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 March 31, 2024

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

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	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

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

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

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

Class	Outstanding at April 24, 2024
Common Stock, $0.01 par value per share	576,532,584 shares

Nasdaq, Inc.

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.

2022 Revolving Credit Facility: $1.25 billion senior unsecured revolving credit facility, which matures on December 16, 2027, which has replaced the $1.25 billion credit facility issued in 2020

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

ASC: Accounting Standards Codification

ASU: Accounting Standards Update

AUM: Assets Under Management

CCP: Central Counterparty

CFTC: U.S. Commodity Futures Trading Commission

ESG: Environmental, Social and Governance

EMIR: European Market Infrastructure Regulation

ESPP: Nasdaq Employee Stock Purchase Plan

ETP: Exchange Traded Product

Exchange Act: Securities Exchange Act of 1934, as amended

FASB: Financial Accounting Standards Board

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

SPAC: Special Purpose Acquisition Company

SFSA: Swedish Financial Supervisory Authority

SOFR: Secured Overnight Financing Rate

S&P 500: S&P 500 Stock Index

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

NASDAQ, the NASDAQ logos, and other brand, service or product names or marks referred to in this report are trademarks or service marks, registered or otherwise, of Nasdaq, Inc. and/or its subsidiaries. FINRA and Trade Reporting Facility are registered trademarks of FINRA.

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 and new listings of equity securities (including issuers that switched from other listings venues, closed-end funds and ETPs) 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 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, 2023 that was filed with the SEC on February 21, 2024.

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;*
- *our ability to keep up with rapid technological advances, including our ability to effectively manage the development and use of artificial intelligence in certain of our products and offerings, 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 21, 2024. 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)

	March 31, 2024 (unaudited)	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 388	$ 453
Restricted cash and cash equivalents	21	20
Default funds and margin deposits (including restricted cash and cash equivalents of $4,821 and $6,645, respectively)	5,595	7,275
Financial investments	173	188
Receivables, net	925	929
Other current assets	219	231
Total current assets	7,321	9,096
Property and equipment, net	575	576
Goodwill	13,974	14,112
Intangible assets, net	7,291	7,443
Operating lease assets	400	402
Other non-current assets	706	665
Total assets	$ 30,267	$ 32,294
Liabilities		
Current liabilities:		
Accounts payable and accrued expenses	$ 266	$ 332
Section 31 fees payable to SEC	70	84
Accrued personnel costs	188	303
Deferred revenue	866	594
Other current liabilities	184	146
Default funds and margin deposits	5,595	7,275
Short-term debt	224	291
Total current liabilities	7,393	9,025
Long-term debt	9,765	10,163
Deferred tax liabilities, net	1,655	1,642
Operating lease liabilities	413	417
Other non-current liabilities	222	220
Total liabilities	19,448	21,467
Commitments and contingencies		
Equity		
Nasdaq stockholders' equity:		
Common stock, $0.01 par value, 900,000,000 shares authorized, shares issued: 599,052,284 at March 31, 2024 and 598,014,520 at December 31, 2023; shares outstanding: 575,758,581 at March 31, 2024 and 575,159,336 at December 31, 2023	6	6
Additional paid-in capital	5,526	5,496
Common stock in treasury, at cost: 23,293,703 shares at March 31, 2024 and 22,855,184 shares at December 31, 2023	(611)	(587)
Accumulated other comprehensive loss	(2,044)	(1,924)
Retained earnings	7,932	7,825
Total Nasdaq stockholders' equity	10,809	10,816
Noncontrolling interests	10	11
Total equity	10,819	10,827
Total liabilities and equity	$ 30,267	$ 32,294

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 March 31,	
	2024	2023
Revenues:		
Capital Access Platforms	$ 479	$ 415
Financial Technology	392	229
Market Services	794	879
Other revenues	9	10
Total revenues	1,674	1,533
Transaction-based expenses:		
Transaction rebates	(481)	(487)
Brokerage, clearance and exchange fees	(76)	(132)
Revenues less transaction-based expenses	1,117	914
Operating expenses:		
Compensation and benefits	340	256
Professional and contract services	34	32
Computer operations and data communications	67	54
Occupancy	28	39
General, administrative and other	28	14
Marketing and advertising	11	9
Depreciation and amortization	155	69
Regulatory	9	9
Merger and strategic initiatives	9	2
Restructuring charges	26	18
Total operating expenses	707	502
Operating income	410	412
Interest income	6	6
Interest expense	(108)	(36)
Other income	1	—
Net income from unconsolidated investees	3	14
Income before income taxes	312	396
Income tax provision	79	95
Net income	233	301
Net loss attributable to noncontrolling interests	1	1
Net income attributable to Nasdaq	$ 234	$ 302
Per share information:		
Basic earnings per share	$ 0.41	$ 0.62
Diluted earnings per share	$ 0.40	$ 0.61
Cash dividends declared per common share	$ 0.22	$ 0.20

See accompanying notes to condensed consolidated financial statements.

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

	Three Months Ended March 31,	
	2024	2023
Net income	$ 233	$ 301
Other comprehensive income (loss):		
Foreign currency translation losses	(117)	(21)
Income tax benefit (expense)[1]	(15)	6
Foreign currency translation, net	(132)	(15)
Net unrealized loss from cash flow hedges	(2)	—
Employee benefit plan adjustment	19	—
Employee benefit plan income tax provision	(5)	—
Employee benefit plan, net	14	—
Total other comprehensive loss, net of tax	(120)	(15)
Comprehensive income	113	286
Comprehensive loss attributable to noncontrolling interests	1	1
Comprehensive income attributable to Nasdaq	$ 114	$ 287

(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 March 31,			
	2024		2023	
	Shares	$	Shares	$
Common stock	575	6	492	5
Additional paid-in capital				
Beginning balance		5,496		1,445
Share repurchase program	—	—	(3)	(159)
Share-based compensation	1	30	2	26
Ending balance		5,526		1,312
Common stock in treasury, at cost				
Beginning balance		(587)		(515)
Other employee stock activity	—	(24)	(1)	(40)
Ending balance		(611)		(555)
Accumulated other comprehensive loss				
Beginning balance		(1,924)		(1,991)
Other comprehensive loss		(120)		(15)
Ending balance		(2,044)		(2,006)
Retained earnings				
Beginning balance		7,825		7,207
Net income attributable to Nasdaq		234		302
Cash dividends declared and paid		(127)		(98)
Ending balance		7,932		7,411
Total Nasdaq stockholders' equity		10,809		6,167
Noncontrolling interests				
Beginning balance		11		13
Net activity related to noncontrolling interests		(1)		(1)
Ending balance		10		12
Total Equity	576	$ 10,819	490	$ 6,179

See accompanying notes to condensed consolidated financial statements.

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

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Cash flows from operating activities:		
Net income	$ 233	$ 301
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	155	69
Share-based compensation	30	26
Deferred income taxes	(2)	12
Non-cash restructuring charges	—	12
Net income from unconsolidated investees	(3)	(14)
Other reconciling items included in net income	27	16
Net change in operating assets and liabilities:		
Receivables, net	(17)	10
Other assets	(5)	7
Accounts payable and accrued expenses	(73)	(10)
Section 31 fees payable to SEC	(14)	(118)
Accrued personnel costs	(110)	(86)
Deferred revenue	274	300
Other liabilities	35	40
Net cash provided by operating activities	530	565
Cash flows from investing activities:		
Purchases of securities	(40)	(198)
Proceeds from sales and redemptions of securities	44	184
Purchases of property and equipment	(39)	(40)
Investments related to default funds and margin deposits, net[(1)]	(184)	(89)
Other investing activities	(13)	10
Net cash used in investing activities	(232)	(133)
Cash flows from financing activities:		
Repayments of commercial paper, net	(67)	(317)
Repayments of term loan	(340)	—
Repurchases of common stock	—	(159)
Dividends paid	(127)	(98)
Payments related to employee shares withheld for taxes	(24)	(40)
Default funds and margin deposits	(1,317)	2
Other financing activities	—	(1)
Net cash used in financing activities	(1,875)	(613)
Effect of exchange rate changes on cash and cash equivalents and restricted cash and cash equivalents	(311)	29
Net decrease in cash and cash equivalents and restricted cash and cash equivalents	(1,888)	(152)
Cash and cash equivalents, restricted cash and cash equivalents at beginning of period	7,118	6,994
Cash and cash equivalents, restricted cash and cash equivalents at end of period	$ 5,230	$ 6,842
Reconciliation of Cash, Cash Equivalents and Restricted Cash and Cash Equivalents		
Cash and cash equivalents	$ 388	$ 373
Restricted cash and cash equivalents	21	57
Restricted cash and cash equivalents (default funds and margin deposits)	4,821	6,412
Total	$ 5,230	$ 6,842
Supplemental Disclosure Cash Flow Information		
Interest paid	$ 145	$ 37
Income taxes paid, net of refund	$ 23	$ 18

(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 the fourth quarter of 2023, following the completion of the Adenza Holdings, Inc., or Adenza, acquisition, including its two flagship solutions, AxiomSL and Calypso, we further aligned our business more closely with the foundational shifts that are driving the evolution of the global financial system. We now manage, operate and provide our products and services in three business segments: Capital Access Platforms, Financial Technology and Market Services. The divisional structure, which was implemented during the fourth quarter of 2023, is as follows:

Pre-Acquisition		**Post-Acquisition**	
Capital Access Platforms	Data & Listings Index Workflow & Insights	**Capital Access Platforms**	Data & Listings Index Workflow & Insights
Anti-Financial Crime	Fraud & AML Surveillance	**Financial Technology**	Financial Crime Management Technology Regulatory Technology • Surveillance • **AxiomSL** Capital Markets Technology • Market Technology • Trade Management Services • **Calypso**
Market Platforms	Marketplace Technology Trading Services	**Market Services**	Trading Services

Capital Access Platforms

Our Capital Access Platforms segment comprises Data & Listing Services, Index and Workflow & Insights.

Our Data business distributes historical and real-time market data to sell-side customers, 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 the transparency of market activity within our exchanges and provide critical information to professional and non-professional investors globally.

