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: 001-34774

Cboe Global Markets, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**20-5446972**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
433 West Van Buren Street, Chicago, Illinois	**60607**
(Address of Principal Executive Offices)	**(Zip Code)**

(312) 786-5600
(Registrant's telephone number, including area code)

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

Title of each class:	Trading Symbol	Name of each exchange on which registered:
Common Stock, par value $0.01 per share	CBOE	CboeBZX

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 registrant’s classes of common stock, as of the latest practicable date:

Class	April 26, 2024
Common Stock, par value $0.01 per share	105,154,144 shares

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CERTAIN DEFINED TERMS

Throughout this document, unless otherwise specified or the context so requires:

- “Cboe,” “we,” “us,” “our” or “the Company” refers to Cboe Global Markets, Inc. and its subsidiaries.
- “ADV” means average daily volume.
- “ADNV” means average daily notional value.
- “AFM” refers to the Netherlands Authority for the Financial Markets.
- “ATS” refers to an alternative trading system.
- “Bats Global Markets” and “Bats” refer to our wholly-owned subsidiary Bats Global Markets, Inc., now known as Cboe Bats, LLC, and its subsidiaries.
- “BIDS Trading” refers to BIDS Trading, L.P., a wholly-owned subsidiary of Cboe Global Markets, Inc. The ATS operated by BIDS Trading is not a registered national securities exchange or a facility thereof.
- “BYX” refers to Cboe BYX Exchange, Inc., a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “BZX” refers to Cboe BZX Exchange, Inc., a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “C2” refers to Cboe C2 Exchange, Inc., a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Asia Pacific” refers to Cboe Asia Pacific Holdings Limited (formerly known as Chi-X Asia Pacific Holdings Limited), a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Australia” refers to Cboe Australia Pty Ltd. (formerly known as Chi-X Australia Pty. Ltd.), a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Canada” refers to the former Aequitas Innovations, Inc. and Neo Exchange Inc. (commonly referred to as “NEO Exchange”), which were wholly-owned subsidiaries of Cboe Global Markets, Inc.
- “Cboe Canada Inc.” is a wholly-owned subsidiary of Cboe Global Markets, Inc. and a recognized Canadian securities exchange. As of January 1, 2024, the Cboe Canada and MATCHNow entities have been amalgamated into Cboe Canada Inc.
- “Cboe Chi-X Europe” refers to Cboe Chi-X Europe Limited, a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Clear Digital” refers to Cboe Clear Digital, LLC (formerly known as Eris Clearing, LLC), a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Clear Europe” refers to Cboe Clear Europe N.V. (formerly known as European Central Counterparty N.V., formerly defined as “EuroCCP”), a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Digital” refers to Cboe Digital Intermediate Holdings, LLC (formerly known as Eris Digital Holdings, LLC) and its subsidiaries. Prior to rebranding under the Cboe Digital name, Eris Digital Holdings, LLC and its subsidiaries operated under the “ErisX” name.
- “Cboe Europe Equities and Derivatives” refers to the combined businesses of Cboe Europe and Cboe NL.
- “Cboe Europe” refers to Cboe Europe Limited, a wholly-owned subsidiary of Cboe Global Markets, Inc., the UK operator of our Multilateral Trading Facility (“MTF”), our Regulated Market (“RM”), and our Approved Publication Arrangement (“APA”) under its Recognized Investment Exchange (“RIE”) status.
- “Cboe Fixed Income” refers to Cboe Fixed Income Markets, LLC, a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe FX” refers to Cboe FX Markets, LLC, a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Japan” refers to Cboe Japan Ltd. (formerly known as Chi-X Japan Ltd.), a wholly-owned subsidiary of Cboe Global Markets, Inc.

- “Cboe NL” refers to Cboe Europe BV, a wholly-owned subsidiary of Cboe Global Markets, Inc., the Netherlands operator of our MTF, RM, and APA.
- “Cboe Options” refers to Cboe Exchange, Inc., a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe SEF” refers to Cboe SEF, LLC, a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “Cboe Trading” refers to Cboe Trading, Inc., a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “CFE” refers to Cboe Futures Exchange, LLC, a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “CFTC” refers to the U.S. Commodity Futures Trading Commission.
- “CSD Br” refers to CSD Central de Serviços de Registro e Depósito aos Mercados Financeiro e de Capitais S.A., a Brazilian trade repository.
- “CIRO” refers to the Canadian Investment Regulatory Organization.
- “EDGA” refers to Cboe EDGA Exchange, Inc., a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “EDGX” refers to Cboe EDGX Exchange, Inc., a wholly-owned subsidiary of Cboe Global Markets, Inc.
- “ESMA” refers to the European Securities and Markets Authority.
- “Exchanges” refers to Cboe Options, C2, BZX, BYX, EDGX, and EDGA.
- “FASB” refers to the Financial Accounting Standards Board.
- “FCA” refers to the UK Financial Conduct Authority.

- “FINRA” refers to the Financial Industry Regulatory Authority.
- “GAAP” refers to Generally Accepted Accounting Principles in the United States.
- “MATCHNow” refers to the former TriAct Canada Marketplace LP, a wholly-owned subsidiary of Cboe Global Markets, Inc., which was the operator of a Canadian ATS (known as “MATCHNow”).
- “Merger” refers to our acquisition of Bats Global Markets, completed on February 28, 2017.
- “OCC” refers to The Options Clearing Corporation.
- “OPRA” refers to Options Price Reporting Authority, LLC.
- “SEC” refers to the U.S. Securities and Exchange Commission.
- “SPX” refers to our S&P 500 Index exchange-traded options products.
- “TPH” refers to either a Trading Permit Holder or a Trading Privilege Holder.
- “VIX futures” or “VIX options” refers, as applicable, to our Cboe Volatility Index exchange traded options and futures products.

TRADEMARK AND OTHER INFORMATION

Cboe®, Cboe Global Markets®, Cboe Digital®, Cboe Clear®, Cboe LIS®, Bats®, BIDS Trading®, BYX®, BZX®, Cboe Volatility Index®, CFE®, EDGA®, EDGX®, ErisX®, EuroCCP®, Hybrid®, LiveVol®, MATCHNow®, NANO®, Options Institute®, Silexx®, The Exchange for the World Stage℠, VIX®, VIX1D®, and XSP® are registered trademarks, and Cboe Futures Exchange℠, Cboe BIDS Europe℠, C2℠, f(t)options℠, Cboe Hanweck℠, Nanos by Cboe℠, and Trade Alert℠ are service marks of Cboe Global Markets, Inc. and its subsidiaries. Standard & Poor's®, S&P®, S&P 100®, S&P 500® and SPX® are registered trademarks and DSPX℠ is a service mark of Standard & Poor's Financial Services LLC and have been licensed for use by Cboe Exchange, Inc. Dow Jones®, Dow Jones Industrial Average®, DJIA® and Dow Jones Indices are registered trademarks or service marks of Dow Jones Trademark Holdings, LLC, used under license. Russell® and the Russell index names are registered trademarks of Frank Russell Company, used under license. FTSE® and the FTSE indices are trademarks and service marks of FTSE International Limited, used under license. All other trademarks and service marks are the property of their respective owners.

MSCI and the MSCI index names are service marks of MSCI Inc. (“MSCI”) or its affiliates and have been licensed for use by us. Any derivative indices and any financial products based on the derivative indices (“MCSI-Based Products”) are not sponsored, guaranteed or endorsed by MSCI, its affiliates or any other party involved in, or related to, making or compiling such MSCI index. Neither MSCI, its affiliates nor any other party involved in, or related to, making or compiling any MSCI index makes any representations regarding the advisability of investing in such MSCI-Based Products; makes any warranty, express or implied; or bears any liability as to the results to be obtained by any person or any entity from the use of any such MSCI index or any data included therein. No purchaser, seller or holder of any MSCI-Based Product, or any other person or entity, should use or refer to any MSCI trade name, trademark or service mark to sponsor, endorse, market or promote any security without first contacting MSCI to determine whether MSCI’s permission is required.

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. 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. Please refer to the “Risk Factors” in Part II, Item 1A of this Quarterly Report on Form 10-Q and our other filings with the SEC.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve a number of risks and uncertainties. You can identify these statements by forward-looking words such as “may,” “might,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “potential” or “continue,” and the negative of these terms and other comparable terminology. All statements that reflect our expectations, assumptions or projections about the future other than statements of historical fact are forward-looking statements, including statements in “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” These forward-looking statements, which are subject to known and unknown risks, uncertainties and assumptions about us, may include projections of our future financial performance based on our growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from those expressed or implied by the forward-looking statements. In particular, you should consider the risks and uncertainties described under “Risk Factors” in this Quarterly Report and other filings with the SEC.

While we believe we have identified material risks, these risks and uncertainties are not exhaustive. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible to predict all risks and uncertainties, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Some factors that could cause actual results to differ include:

- the loss of our right to exclusively list and trade certain index options and futures products;
- economic, political and market conditions;
- compliance with legal and regulatory obligations;
- price competition and consolidation in our industry;
- decreases in trading or clearing volumes, market data fees or a shift in the mix of products traded on our exchanges;
- legislative or regulatory changes or changes in tax regimes;
- our ability to protect our systems and communication networks from security vulnerabilities and breaches;
- our ability to attract and retain skilled management and other personnel;
- increasing competition by foreign and domestic entities;
- our dependence on and exposure to risk from third parties;
- global expansion of operations;
- factors that impact the quality and integrity of our and other applicable indices;
- our ability to manage our growth and strategic acquisitions or alliances effectively;
- our ability to operate our business without violating the intellectual property rights of others and the costs associated with protecting our intellectual property rights;
- our ability to minimize the risks, including our credit, counterparty, investment, and default risks, associated with operating a European clearinghouse;
- our ability to accommodate trading and clearing volume and transaction traffic, including significant increases, without failure or degradation of performance of our systems;
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misconduct by those who use our markets or our products or for whom we clear transactions;

- challenges to our use of open source software code;
- our ability to meet our compliance obligations, including managing potential conflicts between our regulatory responsibilities and our for-profit status;
- our ability to maintain BIDS Trading as an independently managed and operated trading venue, separate from and not integrated with our registered national securities exchanges;
- damage to our reputation;
- the ability of our compliance and risk management methods to effectively monitor and manage our risks;
- restrictions imposed by our debt obligations and our ability to make payments on or refinance our debt obligations;
- our ability to maintain an investment grade credit rating;
- impairment of our goodwill, long-lived assets, investments or intangible assets;
- the impacts of pandemics;
- the accuracy of our estimates and expectations;

- litigation risks and other liabilities; and
- risks relating to digital assets, including winding down the Cboe Digital spot crypto market, operating a digital asset futures clearinghouse, cybercrime, changes in digital asset regulation, and fluctuations in digital asset prices.

For a detailed discussion of these and other factors that might affect our performance, see Part II, Item 1A of this Report. We do not undertake, and expressly disclaim, any duty to update any forward-looking statement whether as a result of new information, future events or otherwise, except as required by law. We caution you not to place undue reliance on the forward-looking statements, which speak only as of the date of this filing.

PART I—FINANCIAL INFORMATION
Item 1. Financial Statements.
Cboe Global Markets, Inc. and Subsidiaries
Condensed Consolidated Balance Sheets
(unaudited)
(in millions, except par value data and share amounts)

	March 31, 2024	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 536.3	$ 543.2
Financial investments	58.8	57.5
Accounts receivable, net of $5.6 allowance for credit losses at March 31, 2024 and $4.5 at December 31, 2023	370.2	337.3
Margin deposits, clearing funds, and interoperability funds	1,544.6	848.8
Digital assets - safeguarded assets	93.3	51.3
Income taxes receivable	6.8	74.5
Other current assets	65.1	66.7
Total current assets	2,675.1	1,979.3
Investments	361.8	345.3
Property and equipment, net	106.0	109.2
Property held for sale	8.7	8.7
Operating lease right of use assets	130.6	136.6
Goodwill	3,133.8	3,140.6
Intangible assets, net	1,526.7	1,561.5
Other assets, net	209.4	206.3
Total assets	$ 8,152.1	$ 7,487.5
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable and accrued liabilities	$ 304.7	$ 412.7
Section 31 fees payable	42.7	51.9
Deferred revenue	12.9	5.9
Margin deposits, clearing funds, and interoperability funds	1,544.6	848.8
Digital assets - safeguarded liabilities	93.3	51.3
Income taxes payable	—	1.0
Current portion of contingent consideration liabilities	8.8	11.8
Total current liabilities	2,007.0	1,383.4
Long-term debt	1,439.6	1,439.2
Non-current unrecognized tax benefits	257.4	243.8
Deferred income taxes	214.2	217.8
Non-current operating lease liabilities	144.3	150.8
Other non-current liabilities	65.5	67.5
Total liabilities	4,128.0	3,502.5
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.01 par value: 20,000,000 shares authorized, no shares issued and outstanding at March 31, 2024 and December 31, 2023	—	—
Common stock, $0.01 par value: 325,000,000 shares authorized, 105,931,791 and 105,341,315 shares issued and outstanding, respectively at March 31, 2024 and 105,556,817 and 105,527,815 shares issued and outstanding, respectively at December 31, 2023	1.1	1.1
Common stock in treasury, at cost, 590,476 shares at March 31, 2024 and 29,002 shares at December 31, 2023	(125.3)	(10.5)
Additional paid-in capital	1,495.3	1,478.6
Retained earnings	2,676.2	2,525.2
Accumulated other comprehensive loss, net	(23.2)	(9.4)
Total stockholders' equity	4,024.1	3,985.0

Total liabilities and stockholders’ equity	$ 8,152.1	$ 7,487.5

See accompanying notes to condensed consolidated financial statements.

