authorities.
19. Addendum to Award Certificate. Notwithstanding any provisions of this Award Certificate to the contrary, the Award shall be subject to any special terms and conditions for the Participant's country of residence (and country of employment, if different), as are set forth in the applicable addendum (the "Addendum") as attached to the Award Certificate. Further, if the Participant transfers residence and/or employment to another country reflected in an Addendum to the Award Certificate, the special terms and conditions for such country will apply to the Participant to the extent the Company determines, in its sole discretion, that the application of such terms is necessary or advisable in order to comply with local laws, rules and regulations or to facilitate operation and administration of the Plan. Any applicable Addendum shall constitute part of this Award Certificate.
20. No Advice Regarding Grant. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding the Participant's participation in the Plan, or his acquisition or sale of the underlying Shares. The Participant acknowledges that he should consult with his own personal tax, legal and financial advisors regarding his participation in the Plan before taking any action related to the Plan.
21. Clawback. Notwithstanding any provision to the contrary, any "clawback" or "recoupment" policy required under applicable law or provided for under Company policy shall automatically apply to this Award.

22. **Entire Agreement.** This Award Certificate represents the entire understanding and agreement between the parties with respect to the subject matter of this Award Certificate and supersedes and replaces all previous agreements, arrangements, understandings, rights, obligations and liabilities between the parties in respect of such matters.

23. **Execution of Agreement.** By electronically or otherwise accepting this Award Certificate, the Participant acknowledges his or her understanding and acceptance of the terms and conditions of the Award. The Company has no obligation to issue the Participant Shares under this Award Certificate if the Participant does not accept the Award. Further, any acceptance of Shares issued pursuant to this Award Certificate shall constitute the Participant's acceptance of the Award and the Participant's agreement with all terms and conditions of the Award, as set forth in the Plan and this Award Certificate.

24. **Insider Trading / Market Abuse Laws.** The Participant acknowledges that, depending on the Participant's or the Participant's broker's country of residence or where the Shares are listed, the Participant may be subject to insider trading and/or market abuse laws, which may affect the Participant's ability to accept, acquire, sell or otherwise dispose of Shares, rights to shares (e.g., RSUs) or rights linked to the value of shares (e.g., phantom awards, futures) during such times as the Participant is considered to have "inside information" regarding the Company as defined by the laws or regulations in the Participant's country. Local insider trading laws and regulations may prohibit the cancellation or amendment or amendment of orders the Participant placed before the Participant possessed inside information. Furthermore, the Participant could be prohibited from (i) disclosing the inside information to any third party (other than on a "need to know") and (ii) "tipping" third parties or causing them otherwise to buy or sell securities. The Participant should keep in mind third parties includes fellow employees. The requirements of these laws may or may not be consistent with the terms of any applicable Company's insider trading policy. The Participant acknowledges that it is his or her responsibility to be informed of and compliant with any such laws and such Company policies, and is hereby advised to speak to his or her personal legal advisor on this matter.

25. **Waiver.** The Participant acknowledges that a waiver by the Company of a breach of any provision of this Award Certificate shall not operate or be construed as a waiver of any other provision of this Award Certificate, or of a prior or subsequent breach by the Participant or any other Participant.

NASDAQ, INC.

By: Bryan Smith
Title: EVP and Chief People Officer

NASDAQ, INC.
RESTRICTED STOCK UNIT AWARD CERTIFICATE

Award Date: [Date]	Number of Restricted Stock Units: # GRANTED SHARES
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THIS CERTIFIES THAT Nasdaq, Inc. (the “Company”) has on the Award Date specified above granted to

NAME

(the “Director”) an award (the “Award”) to receive the number of Restricted Stock Units (the “RSUs” or “Restricted Stock Units”) indicated in the box above labeled “Number of Restricted Stock Units,” with each RSU representing the right to receive one share (“Share”) of the Company’s common stock, \$0.01 per value per share (the “Common Stock”), subject to certain restrictions and on the terms and conditions contained in this award certificate (the “Award Certificate”) and the Nasdaq, Inc. Equity Incentive Plan (as amended and restated April 24, 2018) (the “Plan”). Capitalized terms not otherwise defined have the meanings set forth in the Plan. A copy of the Plan is available from the People @ Nasdaq team, and is also available on the Company’s website.

* * *

1. Rights of the Director with Respect to the Restricted Stock Units.

(a) Prior to vesting of the Restricted Stock Units pursuant to Section 2, (i) the Director shall not be treated as a shareholder as to Shares issuable to the Director with respect to such Restricted Stock Units, and shall only have a contractual right to receive such Shares following such vesting, unsecured by any assets of the Company or its Subsidiaries; (ii) the Director shall not be permitted to vote the Restricted Stock Units or the Shares issuable with respect to such Restricted Stock Units; and (iii) the Director’s right to receive such Shares following vesting of the Restricted Stock Units shall be subject to the adjustment provisions set forth in Section 13 of the Plan. The Restricted Stock Units shall be subject to all of the restrictions hereinafter set forth.

(b) At the sole discretion of the Committee, the Director shall be permitted to receive cash payments equal to the dividends and distributions paid on Shares (other than dividends or distributions of securities of the Company which may be issued with respect to Shares by virtue of any stock split, combination, stock dividend or recapitalization) to the same extent as if each Restricted Stock Unit was a Share, and those Shares were not subject to the restrictions imposed by this Award Certificate and the Plan; provided, however, that no dividends or distributions shall be payable to or for the benefit of the Director with respect to record dates for such dividends or distributions occurring on or after the date, if any, on which the Director has forfeited the Restricted Stock Units.

2. Vesting.

(a) Except as otherwise provided under this Award Certificate, and contingent upon the Director's continued service, the Restricted Stock Units shall vest in accordance with the following vesting schedule: 100% of the Restricted Stock Units shall vest on [Date] (the "Final Vesting Date").

3. Termination of Service.

(a) If the Company terminates the Director's service on the Board on account of "Misconduct" (as such term is defined below), all Restricted Stock Units which have not as of the date of such termination become vested shall be deemed canceled and forfeited on the effective date of such termination without further consideration to the Director.

(b) If the Director's service on the Board terminates by reason of death or "Disability" (as such term is defined below), all Restricted Stock Units shall become vested on the date of such termination.

(c) If the Director's service on the Board terminates by reason of the expiration of his "Term" (as such term is defined below) prior to the date his Restricted Stock Units would otherwise vest pursuant to Section 2 hereof, all Restricted Stock Units shall become vested Restricted Stock Units.

(d) If the Director's service on the Board terminates for any reason other than those set forth in Sections (a) through (c) of this Section 3, all Restricted Stock Units which have not as of the date of such termination become vested shall be deemed canceled and forfeited on the effective date of such termination without further consideration to the Director, unless otherwise specifically determined at the sole discretion of the Committee, which may provide, subject to Section 11, the Director to be treated as satisfying the service requirement on the Final Vesting Date specified in Section 2, either on a full or pro-rated basis.

(e) For purposes of this Award Certificate the terms "Misconduct," "Disability," and "Term" shall have meanings set forth in this Section 3(e):

- (i) "Misconduct" means the Director's conviction of, or pleading *nolo contendere* to a felony or to any crime, whether a felony or misdemeanor, involving the purchase or sale of any security, mail or wire fraud, theft or embezzlement of Company property or a material breach of the Director's fiduciary duty to the Company or its shareholders.
- (ii) "Disability" means the Director's physical or mental incapacity for a period of 45 consecutive working days or 60 days in a six (6) month period which makes the Director unable to perform his duties to the Company. Any question as to the existence of the Disability of the Director shall be determined by a qualified physician selected by the Company.
- (iii) "Term" shall mean each term of service on the Board commencing on the Director's election or most recent re-election to the Board and ending on the first anniversary thereafter unless the Director was elected for a longer or shorter period, in which event the longer or shorter period shall be the Term; provided, however, that the Term shall be deemed to include any automatic renewal thereof.