Our Listing Services business operates listing platforms in the U.S. and Europe 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 March 31, 2024, a total of 5,223 companies listed securities on our U.S., Nasdaq Nordic, Nasdaq Baltic and Nasdaq First North exchanges. As of March 31, 2024, there were 4,020 total listings on The Nasdaq Stock Market, including 619 ETPs. The combined market capitalization in the U.S. was approximately $29.4 trillion. In Europe, the Nasdaq Nordic and Nasdaq Baltic exchanges, together with Nasdaq First North, were home to 1,203 listed companies with a combined market capitalization of approximately $2.2 trillion.

Our Index business develops and licenses Nasdaq-branded indices and financial products. We also license cash-settled options, futures and options on futures on our indices. As of March 31, 2024, 361 ETPs listed on 27 exchanges in over 20 countries tracked a Nasdaq index and accounted for $519 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 serves both public and private companies and organizations through our Investor Relations Intelligence, ESG Solutions and Governance Solutions products. 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.

Financial Technology

Our Financial Technology segment comprises Financial Crime Management Technology, Regulatory Technology and Capital Markets Technology solutions.

Financial Crime Management Technology includes our Verafin solution, a cloud-based platform to help financial institutions detect, investigate, and report money laundering and financial fraud.

Regulatory Technology comprises our surveillance and AxiomSL solutions. Our surveillance solutions are designed for banks, brokers and other market participants to assist them in complying with market abuse and integrity rules and regulations. In addition, we provide regulators and exchanges with a platform for surveillance. AxiomSL is a global leader in risk data management and regulatory reporting solutions for the financial industry, including banks, broker dealers and asset managers. Its unique enterprise data management platform delivers data lineage, risk aggregation, analytics, workflow automation, reconciliation, validation and audit functionality, as well as disclosures. AxiomSL's platform supports compliance across a wide range of global and local regulations.

Capital Markets Technology includes market technology, trade management services and Calypso. 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 market technology solutions are utilized by leading markets in North America, Europe and Asia as well as emerging markets in the Middle East, Latin America, and Africa. Our trade management services provide 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. Calypso is a leading provider of front-to-back technology solutions for the financial markets. The Calypso platform provides customers with a single platform designed from the outset to enable consolidation, innovation and growth.

Market Services

Our Market Services segment includes revenues from equity derivatives trading, cash equity trading, Nordic fixed income trading & clearing, Nordic commodities and U.S. Tape plans data. We operate 19 exchanges 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. Revenues from this business are reflected in Other Revenues in the Condensed Consolidated Statements of Income for all periods, and in our Corporate segment for our segment disclosures. Additionally, certain data revenues from this business that were previously included in our Capital Access Platforms segment are also reflected 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.

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 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 revenues, 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.

Recent Accounting Developments

In November 2023, the FASB issued ASU 2023-07, "Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures." ASU 2023-07 requires disclosure of significant segment expenses that are regularly provided to the chief operating decision maker ("CODM") and included within the segment measure of profit or loss, an amount and description of its composition for other segment items to reconcile to segment profit or loss, and the title and position of the entity's CODM and an explanation of how the CODM uses the reported measure of segment profit or loss in assessing segment performance and deciding how to allocate resources. ASU 2023-07 will be applied retrospectively and is effective for annual reporting periods in fiscal years beginning after December 15, 2023, and interim reporting periods in fiscal years beginning after December 31, 2024. We are currently reviewing the impact that the adoption of ASU 2023-07 may have on our consolidated financial statements and disclosures.

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 table summarizes the disaggregation of revenue by major product and service and by segment for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Capital Access Platforms		
Data & Listing Services	$ 186	$ 185
Index	168	110
Workflow & Insights	125	120
Financial Technology		
Financial Crime Management Technology	64	52
Regulatory Technology	90	32
Capital Markets Technology	238	145
Market Services, net	237	260
Other revenues	9	10
Revenues less transaction-based expenses	$ 1,117	$ 914

Substantially all revenues from the Capital Access Platforms segment were recognized over time for the three months ended March 31, 2024 and 2023. For the three months ended March 31, 2024, 12.2% of Regulatory Technology revenues, related to AxiomSL, were recognized at a point in time and 11.3% of Capital Markets Technology revenues, related to Calypso, were recognized at a point in time. The remaining Financial Technology revenues were recognized over time. For the three months ended March 31, 2024 and 2023 approximately 97.3%, and 93.3%, respectively, of Market Services revenues were recognized at a point in time and 2.7%, and 6.7%, 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 $18 million as of March 31, 2024 and December 31, 2023. There were no material upward or downward adjustments to the allowance during the three months ended March 31, 2024. 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 March 31, 2024. 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, Financial Crime Management Technology, Regulatory Technology and Capital Markets Technology contracts. See Note 7, "Deferred Revenue," for our discussion on deferred revenue balances, activity, and expected timing of recognition.

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, and therefore not included below. For our Financial Crime Management Technology, Regulatory Technology, Capital Markets Technology 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 March 31, 2024:

	Financial Crime Management Technology	Regulatory Technology	Capital Markets Technology	Workflow & Insights	Total
			(in millions)		
Remainder of 2024	$ 167	$ 202	$ 252	$ 125	$ 746
2025	223	214	260	117	814
2026	157	87	206	56	506
2027	69	50	140	26	285
2028	22	32	87	14	155
2029+	6	10	182	1	199
Total	$ 644	$ 595	$ 1,127	$ 339	$ 2,705

4. ACQUISITION

2023 Acquisition

In June 2023, we entered into a definitive agreement to acquire Adenza, a provider of mission-critical risk management and regulatory software to the financial services industry, for $5.75 billion in cash (subject to customary post-closing adjustments) 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 approximately $5.0 billion of debt, and entered into a $600 million term loan, and used the proceeds for the cash portion of the consideration. See "*Senior Unsecured Notes*" and "*2023 Term Loan*" in "Financing of the Adenza Acquisition" of Note 8, "Debt Obligations," for further discussion.

On November 1, 2023, Nasdaq completed the acquisition of Adenza for a total purchase consideration of $9,984 million, which comprises the following:

	(in millions, except price per share)
Shares of Nasdaq common stock issued	85.6
Closing price per share of Nasdaq common stock on November 1, 2023	$ 48.71
Fair value of equity portion of the purchase consideration	$ 4,170
Cash consideration	$ 5,814
Total purchase consideration	$ 9,984

At the closing of the transaction, the 85.6 million shares of Nasdaq common stock were issued to Thoma Bravo, the sole shareholder of Adenza, and represented approximately 15% of the outstanding shares of Nasdaq. For further discussion on the rights of common stockholders refer to "Common Stock" of Note 11, "Nasdaq Stockholders' Equity." Adenza is part of our Financial Technology segment.

The amounts in the table below represent the preliminary allocation of the purchase price to the acquired intangible assets, the deferred tax liability on the acquired intangible assets and other assets acquired and liabilities assumed based on their preliminary respective estimated fair values on the date of acquisition. These amounts are subject to revision during the remainder of the measurement period, a period not to exceed 12 months from the acquisition date.

Adjustments to the provisional values, which may include tax and other estimates, during the measurement period will be recorded in the reporting period in which the adjustment amounts are determined. Changes to amounts recorded as assets and liabilities may result in a corresponding adjustment to goodwill.

The excess purchase price over the net tangible and acquired intangible assets has been recorded as goodwill. The goodwill recognized is attributable primarily to expected synergies and is assigned to our Financial Technology segment.

	(in millions)
Goodwill	$ 5,933
Acquired intangible assets	5,050
Receivables, net	236
Other net assets acquired	153
Cash and cash equivalents	48
Accrued personnel costs	(44)
Deferred revenue	(130)
Deferred tax liability on acquired intangible assets	(1,262)
Total purchase consideration	$ 9,984

Intangible Assets

The following table presents the details of acquired intangible assets at the date of acquisition. Acquired intangible assets with finite lives are amortized using the straight-line method.

	Customer Relationships	Technology	Trade Names	Total Acquired Intangible Assets
Intangible asset value (in millions)	$ 3,740	$ 950	$ 360	$ 5,050
Discount rate used	9.5 %	8.5 %	8.5 %	
Estimated average useful life	22 years	6 years	20 years	

Customer Relationships

Customer relationships represent the contractual relationships with customers.

Methodology

Customer relationships were valued using the income approach, specifically an excess earnings method. The excess earnings method examines the economic returns contributed by the identified tangible and intangible assets of a company, and then isolates the excess return that is attributable to the intangible asset being valued.

Discount Rate

The discount rate used reflects the amount of risk associated with the hypothetical cash flows for the customer relationships relative to the overall business. In developing a discount rate for the customer relationships, we estimated a weighted-average cost of capital for the overall business and we utilized this rate as an input when discounting the cash flows. The resulting discounted cash flows were then tax-effected at the applicable statutory rate.

A discounted tax amortization benefit was added to the fair value of the assets under the assumption that the customer relationships would be amortized for tax purposes over a period of 15 years.

Technology

As part of our acquisition of Adenza, we acquired developed technology relating to AxiomSL and Calypso.

Methodology

The developed technology was valued using the income approach, specifically the relief-from-royalty method, which is used to estimate the cost savings that accrue to the owner of an intangible asset who would otherwise have to pay royalties or license fees on revenues earned through the use of the asset. The royalty rate is applied to the projected revenue over the expected remaining life of the intangible asset to estimate royalty savings. The net after-tax royalty savings are calculated for each year in the remaining economic life of the technology and discounted to present value.

Discount Rate

The discount rate used reflects the amount of risk associated with the hypothetical cash flows for the developed technology relative to the overall business as discussed above in “Customer Relationships.”

Trade Name

As part of our acquisition of Adenza, we acquired the AxiomSL and Calypso trade names. The trade names are recognized in the industry and carry a reputation for quality. As such, the reputation and positive recognition embodied in the trade names is a valuable asset to Nasdaq.

Methodology

The AxiomSL and Calypso trade names were valued using the income approach, specifically the relief-from-royalty method as discussed above in “Technology.”

Discount Rate

The discount rate used reflects the amount of risk associated with the hypothetical cash flows for the trade name relative to the overall business as discussed above in “Customer Relationships.”