Cboe Global Markets, Inc. and Subsidiaries
Condensed Consolidated Statements of Income
(unaudited)
(in millions, except per share data)

	Three Months Ended March 31,	
	2024	2023
Revenues:		
Cash and spot markets	$ 380.9	$ 407.0
Data and access solutions	140.2	129.4
Derivatives markets	436.1	451.8
Total revenues	957.2	988.2
Cost of revenues:		
Liquidity payments	338.8	371.8
Routing and clearing	16.0	24.0
Section 31 fees	42.1	74.9
Royalty fees and other cost of revenues	58.2	46.1
Total cost of revenues	455.1	516.8
Revenues less cost of revenues	502.1	471.4
Operating expenses:		
Compensation and benefits	115.3	110.4
Depreciation and amortization	37.3	41.4
Technology support services	24.2	22.2
Professional fees and outside services	21.5	23.9
Travel and promotional expenses	7.5	6.2
Facilities costs	6.5	7.6
Acquisition-related costs	0.6	6.4
Other expenses	6.8	5.4
Total operating expenses	219.7	223.5
Operating income	282.4	247.9
Non-operating income (expenses):		
Interest expense	(13.0)	(17.1)
Interest income	4.1	2.0
Earnings in investments	14.0	15.3
Other income, net	4.6	0.1
Income before income tax provision	292.1	248.2
Income tax provision	82.6	74.8
Net income	209.5	173.4
Net income allocated to participating securities	(1.2)	(0.8)
Net income allocated to common stockholders	$ 208.3	$ 172.6
Basic earnings per share	$ 1.97	$ 1.63
Diluted earnings per share	$ 1.96	$ 1.63
Basic weighted average shares outstanding	105.6	105.9
Diluted weighted average shares outstanding	106.1	106.2

See accompanying notes to condensed consolidated financial statements.

Cboe Global Markets, Inc. and Subsidiaries
Condensed Consolidated Statements of Comprehensive Income
(unaudited)
(in millions)

	Three Months Ended March 31,	
	2024	**2023**
Net income	$ 209.5	$ 173.4
Other comprehensive (loss) income, net of income tax:		
Foreign currency translation adjustments	(13.5)	19.8
Unrealized holding losses on financial investments	(0.5)	(0.9)
Post-retirement benefit obligations	0.2	(0.1)
Comprehensive income	195.7	192.2
Comprehensive income allocated to participating securities	(1.2)	(0.8)
Comprehensive income allocated to common stockholders, net of income tax	$ 194.5	$ 191.4

See accompanying notes to condensed consolidated financial statements.

Cboe Global Markets, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Stockholders' Equity
Three months ended March 31, 2024 and March 31, 2023
(unaudited)
(in millions, except per share amounts)

	Preferred Stock	Common Stock	Treasury Stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss, net	Total stockholders' equity
Balance at December 31, 2023	$ —	$ 1.1	$ (10.5)	$1,478.6	$2,525.2	$ (9.4)	$ 3,985.0
Cash dividends on common stock of $0.55 per share	—	—	—	—	(58.5)	—	(58.5)
Stock-based compensation	—	—	—	11.7	—	—	11.7
Repurchases of common stock from employee stock plans	—	—	(25.5)	—	—	—	(25.5)
Purchase of common stock	—	—	(89.3)	—	—	—	(89.3)
Shares issued under employee stock purchase plan	—	—	—	5.0	—	—	5.0
Net income	—	—	—	—	209.5	—	209.5
Other comprehensive loss	—	—	—	—	—	(13.8)	(13.8)
Balance at March 31, 2024	$ —	$ 1.1	$(125.3)	$1,495.3	$2,676.2	$ (23.2)	$ 4,024.1

	Preferred Stock	Common Stock	Treasury Stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss, net	Total stockholders' equity
Balance at December 31, 2022	$ —	$ 1.1	$(131.0)	$1,455.1	$2,171.1	$ (31.0)	$ 3,465.3
Cash dividends on common stock of $0.50 per share	—	—	—	—	(53.3)	—	(53.3)
Stock-based compensation	—	—	—	16.9	—	—	16.9
Repurchases of common stock from employee stock plans	—	—	(12.7)	—	—	—	(12.7)
Purchase of common stock	—	—	(70.0)	—	—	—	(70.0)
Shares issued under employee stock purchase plan	—	—	—	0.3	—	—	0.3
Net income	—	—	—	—	173.4	—	173.4

Other comprehensive income	—	—	—	—	—	18.8	18.8
Balance at March 31, 2023	$ —	$ 1.1	$(213.7)	$1,472.3	$2,291.2	$ (12.2)	$ 3,538.7

See accompanying notes to condensed consolidated financial statements.

Cboe Global Markets, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows
(unaudited)
(in millions)

	Three Months Ended March 31,	
	2024	2023
Cash flows from operating activities:		
Net income	$ 209.5	$ 173.4
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	37.3	41.4
Amortization of debt issuance cost and debt discount	0.6	0.7
Unrealized gain on available-for-sale financial investments	(0.4)	(0.9)
Provision for accounts receivable credit losses	1.5	0.6
Benefit for deferred income taxes	(1.7)	(10.6)
Stock-based compensation expense	11.7	16.9
Impairment of property and equipment	0.3	—
Gain from Cboe Digital syndication	(0.4)	—
Equity earnings in investments	(12.8)	(14.4)
Changes in assets and liabilities:		
Accounts receivable	(40.7)	(20.2)
Restricted cash and cash equivalents and customer bank deposits (included in margin deposits, clearing funds, and interoperability funds)	730.0	898.2
Income taxes receivable	67.7	43.8
Other current assets	1.2	(2.2)
Other assets	(5.5)	(8.4)
Accounts payable and accrued liabilities	(113.5)	(56.0)
Section 31 fees payable	(9.2)	(71.7)
Deferred revenue	7.0	9.9
Income taxes payable	(1.1)	15.7
Unrecognized tax benefits	13.6	14.3
Other liabilities	0.5	0.3
Net cash provided by operating activities	895.6	1,030.8
Cash flows from investing activities:		
Purchases of available-for-sale financial investments	(23.0)	(48.8)
Proceeds from maturities of available-for-sale financial investments	20.6	64.4
Proceeds from sale of intangible assets	—	0.8
Proceeds from insurance	0.1	—
Contributions to investments	(3.7)	(2.1)
Purchases of property and equipment and leasehold improvements	(7.3)	(12.4)
Net cash (used in) provided by investing activities	(13.3)	1.9
Cash flows from financing activities:		
Cash dividends on common stock	(58.5)	(53.3)
Repurchases of common stock from employee stock plans	(25.5)	(12.7)
Payments of contingent consideration related to acquisitions	(3.0)	(4.9)
Shares issued under employee stock purchase plan	(5.0)	(0.3)
Purchase of common stock	(76.6)	(70.0)
Net cash used in financing activities	(168.6)	(141.2)
Effect of foreign currency exchange rates on cash, cash equivalents, and restricted cash and cash equivalents	(25.0)	21.1
Increase in cash, cash equivalents, and restricted cash and cash equivalents	688.7	912.6
Cash, cash equivalents, and restricted cash and cash equivalents:		
Beginning of period	1,397.1	979.9
End of period	$ 2,085.8	$ 1,892.5
Reconciliation of cash, cash equivalents, and restricted cash and cash equivalents:		
Cash and cash equivalents	536.3	435.6
Restricted cash and cash equivalents (included in margin deposits, clearing funds, and interoperability funds)	1,524.9	1,428.4
Restricted cash and cash equivalents (included in other current assets)	4.9	4.1
	19.7	24.4

Customer bank deposits (included in margin deposits, clearing funds, and interoperability funds)		
Total	$ 2,085.8	$ 1,892.5
Supplemental disclosure of cash transactions:		
Cash paid for income taxes, net of refunds	$ 76.6	$ 9.3
Cash paid for interest	17.4	21.4
Supplemental disclosure of noncash financing activities:		
Unsettled purchases of common stock	$ (12.7)	$ —

See accompanying notes to condensed consolidated financial statements.

Cboe Global Markets, Inc. and Subsidiaries
Notes to Condensed Consolidated Financial Statements (unaudited)

1. ORGANIZATION AND BASIS OF PRESENTATION

Cboe Global Markets, Inc., the world's leading derivatives and securities exchange network, delivers cutting-edge trading, clearing and investment solutions to people around the world. Cboe provides trading solutions and products in multiple asset classes, including equities, derivatives, FX, and digital assets, across North America, Europe, and Asia Pacific. Above all, the Company is committed to building a trusted, inclusive global marketplace that enables people to pursue a sustainable financial future.

Cboe's subsidiaries include the largest options exchange and the third largest stock exchange operator in the U.S. In addition, the Company operates Cboe Europe, one of the largest stock exchanges by value traded in Europe, and owns Cboe Clear Europe, a leading pan-European equities and derivatives clearinghouse, BIDS Holdings, which owns a leading block-trading ATS by volume in the U.S., and provides block-trading services with Cboe market operators in Europe, Canada, Australia, and Japan, Cboe Australia, an operator of trading venues in Australia, Cboe Japan, an operator of trading venues in Japan, Cboe Digital, an operator of a U.S. based digital asset spot market and a regulated futures exchange, Cboe Clear Digital, an operator of a regulated clearinghouse, and Cboe Canada Inc., a recognized Canadian securities exchange. Cboe subsidiaries also serve collectively as a leading market globally for exchange-traded products ("ETPs") listings and trading.

The Company is headquartered in Chicago with offices in Amsterdam, Belfast, Hong Kong, Kansas City, London, Manila, New York, San Francisco, Sarasota Springs, Singapore, Sydney, Tokyo, and Toronto.

Basis of Presentation

These interim unaudited condensed consolidated financial statements have been prepared in accordance with GAAP as established by FASB for interim financial information and with the instructions to Form 10-Q and should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2023. The results of operations for interim periods are not necessarily indicative of the results of operations for the full year.

The preparation of condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities, and reported amounts of revenues and expenses. On an ongoing basis, management evaluates its estimates based upon historical experience, observance of trends, information available from outside sources and various other assumptions that management believes to be reasonable under the circumstances. Actual results may differ from these estimates under different conditions or assumptions.

In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation of financial position, results of operations and cash flows at the dates and for the periods presented have been included.

Segment Information

The Company operates six reportable business segments: Options, North American Equities, Europe and Asia Pacific, Futures, Global FX, and Digital, which is reflective of how the Company's chief operating decision-maker reviews and operates the business. See Note 14 (“Segment Reporting”) for more information.

Update to Significant Accounting Policies

There have been no new or material changes to the significant accounting policies discussed for the Company for the periods presented, that are of significance, or potential significance, to the Company.

Recent Accounting Pronouncements – Adopted

There were no applicable material accounting pronouncements that have been adopted during the three month period ended March 31, 2024.

Recent Accounting Pronouncements - Issued, not yet Adopted

In November 2023, the FASB issued ASU 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures. This ASU improves reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. For public entities, the update is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. The Company expects to adopt the update for the consolidated financial statements issued for the year ending December 31, 2024 and does not anticipate a material impact to the consolidated financial statements.

In December 2023, the FASB issued ASU 2023-08, Intangibles – Goodwill and Other – Crypto Assets (Subtopic 350-60): Accounting for and Disclosure of Crypto Assets. This ASU addresses the accounting and disclosure requirements for certain crypto assets and requires entities to subsequently measure certain crypto assets at fair value, with changes in fair value recorded in earnings in each reporting period. In addition, entities are required to provide additional disclosures about the holdings of certain crypto assets. For public entities, the update is effective for fiscal years and interim periods within those fiscal years, beginning after December 15, 2024. The Company expects to adopt the update for the condensed consolidated financial statements issued in the first quarter of 2025 and does not anticipate a material impact to the condensed consolidated financial statements.

In December 2023, the FASB issued ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures. This ASU addresses investor requests for more transparency about income tax information through improvements to income tax disclosures primarily related to the rate reconciliation and income taxes paid information. For public entities, the update is effective for fiscal years beginning after December 15, 2024. The Company expects to adopt the update for the consolidated financial statements issued for the year ending December 31, 2025 and does not anticipate a material impact to the consolidated financial statements.