4. Issuance of Shares. Following the applicable vesting date with respect to the Restricted Stock Units, and subject to the terms and conditions of the Plan, the Company will issue Shares with respect to such vested Restricted Stock Units, net of any Shares withheld by the Company to satisfy the payment of taxes as described in Section 7 herein. Such issuance shall take place as soon as practicable following the applicable vesting date (but in no event later than 60 days following the applicable vesting date described in Section 2 above). The Shares issued in respect of the Restricted Stock Units shall be subject to such stop transfer orders and other restrictions as the Committee may determine is required by the rules, regulations, and other requirements of the Securities and Exchange Commission, The Nasdaq Stock Market, any applicable federal, state or local laws and the Company's Certificate of Incorporation and By-Laws, and the Committee may cause a legend or legends to be put on such Shares to make appropriate reference to such restrictions. The Company may make delivery of Shares in settlement of Restricted Stock Units by either (A) delivering certificates representing such Shares to the Director, registered in the name of the Director, or (B) by depositing such Shares into a stock brokerage account maintained for the Director. The Company will not deliver any fractional shares of Common Stock but will instead round down to the next full number the amount of shares of Common Stock to be delivered.

Notwithstanding anything in this Section 4 to the contrary, the Company may, in its sole discretion, settle the Restricted Stock Units in the form of a cash payment to the extent settlement in Shares is prohibited under local law, or would require the Director, the Company and/or a Subsidiary to obtain the approval of any governmental and/or regulatory body in the Director's country of residence (and country where the Director performs services, if different). Alternatively, the Company may, in its sole discretion, settle the Restricted Stock Units in the form of Shares but require the Director to immediately sell such Shares (in which case, the Award Certificate shall give the Company the authority to issue sales instructions on behalf of the Director).

5. No Right to Continued Service. Neither the Plan nor this Award Certificate shall confer on the Director any right to be retained, in any position, as an employee, consultant or director of the Company.

6. Transferability.

(a) At any time prior to becoming vested, the Restricted Stock Units are not transferable and may not be sold, assigned, transferred, disposed of, pledged or otherwise encumbered by the Director, other than by will or the laws of descent and distribution. Upon such transfer (by will or the laws of descent and distribution), such transferee in interest shall take the rights granted herein subject to all the terms and conditions hereof.

(b) Subject to Section 6(a) hereof, in order to comply with any applicable securities laws, the Shares issued to the Director with respect to vested Restricted Stock Units may only be sold by the Director following registration of such Shares under the U.S. Securities Act of 1933, as amended, or pursuant to an exemption therefrom.

(c) Following settlement and issuance of Shares, in the event the Company permits the Director to arrange for sale of Shares through a broker or another designated agent of the Company, Director acknowledges and agrees that the Company may block any such sale and/or cancel any order to sell placed by the Director, in each case if the Director is not then permitted under the Company's insider trading policy to engage in transactions with respect to securities of the Company. If the Committee determines that the ability of the Director to sell or transfer Shares is restricted, then the Company may notify the Director in accordance with Section 13 of this Award Certificate. The Director may only sell such Shares in compliance with such notification from the Company.

7. Withholding.

(a) The Director acknowledges that, regardless of any action taken by the Company, the ultimate liability for all income tax, social insurance, payroll tax, fringe benefits tax, payment on account or other tax-related items related to the Director's participation in the Plan and legally applicable to the Director ("Tax-Related Items"), is and remains the Director's responsibility and may exceed any amount actually withheld by the Company and/or any Subsidiary. The Director further acknowledges that the Company (i) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Restricted Stock Units, including the grant, vesting or settlement of the Restricted Stock Units, the issuance of Shares upon settlement of the RSUs, the subsequent sale of Shares acquired pursuant to such issuance and the receipt of any dividends and/or dividend equivalent amounts; and (ii) do not commit to, and are under no obligation to, structure the terms of the grant or any aspect of the Restricted Stock Units to reduce or eliminate Director's liability for Tax-Related Items or achieve any particular tax result. Further, if the Director has become subject to Tax-Related Items in more than one jurisdiction, the Director acknowledges that the Company may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

(b) In order to comply with all applicable federal, state and local tax laws or regulations, the Company may take such actions as it deems appropriate to ensure that all applicable Tax-Related Items are withheld or collected from the Director.

(c) In accordance with the terms of the Plan, and such rules as may be adopted by the Committee under the Plan, the Director may elect to satisfy the Director's obligations with regard to all Tax-Related Items arising from the receipt of, the vesting of or the lapse of restrictions relating to, the Restricted Stock Units, by (i) delivering cash, check or money order payable to the Company, (ii) delivering to the Company other Shares, (iii) having the Company withhold a portion of the Shares otherwise to be delivered having a Fair Market Value sufficient to satisfy the statutory withholding required with respect thereto to the extent permitted by the Company; or (iv) having the Company withhold any amounts necessary to pay the statutory withholding required from the Director's salary or other amounts payable to the Director. The Company will not deliver any fractional Shares but will instead round down to the next full number the amount of Shares to be delivered. The Director's election must be made on or before the date that any such withholding obligation with respect to the Restricted Stock Units arises. If the Director fails to timely make such an election, the Company shall have the right to withhold a portion of the Shares otherwise to be delivered having a Fair Market Value equal to the statutory amount of withholding with respect to applicable taxes, as determined by the Company in its sole discretion. The net settlement of the shares underlying the vested Restricted Stock Units and the

delivery of Shares previously owned are hereby specifically authorized alternatives for the satisfaction of the foregoing withholding obligation. To the extent necessary to meet any obligation to withhold Federal Insurance Contributions Act taxes before delivery of the Shares, the Company is authorized to deduct those taxes from other compensation.

8. Governing Law. This Award Certificate shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to the conflicts of law provisions thereof.

9. Amendments. The Company, acting by means of the Committee, has the right, as set forth in the Plan, to amend, alter, suspend, discontinue or cancel this Award, prospectively or retroactively; provided however, that no such amendment, alteration, suspension, discontinuance or cancellation of the RSUs will adversely affect the Director's material rights under this Award Certificate without the Director's consent. The Company has the authority to amend this Award Certificate, consistent with the foregoing, without the Director's written agreement, except as set forth in this Section 9.

In the event that the Company is reorganized or liquidated, or if all or substantially all of its assets are sold, or if the Company is merged or consolidated with another corporation or entity (or in the event the Company consummates a written agreement to accomplish any of the foregoing), the Committee may, in its sole discretion and upon at least 10 days advance notice to the Director, cancel any outstanding RSUs and cause the Director to be paid (in cash or in stock, or any combination thereof) the value of such RSUs based upon the price per share of Common Stock received or to be received in the transaction.

10. Administration. This Award Certificate shall at all times be subject to the terms and conditions of the Plan. Capitalized terms not defined in this Award Certificate shall have the meanings set forth in the Plan. The Committee shall have sole and complete discretion with respect to all matters reserved to it by the Plan and decisions of the Committee with respect thereto and this Award Certificate shall be final and binding upon the Director and the Company. The Committee has the authority and discretion to determine any questions which arise in connection with the award of the Restricted Stock Units hereunder.

11. Compliance with Code Section 409A for U.S. Taxpayers.

(a) Distributions of Shares in settlement of Restricted Stock Units as described herein which represent a "deferral of compensation" within the meaning of Code Section 409A shall conform to the applicable requirements of Code Section 409A. However, distributions as aforesaid shall not be deemed to be a "deferral of compensation" subject to Code section 409A to the extent provided in the exception in Treasury Regulation Section 1.409A-1(b)(4) for short-term deferrals.