5. GOODWILL AND ACQUIRED INTANGIBLE ASSETS

Goodwill

The following table presents the changes in goodwill by business segment during the three months ended March 31, 2024:

	(in millions)
Capital Access Platforms	
Balance at December 31, 2023	$ 4,214
Foreign currency translation adjustments	(52)
Balance at March 31, 2024	$ 4,162
Financial Technology	
Balance at December 31, 2023	$ 7,873
Foreign currency translation adjustments	(15)
Balance at March 31, 2024	$ 7,858
Market Services	
Balance at December 31, 2023	$ 2,025
Foreign currency translation adjustments	(71)
Balance at March 31, 2024	$ 1,954
Total	
Balance at December 31, 2023	$ 14,112
Foreign currency translation adjustments	(138)
Balance at March 31, 2024	$ 13,974

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 months ended March 31, 2024 and 2023; 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:

	March 31, 2024	December 31, 2023
	(in millions)	
Finite-Lived Intangible Assets		
Gross Amount		
Technology	$ 1,235	$ 1,254
Customer relationships	5,739	5,743
Trade names and other	417	417
Foreign currency translation adjustment	(218)	(194)
Total gross amount	$ 7,173	$ 7,220
Accumulated Amortization		
Technology	$ (200)	$ (169)
Customer relationships	(977)	(912)
Trade names and other	(26)	(21)
Foreign currency translation adjustment	136	120
Total accumulated amortization	$ (1,067)	$ (982)
Net Amount		
Technology	$ 1,035	$ 1,085
Customer relationships	4,762	4,831
Trade names and other	391	396
Foreign currency translation adjustment	(82)	(74)
Total finite-lived intangible assets	$ 6,106	$ 6,238
Indefinite-Lived Intangible Assets		
Exchange and clearing registrations	$ 1,257	$ 1,257
Trade names	121	121
Licenses	52	52
Foreign currency translation adjustment	(245)	(225)
Total indefinite-lived intangible assets	$ 1,185	$ 1,205
Total intangible assets, net	$ 7,291	$ 7,443

There was no impairment of intangible assets for the three months ended March 31, 2024 and 2023.

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

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Amortization expense	$ 123	$ 38

The table below presents the estimated future amortization expense (excluding the impact of foreign currency translation adjustments of $82 million as of March 31, 2024) of acquired finite-lived intangible assets as of March 31, 2024:

	(in millions)
Remainder of 2024	$ 371
2025	499
2026	494
2027	494
2028	460
2029+	3,870
Total	$ 6,188

6. INVESTMENTS

The following table presents the details of our investments:

	March 31, 2024	December 31, 2023
	(in millions)	
Financial investments	$ 173	$ 188
Equity method investments	405	380
Equity securities	90	87

Financial Investments

Financial investments are comprised of trading securities, primarily highly rated European government debt securities, of which $160 million as of March 31, 2024 and $168 million as of December 31, 2023 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 March 31, 2024 and 2023, 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 months ended March 31, 2024 and 2023.

Net income recognized from our equity interest in the earnings and losses of these equity method investments, primarily OCC, was $3 million and $14 million for the three months ended March 31, 2024 and 2023, 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 months ended March 31, 2024 and 2023. As of March 31, 2024 and December 31, 2023, our equity securities primarily represent various strategic minority 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 three months ended March 31, 2024 are reflected in the following table:

	Balance at December 31, 2023	Additions	Revenue Recognized	Adjustments	Balance at March 31, 2024
			(in millions)		
Capital Access Platforms:					
Initial Listings	$ 97	$ 8	$ (12)	$ (1)	$ 92
Annual Listings	3	260	(1)	(1)	261
Workflow & Insights	180	99	(75)	—	204
Financial Technology:					
Financial Crime Management Technology	123	39	(22)	(4)	136
Regulatory Technology	68	17	(22)	(1)	62
Capital Markets Technology	183	42	(63)	(1)	161
Other	21	13	(5)	(1)	28
Total	$ 675	$ 478	$ (200)	$ (9)	$ 944

In the above table:

- Additions 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 March 31, 2024, we estimate that our deferred revenue will be recognized in the following years:

Fiscal year ended:	2024	2025	2026	2027	2028	2029+	Total
				(in millions)			
Capital Access Platforms:							
Initial Listings	$ 28	$ 27	$ 21	$ 11	$ 4	$ 1	$ 92
Annual Listings	261	—	—	—	—	—	261
Workflow & Insights	188	16	—	—	—	—	204
Financial Technology:							
Financial Crime Management Technology	124	12	—	—	—	—	136
Regulatory Technology	57	5	—	—	—	—	62
Capital Markets Technology	148	9	2	2	—	—	161
Other	16	6	4	2	—	—	28
Total	$ 822	$ 75	$ 27	$ 15	$ 4	$ 1	$ 944

In the above table, 2024 represents the remaining nine months of 2024.

Deferred revenue that will be recognized beyond March 31, 2025 is included in other non-current liabilities in the Condensed Consolidated Balance Sheets. 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:

	March 31, 2024	December 31, 2023
Short-term debt:	(in millions)	
Commercial paper	$ 224	$ 291
Long-term debt - senior unsecured notes:		
2025 Notes, $500 million, 5.650% notes due June 28, 2025	498	497
2026 Notes, $500 million, 3.850% notes due June 30, 2026	499	499
2028 Notes, $1 billion, 5.350% notes due June 28, 2028	992	991
2029 Notes, €600 million, 1.75% notes due March 28, 2029	644	658
2030 Notes, €600 million, 0.875% notes due February 13, 2030	643	658
2031 Notes, $650 million, 1.650% notes due January 15, 2031	645	645
2032 Notes, €750 million, 4.500% notes due February 15, 2032	801	819
2033 Notes, €615 million, 0.900% notes due July 30, 2033	659	674
2034 Notes $1.25 billion, 5.550% notes due February 15, 2034	1,240	1,239
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	487
2052 Notes, $550 million, 3.950% notes due March 7, 2052	541	541
2053 Notes, $750 million, 5.950% notes due August 15, 2053	738	738
2063 Notes, $750 million, 6.100% notes due June 28, 2063	738	738
2023 Term Loan	—	339
2022 Revolving Credit Facility	(4)	(4)
Total long-term debt	$ 9,765	$ 10,163
Total debt obligations	$ 9,989	$ 10,454

Commercial Paper Program

Our U.S. dollar commercial paper program is supported by our 2022 Revolving Credit Facility, which provides liquidity support for the repayment of commercial paper issued through this program. See "2022 Revolving Credit Facility" 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 March 31, 2024, we had $224 million outstanding under the commercial paper program.

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 March 31, 2024, the amounts in the table above reflect the aggregate principal amount, less the unamortized debt issuance costs, which are being accreted through interest expense over the life of the applicable notes. The accretion of these costs was $3 million for the three months ended March 31, 2024. 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. For the three months ended March 31, 2024, the impact of translation decreased the U.S. dollar value of our Euro denominated notes by $62 million.

Financing of the Adenza Acquisition

Senior Unsecured Notes

In June 2023, Nasdaq issued six series of notes for total proceeds of $5,016 million, net of debt issuance costs of $38 million, with various maturity dates ranging from 2025 to 2063. The net proceeds from these notes were used to finance the majority of the cash consideration due in connection with the Adenza acquisition. For further discussion of the Adenza acquisition, see “2023 Acquisition,” of Note 4, “Acquisition.”

2023 Term Loan

In June 2023, in connection with the financing of the Adenza acquisition, we entered into a term loan credit agreement, or the 2023 Term Loan. The 2023 Term Loan provided 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 2023 Term Loan, borrowings bear interest on the principal amount outstanding at a variable interest rate based on the SOFR plus an applicable margin that varies with Nasdaq’s credit rating. On November 1, 2023, we borrowed $599 million, net of fees, under this term loan towards payment of the cash consideration due in connection with the Adenza acquisition. We made a partial repayment during the fourth quarter of 2023 and paid the remaining balance in the first quarter of 2024.

Credit Facilities

2022 Revolving Credit Facility

In December 2022, Nasdaq amended and restated its previously issued $1.25 billion five-year revolving credit facility, with a new maturity date of December 16, 2027. Nasdaq intends to use funds available under the 2022 Revolving Credit Facility 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 Facility at any time in whole or in part, without penalty.

As of March 31, 2024, no amounts were outstanding on the 2022 Revolving Credit Facility. The $(4) 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 Revolving Credit Facility 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 months ended March 31, 2024 and 2023.

The 2022 Revolving Credit Facility 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 Facility 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 $180 million as of March 31, 2024 and $191 million as of December 31, 2023 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 months ended March 31, 2024 and 2023.

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

Debt Covenants

As of March 31, 2024, 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 months ended March 31, 2024 and 2023, which is included in compensation and benefits expense in the Condensed Consolidated Statements of Income:

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Savings Plan expense	$ 5	$ 5

Pension and Supplemental Executive Retirement Plans

Prior to 2024, we maintained 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. 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.

In June 2023, we terminated our U.S. pension plan and took steps to wind down the plan and transfer the resulting liability to an insurance company which started in 2023 and was completed in 2024. These steps included settling all future obligations under our U.S. pension plan through a combination of lump sum payments to eligible, electing participants (completed in 2023) and the transfer of any remaining benefits to a third-party insurance company through a group annuity contract. In connection with the plan termination and partial settlement, a pre-tax loss of $9 million was recorded to compensation and benefits expense in 2023. We finalized the transfer of any remaining benefits during the first quarter of 2024 and recorded an additional settlement pre-tax loss of $23 million to compensation and benefits expense in the Condensed Consolidated Statements of Income. This was offset by a $19 million adjustment to Other Comprehensive Income and a $4 million cash settlement.