On March 6, 2024, the SEC adopted new climate disclosure rules, which requires companies to publish information that describes the climate-related risks that are reasonably likely to have a material impact on a company's business or consolidated financial statements. The final rules would require companies to disclose material climate-related risks, activities to mitigate or adapt to such risks, information about the companies' board of directors' oversight of climate-related risks and management's role in managing climate-related risks, and information on any climate-related targets or goals that are material to the companies' business, results of operations or financial condition. On March 15, 2024, the U.S. Court of Appeals for the Fifth Circuit granted an administrative stay of the SEC's final Climate Disclosure Rules, in response to legal challenges unaffiliated with the Company. The Company expects to review any updates regarding the Court stay and update the financial statements and disclosures accordingly based on the outcome of the ongoing legal proceedings related to these rules.

There were no other recent applicable material accounting pronouncements that have been issued, but not yet adopted as of March 31, 2024.

2. REVENUE RECOGNITION

The Company presents three financial statement revenue captions within its condensed consolidated statements of income that reflect the Company's diversified products, expansive geographical reach, and overall business strategy. Below is a summary of the Company's financial statement revenue captions:

Revenues

- Cash and spot markets – includes associated transaction and clearing fees, the portion of market data fees relating to associated U.S. tape plan market data fees, associated regulatory fees, and associated other revenue from Cboe’s North American Equities, Europe and Asia Pacific, Global FX, and Digital segments.

- Data and access solutions – includes access and capacity fees, proprietary market data fees, and associated other revenue across Cboe’s six segments.

- Derivatives markets – includes associated transaction and clearing fees, the portion of market data fees relating to associated U.S. tape plan market data fees, associated regulatory fees, and associated other revenue from Cboe’s Options, Futures, Europe and Asia Pacific, and Digital segments.

The Company's main types of revenue contracts consist of the following, which are disaggregated from the condensed consolidated statements of income.

- Transaction and clearing fees – Transaction fees represent fees charged by the Company for meeting the point-in-time performance obligation of executing a trade on its markets. These fees can be variable based on trade volume tiered discounts; however, as all tiered discounts are calculated monthly, the actual discount is recorded on a monthly basis. Transaction fees are recognized across all segments. Clearing fees, which include settlement fees, represent fees charged by the Company for meeting the point-in-time performance obligation for transactions cleared and settled by Cboe Clear Europe and Cboe Clear Digital, the derivatives clearing organization for Cboe Digital. Clearing fees can be variable based on trade volume tiered discounts; however, as all tiered discounts are calculated monthly, the actual discount is recorded on a monthly basis. Clearing fees are recognized in the Europe and Asia Pacific and Digital segments. Transaction and clearing fees, as well as any tiered volume discounts, are calculated and billed monthly in accordance with the Company's published fee schedules.

- Access and capacity fees – Access and capacity fees represent fees assessed for the opportunity to trade, including fees for trading-related functionality across all segments, terminal and other equipment rights, maintenance services, trading floor space and telecommunications services. Facilities, systems services and other fees are generally monthly fee-based. These fees are billed monthly in accordance with the Company's published fee schedules and recognized on a monthly basis when the performance obligations are met. All access and capacity fees associated with the trading floor are recognized over time in the Options segment, as the performance obligations are met.

- Market data fees – Market data fees represent the fees received by the Company from the U.S. tape plans and fees charged to customers for proprietary market data. Fees from the U.S. tape plans are collected monthly based on published fee schedules and distributed quarterly to the Exchanges based on a known formula. A contract for proprietary market data is entered into and charged on a monthly basis in accordance with the Company's published fee schedules as the service is provided. Proprietary market data also includes revenue from various licensing agreements. Both types of market data are satisfied over time, and revenue is recognized on a monthly basis as the customer receives and consumes the benefit as the Company provides the data to meet its performance obligation. U.S. tape plan market data is recognized in the North American Equities and Options segments. Proprietary market data fees are recognized across all segments.

- Regulatory fees – There are two types of regulatory fees that the Company recognizes. The first type represents fees collected by the Company to cover the Section 31 fees charged to the Exchanges by the SEC for meeting the point-in-time performance obligation of executing a trade on its markets. The fees charged to customers are based on the fee set by the SEC per notional value of U.S. Equities exchange transactions and per round turn of Options transactions executed on the Company's U.S. securities markets. These fees are calculated and billed monthly and are recognized in the North American Equities and Options segments. As the Exchanges are responsible for the ultimate payment to the SEC, the Exchanges are considered the principal in these transactions. Regulatory fees also include the options regulatory fee ("ORF") which supports the Company's regulatory oversight function in the Options segment, along with other miscellaneous regulatory fees, and neither can be used for non-regulatory purposes. The ORF and miscellaneous fees are recognized when the performance obligation is fulfilled.

- Other revenue – Other revenue primarily includes interest income on investments (including from investments of interoperability fund deposits) from clearing operations, all fees related to the trade reporting facility operated in the Europe and Asia Pacific segment, listing fees, and revenue associated with advertisements through the Company’s websites.

All revenue recognized in the condensed consolidated statements of income is considered to be revenue from contracts with customers, with the exception of interest income from clearing operations. The following table depicts the disaggregated revenue contract types listed above within each respective financial statement caption in the condensed consolidated statements of income (in millions):

	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Three Months Ended March 31, 2024				
Transaction and clearing fees	$ 305.2	$ —	$ 413.3	$ 718.5
Access and capacity fees	—	90.1	—	90.1
Market data fees	16.0	49.3	6.7	72.0
Regulatory fees	34.9	—	15.3	50.2
Other revenue	24.8	0.8	0.8	26.4
	$ 380.9	$ 140.2	$ 436.1	$ 957.2

	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Three Months Ended March 31, 2023				
Transaction and clearing fees	$ 311.9	$ —	$ 420.6	$ 732.5
Access and capacity fees	—	84.2	—	84.2
Market data fees	17.9	44.5	8.5	70.9
Regulatory fees	62.6	—	21.9	84.5
Other revenue	14.6	0.7	0.8	16.1
	$ 407.0	$ 129.4	$ 451.8	$ 988.2

The following table depicts the disaggregation of revenue according to segment (in millions):

	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Total
Three Months Ended March 31, 2024							
Transaction and clearing fees	$389.8	$ 251.7	$ 38.8	$ 23.5	$ 15.5	$ (0.8)	$ 718.5
Access and capacity fees	41.7	29.7	10.1	5.7	2.8	0.1	90.1
Market data fees	29.1	30.7	9.7	2.2	0.3	—	72.0
Regulatory fees	15.3	34.9	—	—	—	—	50.2
Other revenue	1.5	2.6	22.1	—	0.2	—	26.4
	$477.4	$ 349.6	$ 80.7	$ 31.4	$ 18.8	$ (0.7)	$ 957.2
Timing of revenue recognition							
Services transferred at a point in time	$406.6	$ 289.2	$ 60.9	$ 23.5	$ 15.7	$ (0.8)	$ 795.1
Services transferred over time	70.8	60.4	19.8	7.9	3.1	0.1	162.1
	$477.4	$ 349.6	$ 80.7	$ 31.4	$ 18.8	$ (0.7)	$ 957.2
Three Months Ended March 31, 2023							
Transaction and clearing fees	$395.8	$ 255.0	$ 42.1	$ 24.8	$ 15.8	$ (1.0)	$ 732.5

Access and capacity fees	38.9	28.4	8.9	5.3	2.6	0.1	84.2
Market data fees	28.0	31.9	8.7	2.0	0.3	—	70.9
Regulatory fees	21.9	62.6	—	—	—	—	84.5
Other revenue	1.5	1.9	12.6	—	0.1	—	16.1
	$486.1	$ 379.8	$ 72.3	$ 32.1	$ 18.8	$ (0.9)	$ 988.2
Timing of revenue recognition							
Services transferred at a point in time	$419.2	$ 319.5	$ 54.7	$ 24.8	$ 15.9	$ (1.0)	$ 833.1
Services transferred over time	66.9	60.3	17.6	7.3	2.9	0.1	155.1
	$486.1	$ 379.8	$ 72.3	$ 32.1	$ 18.8	$ (0.9)	$ 988.2

Contract liabilities as of March 31, 2024 primarily represent prepayments of transaction fees and certain access and capacity and market data fees to the Exchanges. The revenue recognized from contract liabilities and the remaining balance is shown below (in millions):

	Balance at December 31, 2023	Cash Additions	Revenue Recognized	Balance at March 31, 2024
Liquidity provider sliding scale (1)	$ —	$ 7.2	$ (1.8)	$ 5.4
Other, net	6.1	7.3	(5.7)	7.7
Total deferred revenue	$ 6.1	$ 14.5	$ (7.5)	$ 13.1

(1) Liquidity providers are eligible to participate in the sliding scale program, which involves prepayment of transaction fees, and to receive reduced fees based on the achievement of certain volume thresholds within a calendar month. These transaction fees are amortized and recorded ratably as the transactions occur over the period.

3. ACQUISITIONS

Acquisition-related costs relate to acquisitions and other strategic opportunities. The Company expensed $0.6 million and $6.4 million of acquisition-related costs during the three months ended March 31, 2024 and 2023, respectively, all of which related to professional fees and other expenses. These acquisition-related expenses are included in acquisition-related costs in the condensed consolidated statements of income.

4. INVESTMENTS

As of March 31, 2024 and December 31, 2023, the Company's investments were comprised of the following (in millions):

	March 31, 2024	December 31, 2023
Equity method investments:		
Investment in 7Ridge Investments 3 LP	$ 307.5	$ 292.0
Total equity method investments	307.5	292.0
Other equity investments:		
Investment in Eris Innovations Holdings, LLC	20.0	20.0
Investment in Globacap Technology Limited	16.0	16.0
Investment in CSD Br	5.9	5.9
Investment in Coin Metrics Inc.	5.0	5.0
Investment in Cboe Vest Financial Group, Inc.	2.9	2.9
Investment in OCC	0.3	0.3
Other equity investments	4.2	3.2
Total other equity investments	54.3	53.3
Total investments	$ 361.8	$ 345.3

Equity Method Investments

The Company's investment in the 7Ridge Investments 3 LP ("7Ridge Fund"), represents a nonconsolidated variable interest entity ("VIE"). The Company has determined that consolidation of the VIE is not required as the Company is not the primary beneficiary of the 7Ridge Fund, as it does not have controlling financial interest and lacks the ability to unilaterally remove the general partner, 7Ridge Investments 3 GP Limited, direct material strategic decisions, or dissolve the entity (i.e., the Company does not have unilateral substantive “kick-out” or “liquidation” rights).

The Company’s interest in the 7Ridge Fund is equal to the carrying value of the investment as of March 31, 2024, or $307.5 million, which includes periodic capital contributions to the 7Ridge Fund, as well as the Company’s share of 7Ridge Fund’s profit or loss, including gains or losses arising from the fair value measurement of the investment held by the 7Ridge Fund, booked against the investment account. The carrying value of the investment is included in investments within the condensed consolidated balance sheets. The Company’s maximum loss exposure, in the unlikely event that all of the VIE’s assets become worthless, is limited to the carrying value of Company’s investment.

Other Equity Investments

The carrying value of other equity investments is included in investments in the condensed consolidated balance sheets. The Company accounts for these investments using the measurement alternative given the absence of readily determinable fair values for the respective investments and due to the Company's inability to exercise significant influence over the investments based upon the respective ownership interests held.

5. PROPERTY AND EQUIPMENT, NET

Property and equipment, net consisted of the following as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024	December 31, 2023
Construction in progress	$ 3.2	$ 1.5
Furniture and equipment	324.6	322.9
Total property and equipment	327.8	324.4
Less accumulated depreciation	(221.8)	(215.2)
Property and equipment, net	$ 106.0	$ 109.2

Depreciation expense using the straight-line method was $8.6 million and $8.5 million for the three months ended March 31, 2024 and 2023, respectively.

Effective July 27, 2023, the Company entered into an agreement to sell its former headquarters building, subject to customary closing conditions. The Company classified the associated land, building, and certain furniture and equipment of the former headquarters location as held for sale, performed an impairment assessment, and ceased depreciation effective August 1, 2023. Negotiations are ongoing and the Company expects to complete the sale in mid-2024. In connection with the sale, the Company anticipates providing seller financing to the purchaser in the form of a promissory note for a portion of the purchase price of the former headquarters. As of March 31, 2024, the total value of the property held for sale on the condensed consolidated balance sheet was $8.7 million.

6. CREDIT LOSSES

Current expected credit losses are estimated for accounts receivable and certain notes receivable.

Accounts receivable represent amounts due from the Company's member firms. The allowance for accounts receivable credit losses is calculated using an aging schedule.