(b) It is the intention of the Company and Director that this Award Certificate not result in an unfavorable tax consequence to the Director under Code Section 409A. Accordingly, as permitted by the Plan, the Company may at any time (without the consent of the Director) modify or amend the Plan or this Award Certificate to the extent necessary to ensure that the Award is not “deferred compensation” subject to Code Section 409A (or, alternatively, to conform to the requirements of Code Section 409A). Any such amendments shall be made in a manner that preserves to the maximum extent possible the intended benefits to Director. This paragraph does not create an obligation on the part of Company to modify this Award Certificate and does not guarantee that the amounts or benefits owed under this Award Certificate will not be subject to interest and penalties under Code Section 409A. For purposes of applying the provisions of Code Section 409A, to the extent applicable, each group of Restricted Stock Units that would vest in accordance with Section 2 shall be treated as a separate payment.

(c) While the Company intends that this Award Certificate and the RSUs granted hereunder comply with or be exempt from the requirements of Code Section 409A and any related regulations or other guidance promulgated thereunder, neither the Company or the Committee nor any of their respective affiliates shall be liable to any person for the tax consequences of any failure to comply with the requirements of Code Section 409A or any other tax consequences relating to this Award.

12. Imposition of Other Requirements. The Company reserves the right to impose other requirements on the Director’s participation in the Plan, on the Restricted Stock Units and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable in order to comply with local law or facilitate the administration of the Plan, and to require the Director, as a condition of receipt of Shares underlying a Restricted Stock Unit, to sign any additional Award Certificates or undertakings that may be necessary to accomplish the foregoing.

13. Notices. Any notice, request, instruction or other document given under this Award Certificate shall be in writing and may be delivered by such method as may be permitted by the Company, and shall be addressed and delivered, in the case of the Company, to the Secretary of the Company at the principal office of the Company and, in the case of the Director, to the Director’s address as shown in the records of the Company or to such other address as may be designated in writing (or by such other method approved by the Company) by either party.

14. Severability. The invalidity or unenforceability of any provision of this Award Certificate shall not affect the validity or enforceability of any other provision of this Award Certificate, and each other provision of the Award Certificate shall be severable and enforceable to the extent permitted by law.

15. Award Subject to Plan; Amendments to Award. This Award is subject to the Plan as approved by the shareholders of the Company. The terms and provisions of the Plan as it may be amended from time to time are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained in this Award Certificate and a term or provision of the Plan, the applicable terms and provisions of this Award Certificate will govern and prevail.

16. Discretionary Nature of Plan; No Vested Rights. The Plan is discretionary in nature and limited in duration, and may be amended, cancelled, or terminated by the Company, in its sole discretion, at any time. The grant of the Award represented by this Award Certificate is exceptional, voluntary and occasional and does not create any contractual or other right to receive an award or benefit in lieu of an award in the future, even if awards have been granted repeatedly in the past. Future Awards, if any, will be at the sole discretion of the Company, including, but not limited to, the form and timing of an Award, the number of Shares subject to the Award, and the vesting provisions. Any amendment, modification or termination of the Plan shall not constitute a change or impairment of the terms and conditions of the Director's service with the Company.

17. Electronic Delivery. The Company may, in its sole discretion, decide to deliver any documents related to the RSU or future Awards granted under the Plan by electronic means or request the Director's consent to participate in the Plan by electronic means. By accepting this Award, the Director hereby consents and agrees to receive such documents by electronic delivery and agrees to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

18. English Language. The Director acknowledges and agrees that it is the Director's express intent that the Plan, this Award Certificate, any addendum and all other documents, notices and legal proceedings entered into, given or instituted pursuant to the Award, be drawn up in English. Unless specifically indicated, if the Director has received the Plan, this Award Certificate, any addendum or any other documents related to the Award translated into a language other than English, and if the meaning of the translated version is different than the English version, the English version shall control.

19. Nature of Grant. In accepting the Award, the Director acknowledges, understands and agrees that:

- (i) the Plan is established voluntarily by the Company, it is discretionary in nature, and may be modified, amended, suspended or terminated by the Company at any time, to the extent permitted by the Plan;
- (ii) the Award is voluntary and occasional and does not create any contractual or other right to receive future grants of RSUs, or benefits in lieu of RSUs, even if RSUs have been granted in the past;
- (iii) all decisions with respect to future Awards or other grants, if any, will be at the sole discretion of the Company;
- (iv) the Director is voluntarily participating in the Plan;
- (v) the future value of the Shares underlying the RSUs is unknown and indeterminable and cannot be predicted with certainty; and

- (vi) the Director acknowledges and agrees that neither the Company nor any Subsidiary shall be liable for any foreign exchange rate fluctuation between the Director's local currency and the United States Dollar that may affect the value of the RSUs or of any amounts due to the Director pursuant to the vesting and settlement of the RSU or the subsequent sale of any Shares issued upon settlement.

20. **Consent to Collection, Processing and Transfer of Personal Data.** Pursuant to applicable personal data protection laws, the Company hereby notifies the Director of the following in relation to the Director's personal data and the collection, processing and transfer of such data in relation to the Company's grant of this Award and the Director's participation in the Plan. The collection, processing and transfer of the Director's personal data are necessary for the Company's administration of the Plan and the Director's participation in the Plan. The Director's denial and/or objection to the collection, processing and transfer of personal data may affect the Director's participation in the Plan. As such, the Director voluntarily explicitly and unambiguously acknowledges and consents (where required under applicable law) to the collection, use, processing and transfer of personal data as described in this Award Certificate and any other Award grant materials by and among, as applicable, the Company and its Subsidiaries for the purpose of implementing, administering and managing the Director's participation in the Plan.

The Company holds certain personal information about the Director, including name, home address, email address and telephone number, date of birth, social security number, passport number or other employee identification number, salary, nationality, job title, any Shares or directorships held in the Company, details of all Awards or any other entitlement to Shares awarded, canceled, purchased, vested, unvested or outstanding in Director's favor, for the purpose of managing and administering the Plan ("Data"). The Data may be provided by the Director or collected, where lawful, from third parties, and the Company will process the Data for the exclusive purpose of implementing, administering and managing the Director's participation in the Plan. The Data processing will take place through electronic and non-electronic means according to logics and procedures strictly correlated to the purposes for which Data are collected and with confidentiality and security provisions as set forth by applicable laws and regulations in the Director's country of residence. Data processing operations will be performed minimizing the use of personal and identification data when such operations are unnecessary for the processing purposes sought. Data will be accessible within the Company's organization only by those persons requiring access for purposes of the implementation, administration and operation of the Plan and for the Director's participation in the Plan.

The Company may further transfer Data to any third parties assisting the Company in the implementation, administration and management of the Plan. These recipients may be located in the European Economic Area, or elsewhere throughout the world, such as the United States. The Director hereby authorizes (where required under applicable law) them to receive, possess, use, retain and transfer the Data, in electronic or other form, for purposes of implementing, administering and managing the Director's participation in the Plan, including any requisite transfer of such Data as may be required for the administration of the Plan and/or the subsequent holding of Shares on the Director's behalf to a broker or other third party with whom the Director may elect to deposit any Shares acquired pursuant to the Plan.

The Director may, at any time, exercise his or her rights provided under applicable personal data protection laws, which may include the right to (a) obtain confirmation as to the existence of the Data, (b) verify the content, origin and accuracy of the Data, (c) request the integration, update, amendment, deletion, or blockage (for breach of applicable laws) of the Data, and (d) to oppose, for legal reasons, the collection, processing or transfer of the Data which is not necessary or required for the implementation, administration and/or operation of the Plan and the Director's participation in the Plan. The Director may seek to exercise these rights by contacting the Office of the Corporate Secretary.