The total expense for these plans is included in compensation and benefits expense in the Condensed Consolidated Statements of Income:

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Retirement Plans expense	$ 31	$ 6

Nonqualified Deferred Compensation Plan

We sponsor a nonqualified plan, the Nasdaq, Inc. Deferred Compensation 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 months ended March 31, 2024 and 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 or about 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 months ended March 31, 2024 and 2023, which is included in compensation and benefits expense in the Condensed Consolidated Statements of Income:

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Share-based compensation expense before income taxes	$ 30	$ 26

Common Shares Available Under Our Equity Plan

As of March 31, 2024, we had approximately 24.9 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 three months ended March 31, 2024:

	Restricted Stock	
	Number of Awards	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2023	4,209,299	$ 51.15
Granted	147,247	55.60
Vested	(76,433)	50.34
Forfeited	(45,738)	53.73
Unvested at March 31, 2024	4,234,375	$ 51.29

As of March 31, 2024, $108 million of total unrecognized compensation cost related to restricted stock is expected to be recognized over a weighted-average period of 1.6 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 PSU eligible individual receives, 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. Beginning in 2024, we replaced the exchange company peer group with the S&P 500 GICS 4020 Index, which is a blend of exchanges, as well as data, financial technology and banking companies to align more closely with Nasdaq's diverse business and competitors. 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 2021 with a three-year performance period exceeded the applicable performance parameters. As a result, an additional 387,011 units above the original target were granted in the first quarter of 2024 and were fully vested upon issuance.

Summary of PSU Activity

The following table summarizes our PSU activity for the three months ended March 31, 2024:

	PSUs	
	Three-Year Program	
	Number of Awards	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2023	2,008,322	$ 62.86
Granted	475,323	69.90
Vested	(961,331)	73.14
Forfeited	(26,106)	62.91
Unvested at March 31, 2024	1,496,208	$ 58.49

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

As of March 31, 2024, the total unrecognized compensation cost related to the PSU program is $47 million and is expected to be recognized over a weighted-average period of 1.4 years.

Stock Options

There were no stock option awards granted for the three months ended March 31, 2024. There were no stock options exercised for the three months ended March 31, 2024 and 2023.

A summary of our outstanding and exercisable stock options at March 31, 2024 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 March 31, 2024	1,420,323	$ 41.79	4.9	$ 33
Exercisable at March 31, 2024	806,451	$ 22.23	2.8	$ 33

As of March 31, 2024, the aggregate pre-tax intrinsic value of the outstanding and exercisable stock options in the above table was $33 million and represents the difference between our closing stock price on March 31, 2024 of $63.10 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 March 31, 2024 and 2023, 0.8 million outstanding stock options were exercisable and the exercise price was $22.23.

ESPP

We have an ESPP under which approximately 11.4 million shares of our common stock were available for future issuance as of March 31, 2024. 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 March 31, 2024, 900,000,000 shares of our common stock were authorized, 599,052,284 shares were issued and 575,758,581 shares were outstanding. As of December 31, 2023, 900,000,000 shares of our common stock were authorized, 598,014,520 shares were issued and 575,159,336 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 23,293,703 shares of common stock in treasury as of March 31, 2024 and 22,855,184 shares as of December 31, 2023, 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 March 31, 2024, the remaining aggregate authorized amount under the existing share repurchase program was $1.9 billion. There were no share repurchased under our share repurchase program in the first quarter of 2024.

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.

For the three months ended March 31, 2024, we repurchased an aggregate of 438,519 shares withheld to satisfy tax obligations of the grantee upon the vesting of restricted stock and PSUs, and these repurchases are excluded from our repurchase program.

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 March 31, 2024 and December 31, 2023, no shares of preferred stock were issued or outstanding.

Cash Dividends on Common Stock

During the first quarter of 2024, 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 29, 2024	$ 0.22	March 14, 2024	$ 127	March 28, 2024
			$ 127	

The total amount paid of $127 million was recorded in retained earnings within Nasdaq's stockholders' equity in the Condensed Consolidated Balance Sheets at March 31, 2024.

In April 2024, the board of directors approved a regular quarterly cash dividend of $0.24 per share on our outstanding common stock, which reflects an increase of 9% from our most recent quarterly cash dividend of $0.22 per share. The dividend is payable on June 28, 2024 to shareholders of record at the close of business on June 14, 2024. The estimated aggregate payment of this dividend is $138 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 shareholders 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 March 31,	
	2024	2023
Numerator:	(in millions, except share and per share amounts)	
Net income attributable to common shareholders	$ 234	$ 302
Denominator:		
Weighted-average common shares outstanding for basic earnings per share	575,451,665	489,931,178
Weighted-average effect of dilutive securities:		
Weighted-average effect of dilutive securities - Employee equity awards	3,479,425	4,837,833
Weighted-average common shares outstanding for diluted earnings per share	578,931,090	494,769,011
Basic and diluted earnings per share:		
Basic earnings per share	$ 0.41	$ 0.62
Diluted earnings per share	$ 0.40	$ 0.61

In the table above, employee equity awards from our PSU program, which are considered contingently issuable, are included in the computation of dilutive 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 months ended March 31, 2024 and 2023.

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 March 31, 2024 and December 31, 2023.

	March 31, 2024			
	Total	Level 1	Level 2	Level 3
	(in millions)			
European government debt securities	$ 157	$ 157	$ —	$ —
State-owned enterprises and municipal securities	10	—	10	—
Swedish mortgage bonds	6	—	6	—
Total assets at fair value	$ 173	$ 157	$ 16	$ —

	December 31, 2023			
	Total	Level 1	Level 2	Level 3
	(in millions)			
European government debt securities	$ 170	$ 170	$ —	$ —
State-owned enterprises and municipal securities	11	—	11	—
Swedish mortgage bonds	7	—	7	—
Total assets at fair value	$ 188	$ 170	$ 18	$ —

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.

We have certain investments, primarily our investment in OCC, which are 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 March 31, 2024, 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 Facility, as the interest rates on this facility have a variable rate depending on the maturity of the borrowing and the implied underlying reference rate. We are also exposed to changes in interest rates on amounts outstanding from the sale of commercial paper 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 $9.4 billion as of March 31, 2024 and $10.0 billion as of December 31, 2023. The discounted cash flow analyses are based on borrowing rates currently available to us for debt with similar terms and maturities. 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 March 31, 2024 and December 31, 2023, 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 March 31, 2024, clearing member default fund contributions and margin deposits were as follows:

	March 31, 2024		
	Cash Contributions	Non-Cash Contributions	Total Contributions
	(in millions)		
Default fund contributions	$ 953	$ 150	$ 1,103
Margin deposits	4,642	5,776	10,418
Total	$ 5,595	$ 5,926	$ 11,521

Of the total default fund contributions of $1,103 million, Nasdaq Clearing can utilize $906 million as capital resources in the event of a counterparty default. The remaining balance of $197 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 2 to 32 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 $5,595 million as of March 31, 2024 and $7,275 million as of December 31, 2023, in accordance with its investment policy as follows:

	March 31, 2024	December 31, 2023
	(in millions)	
Demand deposits	$ 3,917	$ 5,344
Central bank certificates	904	1,301
Restricted cash and cash equivalents	**$ 4,821**	**$ 6,645**
European government debt securities	433	306
Reverse repurchase agreements	253	209
Multilateral development bank debt securities	88	115
Investments	**$ 774**	**$ 630**
Total	**$ 5,595**	**$ 7,275**

In the table above, the change from December 31, 2023 to March 31, 2024 includes currency translation adjustments of $323 million for restricted cash and cash equivalents and $40 million for investments.

For the three months ended March 31, 2024 and 2023, investments related to default funds and margin deposits, net includes purchases of investment securities of $16,745 million and $10,813 million respectively, and proceeds from sales and redemptions of investment securities of $16,561 million, and $10,725 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.

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 March 31, 2024, 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.

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 comprises 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 March 31, 2024.

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% 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 March 31, 2024;
- 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 March 31, 2024.

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:

	March 31, 2024
	(in millions)
Commodity and seafood options, futures and forwards	$ 42
Fixed-income options and futures	985
Stock options and futures	166
Index options and futures	62
Total	$ 1,255

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 three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
	2024	2023
Commodity and seafood options, futures and forwards	56,497	48,966
Fixed-income options and futures	4,914,000	4,769,546
Stock options and futures	5,909,474	6,080,134
Index options and futures	9,311,902	11,853,151
Total	20,191,873	22,751,797

In the table above, the total volume in cleared power related to commodity contracts was 135 Terawatt hours (TWh) and 86 TWh for the three months ended March 31, 2024 and 2023, respectively.

Resale and Repurchase Agreements Contracts Outstanding and Cleared

The outstanding contract value of resale and repurchase agreements was $5.0 billion and $1.4 billion as of March 31, 2024 and 2023, respectively. The total number of resale and repurchase agreements contracts cleared was 1,264,000 and 1,220,132 for the three months ended March 31, 2024 and 2023, 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	March 31, 2024	December 31, 2023
		(in millions)	
Assets:			
Operating lease assets	Operating lease assets	$ 400	$ 402
Liabilities:			
Current lease liabilities	Other current liabilities	$ 62	$ 62
Non-current lease liabilities	Operating lease liabilities	413	417
Total lease liabilities		$ 475	$ 479

The following table summarizes Nasdaq's lease cost:

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Operating lease cost	$ 21	$ 28
Variable lease cost	8	12
Sublease income	(1)	(1)
Total lease cost	$ 28	$ 39

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 March 31, 2023, we recorded impairment charges of $17 million, of which $10 million related to operating lease asset impairment and is included in operating lease cost in the table above, $2 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 the following years and total of the remaining years to the operating lease liabilities recorded in our Condensed Consolidated Balance Sheets.

	March 31, 2024
	(in millions)
Remainder of 2024	$ 61
2025	70
2026	57
2027	54
2028	52
2029+	276
Total lease payments	$ 570
Less: interest	(95)
Present value of lease liabilities	$ 475

In the table above, interest is calculated using the interest rate for each lease. Present value of lease liabilities includes the current portion of $62 million.

Total lease payments in the table above excludes $89 million of legally binding minimum lease payments for leases signed but not yet commenced. The increase from 2023 related to a new lease signed for our European headquarters in the first quarter of 2024. This lease will commence in 2025 with a lease term of 10 years. These payments also include a data center lease for which we have not yet obtained full control of the leased premises.