The allowance for notes receivable credit losses is associated with notes receivable included within other assets, net on the condensed consolidated balance sheets and relates to promissory notes to fund the implementation and operation of the consolidated audit trail ("CAT"), a portion of which notes are expected to be repaid by Consolidated Audit Trail, LLC ("CATLLC"). CAT involves the creation of an audit trail that is required by Rule 613 of the Securities Exchange Act of 1934, and it strives to enhance regulators' ability to monitor trading activity in the U.S. markets through a phased implementation. CATLLC is a national market system plan that was created by self-regulatory organizations that include the Company's six Exchanges, the other U.S. national securities exchanges and FINRA (who collectively are referred to as the "Plan Participants") to implement and operate the CAT. The funding of the CAT's implementation and operations is ultimately expected to be provided by Plan Participants and by broker-dealers (who are referred to as “Industry Members”). However, to date the funding of the CAT has been provided solely by the SROs/Plan Participants in exchange for promissory notes.

On September 6, 2023, the SEC issued an order approving an amendment to the CAT national market system plan to implement a revised funding model (“CAT Funding Model”) for CATLLC to fund the CAT. The approved CAT Funding Model contemplates two categories of CAT fees calculated based on the “executed equivalent shares” of transactions in eligible securities: (i) CAT fees assessed by CATLLC to Industry Members who are CAT Executing Brokers (the brokers responsible for executing each side of the transaction) to recover a portion of historical CAT costs previously paid to CATLLC by the Plan Participants; and (ii) CAT fees assessed by CATLLC to CAT Executing Brokers and Plan Participants to fund a portion of prospective CAT costs. To date, the funding of the CAT has solely been provided by the SROs/Plan Participants in exchange for promissory notes. The funds generated from the assessment of CAT fees to recover a portion of historical CAT costs will be used by CATLLC to repay a portion of the promissory notes to the Plan Participants.

The Plan Participants submitted fee filings during the first week of January 2024 with the SEC to implement the applicable transaction-based fee rates that are to be assessed by CATLLC to CAT Executing Brokers to recover a portion of historical CAT costs incurred prior to 2022. Additional CAT fees related to a portion of other historical CAT costs and to a portion of prospective CAT costs are planned to be introduced at a later time through separate fee filings submitted by the Plan Participants. Once the CAT fee related to ongoing prospective CAT costs becomes effective through fee filings submitted by the Plan Participants, it is anticipated the Plan Participants will no longer continue to fund CATLLC in exchange for promissory notes. On January 17, 2024, the SEC issued orders suspending each Plan Participant's fee filing and instituting proceedings to determine whether to approve or disapprove the fees, which orders were published in the Federal Register on February 13, 2024. The matter is ongoing as of the date of this filing.

On April 16, 2024, a putative class action captioned, Erik A. Davidson, John Restivo and National Center for Public Policy Research vs. Gary Gensler, SEC and CATLLC, No. 06:24-CV-00197, was filed in U.S. District Court for the Western District of Texas, Waco Division. The complaint alleges, among other things, that the SEC engaged in unlawful agency action and violated multiple provisions of the U.S. Constitution when it promulgated Rule 613 in 2012 mandating the creation and funding of the CAT. This challenge or any other challenge to the constitutionality of the CAT may delay the Plan Participants' assessment of CAT fees to recover a portion of CAT costs (both historical and prospective). As a result, the Plan Participants may continue to incur additional significant costs, and/or it may result in them not being able to collect on the promissory notes related to the funding of the implementation and operation of the CAT.

Until the fees for historical CAT costs that are associated with the promissory notes are collected from CAT Executing Brokers and remitted by CATLLC to the Plan Participants, and until CAT fees assessed by CATLLC to CAT Executing Brokers and Plan Participants to fund prospective CAT costs are implemented, the Plan Participants may continue to incur additional significant costs, including additional promissory notes to fund CAT. Additionally, portions of promissory notes related to the funding of the implementation and operation of the CAT may not be collectible, including if the SEC finds that the SROs/Plan Participants did not satisfy any of the financial accountability milestones. The allowance for notes receivable credit losses associated with the CAT is calculated using a methodology that is primarily based on the structure of the notes and various potential outcomes under the CAT Funding Model. See Note 21 ("Commitments, Contingencies, and Guarantees") for more information.

The following represents the changes in allowance for credit losses during the three months ended March 31, 2024 (in millions):

	Allowance for notes receivable credit losses	**Allowance for accounts receivable credit losses**	**Total allowance for credit losses**
Balance at December 31, 2023	$ 30.1	$ 4.5	$ 34.6
Current period provision for expected credit losses	—	1.5	1.5
Write-offs charged against the allowance	—	(0.4)	(0.4)
Recoveries collected	—	—	—
Balance at March 31, 2024	$ 30.1	$ 5.6	$ 35.7

7. OTHER ASSETS, NET

Other assets, net consisted of the following as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024	December 31, 2023
Software development work in progress	$ 4.8	$ 3.5
Data processing software	127.5	128.1
Less accumulated depreciation and amortization	(91.0)	(88.3)
Data processing software, net	41.3	43.3
Other assets (1)	168.1	163.0
Other assets, net	$ 209.4	$ 206.3

(1) At March 31, 2024 and December 31, 2023, the majority of the balance included notes receivable, net of allowance, a contra-revenue asset, and long-term prepaid assets. As of March 31, 2024 and December 31, 2023, the notes receivable, net balance was $142.6 million and $136.9 million, respectively. See Note 6 ("Credit Losses") for more information on the notes receivable, net of allowance, included within other assets, net on the condensed consolidated balance sheets. See Note 17 ("Stock-Based Compensation") for more information on the contra-revenue asset related to the issuance of Cboe Digital Restricted Common Units and Warrant Units included within other assets, net on the condensed consolidated balance sheets. As of March 31, 2024 and December 31, 2023, the contra-revenue asset balance was $17.0 million and $18.1 million, respectively.

Amortization expense related to data processing software was $2.5 million and $2.0 million for the three months ended March 31, 2024 and 2023, respectively.

8. GOODWILL, INTANGIBLE ASSETS, NET, AND DIGITAL ASSETS HELD

The following table presents the details of goodwill by segment (in millions):

	Options	North American Equities	Europe and Asia Pacific	Global FX	Digital	Total
Balance as of December 31, 2023	$305.8	$ 2,004.4	$ 563.2	$ 267.2	$ —	$3,140.6
Changes in foreign currency exchange rates	—	(3.6)	(3.2)	—	—	(6.8)
Balance as of March 31, 2024	$305.8	$ 2,000.8	$ 560.0	$ 267.2	$ —	$3,133.8

Goodwill has been allocated to specific reporting units for purposes of impairment testing - Options, North American Equities, Europe and Asia Pacific, and Global FX. No goodwill has been allocated to the Futures and Digital segments. Goodwill impairment testing is performed annually in the fiscal fourth quarter or more frequently if conditions exist that indicate that the asset may be impaired.

The following table presents the details of the intangible assets by segment (in millions):

	Options	North American Equities	Europe and Asia Pacific	Global FX	Digital	Total

Balance as of December 31, 2023	$134.1	$ 935.3	$ 352.5	$ 56.2	$83.4	$1,561.5
Amortization	(2.5)	(13.7)	(4.6)	(3.6)	(1.8)	(26.2)
Changes in foreign currency exchange rates	—	(1.7)	(6.9)	—	—	(8.6)
Balance as of March 31, 2024	$131.6	$ 919.9	$ 341.0	$ 52.6	$81.6	$1,526.7

For the three months ended March 31, 2024 and 2023, amortization expense was $26.2 million and $30.9 million, respectively. The estimated future amortization expense is $67.2 million for the remainder of 2024, $76.9 million for 2025, $69.7 million for 2026, $62.9 million for 2027, and $57.3 million for 2028.

The following tables present the categories of intangible assets by segment as of March 31, 2024 and December 31, 2023 (in millions, except as stated):

	March 31, 2024					
	Options	North American Equities	Europe and Asia Pacific	Global FX	Digital	Weighted Average Amortization Period (in years)
Trading registrations and licenses	$ 95.5	$ 605.4	$ 206.4	$ —	$ 25.0	Indefinite
Customer relationships	46.6	412.8	211.3	140.0	—	15
Market data customer relationships	53.6	322.0	60.9	64.4	—	8
Technology	28.1	56.5	33.8	22.5	70.0	7
Trademarks and tradenames	12.9	8.2	2.4	1.2	—	6
Digital assets held	—	—	—	—	0.1	Indefinite
Accumulated amortization	(105.1)	(485.0)	(173.8)	(175.5)	(13.5)	
	$ 131.6	$ 919.9	$ 341.0	$ 52.6	$ 81.6	

	December 31, 2023					
	Options	North American Equities	Europe and Asia Pacific	Global FX	Digital	Weighted Average Amortization Period (in years)
Trading registrations and licenses	$ 95.5	$ 606.0	$ 209.6	$ —	$ 25.0	Indefinite
Customer relationships	46.6	413.9	216.1	140.0	—	15
Market data customer relationships	53.6	322.0	61.6	64.4	—	8
Technology	28.1	56.9	34.2	22.5	70.0	7
Trademarks and tradenames	12.9	8.2	2.4	1.2	—	6
Digital assets held	—	—	—	—	0.1	Indefinite
Accumulated amortization	(102.6)	(471.7)	(171.4)	(171.9)	(11.7)	
	$ 134.1	$ 935.3	$ 352.5	$ 56.2	$ 83.4	

Cboe Digital holds customer digital assets in customer accounts, referred to as wallets, either through a licensed trust company, third-party custodian or in separate and distinct wallets managed by Cboe Digital. Cboe Digital, together with its third-party custodian, secures customers' digital assets and protects them from loss or theft. Customer digital assets are held in omnibus wallets for the benefit of customers of Cboe Digital and Cboe Digital maintains the records of the amount and type of digital asset owned by each of its customers in omnibus wallets. The amount of customer digital assets held by Cboe Digital is reflected within digital assets – safeguarded assets and digital assets – safeguarded liabilities in the condensed consolidated balance sheets. In addition, Cboe Digital maintains an immaterial amount of its own digital assets to facilitate customer trading.

9. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

Accounts payable and accrued liabilities consisted of the following as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024	December 31, 2023
Compensation and benefit-related liabilities	$ 30.5	$ 77.1
Royalties	43.3	44.9
Accrued liabilities	88.8	70.3
Current operating lease liabilities	21.0	20.8
Rebates payable	81.6	75.1
Marketing fee payable	18.9	17.5
Current unrecognized tax benefits	9.3	82.3
Accounts payable	11.3	24.7
Total accounts payable and accrued liabilities	$ 304.7	$ 412.7

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10. DEBT

The Company’s debt consisted of the following as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024	December 31, 2023
$650 million fixed rate Senior Notes due January 2027, stated rate of 3.650%	$ 648.1	$ 647.9
$500 million fixed rate Senior Notes due December 2030, stated rate of 1.625%	495.0	494.8
$300 million fixed rate Senior Notes due March 2032, stated rate of 3.000%	296.5	296.5
Revolving Credit Agreement	—	—
Cboe Clear Europe Credit Facility	—	—
Total debt	$ 1,439.6	$ 1,439.2

Senior Notes

On January 12, 2017, the Company entered into an indenture (the “Indenture”), by and between the Company and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as trustee, in connection with the issuance of $650 million aggregate principal amount of the Company’s 3.650% Senior Notes due 2027 (“3.650% Senior Notes”). The form and terms of the 3.650% Senior Notes were established pursuant to an Officer’s Certificate, dated as of January 12, 2017, supplementing the Indenture. The Company used a portion of the net proceeds from the 3.650% Senior Notes to fund, in part, the Merger, including the payment of related fees and expenses and the repayment of Bats’ existing indebtedness, and the remainder for general corporate purposes. The 3.650% Senior Notes mature on January 12, 2027 and bear interest at the rate of 3.650% per annum, payable semi-annually in arrears on January 12 and July 12 of each year, commencing July 12, 2017.

On December 15, 2020, the Company issued $500 million aggregate principal amount of 1.625% Senior Notes due 2030 ("1.625% Senior Notes"). The form and terms of the 1.625% Senior Notes were established pursuant to an Officer’s Certificate, dated as of December 15, 2020, supplementing the Indenture. The Company used the net proceeds from the 1.625% Senior Notes to finance the acquisition of BIDS Trading, repay a portion of amounts outstanding under the term loan facility and all outstanding indebtedness under the revolving credit facility and the remainder for general corporate purposes, which may include the financing of future acquisitions or the repayment of other outstanding indebtedness. The 1.625% Senior Notes mature on December 15, 2030 and bear interest at the rate of 1.625% per annum, payable semi-annually in arrears on June 15 and December 15 of each year, commencing June 15, 2021.

On March 16, 2022, the Company issued $300 million aggregate principal amount of 3.000% Senior Notes due 2032 (“3.000% Senior Notes” and, together with the 1.625% Senior Notes and the 3.650% Senior Notes, the “Senior Notes”). The form and terms of the 3.000% Senior Notes were established pursuant to an Officer’s Certificate, dated as of March 16, 2022, supplementing the Indenture. The Company used the net proceeds from the 3.000% Senior Notes, together with cash on hand, and the proceeds of additional borrowings, to partially fund its acquisition of Cboe Digital. The 3.000% Senior Notes mature on March 16, 2032 and bear interest at the rate of 3.000% per annum, payable semi-annually in arrears on March 16 and September 16 of each year, commencing September 16, 2022.