Finally, upon request of the Company, the Director agrees to provide an executed data privacy consent form (or any other agreements or consents that may be required by the Company) that the Company may deem necessary to obtain from the Director for the purpose of administering the Director's participation in the Plan in compliance with the data privacy laws in the Director's country, either now or in the future. The Director understands and agrees that the Director will not be able to participate in the Plan if the Director fails to provide any such consent or agreement requested by the Company.

21. Private Placement. The grant of the RSUs is not intended to be a public offering of securities in the Director's country of residence (and country of employment, if different). The Company has not submitted any registration statement, prospectus or other filings with the local securities authorities (unless otherwise required under local law), and the grant of the RSUs is not subject to the supervision of the local securities authorities.

22. Addendum to Award Certificate. Notwithstanding any provisions of this Award Certificate to the contrary, the Award shall be subject to any special terms and conditions for the Director's country of residence (and country where services are primarily performed, if different), as are set forth in the applicable addendum (the "Addendum") as attached to the Award Certificate. Further, if the Director transfers residence to another country reflected in an Addendum to the Award Certificate, the special terms and conditions for such country will apply to the Director to the extent the Company determines, in its sole discretion, that the application of such terms is necessary or advisable in order to comply with local laws, rules, and regulations, or to facilitate operation and administration of the Plan. Any applicable Addendum shall constitute part of this Award Certificate.

23. No Advice Regarding Grant. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding the Director's participation in the Plan, or his acquisition or sale of the underlying Shares. The Director acknowledges that he should consult with his own personal tax, legal and financial advisors regarding his participation in the Plan before taking any action related to the Plan.

24. Clawback. Notwithstanding any provision to the contrary, any "clawback" or "recoupment" policy required under applicable law or provided for under Company policy shall automatically apply to this Award.

25. Entire Agreement. This Award Certificate represents the entire understanding and agreement between the parties with respect to the subject matter of this Award Certificate and supersedes and replaces all previous agreements, arrangements, understandings, rights, obligations and liabilities between the parties in respect of such matters.

26. Insider Trading / Market Abuse Laws. The Director acknowledges that, depending on the Director's or the Director's broker's country of residence or where the Shares are listed, the Director may be subject to insider trading and/or market abuse laws, which may affect the Director's ability to accept, acquire, sell or otherwise dispose of Shares, rights to shares (e.g., RSUs) or rights linked to the value of shares (e.g., phantom awards, futures) during such times as the Director is considered to have "inside information" (regarding the Company as defined by the laws or regulations in the Director's country). Local insider trading laws and regulations may prohibit the cancellation or amendment or amendment of orders the Director placed before the Director possessed inside information. Furthermore, the Director could be prohibited from (i) disclosing the inside information to any third party (other than on a "need to know") and (ii) "tipping" third parties or causing them otherwise to buy or sell securities. The Director should keep in mind third parties includes fellow directors and employees of the Company. Any restrictions under these laws and regulations are separate from and in addition to any restrictions that that may be imposed under any applicable Company's insider trading policy. The Director acknowledges that it is his or her responsibility to be informed of and compliant with any such laws and such Company's policies, and is hereby advised to speak to his or her personal legal advisor on this matter.

27. Waiver. The Director acknowledges that a waiver by the Company of a breach of any provision of this Award Certificate shall not operate or be construed as a waiver of any other provision of this Award Certificate, or of a prior or subsequent breach by the Director or any other Director.

[Signature Page Follows]

NASDAQ, INC.

By: _____
Name: Bryan Smith
Title: EVP and Chief People Officer

ADDENDUM

Terms and Conditions

This Addendum includes additional terms and conditions that govern the award of RSUs granted to the Participant under the Nasdaq, Inc. Equity Incentive Plan (the “Plan”) if the Participant is resident and/or employed in one of the countries listed below. If the Participant transfers residency and/or employment to another country reflected below following the Award Date, the additional terms and conditions for such country will apply to the Participant’s RSUs to the extent the Company determines, in its sole discretion, that the application of such terms and conditions is necessary or advisable in order to comply with local laws, rules, and regulations or to facilitate the operation and administration of the RSUs and the Plan (or the Company may establish alternative terms and conditions as may be necessary or advisable to accommodate the Participant’s transfer). Certain capitalized terms used but not defined in this Addendum have the meanings set forth in the Plan and/or the Restricted Stock Unit Award Certificate for Non-U.S. Jurisdictions (the “Award Certificate”).

Notifications

This Addendum includes information regarding exchange controls and certain other issues of which the Participant should be aware with respect to participation in the Plan. The information is based on the securities, exchange control and other laws in effect in the respective countries as of January 2023. Such laws are often complex and change frequently. As a result, the Company strongly recommends that the Participant not rely on the information in this Addendum as the only source of information relating to the consequences of participation in the Plan because the information may be out of date at the time that the RSUs vest or the Participant sells Shares acquired under the Plan.

In addition, the information contained herein is general in nature and may not apply to the Participant’s particular situation and the Company is not in a position to assure the Participant of any particular result. Accordingly, the Participant is advised to seek appropriate professional advice as to how the relevant laws in the Participant’s country may apply to his or her situation.

Finally, if the Participant is a citizen or resident of a country other than the one in which the Participant is currently residing and/or working, transfers employment and/or residency to another country after the Award is granted or is considered a resident of another country for local law purposes, the notifications contained herein may not be applicable to the Participant. The Company shall, in its sole discretion, determine to what extent the terms and conditions included herein will apply under these circumstances.

NASDAQ, INC.
THREE-YEAR PERFORMANCE SHARE UNIT AGREEMENT

This PERFORMANCE SHARE UNIT AGREEMENT (this "Agreement") between Nasdaq, Inc., a Delaware corporation (the "Company"), and

FIRST NAME LAST NAME

(the "Grantee") memorializes the grant by the Management Compensation Committee of the Board of Directors of the Company (the "Committee") on **April 3, 2023** (the "Grant Date") of performance share units (the "PSUs") to the Grantee on the terms and conditions set out below.

RECITALS:

The Company has adopted the Nasdaq, Inc. Equity Incentive Plan (as amended and restated April 24, 2018) (the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement. Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Plan. The Plan in relevant part provides for the issuance of stock-based awards that are subject to the attainment of performance goals as established by the Committee.

The Committee has determined that it is in the best interests of the Company and its shareholders to grant the PSUs provided for herein to the Grantee pursuant to the Plan and under the terms set forth herein as an increased incentive for the Grantee to contribute to the Company's future success and prosperity.

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Plan.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties hereto agree as follows:

1. Grant of Performance-Based Award.

The Company hereby grants to the Grantee:

[TOTAL SHARES GRANTED]

PSUs, which PSUs shall entitle the Grantee to receive up to **200% of target shares** (or a lesser number of Shares, or no Shares whatsoever), subject to the terms and conditions set forth in this Agreement and the Plan. (A complete copy of the Plan, as in effect on the Grant Date, is available to the Grantee upon request.). Shares corresponding to the PSUs granted herein are in all events to be delivered to the Grantee only after the Grantee has become vested in the PSUs pursuant to Section 4, below.

2. Performance Period. For purposes of this Agreement, the term “Performance Period” shall be the period commencing on **January 1, 2023** and ending on **December 31, 2025**.