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

	March 31, 2024
Weighted-average remaining lease term (in years)	9.5
Weighted-average discount rate	3.8 %

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

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Cash paid for amounts included in the measurement of operating lease liabilities	$ 21	$ 19
Lease assets obtained in exchange for operating lease liabilities	$ 12	$ 7

16. INCOME TAXES

Income Tax Provision

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

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Income tax provision	$ 79	$ 95
Effective tax rate	25.3 %	24.0 %

The higher effective tax rate for the three months ended March 31, 2024, as compared to the prior year period, was primarily due to increased U.S. tax on overseas earnings. 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 return is under audit for tax year 2018 and is subject to examination by the Internal Revenue Service for the years 2020 through 2022. Several state tax returns are currently under examination by the respective tax authorities for the years 2014 through 2022. Non-U.S. tax returns are subject to examination by the respective tax authorities for the years 2018 through 2023.

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 March 31, 2024 and December 31, 2023. 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 $180 million as of March 31, 2024 and $191 million as of December 31, 2023 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

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 alleged potential violations concern the accuracy of NFX's description of one of its market maker incentive programs. 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.

SFSA Inquiry

In September 2023, Nasdaq Stockholm AB, a wholly-owned subsidiary of Nasdaq and the operator of the Nasdaq Stockholm exchange, received a written notification from the SFSA regarding a review initiated with regard to the obligation of Nasdaq Stockholm AB to report suspected market abuse. The review was initiated in connection with an investigation of alleged insider trading in the shares of four companies listed on the Nasdaq Stockholm exchange. The SFSA's preliminary assessment is that Nasdaq Stockholm AB, by not reporting certain suspicious transactions in the four listed companies, breached its obligation under certain provisions of the Market Abuse Regulation and the Swedish Securities Market Act. The SFSA review remains ongoing, and Nasdaq Stockholm AB is cooperating fully, providing applicable responses and engaged in ongoing communications with the SFSA.

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 the fourth quarter of 2023, following the completion of the Adenza acquisition, including its two flagship solutions, AxiomSL and Calypso, we further aligned our business more closely with the foundational shifts that are driving the evolution of the global financial system. We now manage, operate and provide our products and services in three business segments: Capital Access Platforms, Financial Technology and Market Services. 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 table presents certain information regarding our business segments for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Capital Access Platforms		
Total revenues	$ 479	$ 415
Operating income	279	225
Financial Technology		
Total revenues	392	229
Operating income	176	88
Market Services		
Total revenues	794	879
Transaction-based expenses	(557)	(619)
Revenues less transaction-based expenses	237	260
Operating income	133	161
Corporate Items		
Total revenues	9	10
Operating loss	(178)	(62)
Consolidated		
Total revenues	$ 1,674	$ 1,533
Transaction-based expenses	(557)	(619)
Revenues less transaction-based expenses	$ 1,117	$ 914
Operating income	$ 410	$ 412

The items below 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. For the three months ended March 31, 2024, these costs primarily relate to the Adenza acquisition.

- *Restructuring charges:* In the fourth quarter of 2023, following the closing of the Adenza acquisition, our management approved, committed to and initiated a restructuring program, "Adenza Restructuring" to optimize our efficiencies as a combined organization. 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 these plans.

- *Revenues and expenses - divested businesses:* For the three months ended March 31, 2024 and 2023, these amounts include revenues and expenses related to our European power trading and clearing business, following our announcement in June 2023 to sell this business, subject to regulatory approval. Historically, these amounts were included in our Market Services and Capital Access Platforms results.

- *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:

  - *Lease asset impairments:* For the three months ended March 31, 2023, this included 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.

  - *Legal and regulatory matters:* For the three months ended March 31, 2023, this primarily included insurance recoveries related to certain legal matters. The insurance recoveries are recorded in professional and contract services and general, administrative and other expense in the Condensed Consolidated Statements of Income.

  - *Pension settlement charge:* For the three months ended March 31, 2024, we recorded a pre-tax loss as a result of settling our U.S. pension plan. The plan was terminated and partially settled in 2023, with final settlement occurring during the first quarter of 2024. The pre-tax loss is recorded in compensation and benefits in the Condensed Consolidated Statements of Income. See Note 9, "Retirement Plans," for further discussion.

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Revenues - divested businesses	$ 9	$ 10
Expenses:		
Amortization expense of acquired intangible assets	123	38
Merger and strategic initiatives expense	9	2
Restructuring charges	26	18
Lease asset impairments	—	17
Legal and regulatory matters	2	(10)
Pension Settlement	23	—
Expenses - divested businesses	4	6
Other	—	1
Total expenses	$ 187	$ 72
Operating loss	$ (178)	$ (62)

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

19. RESTRUCTURING CHARGES

In the fourth quarter of 2023, following the closing of the Adenza acquisition, our management approved, committed to and initiated a restructuring program, "Adenza Restructuring" to optimize our efficiencies as a combined organization. In connection with this program, we expect to incur approximately $80 million in pre-tax charges principally related to employee-related costs, contract terminations, real estate impairments and other related costs. We expect to achieve benefits primarily in the form of expense and revenue synergies. Costs related to the 2023 Adenza Restructuring program will be recorded as restructuring charges in the Condensed Consolidated Statements of Income.

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 Adenza restructuring program and our divisional alignment program charges for the three months ended March 31, 2024 and 2023 as well as total program costs incurred since the inception date of each program.

	Three Months Ended March 31,	
	2024	2023
	(in millions)	
Asset impairment charges		
Divisional realignment	$ —	$ 12
Consulting services		
Divisional realignment	10	3
Employee-related costs		
Adenza restructuring	4	—
Divisional realignment	3	3
Other		
Adenza restructuring	3	—
Divisional realignment	6	—
Total restructuring charges	$ 26	$ 18
Total Program Costs Incurred		
Adenza restructuring	$ 17	
Divisional realignment	$ 104	

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.

Our organizational structure aligns our businesses 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 into Capital Access Platforms, Financial Technology and Market Services reportable segments. All prior periods have been restated to conform to the current period presentation. See Note 18, "Business Segments," to the condensed consolidated financial statements for further discussion of our reportable segments and geographic data, as well as how management allocates resources, assesses performance and manages these businesses as three separate segments.

First Quarter 2024 and Recent Developments

- ETP AUM linked to Nasdaq indices reached record levels, ending the first quarter at $519 billion.
- Nasdaq maintained its leadership among exchanges in U.S. multi-listed options. In the first quarter of 2024, Nasdaq led all exchanges during the period in total volume traded for U.S. multi-listed equity options. Nasdaq also achieved record revenue in its proprietary index options franchise, driven by record trading volumes.
- In April 2024, the board of directors approved a regular quarterly cash dividend of $0.24 per share on our outstanding common stock, which reflects an increase of 9% from our most recent quarterly cash dividend of $0.22 per share.
- For the three months ended March 31, 2024, we returned $127 million to shareholders through dividend payments.

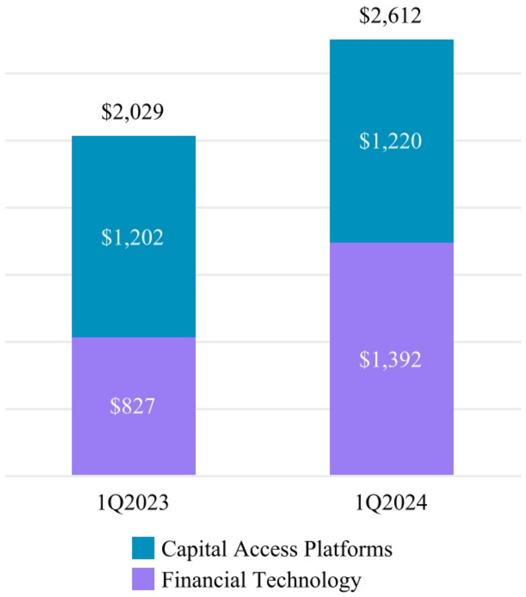
Nasdaq's Operating Results

The following table summarizes our financial performance for the three months ended March 31, 2024 compared to the same period in 2023. The comparability of our results of operations between reported periods is impacted by the acquisition of Adenza in November 2023. See "2023 Acquisition," of Note 4, "Acquisition," to the condensed consolidated financial statements for further discussion. For a detailed discussion of our results of operations, see "Segment Operating Results" below.

	Three Months Ended March 31,		Percentage Change
	2024	2023	
	(in millions, except per share amounts)		
Revenues less transaction-based expenses	$ 1,117	$ 914	22.2 %
Operating expenses	707	502	40.8 %
Operating income	$ 410	$ 412	(0.5)%
Net income attributable to Nasdaq	$ 234	$ 302	(22.5)%
Diluted earnings per share	$ 0.40	$ 0.61	(34.4)%
Cash dividends declared per common share	$ 0.22	$ 0.20	10.0 %

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):

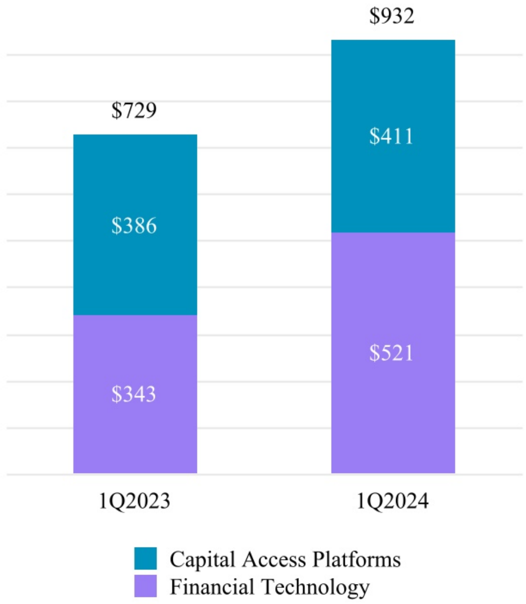


ARR for a given period is the current annualized value derived from subscription contracts with a defined contract value. This excludes contracts that are not recurring, are one-time in nature, or where the contract value fluctuates based on defined metrics. ARR is currently one of our key performance 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. For AxiomSL and Calypso recurring revenue contracts, the amount included in ARR is consistent with the amount that we invoice the customer during the current period. Additionally, for AxiomSL and Calypso recurring revenue contracts that include annual values that increase over time, we include in ARR only the annualized value of components of the contract that are considered active as of the date of the ARR calculation. We do not include the future committed increases in the contract value as of the date of the ARR calculation. 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:

- 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.
- SaaS subscription and support contracts related to Verafin, surveillance, market technology, AxiomSL, Calypso and trade management services, excluding one-time service requests.