The Senior Notes are unsecured obligations of the Company and rank equally with all of the Company’s other existing and future unsecured, senior indebtedness, but are effectively junior to the Company’s secured indebtedness, to the extent of the value of the assets securing such indebtedness, and will be structurally subordinated to the secured and unsecured indebtedness of the Company’s subsidiaries.

The Company has the option to redeem some or all of the Senior Notes, at any time in whole or from time to time in part, at the redemption prices set forth in the applicable Officer’s Certificate. The Company may also be required to offer to repurchase the Senior Notes upon the occurrence of a Change of Control Triggering Event (as such term is defined in the applicable Officer’s Certificate) at a repurchase price equal to 101 percent of the aggregate principal amount of Senior Notes to be repurchased.

Indenture

Under the Indenture, the Company may issue debt securities, which includes the Senior Notes, at any time and from time to time, in one or more series without limitation on the aggregate principal amount. The Indenture governing the Senior Notes contains customary restrictions, including a limitation that restricts the Company’s ability and the ability of certain of the Company’s subsidiaries to create or incur secured debt. Such Indenture also limits certain sale and leaseback transactions and contains customary events of default. At March 31, 2024, the Company was in compliance with these covenants.

Revolving Credit Agreement

On February 25, 2022, the Company entered into a Second Amended and Restated Credit Agreement (the “Revolving Credit Agreement”), which amended and restated the prior revolving credit agreement.

The Revolving Credit Agreement provides for a senior unsecured $400 million three-year revolving credit facility (the “Revolving Credit Facility”) that includes a $25 million swing line sub-facility. The Company may also, subject to the agreement of the applicable lenders, increase the commitments under the Revolving Credit Facility by up to $200 million, for a total of $600 million. Subject to specified conditions, the Company may designate one or more of its subsidiaries as additional borrowers under the Revolving Credit Agreement provided that the Company guarantees all borrowings and other obligations of any such subsidiaries under the Revolving Credit Agreement. As of March 31, 2024, no subsidiaries were designated as additional borrowers.

Funds borrowed under the Revolving Credit Agreement may be used to fund working capital and for other general corporate purposes, including the making of any acquisitions the Company may pursue in the ordinary course of its business. As of March 31, 2024, no borrowings were outstanding under the Revolving Credit Agreement. Accordingly, at March 31, 2024, $400 million of borrowing capacity was available for the purposes permitted by the Revolving Credit Agreement.

Loans under the Revolving Credit Agreement will bear interest, at the Company’s option, at either (i) the Relevant Rate (defined herein) plus a margin (based on the Company’s public debt ratings) ranging from 0.75 percent per annum to 1.25 percent per annum or (ii) a daily fluctuating rate based on the administrative agent’s prime rate (subject to certain minimums based upon the federal funds effective rate or Term SOFR), which is subject to a 1 percent floor, plus a margin (based on the Company’s public debt ratings) ranging from zero percent per annum to 0.25 percent per annum. “Relevant Rate” means with respect to any committed borrowing or swingline borrowing denominated in (a) Dollars, Term SOFR plus a spread adjustment of 0.10 percent per annum, (b) Sterling, SONIA plus a spread adjustment of 0.0326 percent per annum and (c) Euros, EURIBOR, as applicable, provided that each Relevant Rate is subject to a 0 percent floor.

Subject to certain conditions stated in the Revolving Credit Agreement, the Company and any subsidiaries designated as additional borrowers may borrow, prepay and reborrow amounts under the Revolving Credit Facility at any time during the term of the Revolving Credit Agreement. The Revolving Credit Agreement will terminate and all amounts owing thereunder will be due and payable on February 25, 2027, unless the commitments are terminated earlier, either at the request of the Company or, if an event of default occurs, by the lenders (or automatically in the case of certain bankruptcy-related events). The Revolving Credit Agreement contains customary representations, warranties, and affirmative and negative covenants for facilities of its type, including financial covenants, events of default and indemnification provisions in favor of the lenders. The negative covenants include restrictions regarding the incurrence of liens, the incurrence of indebtedness by the Company’s subsidiaries and fundamental changes, subject to certain exceptions in each case. The financial covenants require the Company to meet a quarterly financial test with respect to a minimum consolidated interest coverage ratio of not less than 4.00 to 1.00 and a maximum consolidated leverage ratio of not greater than 3.50 to 1.00; provided that the consolidated leverage ratio may, subject to certain triggering events set forth in the Revolving Credit Agreement, be increased to 4.25 to 1.00 on one occasion and 4.00 to 1.00 on another occasion, in each case, for four consecutive fiscal quarters; provided that, prior to the exercise of the second such financial covenant step-up, the maximum consolidated leverage ratio shall have returned to a level of 3.50 to 1.00 for at least two consecutive fiscal quarters. At March 31, 2024, the Company was in compliance with these covenants and did not exercise financial covenant step-up.

Cboe Clear Europe Credit Facility

On July 1, 2020, Cboe Clear Europe, as borrower, the Company, as guarantor, entered into a Facility Agreement (as subsequently amended and restated, the “Facility” or “Cboe Clear Europe Credit Facility”) with Bank of America Merrill Lynch International Designated Activity Company, as co-ordinator, facility agent, lender, sole lead arranger and sole bookrunner, Citibank N.A., as security agent, and certain other lenders named therein. The Facility was amended and restated, on July 1, 2021, June 30, 2022, and June 29, 2023, as described below.

The Facility provides for a €1.25 billion committed syndicated multicurrency revolving and swingline credit facility (i) that is available to be drawn by Cboe Clear Europe towards (a) financing unsettled amounts in connection with the settlement of transactions in securities and other items processed through Cboe Clear Europe's clearing system and (b) financing any other liability or liquidity requirement that Cboe Clear Europe incurred in the operation of its clearing system and (ii) under which the scheduled interest and fees on borrowings (but not the principal amount of any borrowings) are guaranteed by the Company. Subject to certain conditions, Cboe Clear Europe is able to increase the commitments under the Facility by up to €500 million, to a total of €1.75 billion.

Borrowings under the Facility are secured by cash, eligible government bonds and eligible equity assets deposited by Cboe Clear Europe into secured accounts. In addition, Cboe Clear Europe must ensure that at all times the aggregate of (a) each clearing participant's contribution to the relevant clearing fund, (b) each clearing participant's margin amount and (c) any cash equities purchased using the proceeds of the assets described in (a) and (b), less the amount of any such clearing participant contribution, margin amount or cash equities which have been transferred to (or secured in favor of) any provider of settlement or custody services to Cboe Clear Europe, is not less than €500 million.

Borrowings under the Facility's revolving loans and non-U.S. dollar swingline loans bear interest at the relevant floating base rate plus a margin of 1.60 percent per annum and (subject to certain conditions) borrowings under the Facility's U.S. dollar swingline loans bear interest as the higher of the relevant agent's prime commercial lending rate for U.S. dollars and 0.5 percent per annum over the federal funds effective rate. A commitment fee of 0.275 percent per annum is payable on the unused and uncalled amount of the Facility during the availability period.

Subject to certain conditions stated in the Facility, Cboe Clear Europe may borrow, prepay and reborrow amounts under the Facility at any time during the term of the Facility. The Facility will terminate and all amounts owing thereunder will be due and payable on June 28, 2024, unless the commitments are terminated earlier, either at the request of Cboe Clear Europe or, if an event of default occurs, by the Lenders (or automatically in the case of certain bankruptcy-related events).

The Facility contains customary representations, warranties and covenants for facilities of its type, including events of default of the Company and Cboe Clear Europe and indemnification provisions in favor of the Lenders. In particular, the covenants include restrictions regarding the incurrence of liens by Cboe Clear Europe and its subsidiaries, and an event of default will be triggered if Cboe Clear Europe ceases its business, subject to certain exceptions in each case. There is also a requirement for the net worth of (a) the Company to be no less than $1.75 billion on the date of each drawdown and delivery of compliance certificates and (b) Cboe Clear Europe to be the higher of €30 million and any such amount required for Cboe Clear Europe to meet minimum liquidity regulations under applicable regulation at all times.

As of March 31, 2024, no borrowings were outstanding under the Facility. Accordingly, at March 31, 2024, €1.25 billion of borrowing capacity was available for the purposes permitted by the Facility. At March 31, 2024, the Company and Cboe Clear Europe were in compliance with applicable covenants.

Notes Payments and Contractual Interest

The future expected repayments related to the Senior Notes as of March 31, 2024 are as follows (in millions):

Remainder of 2024	$	—
2025		—

2026	—
2027	650.0
2028	—
Thereafter	800.0
Principal amounts repayable	1,450.0
Debt issuance costs	(5.7)
Unamortized discounts on notes	(4.7)
Total debt outstanding	$1,439.6

Interest expense recognized on the Term Loan Credit Agreement (the “Term Loan Agreement”), the Senior Notes, and the Revolving Credit Agreement is included in interest expense in the condensed consolidated statements of income. As of December 31, 2023 the Term Loan Agreement matured and was repaid in full and therefore the Company no longer incurs interest expense related to the Term Loan Agreement. The Company is also obligated to pay commitment fees under the terms of the Revolving Credit Agreement and Facility, which are also included in interest expense.

Components of interest expense, net recognized in the condensed consolidated statements of income for the three months ended March 31, 2024 and 2023 are as follows (in millions):

	Three Months Ended March 31,	
	2024	2023
Components of interest expense:		
Contractual interest	$ 12.4	$ 16.4
Amortization of debt discount and issuance costs	0.6	0.7
Interest expense	$ 13.0	$ 17.1
Interest income	(4.1)	(2.0)
Interest expense, net	$ 8.9	$ 15.1

11. ACCUMULATED OTHER COMPREHENSIVE LOSS, NET

The following represents the changes in accumulated other comprehensive loss, net by component (in millions):

	Foreign Currency Translation Adjustment	Unrealized Investment Loss	Post-Retirement Benefits	Total Accumulated Other Comprehensive Loss, Net
Balance at December 31, 2023	$ (5.6)	$ (3.7)	$ (0.1)	$ (9.4)
Other comprehensive (loss) income	(13.5)	(0.5)	0.2	(13.8)
Balance at March 31, 2024	$ (19.1)	$ (4.2)	$ 0.1	$ (23.2)

12. CLEARING OPERATIONS

Cboe operates two clearing houses, Cboe Clear Europe and Cboe Clear Digital, each of which acts as a central counterparty that provides clearing and settlement services.

Cboe Clear Europe

Cboe Clear Europe is a European equities central counterparty that provides post-trade services to stock exchanges, MTFs, over-the-counter (“OTC”) equities trades and an equity derivatives exchange. Cboe Clear Europe clears equities from eighteen European markets and the United States, as well as Depositary Receipts, ETFs, and equity-like instruments. In September 2021 Cboe Clear Europe began clearing equity derivatives for ten European markets, initially index futures and options and as of November 2023, single stock options. Through a novation process, Cboe Clear Europe becomes the buyer for every seller and the seller for every buyer, thereby protecting clearing participants from counterparty risk and allowing the settlement of trades in the event of a clearing participant default.

Cboe Clear Europe only assumes the guarantor role if it has an equal and offsetting claim against a clearing participant. For the period ended March 31, 2024, there have been no events of default for which a liability is required to be recognized in accordance with GAAP.

Cboe Clear Europe Clearing Participant Deposits

Cboe Clear Europe generally requires all clearing participants to deposit collateral to help mitigate Cboe Clear Europe’s exposure to credit risk in the event that a clearing participant fails to meet a financial or contractual obligation.

Margin Deposits

Margin deposits, which are predominately in the form of cash and cash equivalents, are deposits made by each clearing participant to Cboe Clear Europe to cover some or all of the credit risk of its failure to fulfill its obligations in the trade. Cboe Clear Europe maintains and manages all cash deposits related to margin deposits. Substantially all risks and rewards of margin deposit ownership, including net interest income, belong to Cboe Clear Europe and are recorded in cash and spot markets on the condensed consolidated statements of income. In the event of a default, Cboe Clear Europe can access the defaulting participant's margin deposits to cover the defaulting participant's losses. For more information, see "Default and Liquidity Waterfalls" below.

Clearing Funds

The clearing fund mutualizes the risk of default among all clearing participants. Depending on their membership, clearing participants contribute to the cash-equity and/or derivatives segment of the clearing fund. Although the entire clearing fund is available to cover potential losses in the event that the margin deposits and the clearing fund deposits of a defaulting clearing participant are inadequate to fulfill that clearing participant's outstanding financial obligations, the clearing fund first uses the product class segment of the Clearing Fund in which the defaulting participants was active (see "Default and Liquidity Waterfalls" below). In the event of a default, Cboe Clear Europe is generally required to liquidate the defaulting clearing participant's open positions. To the extent that the positions remain open, Cboe Clear Europe is required to assume the defaulting clearing participant's obligations related to the open positions. Clearing participants are required to make contributions to the clearing fund that are proportional to their risk exposure in the form of cash or non-cash contributions, which generally consist of highly liquid securities.