3. Performance Goal.

(a) Subject to the following sentence, the Performance Goal is set out in Appendix A hereto, which Appendix A is incorporated by reference herein and made a part hereof. Notwithstanding the foregoing, the provisions of Section 13 or any other provision of this Agreement to the contrary, the Committee reserves the right to unilaterally change or otherwise modify the Performance Goal in any manner whatsoever (including substituting a new Performance Goal). If the Committee exercises such discretionary authority to any extent, the Committee shall provide the Grantee with a new Appendix A in substitution for the Appendix A attached hereto, and such new Appendix A and the Performance Goal set out therein (rather than the Appendix A attached hereto and the Performance Goal set out therein) shall in all events apply for all purposes of this Agreement.

(b) Depending upon the extent, if any, to which the Performance Goal has been achieved, and subject to compliance with the requirements of Section 4, each PSU shall entitle the Grantee to receive, at such time as is determined in accordance with the provisions of Section 5, between 0 and 2.0 Shares for each PSU. The Committee shall, as soon as practicable following the last day of the Performance Period, certify (i) the extent, if any, to which, in accordance with Appendix A, the Performance Goal has been achieved with respect to the Performance Period and (ii) the number of whole and/or partial Shares, if any, which, subject to compliance with the vesting requirements of Section 4, the Grantee shall be entitled to receive with respect to each PSU (with such number of whole and/or partial Shares being hereafter referred to as the “Share Delivery Factor”). Such certification shall be final, conclusive and binding on the Grantee, and on all other persons, to the maximum extent permitted by law.

4. Vesting.

(a) The PSUs are subject to forfeiture to the Company until they become non-forfeitable in accordance with this Section 4. Except as provided in the following sentence, the risk of forfeiture will lapse on the PSUs, and such PSUs shall thereupon become vested, only if the Grantee remains employed by the Company (or a subsidiary) through and on **December 31, 2025** (the “Vest Date”). Notwithstanding the foregoing, if the Grantee’s employment with the Company (or a subsidiary) terminates by reason of death prior to **December 31, 2025**, the risk of forfeiture shall lapse on all PSUs, and all unvested PSUs shall thereupon become vested on the date of death (or, if later, on the date, following the end of the Performance Period on which the Committee determines whether, and to what extent the PSUs are earned in accordance with Section 3(b) of this Agreement).

(b) Subject to any conflicting provisions in any employment agreement between the Company and the Grantee, which shall control in the event of a conflict with this Agreement, in the event that (i) the Company or a subsidiary terminates the Grantee’s employment with the Company or a subsidiary for any reason prior to the Vest Date or (ii) the Grantee terminates employment with the Company or a subsidiary for any reason (other than death) prior to such date, all unvested PSUs shall be cancelled and forfeited, effective as of the Grantee’s separation from service. Notwithstanding anything to the contrary in the Plan or this Agreement, and for purposes of clarity, any separation from service shall be effective as of the date the Grantee’s active employment ends and shall not be extended by any statutory or common law notice period.

5. Delivery of Shares. As soon as practicable following the Vest Date, and compliance with all applicable tax withholding as described in Section 11 hereof, but in no event later than two and one-half months after the end of the calendar year in which the Vest Date occurs, the Company shall instruct the registrar for the Company to make an entry on its books and records evidencing that the Shares underlying such vested PSUs have been duly issued as of that date; provided, however, that the Grantee may, in the alternative, elect in writing prior thereto to receive a stock certificate representing the full number of Shares acquired, which certificate may bear a restrictive legend prohibiting the transfer of such Shares for such period as may be prescribed by the Company. The Company shall not be liable to the Grantee for damages relating to any delays in issuing the certificates. The underlying Shares may be registered in the name of the Grantee's legal representative or estate in the event of the death of the Grantee. In the event of the acceleration of the lapse of forfeiture restrictions upon the death of the Grantee as contemplated by Section 4(a) of this Agreement, this process shall occur as soon as possible following such vesting date, but in no event later than two and one-half months after the end of the calendar year in which such vesting date occurs. Notwithstanding anything in the Agreement, the Company may make delivery of Shares in settlement of PSUs by either (A) delivering certificates representing such Shares to the Grantee, registered in the name of the Grantee, or (B) by depositing such Shares into a stock brokerage account maintained for the Grantee.

6. Electronic Delivery/Acceptance. The Company may, in its sole discretion, decide to deliver any documents related to the PSUs or future Awards granted under the Plan by electronic means or request the Grantee's consent to participate in the Plan by electronic means. By accepting this Award, the Grantee hereby consents and agrees to receive such documents by electronic delivery and agrees to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

7. Transferability.

(a) Except as provided below, or except to the minimal extent required by law, the PSUs are nontransferable and may not be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered by the Grantee, except by will or the laws of descent and distribution, and upon any such transfer, by will or the laws of descent and distribution (or upon such transfer required by law), the transferee shall hold such PSUs subject to all the terms and conditions that were applicable to the Grantee immediately prior to such transfer. Notwithstanding the foregoing, the Grantee may transfer any vested PSUs to members of his immediate family (defined as his spouse, children or grandchildren) or to one or more trusts for the exclusive benefit of such immediate family members or partnerships in which such immediate family members are the only partners if the transfer is approved by the Committee and the Grantee does not receive any consideration for the transfer. Any such transferred portion of the PSUs shall continue to be subject to the same terms and conditions that were applicable to such portion of the PSUs immediately prior to transfer (except that such transferred PSUs shall not be further transferable by the transferee). No transfer of a portion of the PSUs shall be effective to bind the Company unless the Company shall have been furnished with written notice thereof and a copy of such evidence as the Committee may deem necessary to establish the validity of the transfer and the acceptance by the transferee of the terms and conditions hereof.

(b) Upon any transfer by will or the laws of descent and distribution (or upon any such transfer required by law), such transferee shall take the PSUs and the Shares delivered in connection therewith (the “Transferee Shares”) subject to all the terms and conditions that were (or would have been) applicable to the PSUs and the Transferee Shares immediately prior to such transfer.

(c) Following settlement and issuance of Shares, in the event the Company permits Grantee to arrange for sale of Shares through a broker or another designated agent of the Company, Grantee acknowledges and agrees that the Company may block any such sale and/or cancel any order to sell placed by the Grantee, in each case if the Grantee is not then permitted under the Company’s insider trading policy to engage in transactions with respect to securities of the Company. If the Committee determines that the ability of the Grantee to sell or transfer shares of Common Stock is restricted, then the Company may notify the Grantee in accordance with Section 18 of this Agreement. The Grantee may only sell such Shares in compliance with such notification from the Company.

8. Rights of Grantee. Prior to the delivery, if any, of Shares to the Grantee pursuant to the provisions of Section 5, the Grantee shall not have any rights of a shareholder of the Company, including, but not limited to, the right to receive dividend payments, on account of the PSUs.

9. Unfunded Nature of PSUs. The Company will not segregate any funds representing the potential liability arising under this Agreement. The Grantee’s rights in respect of this Agreement are those of an unsecured general creditor of the Company. The liability for any payment under this Agreement will be a liability of the Company and not a liability of any of its officers, directors or Affiliates.

10. Securities Laws. The Company may condition delivery of Shares for any vested PSUs upon the prior receipt from the Grantee of any undertakings which it may determine are required to assure that the Shares are being issued in compliance with federal and state securities laws.