The following chart summarizes our quarterly annualized SaaS revenues for Solutions, which comprises our Capital Access Platforms and Financial Technology segments, for March 31, 2024 and 2023 (in millions):



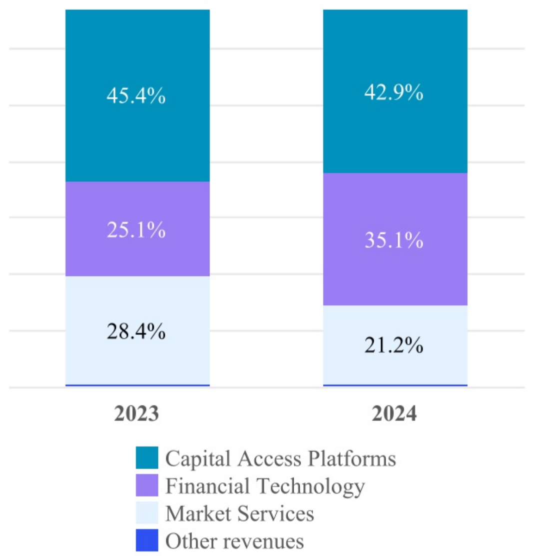
Segment Operating Results

The following table presents our revenues by segment:

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
Capital Access Platforms	$ 479	$ 415	15.4 %
Financial Technology	392	229	71.2 %
Market Services	794	879	(9.7)%
Other revenues	9	10	(10.0)%
Total revenues	$ 1,674	$ 1,533	9.2 %
Transaction rebates	(481)	(487)	(1.2)%
Brokerage, clearance and exchange fees	(76)	(132)	(42.4)%
Total revenues less transaction-based expenses	$ 1,117	$ 914	22.2 %

The following chart presents our Capital Access Platforms, Financial Technology and Market Services segments as a percentage of our total revenues, less transaction-based expenses.

Three Months Ended March 31,



CAPITAL ACCESS PLATFORMS

The following table presents revenues from our Capital Access Platforms segment:

	Three Months Ended March 31, 2024	2023	Percentage Change
	(in millions)		
Data & Listing Services	$ 186	$ 185	0.5 %
Index	168	110	52.7 %
Workflow & Insights	125	120	4.2 %
Total Capital Access Platforms	$ 479	$ 415	15.4 %

Data & Listing Services Revenues

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

	Three Months Ended March 31, 2024	2023
IPOs		
The Nasdaq Stock Market	27	40
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	1	2
Total new listings		
The Nasdaq Stock Market	79	81
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	2	7
Number of listed companies		
The Nasdaq Stock Market	4,020	4,163
Exchanges that comprise Nasdaq Nordic and Nasdaq Baltic	1,203	1,250

	As of March 31, 2024	2023
ARR (in millions)	$ 665	$ 673

In the table above:

- Number of total listed companies on The Nasdaq Stock Market for the three months ended March 31, 2024 and 2023 included 619 and 539 ETPs, respectively. For the three months ended March 31, 2024 and 2023, IPOs included 5 and 10 SPACs, respectively.
- IPOs, new listings (which includes IPOs) and total listed companies for exchanges that comprise Nasdaq Nordic and Nasdaq Baltic represent companies listed on the Nasdaq Nordic and Nasdaq Baltic exchanges and companies listed on the alternative markets of Nasdaq First North.

Data & Listing Services revenues increased in the first quarter of 2024 compared with the same period in 2023 due to new listings and an increase in proprietary data revenues due to our international expansion, partially offset by the impact of 2023 delistings.

Index Revenues

The following table presents key drivers from our Index business:

	As of or Three Months Ended March 31, 2024	2023
Number of licensed ETPs	361	387
TTM change in period end ETP AUM tracking Nasdaq indices (in billions)		
Beginning balance	$ 366	$ 401
Net appreciation (depreciation)	124	(57)
Net impact of ETP sponsor switches	(17)	(1)
Net inflows	46	23
Ending balance	$ 519	$ 366
Quarterly average ETP AUM tracking Nasdaq indices (in billions)	$ 492	$ 341
ARR (in millions)	$ 74	$ 71

In the table above, TTM represents trailing twelve months.

Index revenues increased in the first quarter of 2024 compared with the same period in 2023 primarily due to higher AUM in exchange traded products linked to Nasdaq indices, strong futures capture and trading volume of contracts linked to the Nasdaq-100 Index and a $16 million one-time item related to a legal settlement to recoup revenue.

Workflow & Insights Revenues

The following table presents key drivers from our Workflow & Insights business:

	As of or Three Months Ended March 31 2024	2023
	(in millions)	
ARR	$ 481	$ 458
Quarterly annualized SaaS revenues	411	386

Workflow & Insights revenues increased in the first quarter of 2024 compared with the same period in 2023 primarily due to an increase in analytics revenues. The increase was primarily due to higher Data Link sales and growth in our eVestment product offerings.

FINANCIAL TECHNOLOGY

The following table presents revenues from our Financial Technology segment:

	Three Months Ended March 31, 2024	2023	Percentage Change
	(in millions)		
Financial Crime Management Technology	$ 64	$ 52	23.1 %
Regulatory Technology	90	32	181.3 %
Capital Markets Technology	238	145	64.1 %
Total Financial Technology	$ 392	$ 229	71.2 %

Financial Crime Management Technology Revenues

The following table presents key drivers for Financial Crime Management Technology business:

	As of or Three Months Ended March 31 2024	2023
	(in millions)	
ARR and Quarterly annualized SaaS revenues	$ 243	$ 196

Financial Crime Management Technology revenues increased in the first quarter of 2024 compared to the same period in 2023 primarily due to an increase in demand related to new sales to existing clients and new customer acquisitions, particularly small and medium-sized businesses.

Regulatory Technology Revenues

The following table presents key drivers for Regulatory Technology business:

	As of or Three Months Ended March 31 2024	2023
	(in millions)	
ARR	$ 328	$ 125
Quarterly annualized SaaS revenues	168	110

Regulatory Technology revenues increased in the first quarter of 2024 compared to the same period in 2023 primarily due to the inclusion of revenues from AxiomSL due to our acquisition of Adenza.

Capital Markets Technology Revenues

The following table presents key drivers for Capital Markets Technology business:

	As of or Three Months Ended March 31 2024	2023
	(in millions)	
ARR	$ 821	$ 506
Quarterly annualized SaaS revenues	110	37

Capital Markets Technology revenues increased in the first quarter of 2024 compared with the same period in 2023. The increase was primarily due to the inclusion of revenues from Calypso due to our acquisition of Adenza and higher trade management services revenues mainly driven by demand for colocation and connectivity services and pricing, partially offset by lower market technology revenues related to lower professional fees.

MARKET SERVICES

The following table presents revenues from our Market Services segment:

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
Market Services	$ 794	$ 879	(9.7)%
Transaction-based expenses:			
Transaction rebates	(481)	(487)	(1.2)%
Brokerage, clearance and exchange fees	(76)	(132)	(42.4)%
Total Market Services, net	$ 237	$ 260	(8.8)%

Our Market Services segment includes equity derivatives trading, cash equity trading, Nordic fixed income trading & clearing, U.S. Tape plans and other revenues. The following table presents net revenues by product from our Market Services segment:

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
U.S. Equity Derivative Trading	$ 91	$ 102	(10.8)%
Cash Equity Trading	100	103	(2.9)%
U.S. Tape plans	28	36	(22.2)%
Other	18	19	(5.3)%
Total Market Services, net	$ 237	$ 260	(8.8)%

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

U.S. Equity Derivative Trading

The following table presents 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 March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
U.S. Equity Derivative Trading Revenues	$ 323	$ 327	(1.2)%
Section 31 fees	11	23	(52.2)%
Transaction-based expenses:			
Transaction rebates	(231)	(224)	3.1 %
Section 31 fees	(11)	(23)	(52.2)%
Brokerage and clearance fees	(1)	(1)	— %
U.S. Equity derivative trading revenues, net	$ 91	$ 102	(10.8)%

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 first quarter of 2024 compared with the same period in 2023 primarily due to lower 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 March 31, 2024	Three Months Ended March 31, 2023
U.S. equity options		
Total industry average daily volume (in millions)	43.3	42.4
Nasdaq PHLX matched market share	10.3 %	11.1 %
The Nasdaq Options Market matched market share	5.4 %	7.1 %
Nasdaq BX Options matched market share	2.2 %	3.3 %
Nasdaq ISE Options matched market share	6.3 %	5.8 %
Nasdaq GEMX Options matched market share	2.5 %	2.0 %
Nasdaq MRX Options matched market share	2.5 %	1.5 %
Total matched market share executed on Nasdaq's exchanges	29.2 %	30.8 %

U.S. equity derivative trading revenues and U.S. equity derivative trading revenues less transaction-based expenses decreased in the first quarter of 2024 compared with the same period in 2023. The decrease in U.S. equity derivative trading revenues was primarily due to lower overall matched market share executed on Nasdaq's exchanges, partially offset by a higher gross capture rate and higher industry volumes. The decrease in U.S. equity derivative trading revenues less transaction-based expenses was primarily due to lower capture and lower overall matched market share executed on Nasdaq's exchanges, partially offset by higher industry volumes.

Transaction rebates, in which we credit a portion of the execution charge to the market participant, increased in the first quarter of 2024 compared with the same period in 2023 primarily due to higher rebate capture rate and higher industry trading volumes, partially offset by lower overall U.S. matched market share executed on Nasdaq's exchanges.