Interoperability Fund

For the cash equity business line, Cboe Clear Europe has entered into interoperable arrangements with two other central counterparties ("CCPs"). Under these arrangements, margin is pledged to and from interoperable CCPs. The interoperability fund consists of collateral provided by clearing participants that is pledged by Cboe Clear Europe to the other interoperable CCPs, to cover margin calls Cboe Clear Europe receives from such interoperable CCPs.

Effective August 14, 2023, Cboe Clear Europe enacted changes to its rules, and is able to invest the cash collateral received in the form of interoperability fund deposits from clearing participants in certain investments, typically securities issued by pre-approved sovereign issuers and reverse repurchase agreements with overnight maturities. When investments are made in accordance with Cboe Clear Europe's Investment Policy, Cboe Clear Europe receives the amount of investment earnings and pays clearing participants those earnings minus a set basis point cost of collateral. As Cboe Clear Europe is able to direct the investment of the cash interoperability fund deposits received from the clearing participants within the program parameters and receives an economic benefit from those investments, these amounts are included in the margin deposits, clearing funds, and interoperability funds captions in the condensed consolidated balance sheets and the related interest income and expense is recorded in other revenue and other costs of revenue respectively on the condensed consolidated statements of income.

Cboe Clear Europe Default and Liquidity Waterfalls

The default waterfall is the priority order in which the capital resources are expected to be utilized in the event of a default where the defaulting clearing participant's collateral would not be sufficient to cover the cost to liquidate its portfolio. If a default occurs and the defaulting clearing participant's collateral, including margin deposits and clearing fund deposits, are depleted, then additional capital is utilized in the following order:

- Cboe Clear Europe dedicated own resources: The Cboe Clear Europe default waterfall first utilizes its dedicated own resources in two forms and totaling 35% of Cboe Clear Europe capital requirements; the ‘first skin in the game’, equal to 25% of Cboe Clear Europe capital requirements before the use of clearing fund contributions described below and the ‘second skin in the game’, an amount between 10-25% of capital requirements as discussed in Note 16 (“Regulatory Capital”).

- Clearing fund: Second, the Cboe Clear Europe default waterfall utilizes traditional CCP risk mutualization, in the event that default losses fully exhaust Cboe Clear Europe’s dedicated own resources amount, whereby contributions applicable to a particular product class are applied first to any loss attributable to that product class.

- Pro rata contributions: Third, if the default losses caused cannot be covered by the first two layers, the non-defaulting clearing participants shall on demand make additional payments to Cboe Clear Europe on a pro rata basis in proportion to the amount of their clearing fund contributions to cover any such remaining losses, which is limited to an amount equal to twice their clearing fund contribution as established under Cboe Clear Europe’s rules and regulations. In this scenario, contributions applicable to a particular product class are first applied to any losses attributable to that product class.

In addition to the default waterfall, the liquidity waterfall is the priority order in which the liquidity resources are expected to be utilized for Cboe Clear Europe’s ordinary course business operations and in situations when additional liquidity resources and liquidity measures may be activated in case of a potential liquidity shortfall. Liquidity, intraday or overnight, is mainly required for securities settlement. In ordinary course business circumstances, liquidity resources include the collateral directly deposited with Cboe Clear Europe, FX swap arrangements, and reverse repurchase agreements, as well as the use of the Facility.

Cboe Clear Digital

Cboe Clear Digital is a digital asset and digital asset derivatives clearinghouse and central counterparty that provides clearing and settlement of digital asset trades. Cboe Clear Digital is registered as a Derivatives Clearing Organization (“DCO”) regulated by the U.S. Commodity Futures Trading Commission (“CFTC”) and is registered with the U.S. Treasury Financial Crimes Enforcement Network (“FinCEN”) as a money services business (“MSB”). Cboe Clear Digital is authorized by license or not subject to licensing, to conduct MSB services in 50 U.S. jurisdictions. Cboe Clear Digital performs a guarantee function whereby Cboe Clear Digital helps to ensure that the obligations of the transactions it clears are fulfilled. Cboe Clear Digital attempts to mitigate this risk by performing internal compliance and due diligence procedures as well as implementing internal risk controls. Cboe Clear Digital's due diligence procedures include review of the personal and corporate information, financial position of the member participant, and monitoring of Cboe Clear Digital's risk exposure thresholds. As of March 31, 2024, Cboe Clear Digital does not expect a material loss concerning credit risk on any member participant.

Cboe Clear Digital Clearing Participant Deposits

Customer Bank Deposits

Cboe Clear Digital holds cash on behalf of its customers for the purposes of supporting clearing transactions. Customer cash may be invested in approved investments and any interest or gain received, or loss incurred on invested funds is recorded in the condensed consolidated statements of income. For the three months ended March 31, 2024, interest on invested funds totaled $0.3 million. The Company includes customer cash related to the clearing activity on the condensed consolidated balance sheets in margin deposits, clearing funds, and interoperability funds, with a corresponding liability.

Digital Assets - Safeguarded Assets

The Company holds digital assets on behalf of its customers. In accordance with the SEC issued Staff Accounting Bulletin 121 (“SAB 121”), the Company includes customer digital assets on the condensed consolidated balance sheets in digital assets - safeguarded assets, with a corresponding offset in digital assets - safeguarded liabilities. Digital assets – safeguarded assets totaled $93.3 million and $51.3 million at March 31, 2024, and December 31, 2023, respectively.

The details of margin deposits, clearing funds, and interoperability funds as of March 31, 2024 and December 31, 2023, are as follows (in millions):

	March 31, 2024			
	Margin Deposits	Clearing Funds	Interoperability Funds	Total
Cboe Clear Europe central bank account	$ 737.7	$ 175.5	$ 517.0	$ 1,430.2
Cboe Clear Europe reverse repurchase and other	90.6	4.1	—	94.7
Cboe Clear Digital customer bank deposits	19.7	—	—	19.7
Total cash margin deposits, clearing funds, and interoperability funds	$ 848.0	$ 179.6	$ 517.0	$ 1,544.6

	March 31, 2024			
	Margin Deposits	Clearing Funds	Interoperability Funds	Total
Cboe Clear Europe non-cash contributions (1)	$ 738.9	$ 62.4	$ 292.8	$ 1,094.1

	December 31, 2023			
	Margin Deposits	Clearing Funds	Interoperability Funds	Total
Cboe Clear Europe central bank account	$ 361.3	$ 140.1	$ 271.0	$ 772.4
Cboe Clear Europe reverse repurchase and other	2.7	4.1	55.6	62.4
Cboe Clear Digital customer bank deposits	14.0	—	—	14.0
Total cash margin deposits, clearing funds, and interoperability funds	$ 378.0	$ 144.2	$ 326.6	$ 848.8

	December 31, 2023			
	Margin Deposits	Clearing Funds	Interoperability Funds	Total
Cboe Clear Europe non-cash contributions (1)	$ 637.0	$ 65.6	$ 228.0	$ 930.6

(1) These amounts are not reflected in the condensed consolidated balance sheets, as Cboe Clear Europe does not have the ability to sell or repledge the amounts absent a clearing participant default.

The following depicts the Company’s valuation of digital assets – safeguarded assets and safeguarded liabilities as of March 31, 2024 and December 31, 2023:

	March 31, 2024

Digital Asset	Number of Units	Valuation per Unit	Fair Value (in millions)
Bitcoin ("BTC")	884	$ 70,848	$ 62.7
Ethereum ("ETH")	7,723	3,633	28.1
Litecoin ("LTC")	14,050	106	1.5
Bitcoin Cash ("BCH")	631	680	0.4
USD Coin ("USDC")	635,149	1	0.6
Total			$ 93.3

	December 31, 2023		
Digital Asset	Number of Units	Valuation per Unit	Fair Value (in millions)
Bitcoin ("BTC")	821	$ 42,492	$ 34.9
Ethereum ("ETH")	6,270	2,282	14.3
Litecoin ("LTC")	16,329	74	1.2
Bitcoin Cash ("BCH")	1,374	261	0.4
USD Coin ("USDC")	506,652	1	0.5
Total			$ 51.3

13. FAIR VALUE MEASUREMENT

Fair value is the price that would be received upon the sale of an asset or paid upon the transfer of a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. The fair value should be calculated based on assumptions that market participants would use in pricing the asset or liability, not on assumptions specific to the entity. In addition, the fair value of liabilities should include consideration of non-performance risk, including the Company’s own credit risk.

The Company applied FASB Accounting Standards Codification (“ASC”) 820 — Fair Value Measurement, which provides guidance for using fair value to measure assets and liabilities by defining fair value and establishing the framework for measuring fair value. ASC 820 applies to financial and nonfinancial instruments that are measured and reported on a fair value basis. The three-level hierarchy of fair value measurements is based on whether the inputs to those measurements are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company’s market assumptions. The fair value hierarchy requires the use of observable market data when available and consists of the following levels:

- Level 1—Unadjusted inputs based on quoted markets for identical assets or liabilities.

- Level 2—Observable inputs, either direct or indirect, not including Level 1 measurements, corroborated by market data or based upon quoted prices in non-active markets.

- Level 3—Unobservable inputs that reflect management’s best assumptions of what market participants would use in valuing the asset or liability.

The Company has included a tabular disclosure for financial assets and liabilities that are measured at fair value on a recurring basis in the condensed consolidated balance sheets as of March 31, 2024 and December 31, 2023, respectively.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following tables present the Company's fair value hierarchy for those assets and liabilities measured at fair value on a recurring basis as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury securities (1)	$ 23.6	$ 23.6	$ —	$ —
Marketable securities (1):				
Mutual funds	15.9	15.9	—	—
Money market funds	19.3	19.3	—	—
Digital assets - safeguarded assets	93.3	—	93.3	—
Total assets	$152.1	$ 58.8	$ 93.3	$ —
Liabilities:				
Contingent consideration liabilities	$ 8.8	$ —	$ —	$ 8.8
Digital assets - safeguarded liabilities	93.3	—	93.3	—
Cboe Digital restricted common units liability (2)	18.4	—	—	18.4
Cboe Digital warrant liability (2)	5.8	—	—	5.8
Total liabilities	$126.3	$ —	$ 93.3	$ 33.0

	December 31, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury securities (1)	$ 20.8	$ 20.8	$ —	$ —
Marketable securities (1):				
Mutual funds	17.1	17.1	—	—
Money market funds	19.6	19.6	—	—
Digital assets - safeguarded assets	51.3	—	51.3	—
Total assets	$108.8	$ 57.5	$ 51.3	$ —
Liabilities:				
Contingent consideration liabilities	$ 11.8	$ —	$ —	$ 11.8
Digital assets - safeguarded liabilities	51.3	—	51.3	—
Cboe Digital restricted common units liability (2)	18.7	—	—	18.7
Cboe Digital warrant liability (2)	5.9	—	—	5.9
Total liabilities	$ 87.7	$ —	$ 51.3	$ 36.4

(1) These amounts are reflected within financial investments in the condensed consolidated balance sheets.
(2) These amounts are reflected within other non-current liabilities in the condensed consolidated balance sheets.

The following is a description of the Company's valuation methodologies used for instruments measured at fair value on a recurring basis:

Financial Investments

Financial investments consist of highly liquid U.S. Treasury securities, and marketable securities held in a trust for the Company's non-qualified retirement and benefit plans, also referred to as deferred compensation plan assets. The deferred compensation plan assets have an equal and offsetting deferred compensation plan liability based on the value of the deferred compensation plan assets. These securities are valued by obtaining feeds from a number of live data sources, including active market makers and inter-dealer brokers and therefore categorized as Level 1. No material adjustments were made to the carrying value of financial investments for the period ended March 31, 2024. See Note 15 (“Employee Benefit Plans”) for more information.

Digital Assets – Safeguarded Assets and Liabilities

Digital assets – safeguarded assets and liabilities represents the Company’s holdings of Bitcoin, Ethereum, Litecoin, Bitcoin Cash, and USD Coin on behalf of the Company’s customers. The Company has determined the principal marketplace for digital assets to be the spot market of Cboe Digital Exchange, LLC (“Cboe Digital Exchange”). The

Company valued digital assets – safeguarded assets, and digital assets – safeguarded liabilities by using the closing prices at 4:00pm Central Time on Cboe Digital Exchange, LLC's ("Cboe Digital Exchange") spot market ("Cboe Digital spot market") as of March 31, 2024 for the underlying digital assets held on behalf of the Company's customers. See Note 12 ("Clearing Operations") for additional details regarding digital assets held.