11. Withholding. Regardless of any action the Company, any of its Subsidiaries and/or the Grantee's employer takes with respect to any or all income tax, social insurance, payroll tax, payment on account or other tax-related items related to the Grantee’s participation in the Plan and legally applicable to the Grantee (“Tax-Related Items”), the Grantee acknowledges that the ultimate liability for all Tax-Related Items is and remains the Grantee’s responsibility and may exceed the amount actually withheld by the Company or any of its affiliates. The Grantee further acknowledges that the Company and/or its Subsidiaries (i) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the PSUs, including, but not limited to, the grant, vesting or settlement of the PSUs, the issuance of Shares or cash upon settlement of the PSUs, the subsequent sale of Shares acquired pursuant to such delivery and the receipt of any dividends and/or dividend equivalents; and (ii) do not commit to and are under no obligation to structure the terms of any award to reduce or eliminate the Grantee’s liability for Tax-Related Items or achieve any particular tax result. Further, if the Grantee becomes subject to tax in more than one

jurisdiction between the Grant Date and the date of any relevant taxable event, the Grantee acknowledges that the Company and/or its Subsidiaries may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

Prior to any relevant taxable or tax withholding event, as applicable, the Grantee will pay or make adequate arrangements satisfactory to the Company and/or its Subsidiaries to satisfy all Tax-Related Items. In this regard, the Grantee authorizes the Company and/or its Subsidiaries, or their respective agents, at their discretion, to satisfy the obligations with regard to all Tax-Related Items by one or a combination of the following:

- (a) withholding from the Grantee's wages or other cash compensation paid to the Grantee by the Company and/or its Subsidiaries; or
- (b) withholding from proceeds of the Shares acquired following settlement either through a voluntary sale or through a mandatory sale arranged by the Company (on the Grantee's behalf pursuant to this authorization); or
- (c) withholding in Shares to be delivered upon settlement.

To avoid negative accounting treatment, the Company and/or its Subsidiaries may withhold or account for Tax-Related Items by considering applicable statutory withholding amounts or other applicable withholding rates. If the obligation for Tax-Related Items is satisfied by withholding in Shares, for tax purposes, the Grantee is deemed to have been issued the full number of Shares attributable to the awarded PSUs, notwithstanding that a number of Shares are held back solely for the purpose of paying the Tax-Related Items due as a result of any aspect of the Grantee's participation in the Plan.

The Grantee shall pay to the Company and/or its Subsidiaries any amount of Tax-Related Items that the Company and/or its Subsidiaries may be required to withhold or account for as a result of the Grantee's participation in the Plan that are not satisfied by the means previously described. The Company may refuse to issue or deliver the Shares or the proceeds of the sale of Shares, if the Grantee fails to comply with the Grantee's obligations in connection with the Tax-Related Items.

By accepting this grant of PSUs, the Grantee expressly consents to the methods of withholding Tax-Related Items by the Company and/or its subsidiaries as set forth hereunder, including the withholding of Shares and the withholding from the Grantee's wages/salary or other amounts payable to the Grantee. All other Tax-Related Items related to the PSUs and any Shares delivered in satisfaction thereof are the Grantee's sole responsibility.

12. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to any principle of law that could result in the application of the law of any other jurisdiction.

13. Amendments. This Agreement may be amended or modified at any time by an instrument in writing signed by the parties hereto, except as otherwise provided in Section 3(a) or Sections 15 or 16 of this Agreement regarding permitted unilateral action by the Committee or in Section 13(a) of the Plan related to amendments or alterations that do not adversely affect the rights of the Grantee in this Award.

14. Administration. This Agreement shall at all times be subject to the terms and conditions of the Plan. The Committee shall have sole and complete discretion with respect to all matters reserved to it by the Plan and decisions of the Committee with respect thereto and this Agreement shall be final and binding upon the Grantee and the Company. In the event of any conflict between the terms and conditions of this Agreement and the Plan, the provisions of this Agreement shall control. The Committee has the authority and discretion to determine any questions which arise in connection with the award of the PSUs hereunder.

15. Compliance with Code Section 409A. It is the intention of the Company and Grantee that this Agreement not result in an unfavorable tax consequences to Grantee under Code Section 409A. Accordingly, Grantee consents to any amendment of this Agreement as the Company may reasonably make in furtherance of such intention, and the Company shall promptly provide, or make available to, Grantee a copy of such amendment. Any such amendments shall be made in a manner that preserves to the maximum extent possible the intended benefits to Grantee. This paragraph does not create an obligation on the part of Company to modify this Agreement and does not guarantee that the amounts or benefits owed under the Agreement will not be subject to interest and penalties under Code Section 409A.

16. Imposition of Other Requirements. The Company reserves the right to impose other requirements on the Grantee's participation in the Plan, on the PSUs and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable in order to comply with local law or facilitate the administration of the Plan, and to require the Grantee to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing. The Grantee agrees, upon demand of the Company or the Committee, to do all acts and execute, deliver and perform all additional documents, instruments and agreements which may be reasonably required by the Company or the Committee, as the case may be, to implement the provisions and purposes of the Plan and this Agreement.

17. No Right to Continued Employment. Neither the plan nor this agreement shall confer on the Grantee any right to be retained, in any position, as an employee, consultant or director of the Company, and nothing in this agreement or the Plan shall be construed to limit the discretion of the Company (or the subsidiary that employs the Grantee) to terminate the Grantee's employment at any time, with or without cause.

18. Notices. Any notice, request, instruction or other document given under this Agreement shall be in writing and may be delivered by such method as may be permitted by the Company, and shall be addressed and delivered, in the case of the Company, to the Secretary

of the Company at the principal office of the Company and, in the case of the Grantee, to the Grantee's address as shown in the records of the Company or to such other address as may be designated in writing (or by such other method approved by the Company) by either party.

19. Award Subject to Plan. This Award is subject to the Plan as approved by the shareholders of the Company. In the event of conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of this Agreement will govern and prevail.

20. Severability. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement and each other provision of this Agreement shall be severable and enforceable to the extent permitted by law.

21. Discretionary Nature of Plan; No Vested Rights. The Plan is discretionary in nature and limited in duration, and may be amended, cancelled, or terminated by the Company, in its sole discretion, at any time. The grant of the Award represented by this Agreement is exceptional, voluntary and occasional and does not create any contractual or other right to receive an award or benefit in lieu of an award in the future, even if awards have been granted repeatedly in the past. Future Awards, if any, will be at the sole discretion of the Company, including, but not limited to, the form and timing of an Award, the number of Shares subject to the Award, and the vesting provisions. Any amendment, modification or termination of the Plan shall not constitute a change or impairment of the terms and conditions of the Grantee's employment with the Company.

22. Termination Indemnities. The Grantee's Award and the Shares subject to the Award, and the income and value of the same, are extraordinary items of compensation outside the scope of the Grantee's employment or services contract, if any. As such, the PSUs are not part of normal or expected compensation for purposes of calculating any severance, resignation, termination, redundancy, dismissal, end of service payments, bonuses, long-service awards, pension, or retirement benefits or welfare benefits or similar payments.

23. English Language. The Grantee acknowledges and agrees that it is the Grantee's express intent that the Plan, this Agreement, any addendum and all other documents, notices and legal proceedings entered into, given or instituted pursuant to the Award, be drawn up in English. Unless specifically indicated, if the Grantee has received the Plan, this Agreement, any addendum or any other documents related to the Award translated into a language other than English, and if the meaning of the translated version is different than the English version, the English version shall control.