Cash Equity Trading Revenues

The following table presents 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 March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
Cash Equity Trading Revenues	$ 350	$ 366	(4.4)%
Section 31 fees	59	102	(42.2)%
Transaction-based expenses:			
Transaction rebates	(245)	(257)	(4.7)%
Section 31 fees	(59)	(102)	(42.2)%
Brokerage and clearance fees	(5)	(6)	(16.7)%
Cash equity trading revenues, net	$ 100	$ 103	(2.9)%

See the discussion in "U.S. Equity Derivative Trading" for an explanation of Section 31 fees for the first quarter of 2024 as compared with the same period in 2023. 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 March 31, 2024	Three Months Ended March 31, 2023
Total U.S.-listed securities		
Total industry average daily share volume (in billions)	11.8	11.8
Matched share volume (in billions)	116.7	121.8
The Nasdaq Stock Market matched market share	15.7 %	15.8 %
Nasdaq BX matched market share	0.4 %	0.4 %
Nasdaq PSX matched market share	0.2 %	0.5 %
Total matched market share executed on Nasdaq's exchanges	16.3 %	16.7 %
Market share reported to the FINRA/Nasdaq Trade Reporting Facility	41.4 %	31.6 %
Total market share	57.7 %	48.3 %
Nasdaq Nordic and Nasdaq Baltic securities		
Average daily number of equity trades executed on Nasdaq's exchanges	666,408	787,715
Total average daily value of shares traded (in billions)	$ 4.7	$ 5.3
Total market share executed on Nasdaq's exchanges	71.7 %	68.9 %

In the table 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 and cash equity trading revenues less transaction-based expenses decreased in the first quarter of 2024 compared with the same period in 2023 primarily due to lower overall U.S. matched market share executed on Nasdaq's exchanges.

Transaction rebates decreased in the first quarter of 2024 compared with the same period in 2023. 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. 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 March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
U.S. Tape plans	$ 28	$ 36	(22.2)%

U.S. Tape plans revenues decreased in the first quarter of 2024 compared with the same period in 2023 primarily due to lower industry-wide usage volume as well as the impact of one-time industry-wide adjustments.

Other

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

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
Other	$ 18	$ 19	(5.3)%

In the table above, other includes transaction rebates of $5 million and $6 million for the three months ended March 31, 2024 and 2023, respectively.

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Nasdaq Nordic and Nasdaq Baltic options and futures		
Total average daily volume of options and futures contracts	241,665	344,141

In the table 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. The revenue sharing arrangement ended in the fourth quarter of 2023.

Other revenues decreased in the first quarter of 2024 compared with the same period in 2023 primarily due to lower European equity derivatives trading volumes.

OTHER REVENUES

For the three months ended March 31, 2024 and 2023, other revenues include revenues related to our European power trading and clearing business, following our announcement in June 2023 to sell this business to the European Energy Exchange, subject to regulatory approval. Prior to June 2023, these revenues were included in our Market Services and Capital Access Platforms segments.

EXPENSES

Operating Expenses

The following table presents our operating expenses:

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
Compensation and benefits	$ 340	$ 256	32.8 %
Professional and contract services	34	32	6.3 %
Computer operations and data communications	67	54	24.1 %
Occupancy	28	39	(28.2)%
General, administrative and other	28	14	100.0 %
Marketing and advertising	11	9	22.2 %
Depreciation and amortization	155	69	124.6 %
Regulatory	9	9	— %
Merger and strategic initiatives	9	2	350.0 %
Restructuring charges	26	18	44.4 %
Total operating expenses	$ 707	$ 502	40.8 %

The increase in compensation and benefits expense for the first quarter of 2024 compared with the same period in 2023 was primarily driven by increased headcount as well as a pre-tax loss of $23 million resulting from the finalization of the termination of our pension plan.

Headcount, including employees of non-wholly owned consolidated subsidiaries, increased to 8,568 employees as of March 31, 2024 from 6,486 as of March 31, 2023, primarily due to our acquisition of Adenza.

Professional and contract services expense remained relatively flat in the first quarter of 2024 compared with the same period in 2023.

Computer operations and data communications expense increased in the first quarter of 2024 compared with the same period in 2023 primarily due to an increase in expenses related to the inclusion of Adenza in the first quarter of 2024 and increased investment in technology, primarily higher costs related to our cloud initiatives and software.

Occupancy expense decreased in the first quarter of 2024 compared with the same period in 2023 primarily due to $12 million in impairment charges and exit related costs recorded in the first quarter of 2023 following the abandonment of leased office space.

General, administrative and other expense increased in the first quarter of 2024 compared with the same period in 2023 primarily due to an insurance recovery related to a legal matter in the first quarter of 2023 and increased expenses related to the inclusion of Adenza in the first quarter of 2024.

Marketing and advertising expense remained relatively flat in the first quarter of 2024 compared with the same period in 2023.

Depreciation and amortization expense increased in the first quarter of 2024 compared with the same period in 2023 primarily due to an increase in amortization due to the intangible assets acquired as part of the Adenza acquisition.

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 months ended March 31, 2024 compared with the same period in 2023 primarily reflects higher expenses related to the Adenza acquisition.

Restructuring charges increased in the first quarter of 2024 compared with the same period in 2023 as a result of charges from our Adenza restructuring program. See Note 19, “Restructuring Charges,” to the condensed consolidated financial statements for further discussion. By 2025, we expect to achieve benefits of the 2022 divisional alignment program through combined annual run-rate operating efficiencies and revenue synergies of approximately $30 million annually. We expect to achieve $80 million of net expense synergies two years following the closing of the Adenza acquisition.

Non-operating Income and Expenses

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

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023	Percentage Change
	(in millions)		
Interest income	$ 6	$ 6	—%
Interest expense	(108)	(36)	200.0 %
Net interest expense	(102)	(30)	240.0 %
Other income	1	—	N/M
Net income from unconsolidated investees	3	14	(78.6)%
Total non-operating expense	$ (98)	$ (16)	512.5 %

N/M - Not meaningful

The following table presents our interest expense:

	Three Months Ended March 31,		Percentage Change
	2024	2023	
	(in millions)		
Interest expense on debt	$ 103	$ 35	194.3 %
Accretion of debt issuance costs and debt discount	4	1	300.0 %
Other fees	1	—	N/M
Interest expense	$ 108	$ 36	200.0 %

N/M - Not meaningful

Interest income remained flat in the first quarter of 2024 compared with the same period in 2023.

Interest expense increased in the first quarter of 2024 compared with the same period in 2023 primarily due to debt issued in June 2023 to finance the Adenza acquisition. See "Financing of the Adenza Acquisition," of Note 8, "Debt Obligations," to the condensed consolidated financial statements for further discussion.

Net income from unconsolidated investees decreased in the first quarter of 2024 compared with the same period in 2023 primarily due to lower income recognized from our equity method investment in OCC. 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 March 31,		Percentage Change
	2024	2023	
	($ in millions)		
Income tax provision	$ 79	$ 95	(16.8)%
Effective tax rate	25.3 %	24.0 %	

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 in this Quarterly Report on Form 10-Q. 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 in the first quarter of 2024 compared with the same period in 2023 primarily reflects costs related to the Adenza acquisition.

- Restructuring charges: In the fourth quarter of 2023, following the closing of the Adenza acquisition, our management approved, committed to and initiated a restructuring program, "Adenza Restructuring" to optimize our efficiencies as a combined organization. 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 Adenza restructuring program and our 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. 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:

  - *Lease asset impairments:* For the first quarter of 2023, this included 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.

  - *Legal and regulatory matters:* For the first quarter of 2023, this primarily included insurance recoveries related to certain legal matters. The insurance recoveries are recorded in professional and contract services and general, administrative and other expense in the Condensed Consolidated Statements of Income.

  - *Pension settlement charge:* In the first quarter of 2024, we recorded a pre-tax loss as a result of settling our U.S. pension plan. The plan was terminated and partially settled in 2023, with final settlement occurring during the first quarter of 2024. The loss is recorded in compensation and benefits in the Condensed Consolidated Statements of Income. See Note 9, "Retirement Plans," to the condensed consolidated financial statements for further discussion.

- *Significant tax items:* The non-GAAP adjustment to the income tax provision for all periods primarily includes the tax impact of each non-GAAP adjustment.

The following table presents 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 March 31,	
	2024	2023
	(in millions, except per share amounts)	
U.S. GAAP net income attributable to Nasdaq	$ 234	$ 302
Non-GAAP adjustments:		
Amortization expense of acquired intangible assets	123	38
Merger and strategic initiatives expense	9	2
Restructuring charges	26	18
Lease asset impairments	—	17
Net income from unconsolidated investees	(3)	(14)
Legal and regulatory matters	2	(10)
Pension settlement charge	23	—
Other	—	1
Total non-GAAP adjustments	$ 180	$ 52
Total non-GAAP tax adjustments	(47)	(15)
Total non-GAAP adjustments, net of tax	$ 133	$ 37
Non-GAAP net income attributable to Nasdaq	$ 367	$ 339
U.S. GAAP effective tax rate	25.3 %	24.0 %
Total adjustments from non-GAAP tax rate	0.3 %	0.6 %
Non-GAAP effective tax rate	25.6 %	24.6 %
Weighted-average common shares outstanding for diluted earnings per share	578.9	494.8
U.S. GAAP diluted earnings per share	$ 0.40	$ 0.61
Total adjustments from non-GAAP net income	0.23	0.08
Non-GAAP diluted earnings per share	$ 0.63	$ 0.69

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.

We expect that our current cash and cash equivalents combined with cash flows provided by operating activities, supplemented with our borrowing capacity and access to additional financing, including our revolving credit facility and our commercial paper program, provides us additional flexibility to meet our ongoing obligations and the capital deployment strategic actions described above, while allowing us to invest in activities and product development that support the long-term growth of our operations.

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 selected measures of our liquidity and capital resources:

	March 31, 2024	December 31, 2023
	(in millions)	
Cash and cash equivalents	$ 388	$ 453
Financial investments	173	188
Working capital	(72)	71

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 March 31, 2024, our cash and cash equivalents of $388 million were primarily invested in money market funds, commercial paper, municipal bonds and bank deposits.

Repatriation of Cash

Our cash and cash equivalents held outside of the U.S. in various foreign subsidiaries totaled $206 million as of March 31, 2024 and $236 million as of December 31, 2023. The remaining balance held in the U.S. totaled $182 million as of March 31, 2024 and $217 million as of December 31, 2023.