Contingent Consideration Liabilities

In connection with the acquisition of Cboe Asia Pacific, the Company entered into contingent consideration arrangements with the sellers. The total fair value of the liabilities at March 31, 2024 was $8.8 million. That value is based on the Company's estimate of the likelihood that certain performance targets in the respective acquisition agreements are expected to be accomplished. In connection with the contingent consideration arrangements, the Company paid a total of $3.0 million in contingent consideration to the sellers of Cboe Asia Pacific during the three months ended March 31, 2024. Because the fair value measurements relating to the contingent consideration liabilities are subject to management judgment, measurement uncertainty is inherent in the valuation of the contingent consideration liabilities as of the reporting date. Based on the recorded balance of the liabilities, any measurement uncertainty related to this Level 3 measurement is immaterial as of March 31, 2024.

Cboe Digital Syndication Liabilities

On November 18, 2022, Cboe Digital Holdings Inc. ("Cboe Digital Holdings") entered into minority interest purchase agreements with certain digital asset industry participants, pursuant to which Cboe Digital Holdings agreed to issue Restricted Common Units in Cboe Digital. Cboe Digital Holdings also entered into a Warrant Agreement to issue Common Units of Cboe Digital in the future. Certain Cboe Digital investor members paid for the Restricted Common Units through the issuance of promissory notes, which are nonrecourse in nature and are accounted for as in-substance stock options. The cost associated with the Restricted Common Units is recognized as contra-revenue in transaction and clearing fees in the condensed consolidated statements of income ratably over a five-year period. The Company uses a Black Scholes option pricing model to estimate the fair value of the in-substance stock option created by the Restricted Common Units and promissory notes as well as the fair value of the Warrant Units. Contra-revenue will be recognized while the performance conditions of the Warrant Units remain probable in conformance with the requirements in ASC 606 – Revenue from Contracts with Customers. Further adjustments will be recognized in each reporting period until performance is complete relating to changes in the fair value of the option and Warrant liabilities in accordance with ASC 718 – Compensation – Stock Compensation. Based on the recorded balance of the liabilities, any measurement uncertainty related to this Level 3 measurement is immaterial as of March 31, 2024. For the three months ended March 31, 2024, there was $0.1 million of other income recognized in other income, net in the condensed consolidated statements of income related to a reduction in the fair value of the Warrant Units. See Note 17 ("Stock-Based Compensation") for more information.

Certain Cboe Digital investor members can earn additional Restricted Common Units if they meet certain performance-based metrics outlined in an equity incentive program. The Incentive Program Units are subject to the same terms and conditions as the other Restricted Common Units and are similarly liability-classified awards. Cboe Digital authorized a maximum of 20 Common Units to be distributed over the two-year life of the incentive program. The cost associated with the Incentive Program Units will be recognized as contra-revenue in transaction and clearing fees in the condensed consolidated statements of income ratably over the remaining service period associated with the Incentive

Program Units. Further adjustments will be recognized in each reporting period until performance is complete relating to changes in the fair value of the incentive program liabilities in accordance with ASC 718 – Compensation – Stock Compensation. Based on the recorded balance of the liabilities, any measurement uncertainty related to this Level 3 measurement is immaterial as of March 31, 2024. For the three months ended March 31, 2024, there was $0.3 million of other income recognized in other income, net in the condensed consolidated statements of income related to a reduction in the fair value of the options. See Note 17 (“Stock-Based Compensation”) for more information.

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

Certain assets, such as goodwill and intangible assets, are measured at fair value on a non-recurring basis. For goodwill, the process involves using a market approach and income approach (using discounted estimated cash flows) to determine the fair value of each reporting unit on a stand-alone basis. That fair value is compared to the carrying value of the reporting unit, including its recorded goodwill. In connection with the annual impairment evaluation of goodwill and indefinite lived intangibles, impairment is considered to have occurred if the fair value of the reporting unit is lower than the carrying value of the reporting unit. See “Digital Assets Held” below and Note 1 (“Organization and Basis of Presentation”) for discussion of valuation considerations specific to digital assets held. For the other intangible assets, the process also involves using a discounted cash flow method to determine the fair value of each intangible asset.

Impairment is considered to have occurred if the fair value of the intangible asset is lower than its carrying value. These measurements are considered Level 3 and these assets are recognized at fair value if they are deemed to be impaired. In addition, property held for sale as of March 31, 2024 was also measured at fair value. See Note 5 (“Property and Equipment, Net”) for more information on property held for sale.

Equity investments without readily determinable fair values that are valued using the measurement alternative are measured at fair value on a non-recurring basis. No observable transactions or impairments impacted the measurements of the investments accounted for as other equity investments. See Note 4 (“Investments”) for more information.

Fair Value of Assets and Liabilities

The following tables present the Company’s fair value hierarchy for certain assets and liabilities held by the Company as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury securities (1)	$ 23.6	$ 23.6	$ —	$ —
Deferred compensation plan assets (1)	35.2	35.2	—	—
Digital assets - safeguarded assets	93.3	—	93.3	—
Digital assets held (2)	0.1	0.1	—	—
Total assets	$ 152.2	$ 58.9	$ 93.3	$ —
Liabilities:				
Contingent consideration liabilities	$ 8.8	$ —	$ —	$ 8.8
Deferred compensation plan liabilities (3)	35.2	35.2	—	—
Digital assets - safeguarded liabilities	93.3	—	93.3	—
Cboe Digital restricted common units liability (3)	18.4	—	—	18.4
Cboe Digital warrant liability (3)	5.8	—	—	5.8
Debt	1,301.6	—	1,301.6	—
Total liabilities	$1,463.1	$ 35.2	$1,394.9	$ 33.0

	December 31, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury securities (1)	$ 20.8	$ 20.8	$ —	$ —
Deferred compensation plan assets (1)	36.7	36.7	—	—
Digital assets - safeguarded assets	51.3	—	51.3	—
Digital assets held (2)	0.1	0.1	—	—
Total assets	$ 108.9	$ 57.6	$ 51.3	$ —
Liabilities:				
Contingent consideration liabilities	$ 11.8	$ —	$ —	$ 11.8
Deferred compensation plan liabilities (3)	36.7	36.7	—	—
Digital assets - safeguarded liabilities	51.3	—	51.3	—
Cboe Digital restricted common units liability (3)	18.7	—	—	18.7
Cboe Digital warrant liability (3)	5.9	—	—	5.9
Debt	1,305.7	—	1,305.7	—
Total liabilities	$1,430.1	$ 36.7	$1,357.0	$ 36.4

(1)

These amounts are reflected within financial investments in the condensed consolidated balance sheets.

(2) These amounts are reflected within intangible assets, net in the condensed consolidated balance sheets.

(3) These amounts are reflected within other non-current liabilities in the condensed consolidated balance sheets.

Certain financial assets and liabilities, including cash and cash equivalents, accounts receivable, income tax receivable, accounts payable and Section 31 fees payable, and notes receivable are not measured at fair value on a recurring basis, but the carrying values approximate fair value due to their liquid or short-term nature.

Debt

The debt balance consists of fixed rate Senior Notes. The fair values of the Senior Notes are classified as Level 2 under the fair value hierarchy and are estimated using prevailing market quotes.

At March 31, 2024 and December 31, 2023, the fair values of the Company's debt obligations were as follows (in millions):

	Fair Value	
	March 31, 2024	December 31, 2023
3.650% Senior Notes	$ 630.5	$ 628.5
1.625% Senior Notes	409.5	412.7
3.000% Senior Notes	261.6	264.5

Digital Assets Held

Digital assets held, which are included within intangible assets, net in the condensed consolidated balance sheets, are valued following a review of exchange prices for each specific digital asset throughout the holding period ended March 31, 2024. The Company will impair to the lowest observable value during the period for each digital asset type in accordance with Cboe Digital's policy, which states that the Company values digital assets held by using the closing prices at 4:00pm Central Time on Cboe Digital Exchange's spot market. As part of Cboe Digital's pricing policy, the closing price on Cboe Digital's spot market is compared to three other exchanges (Coinbase, Bitstamp, and Kraken) and the CoinDesk Price Index to assess for reasonableness. These inputs are categorized in the fair value hierarchy as Level 1 as the marketplace is considered active.

Information on Level 3 Financial Liabilities

The following table sets forth a summary of changes in the fair value of the Company's Level 3 financial liabilities during the three months ended March 31, 2024 (in millions):

	Level 3 Financial Liabilities for the Three Months Ended March 31, 2024						
	Balance at Beginning of Period	Realized (Gains) Losses during Period	Adjustments	Additions	Settlements	Foreign Currency Translation	Balance at End of Period
Liabilities:							
Contingent consideration liabilities	$ 11.8	$ —	$ —	$ —	$ (3.0)	$ —	$ 8.8
Cboe Digital restricted common units liability	18.7	(0.3)	—	—	—	—	18.4
Cboe Digital warrant liability	5.9	(0.1)	—	—	—	—	5.8
Total liabilities	$ 36.4	$ (0.4)	$ —	$ —	$ (3.0)	$ —	$ 33.0

14. SEGMENT REPORTING

The Company operates six reportable business segments: Options, North American Equities, Europe and Asia Pacific, Futures, Global FX, and Digital which is reflective of how the Company's chief operating decision-maker reviews and operates the business, as discussed in Note 1 (“Organization and Basis of Presentation”). Segment performance is primarily evaluated based on operating income (loss). The Company’s chief operating decision-maker does not use segment-level assets or income and expenses below operating income (loss) as key performance metrics; therefore, such information is not presented below. The Company has aggregated all of its corporate costs, as well as other business ventures, within the Corporate Items and Eliminations totals based on the decision that those activities should not be used to evaluate the operating performance of the segments; however, operating expenses that relate to activities of a specific segment have been allocated to that segment.

Options. The Options segment includes options on market indices (“index options”), as well as on the stocks of individual corporations (“equity options”), and on ETPs, such as exchange-traded funds (“ETFs”) and exchange-traded notes (“ETNs”), which are “multi-listed” options and listed on a non-exclusive basis. These options are eligible to trade, as applicable, on Cboe Options, C2, BZX, EDGX, and/or other U.S. national security exchanges. Cboe Options is the

Company's primary options market and offers trading in listed options through a single system that integrates electronic trading and traditional open outcry trading on the Cboe Options trading floor in Chicago. C2 Options, BZX Options, and EDGX Options are all-electronic options exchanges, and typically operate with different market models and fee structures than Cboe Options. The Options segment also includes applicable market data fees revenues generated from the consolidated tape plans, the licensing of proprietary options market data, index licensing, routing services, and access and capacity services.

North American Equities. The North American Equities segment includes U.S. equities and ETP transaction services that occur on fully electronic exchanges owned and operated by BZX, BYX, EDGX, and EDGA, equities transactions that occur on the BIDS Trading platform in the U.S. and Canada, and Canadian equities and other transaction services that occur on or through Cboe Canada Inc.'s order books. The North American Equities segment also includes listing services on Cboe Canada Inc., corporate and ETP listings on BZX, applicable market data fees revenues generated from the consolidated tape plans, the licensing of proprietary equities market data, routing services, and access and capacity services.

Europe and Asia Pacific. The Europe and Asia Pacific segment includes the pan-European listed equities and derivatives transaction services, ETPs, exchange-traded commodities, and international depository receipts that are hosted on MTFs operated by Cboe Europe Equities (Cboe Europe and Cboe NL equities exchanges) and Cboe Europe Derivatives ("CEDX"). It also includes the ETP listings business on RMs and clearing activities of Cboe Clear Europe, as well as the equities transaction services of Cboe Australia and Cboe Japan, operators of trading venues in Australia and Japan, respectively, along with equities transactions that occur on the BIDS Trading platform in Australia and Japan. Cboe Europe operates lit and dark books, a periodic auctions book, and Cboe BIDS Europe, a Large-in-Scale ("LIS") trading negotiation facility for UK symbols. Cboe NL, based in Amsterdam, operates similar business functionality to that offered by Cboe Europe, and provides for trading only in European Economic Area ("EEA") symbols. Cboe Europe Derivatives, a pan-European derivatives platform, offers futures and options based on Cboe Europe equity indices, and single stock options. This segment also includes Cboe Europe, Cboe NL, CEDX, Cboe Australia and Cboe Japan revenue generated from the licensing of proprietary market data and from access and capacity services.

Futures. The Futures segment includes transaction services provided by CFE, a fully electronic futures exchange, which includes offerings for trading of VIX futures and other futures products, the licensing of proprietary market data, as well as access and capacity services.

Global FX. The Global FX segment includes institutional FX trading services that occur on the Cboe FX fully electronic trading platform, non-deliverable forward FX transactions ("NDFs") offered for execution on Cboe SEF, as well as revenue generated from the licensing of proprietary market data and from access and capacity services. The segment includes transaction services for U.S. government securities executed on the Cboe Fixed Income fully electronic trading platform.

Digital. The Digital segment includes a U.S. based digital asset spot market, a regulated futures exchange, and a regulated clearinghouse, as well as revenue generated from the licensing of proprietary market data and from access and capacity services. Cboe Digital launched trading and clearing in margin futures on Bitcoin and Ether on January 11, 2024.