24. Nature of Grant. In accepting the Award, the Grantee acknowledges, understands and agrees that:

(i) the Plan is established voluntarily by the Company, it is discretionary in nature, and may be modified, amended, suspended or terminated by the Company at any time, to the extent permitted by the Plan;

(ii) all decisions with respect to future Awards or other grants, if any, will be at the sole discretion of the Company;

(iii) the grant of the PSUs and the Grantee's participation in the Plan shall not create a right to employment or be interpreted as forming an employment or service contract with the Company, the Grantee's employer or any Subsidiary, and shall not interfere with the ability of the Company, the Grantee's employer or any Subsidiary, as applicable, to terminate the Grantee's employment or service relationship (if any);

(iv) the Grantee is voluntarily participating in the Plan;

(v) the PSUs and any Shares issued under the Plan and the income and value of the same are not intended to replace any pension rights or compensation;

(vi) the future value of the Shares underlying the PSUs is unknown, indeterminable and cannot be predicted with certainty;

(vii) unless otherwise agreed with the Company, the Award and the Shares subject to the Award, and the income and value of same, are not granted as consideration for, or in connection with, the service Grantee may provide as a director of a Subsidiary of the Company;

(viii) no claim or entitlement to compensation or damages shall arise from forfeiture of the PSUs resulting from separation from service (for any reason whatsoever, whether or not later found to be invalid or in breach of employment laws in the jurisdiction where the Grantee is employed or the terms of the Grantee's employment agreement, if any), and in consideration of the grant of the PSUs to which the Grantee is otherwise not entitled, the Grantee irrevocably agrees never to institute any claim against the Company, any of its Subsidiaries or the Grantee's employer, waives his ability, if any, to bring any such claim, and releases the Company, its Subsidiaries and the Grantee's employer from any such claim; if, notwithstanding the foregoing, any such claim is allowed by a court of competent jurisdiction, then, by participating in the Plan, the Grantee shall be deemed irrevocably to have agreed not to pursue such claim and agrees to execute any and all documents necessary to request dismissal or withdrawal of such claim; and

(ix) the Grantee acknowledges and agrees that neither the Company, the Grantee's employer nor any Subsidiary shall be liable for any foreign exchange rate fluctuation between the Grantee's local currency and the United States Dollar that may affect the value of the PSUs or of any amounts due to the Grantee pursuant to the vesting and settlement of the PSU or the subsequent sale of any Shares issued upon settlement.

25. Data Protection. Except if the Grantee resides in the European Union, the European Economic Area or other jurisdiction designated by the Company, in which case the Grantee is subject to the special terms and conditions set forth in the Addendum, the Grantee

explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of the Grantee's personal data as described in the Agreement and any other PSU grant materials by and among, as applicable, the Grantee, the Company, the Grantee's employer, and the Company's Subsidiaries for the exclusive purpose of implementing, administering and managing the Grantee's participation in the Plan.

The Company and its Subsidiaries, including the Grantee's employer hold certain personal information about the Grantee, including, but not limited to, his or her name, home address, email address and telephone number, date of birth, social security number, passport number or other employee identification number, salary, nationality, job title, any Shares or directorships held in the Company, details of all Awards or any other entitlement to Shares awarded, canceled, purchased, vested, unvested or outstanding in Grantee's favor ("Data"), for the exclusive purpose of managing and administering the Plan.

The Company and its Subsidiaries, including the Grantee's employer, will transfer Data amongst themselves as necessary for the purpose of implementation, administration and management of the Grantee's participation in the Plan, and the Company and its Subsidiaries, including the Grantee's employer, may each further transfer Data to a designated Plan broker, administrative agent or such other stock plan service provider as may be selected by the Company presently or in the future (a "Plan Service Provider"), which may be assisting the Company in the implementation, administration and management of the Plan. These recipients may be located in the Grantee's country or elsewhere throughout the world, such as the United States and any recipient's country (e.g., the United States) may have different data privacy laws and protections than the Grantee's country. The Grantee understands that if he or she resides outside the United States, the Grantee may request a list with the names and addresses of any potential recipients of the Data by contacting the Grantee's local human resources representative. The Grantee hereby authorizes (where required under applicable law) the Company, any Plan Service Provider and any other possible recipients which may assist the Company (presently or in the future) to receive, possess, use, retain and transfer the Data, in electronic or other form, for the sole purpose of implementing, administering and managing the Grantee's participation in the Plan. Furthermore, the Grantee acknowledges and understands that the transfer of the Data to the Company or its Subsidiaries, including the Grantee's employer, to any Plan Service Provider, or to any third parties is necessary for the Grantee's participation in the Plan. The Grantee understands that Data will be held only as long as is necessary to implement, administer and manage the Grantee's participation in the Plan. The Grantee understands that if he or she resides outside the United States, the Grantee may, at any time, view the Data, request additional information about the storage and processing of the Data, require any necessary amendments to the Data or refuse or withdraw the consents herein by contacting the Grantee's local human resources representative in writing. The Grantee understands that he or she is providing the consents herein on a purely voluntary basis. If the Grantee does not consent, or if the Grantee later seeks to revoke his or her consent, the Grantee's employment status or service and career with the Company and its Subsidiaries will not be affected. The only consequence of refusing or withdrawing the Grantee's consent is that the Company may not be able to grant the Grantee PSUs or other awards or administer or maintain such awards. Therefore, the Grantee acknowledges that withdrawal of consent may affect the Grantee's ability to vest in or realize benefits from the PSUs, and the Grantee's ability to participate in

the Plan, in which case neither the Company nor any of its Subsidiaries, including the Grantee's employer, will have any liability or obligation to the Grantee related to this Award. For more information on the consequences of refusal to consent or withdrawal of consent, the Grantee understands that he or she may contact his or her local human resources representative.

Finally, upon request of the Company or the Grantee's employer, the Grantee agrees to provide an executed data privacy consent form (or any other agreements or consents that may be required by the Company and/or the Grantee's employer) that the Company and/or the Grantee's employer may deem necessary to obtain from the Grantee for the purpose of administering the Grantee's participation in the Plan in compliance with the data privacy laws in the Grantee's country, either now or in the future. The Grantee understands and agrees that the Grantee will not be able to participate in the Plan if the Grantee fails to provide any such consent or agreement requested by the Company and/or the Grantee's employer.

26. Private Placement. The grant of the PSUs is not intended to be a public offering of securities in the Grantee's country of residence (and country of employment, if different). The Company has not submitted any registration statement, prospectus or other filings with the local securities authorities (unless otherwise required under local law), and the grant of the PSUs is not subject to the supervision of the local securities authorities.

27. Addendum to Agreement. Notwithstanding any provisions of this Agreement to the contrary, the Award shall be subject to any special terms and conditions for the Grantee's country of residence (and country of employment, if different), as are set forth in the applicable addendum (the "Addendum") as attached to the Agreement. Further, if the Grantee transfers residence and/or employment to another country reflected in an Addendum to the Agreement, the special terms and conditions for such country will apply to the Grantee to the extent the Company determines, in its sole discretion, that the application of such terms is necessary or advisable in order to comply with local laws, rules and regulations or to facilitate operation and administration of the Plan. Any applicable Addendum shall constitute part of this Agreement.

28. No Advice Regarding Grant. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding the Grantee's participation in the Plan, or his acquisition or sale of the underlying Shares. The Grantee acknowledges that he should consult with his own personal tax, legal and financial advisors regarding his participation in the Plan before taking any action related to the Plan.

29. Clawback. Notwithstanding any provision to the contrary, any "clawback" or "recoupment" policy required under applicable law or provided for under Company policy shall automatically apply to this Award.

30. Entire Agreement. This Agreement represents the entire understanding and agreement between the parties with respect to the subject matter of this Agreement and supersedes and replaces all previous agreements, arrangements, understandings, rights, obligations and liabilities between the parties in respect of such matters.

31. Execution. By electronically or otherwise accepting this Agreement, the Grantee acknowledges his or her understanding and acceptance of the terms and conditions of

the Award. The Company has no obligation to issue the Grantee Shares under this Agreement if the Grantee does not accept the Award. Further, any acceptance of Shares issued pursuant to this Agreement shall constitute the Grantee's acceptance of the Award and the Grantee's agreement with all terms and conditions of the Award, as set forth in the Plan and this Agreement.