Cash Flow Analysis

The following table summarizes the changes in cash flows:

	Three Months Ended March 31,	
	2024	2023
Net cash provided by (used in):	(in millions)	
Operating activities	$ 530	$ 565
Investing activities	(232)	(133)
Financing activities	(1,875)	(613)
Effect of exchange rate changes on cash and cash equivalents and restricted cash and cash equivalents	(311)	29
Net decrease in cash and cash equivalents and restricted cash and cash equivalents	$ (1,888)	$ (152)
Cash and cash equivalents, restricted cash and cash equivalents at beginning of period	7,118	6,994
Cash and cash equivalents, restricted cash and cash equivalents at end of period	$ 5,230	$ 6,842
Reconciliation of Cash, Cash Equivalents and Restricted Cash and Cash Equivalents		
Cash and cash equivalents	$ 388	$ 373
Restricted cash and cash equivalents	21	57
Restricted cash and cash equivalents (default funds and margin deposits)	4,821	6,412
Total	$ 5,230	$ 6,842

Net Cash Provided by Operating Activities

Net cash provided by operating activities primarily consists of net income adjusted for certain non-cash items, including depreciation and amortization expense, expense associated with share-based compensation, deferred income taxes and the effects of changes in working capital. Changes in working capital include changes in 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 $35 million for the first quarter of 2024 compared with the same period in 2023. The decrease was primarily driven by changes in our operating assets and liabilities and timing of various payments and receipts of $(53) million, partially offset by an increase of $18 million driven by the increase in net income adjusted for certain noncash operating activities. The changes in our operating assets and liabilities primarily included higher cash outflows in accounts payable and accrued expenses, primarily due to an increase in our accrued interest and interest paid relating to the senior unsecured notes issued in June 2023 in connection with the Adenza acquisition, as well as various other increased cash outflows impacting our working capital. This was partially offset by lower cash outflows from Section 31 fees payable primarily due to a lower Section 31 fee paid in the first quarter of 2024 as compared with the same period in 2023. Non-cash charges in the first quarter of 2024 primarily included $155 million of depreciation and amortization and $30 million of share-based compensation.

Net Cash Used in Investing Activities

Net cash used in investing activities for the three months ended March 31, 2024 primarily related to net purchases of investments related to default funds and margin deposits of $184 million, purchases of property and equipment of $39 million and $13 million from other investing activities, partially offset by proceeds from the sales and redemptions of trading securities, net, of $4 million.

Net cash used in investing activities for the three months ended March 31, 2023 primarily related to net purchases of investments related to default funds and margin deposits of $89 million, purchases of property and equipment of $40 million and net purchases of trading securities of $14 million, partially offset by proceeds of $10 million from other investing activities.

Net Cash Used in Financing Activities

Net cash used in financing activities for the three months ended March 31, 2024 primarily related to a decrease related to our default funds and margin deposits of $1,317 million, $340 million relating to repayment of the 2023 Term Loan, $127 million of dividend payments to our shareholders, $67 million from repayments of our commercial paper, net and $24 million of payments related to employee shares withheld for taxes.

Net cash used in financing activities for the three months ended March 31, 2023 primarily related to $317 million from repayments of our commercial paper, net, $159 million in repurchases of common stock, $98 million of dividend payments to our shareholders and $40 million of payments related to employee shares withheld for taxes.

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 declared and paid on our common stock.

Financial Investments

Our financial investments totaled $173 million as of March 31, 2024 and $188 million as of December 31, 2023. Of these securities, $160 million as of March 31, 2024 and $168 million as of December 31, 2023 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 March 31, 2024, 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 March 31, 2024, the combined required minimum net capital totaled $1 million and the combined excess capital totaled $24 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 March 31, 2024, our required regulatory capital of $35 million was primarily invested in European government bills and 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 March 31, 2024, other required regulatory capital of $16 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.

Equity and dividends

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:

	2024	2023
First quarter	$ 0.22	$ 0.20

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	March 31, 2024	December 31, 2023
Short-term debt:		(in millions)	
Commercial paper		$ 224	$ 291
Total short-term debt		$ 224	$ 291
Long-term debt - senior unsecured notes:			
2025 Notes	June 2025	$ 498	$ 497
2026 Notes	June 2026	499	499
2028 Notes	June 2028	992	991
2029 Notes	March 2029	644	658
2030 Notes	February 2030	643	658
2031 Notes	January 2031	645	645
2032 Notes	February 2032	801	819
2033 Notes	July 2033	659	674
2034 Notes	February 2034	1,240	1,239
2040 Notes	December 2040	644	644
2050 Notes	April 2050	487	487
2052 Notes	March 2052	541	541
2053 Notes	August 2053	738	738
2063 Notes	June 2063	738	738
2023 Term Loan	November 2026	—	339
2022 Revolving Credit Facility	December 2027	(4)	(4)
Total long-term debt		$ 9,765	$ 10,163
Total debt obligations		$ 9,989	$ 10,454

For the three months ended March 31, 2024, the weighted average interest rate on our debt obligations was approximately 4.0%. This rate can fluctuate based on changes in interest rates for our variable rate debts, changes in foreign currency exchange rates and changes in the amount and duration of outstanding debt. In December 2022, Nasdaq amended and restated its previously issued $1.25 billion five-year revolving credit facility, with a new maturity date of December 16, 2027. In addition to the 2022 Revolving Credit Facility, 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 $180 million as of March 31, 2024 and $191 million as of December 31, 2023 in available liquidity, none of which was utilized.

Financing of the Adenza Acquisition

In June 2023, Nasdaq issued six series of notes for total proceeds of $5,016 million, net of debt issuance costs of $38 million, with various maturity dates ranging from 2025 to 2063. The net proceeds from these notes were used to finance the majority of the cash consideration due in connection with the Adenza acquisition.

In addition, in connection with the financing of the Adenza acquisition, we entered into the 2023 Term Loan agreement. The 2023 Term Loan provided 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 2023 Term Loan, borrowings bear interest on the principal amount outstanding at a variable interest rate based on the SOFR plus an applicable margin that varies with Nasdaq's debt rating. On November 1, 2023, we borrowed $599 million, net of fees, under this term loan towards payment of the cash consideration due in connection with the Adenza acquisition. We made a partial repayment during the fourth quarter 2023 and paid the remaining balance in the first quarter of 2024.

As of March 31, 2024, 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 had no significant changes to our contractual obligations and contingent commitments from those disclosed in "Part I. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report Form 10-K that was filed with the SEC February 21, 2024.

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; and
  - Routing brokerage activities.

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 March 31, 2024, 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 March 31, 2024, the fair value of this portfolio would decline by $3 million.

Debt Obligations

As of March 31, 2024, 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 Facility and our commercial paper program as these facilities have a variable interest rate. As of March 31, 2024, we have $224 million of outstanding borrowings under our commercial paper program. A hypothetical 100 basis points increase in interest rates on our outstanding commercial paper would increase our annual interest expense by approximately $2 million based on borrowings as of March 31, 2024.

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 three months ended March 31, 2024 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 March 31, 2024						
Average foreign currency rate to the U.S. dollar	1.086	0.096	0.742	#	N/A	N/A
Percentage of revenues less transaction-based expenses	7.5%	3.7%	0.7%	3.2%	84.9%	100.0%
Percentage of operating income	14.8%	(3.3)%	(8.5)%	(12.0)%	109.0%	100.0%
Impact of a 10% adverse currency fluctuation on revenues less transaction-based expenses	$(8)	$(4)	$(1)	$(4)	$—	$(17)
Impact of a 10% adverse currency fluctuation on operating income	$(6)	$(1)	$(3)	$(5)	$—	$(15)

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

The adverse impacts shown above should be viewed individually by currency and not in aggregate due to the correlation between changes in exchange rates for certain currencies.

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 March 31, 2024 is presented in the following table:

	Net Assets	Impact of a 10% Adverse Currency Fluctuation
	(in millions)	
Swedish Krona	$ 2,829	$ 283
Norwegian Krone	135	14
British Pound	151	15
Canadian Dollar	105	11
Australian Dollar	98	10
Euro	74	7

In the table above, Swedish Krona includes goodwill of $2,108 million and intangible assets, net of $467 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 March 31, 2024 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 March 31, 2024:

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)
January 2024				
Share repurchase program	—	$ —	—	$ 1,890
Employee transactions	28,751	$ 56.29	N/A	N/A
February 2024				
Share repurchase program	—	$ —	—	$ 1,890
Employee transactions	409,768	$ 55.70	N/A	N/A
March 2024				
Share repurchase program	—	$ —	—	$ 1,890
Employee transactions	—	$ —	N/A	N/A
Total Quarter Ended March 31, 2024				
Share repurchase program	—	$ —	—	$ 1,890
Employee transactions	438,519	$ 55.74	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 March 31, 2024, 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	
4.1	Second Amendment to Nasdaq Stockholders' Agreement, dated as of March 19, 2024, by and between Nasdaq, Inc. and Borse Dubai Limited (incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed on March 20, 2024).
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.
101	The following materials from the Nasdaq, Inc. Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets as of March 31, 2024 and December 31, 2023; (ii) Condensed Consolidated Statements of Income for the three months ended March 31, 2024 and 2023; (iii) Condensed Consolidated Statements of Comprehensive Income for the three months ended March 31, 2024 and 2023; (iv) Condensed Consolidated Statements of Changes in Stockholders' Equity for the three months ended March 31, 2024 and 2023; (v) Condensed Consolidated Statements of Cash Flows for the three months ended March 31, 2024 and 2023; and (vi) notes to condensed consolidated financial statements.
104	Cover Page Interactive Data File, formatted in iXBRL and contained in Exhibit 101.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on May 2, 2024.

Nasdaq, Inc.
(Registrant)

By:	/s/ Adena T. Friedman
Name:	**Adena T. Friedman**
Title:	**Chief Executive Officer**
Date:	May 2, 2024

By:	/s/ Sarah Youngwood
Name:	**Sarah Youngwood**
Title:	**Executive Vice President and Chief Financial Officer**
Date:	May 2, 2024

Exhibit 31.1

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: May 2, 2024

Exhibit 31.2

CERTIFICATION

I, Sarah Youngwood, 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/ Sarah Youngwood
Name:	Sarah Youngwood
Title:	Executive Vice President and Chief Financial Officer

Date: May 2, 2024

Exhibit 32.1

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 March 31, 2024 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 Sarah Youngwood, 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:	May 2, 2024
	/s/ Sarah Youngwood
Name:	Sarah Youngwood
Title:	Executive Vice President and Chief Financial Officer
Date:	May 2, 2024

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.