32. Insider Trading / Market Abuse Laws. The Grantee acknowledges that, depending on the Grantee's or the Grantee's broker's country of residence or where the Shares are listed, the Grantee may be subject to insider trading and/or market abuse laws, which may affect the Grantee's ability to accept, acquire, sell or otherwise dispose of Shares, rights to shares (e.g., PSUs) or rights linked to the value of shares (e.g., phantom awards, futures) during such times as the Grantee is considered to have "inside information" regarding the Company as defined by the laws or regulations in the Grantee's country. Local insider trading laws and regulations may prohibit the cancellation or amendment or amendment of orders the Grantee placed before the Grantee possessed inside information. Furthermore, the Grantee could be prohibited from (i) disclosing the inside information to any third party (other than on a "need to know") and (ii) "tipping" third parties or causing them otherwise to buy or sell securities. The Grantee should keep in mind third parties includes fellow employees. The requirements of these laws may or may not be consistent with the terms of any applicable Company's insider trading policy. The Grantee acknowledges that it is his or her responsibility to be informed of and compliant with any such laws and such Company policies, and is hereby advised to speak to his or her personal legal advisor on this matter.

33. Waiver. The Grantee acknowledges that a waiver by the Company of a breach of any provision of this Agreement shall not operate or be construed as a waiver of any other provision of this Agreement, or of a prior or subsequent breach by the Grantee or any other Grantee.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the ____ day of _____, 2023. By execution of this Agreement the Grantee acknowledges receipt of a copy of the Plan, and agrees to the terms and conditions of the Plan and this Agreement.

NASDAQ, INC.

By: Bryan Smith
Title: EVP and Chief People Officer

[EMPLOYEE NAME]

Appendix A

Performance Goals for PSU Grant 2023-2025 Performance Period

This Appendix A to the Agreement sets forth the Performance Goals to be achieved and, depending upon the extent (if any) to which the Performance Goals are achieved, the number of whole and/or partial Shares, if any, which the Grantee shall have the right to receive with respect to each PSU. Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Agreement and the Plan.

Certain Definitions

“Closing Price” means the 30-day calendar average closing price of a share of a company’s stock ending on the last trading day of the Performance Period.

“Opening Price” means the 30-day calendar average closing price of a share of a company’s stock ending on the trading day preceding the first day of the Performance Period. The Opening Price shall be adjusted for stock splits and reverse stock splits that occur during the Performance Period.

“Payout Governor” means that regardless of percentile ranking for either Performance Goal, if the Company’s TSR is negative, the Grantee shall be entitled to receive no more than 100% of the PSUs.

“Peer Group” means a group of peer companies consisting of the following global exchanges: (i) ASX Limited, (ii) B3 S.A., (iii) Bolsa Mexicana de Valores, S.A.B. de C.V., (iv) Cboe Global Markets, Inc., (v) CME Group, Inc., (vi) Deutsche Börse AG, (vii) Euronext N.V., (viii) Hong Kong Exchanges and Clearing Limited, (ix) Intercontinental Exchange, Inc. (x) Japan Exchange Group, Inc., (xi) London Stock Exchange Group plc, (xii) Singapore Exchange Limited and (xiii) TMX Group Limited.

“Price Cap” means that regardless of the actual stock price growth over the Performance Period, the final stock price will be limited to 250% of the grant date price for purposes of calculating the final award of PSUs to the Grantee.

“S&P 500” means the companies constituting the Standard & Poor’s 500 Index as of the beginning of the Performance Period. Any component company of the Standard & Poor’s 500 Index that is acquired, taken private, delisted, liquidated or no longer publicly traded due to filing for bankruptcy protection at any time during the Performance Period will be eliminated from the S&P 500 for the entire Performance Period. There will be no adjustments to the S&P 500 to account for any other changes to the Standard & Poor’s 500 Index during the Performance Period.

“TSR” means the total shareholder return during the Performance Period, which will be calculated as the (i) Closing Price minus Opening Price plus cumulative dividends, *divided by* (ii) Opening Price. No adjustments to TSR shall be made for stock issuances or stock buybacks during the Performance Period. Each company’s TSR shall be calculated in the local currency to eliminate foreign exchange fluctuations.

Goal 1: TSR Performance Relative to the S&P 500

The Performance Goal for 50% of the PSUs shall be the Company’s three-year TSR percentile rank versus the S&P 500.

For this portion of the award, each PSU shall, subject to the vesting provisions set forth in the Agreement and the Payout Governor, entitle the Grantee to receive Shares based on the levels of achievement in the following table.

Table 1: Levels of Achievement

Percentile Rank of the Company’s Three-Year TSR Versus the S&P 500	Resulting Shares Earned (% of Half of Target)
≥85 th Percentile	200%
67.5 th Percentile	150%
50 th Percentile	100%
25 th Percentile	50%
15 th Percentile	30%
0 Percentile	0%

For levels of achievement between points, the resulting Shares earned will be calculated based on straight-line interpolation.

The resulting shares earned will be subject to the 250% Price Cap. If the Nasdaq stock price grows greater than 250% over the Performance Period, the resulting number of shares will be fewer than 200% of target shares. For example: (formulaic resulting shares earned X 250% Price Cap) / (stock price at time of delivery of shares) = resulting actual shares earned.

Goal 2: TSR Performance Relative to a Peer Group

The Performance Goal for 50% of the PSUs shall be the Company’s three-year TSR percentile rank versus the Peer Group. For this portion of the award, each PSU shall, subject to the vesting provisions set forth in the Agreement and the Payout Governor, entitle the Grantee to receive Shares based on the levels of achievement in the following table.

Table 2: Levels of Achievement

Percentile Rank of the Company's Three-Year TSR Versus the Peer Group	Resulting Shares Earned (% of Half of Target)
≥85 th Percentile	200%
67.5 th Percentile	150%
50 th Percentile	100%
25 th Percentile	50%
15 th Percentile	30%
0 Percentile	0%

For levels of achievement between points, the resulting Shares earned will be calculated based on straight-line interpolation.

The resulting shares earned will be subject to the 250% Price Cap. If the Nasdaq stock price grows greater than 250% over the Performance Period, the resulting number of shares will be fewer than 200% of target shares. For example: (formulaic resulting shares earned X 250% Price Cap) / (stock price at time of delivery of shares) = resulting actual shares earned.

Other Terms and Conditions

To the extent consistent with the Code and the Plan, the Committee reserves the right to modify any calculation described in this Appendix A to adjust for unanticipated circumstances or situations, as it deems necessary. All actions taken by the Committee pursuant to this Appendix A shall be final, conclusive and binding upon the Grantee, and all other persons, to the maximum extent permitted by law.

CERTIFICATION

I, Adena T. Friedman, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Nasdaq, 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/ Adena T. Friedman
Name: Adena T. Friedman
Title: Chief Executive Officer

Date: August 2, 2023

CERTIFICATION

I, Ann M. Dennison, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Nasdaq, 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/ Ann M. Dennison

Name: Ann M. Dennison
Title: Executive Vice President and Chief Financial Officer

Date: August 2, 2023

**Certification of CEO and CFO Pursuant to
18 U.S.C. Section 1350
as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Quarterly Report on Form 10-Q of Nasdaq, Inc. (the "Company") for the period ended June 30, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Adena T. Friedman, as Chief Executive Officer of the Company, and Ann M. Dennison, as Executive Vice President and Chief Financial Officer of the Company, each hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of her knowledge:

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

/s/ Adena T. Friedman

Name: Adena T. Friedman
Title: Chief Executive Officer
Date: August 2, 2023

/s/ Ann M. Dennison

Name: Ann M. Dennison
Title: Executive Vice President and Chief Financial Officer
Date: August 2, 2023

This certification accompanies the Report pursuant to § 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by the Company for purposes of § 18 of the Securities Exchange Act of 1934, as amended.