Summarized financial data of reportable segments was as follows (in millions):

	North	Europe	Corporate

	Options	American Equities	and Asia Pacific	Futures	Global FX	Digital	Items and Eliminations	Total
Three Months Ended March 31, 2024								
Revenues	$477.4	$ 349.6	$ 80.7	$ 31.4	$ 18.8	$ (0.7)	$ —	$ 957.2
Operating income (loss)	216.8	38.0	10.2	22.1	6.6	(10.2)	(1.1)	282.4
Three Months Ended March 31, 2023								
Revenues	$486.1	$ 379.8	$ 72.3	$ 32.1	$ 18.8	$ (0.9)	$ —	$ 988.2
Operating income (loss)	201.0	28.4	11.3	20.9	4.7	(11.4)	(7.0)	247.9

Geographical Information

The following summarizes revenues less cost of revenues based on primary jurisdiction (in millions):

	United States	Non-U.S.	Total
Revenues less cost of revenues:			
Three months ended March 31, 2024	$ 436.5	$ 65.6	$ 502.1
Three months ended March 31, 2023	415.9	55.5	471.4

15. EMPLOYEE BENEFIT PLANS

Eligible U.S. employees are eligible to participate in the Cboe Options SMART Plan (“SMART Plan”). The SMART Plan is a defined contribution plan, which is qualified under Internal Revenue Code Section 401(k). In addition, eligible employees may participate in the Supplemental Employee Retirement Plan and the Deferred Compensation Plan, which are defined contribution plans that are non-qualified under the Internal Revenue Code. The non-qualified plans assets, held in a trust, are subject to the claims of general creditors of the Company and totaled $35.2 million and $36.7 million at March 31, 2024, and December 31, 2023, respectively. Although the value of the plan is recorded in financial investments on the condensed consolidated balance sheets, there is an equal and offsetting liability in other non-current liabilities. The investment results of the non-qualified plans have no impact on net income as the investment results are recorded in equal amounts to both other income, net and compensation and benefits expense in the condensed consolidated statements of income. The Company matches a portion of employee contributions made to the SMART Plan and Supplemental Employee Retirement Plan. The Company contributed $3.7 million and $3.6 million to these plans for the three months ended March 31, 2024, and 2023, respectively.

Eligible employees outside of the U.S., which includes employees of Cboe Europe, Cboe NL, Cboe Clear Europe, BIDS, Cboe Asia Pacific, and Cboe Canada Inc. are eligible to participate in various employee-selected stakeholder contribution plans or plans covered by local jurisdictions or by applicable laws. The Company’s contribution amounted to $1.4 million and $1.2 million for the three months ended March 31, 2024 and 2023, respectively. This expense is included in compensation and benefits in the condensed consolidated statements of income.

Effective January 1, 2023, Directors may contribute a percentage of their cash and equity compensation to cash and equity deferred compensation plans that are maintained by the Company and defer income taxes thereon.

16. REGULATORY CAPITAL

As broker-dealers registered with the SEC, Cboe Trading, BIDS Trading, and Cboe Fixed Income are subject to the SEC’s Uniform Net Capital Rule (“Rule 15c3-1”), which requires the maintenance of minimum net capital, as defined therein. The SEC’s requirement also provides that equity capital may not be withdrawn or a cash dividend paid if certain minimum net capital requirements are not met. Cboe Trading, BIDS Trading, and Cboe Fixed Income compute the net capital requirements under the basic method provided for in Rule 15c3-1. As of March 31, 2024, Cboe Trading and BIDS Trading were required to maintain net capital equal to the greater of 6.67% of aggregate indebtedness items, as defined, or $0.1 million. Cboe Fixed Income was required to maintain net capital equal to the greater of 6.67% of aggregate indebtedness items, as defined, or $5.0 thousand.

As entities regulated by the FCA, Cboe Europe is subject to the Financial Resource Requirement ("FRR") and Cboe Chi-X Europe is subject to the Capital Resources Requirement ("CRR"). As a RIE, Cboe Europe computes its FRR in accordance with its Financial Risk Assessment, as agreed by the FCA. In accordance with the Markets in Financial Instruments Directive of the FCA requirements, Cboe Chi-X Europe computes its CRR as the greater of the base requirement of $0.1 million at March 31, 2024, or the summation of the credit risk, market risk and fixed overheads requirements, as defined.

On March 8, 2019, Cboe NL received approval from the Dutch Ministry of Finance to operate a RM, a MTF, and an approved publication arrangement in the Netherlands. As a RM, Cboe NL is subject to minimum capital requirements, as established by the Dutch Ministry of Finance in the license dated March 8, 2019.

Cboe Clear Europe was granted authorization under European Market Infrastructure Regulation ("EMIR") by the National Competent Authority, DNB. Cboe Clear Europe is required by the EMIR, to maintain a minimum amount of capital to reflect an estimate of the capital required to wind down or restructure the activities of the clearinghouse, cover operational, legal and business risks and to reserve capital to meet credit, counterparty and market risks not covered by the clearing participants' collateral and clearing funds.

As a designated contract market regulated by the CFTC, CFE is required to meet two capital adequacy tests: (i) its financial resources must be equal to at least twelve months of its projected operating costs and (ii) its unencumbered, liquid financial assets, which may include a line of credit, must be equal to at least six months of its projected operating costs. The amounts presented below represent the greater of the two capital adequacy requirements.

As a swap execution facility regulated by the CFTC, Cboe SEF is required to meet two capital adequacy tests: (i) its financial resources must exceed at least twelve months of its projected operating costs and (ii) its unencumbered, liquid financial assets must be equal to the greater of: (a) three months of projected operating costs or (b) its projected wind down costs. The amounts presented below represent the greater of the two capital adequacy requirements.

As a designated contract organization regulated by the CFTC, Cboe Digital Exchange is required to meet two capital adequacy tests: (i) its financial resources must be equal to at least twelve months of its projected operating costs and (ii) its unencumbered, liquid financial assets, which may include a line of credit, must be equal to at least six months of its projected operating costs. The amounts presented below represent the greater of the two capital adequacy requirements.

As a derivatives clearing organization regulated by the CFTC, Cboe Clear Digital is required to meet two capital adequacy tests: (i) its financial resources must be equal to at least twelve months of its projected operating costs and (ii) its unencumbered, liquid financial assets, which may include a line of credit, must be equal to at least six months of its projected operating costs. The amounts presented below represent the greater of the two capital adequacy requirements.

Cboe Canada Inc. is regulated by the Ontario Securities Commission ("OSC"). Cboe Canada Inc. is required to maintain sufficient financial resources for the proper performance of its functions and to meet its responsibilities. Cboe Canada Inc. must calculate the following financial ratios monthly: (i) current ratio, (ii) a debt to cash flow ratio, and (iii) a financial leverage ratio. Cboe Canada Inc. must report the monthly calculations to the OSC on a quarterly basis.

Cboe Australia is regulated by the Australian Securities and Investments Commission ("ASIC"). Cboe Australia is required to maintain sufficient financial resources to operate the market properly in accordance with Section 794A(d) of the Corporations Act, which Cboe Australia satisfies by maintaining a prudent cash reserve, which must be equal to at least six months of its projected operating expenses.

Cboe Japan is regulated by the Japanese Financial Services Agency ("JFSA") and the Japan Securities Dealers Association ("JSDA"). Cboe Japan is required to maintain a minimum level of regulatory capital ratio of 120% in accordance with such requirements prescribed by the JFSA and JSDA.

The following table presents the Company's subsidiaries with regulatory capital requirements discussed above, as well as the actual and minimum regulatory capital requirements of the subsidiary as of March 31, 2024 (in millions):

Subsidiary	Regulatory Authority	Actual	Minimum Requirement
Cboe Trading	FINRA/SEC	$ 12.3	$ 1.0

BIDS Trading	FINRA/SEC	1.5	0.4
Cboe Fixed Income	FINRA/SEC	5.9	0.1
Cboe Europe	FCA	61.7	29.1
Cboe Chi-X Europe	FCA	0.1	0.1
Cboe NL	Dutch Authority for Financial Markets	17.9	7.3
Cboe Clear Europe	DNB	87.2	48.0
CFE	CFTC	59.9	38.7
Cboe SEF	CFTC	2.4	2.1
Cboe Digital Exchange	CFTC	44.5	5.6
Cboe Clear Digital	CFTC	32.7	5.7
Cboe Australia	ASIC	12.5	4.9
Cboe Japan	JFSA	8.5	4.3

17. STOCK-BASED COMPENSATION

Stock-based compensation is based on the fair value of the award on the date of grant, which is recognized over the related service period, net of actual forfeitures. The service period is the period over which the related service is performed, which is generally the same as the vesting period. Vesting may be accelerated for certain officers and employees as a result of attaining certain age and service-based requirements in the Company’s long-term incentive plan and award agreements.

Stock-based compensation expense relating to employee awards is included in compensation and benefits and acquisition-related costs in the condensed consolidated statements of income. The Company recognized stock-based compensation expense related to employee awards of $11.5 million and $16.9 million for the three months ended March 31, 2024 and 2023, respectively. Stock-based compensation expense relating to non-employee director awards is included in professional fees and outside services in the condensed consolidated statements of income. The Company recognized stock-based compensation expense related to non-employee director awards of $0.3 million and $0.5 million for the three months ended March 31, 2024 and 2023, respectively. Stock-based compensation expense relating to Restricted Common Units and Warrant Units granted to investor members of Cboe Digital are recorded as contra-revenue in the condensed consolidated statements of income and is outlined further below.

The activity in the Company’s restricted stock, consisting of restricted stock units (“RSUs”), and performance-based restricted stock units (“PSUs”) for the three months ended March 31, 2024 was as follows:

RSUs

The following table summarizes RSU activity during the three months ended March 31, 2024:

	Number of Shares	Weighted average grant date fair value
Nonvested stock at December 31, 2023	638,181	$ 125.25
Granted	210,722	183.12
Vested	(232,632)	113.37
Forfeited	(3,079)	128.70
Nonvested stock at March 31, 2024	613,192	$ 149.63

RSUs entitle the holder to one share of common stock upon vesting with the exception of certain jurisdictions where the RSUs are settled in cash, typically vest over a three-year period, and vesting accelerates upon death, disability, or the occurrence of a qualified termination following a change in control. Vesting will also accelerate upon a qualified retirement where applicable and permitted. Where applicable and permitted, qualified retirement eligibility occurs once achieving 55 years of age and 10 years of service. Starting in 2024, in connection with grants of new equity awards, the award agreements provide that in the event of a participant’s retirement, all unvested outstanding RSUs and a pro-rata portion of unvested outstanding PSUs will remain outstanding and be distributed in accordance with the award’s original vesting and settlement schedule, even after the applicable retirement date. Retirement eligibility will require, in addition to attaining 55 years of age and 10 years of continuous service, submission of 6 months of advanced written notice of a retirement and submission, approval, and satisfactory completion of a transition plan. Unvested RSUs will be forfeited if the officer, or employee leaves the Company prior to the applicable vesting date, except in limited circumstances.

RSUs granted to non-employee members of the Board of Directors have a one-year vesting period and vesting accelerates upon the occurrence of a change in control of the Company. Unvested portions of the RSUs will be forfeited if the director leaves the Board of Directors prior to the applicable vesting date.

The RSUs have no voting rights but entitle the holder to receive dividend equivalents.

During the three months ended March 31, 2024, to satisfy employees’ tax obligations upon the vesting of restricted stock, the Company purchased 90,121 shares of common stock totaling $16.9 million as a result of the vesting of 232,278 shares of restricted stock.

PSUs

The following table summarizes restricted stock units contingent upon achievement of performance conditions, also known as PSUs, activity during the three months ended March 31, 2024:

	Number of Shares	Weighted average grant date fair value
Nonvested stock at December 31, 2023	134,484	$ 127.72
Granted	86,996	145.21
Vested	(110,376)	100.50
Forfeited	—	—
Nonvested stock at March 31, 2024	111,104	$ 168.45

PSUs include awards related to earnings per share during the performance period as well as awards related to total shareholder return during the performance period. The Company used the Monte Carlo valuation model method to estimate the fair value of the total shareholder return PSUs which incorporated the following assumptions for awards granted in February 2024: risk-free interest rate (4.41)%, 2.86-year volatility (21.56)% and 2.86-year correlation with S&P 500 Index (0.39). Each of these performance shares has a performance condition under which the number of units ultimately awarded will vary from 0% to 200% of the original grant, with each unit representing the contingent right to receive one share of the Company's common stock. The vesting period for the PSUs contingent on the achievement of performance conditions is three years. For each of the performance awards, the PSUs will be settled in shares of the Company's common stock following vesting of the PSU assuming that the participant has been continuously employed during the vesting period, subject to acceleration upon death, disability, or the occurrence of a qualified termination following a change in control. Participants have no voting rights with respect to the PSUs until the issuance of the shares of common stock. Dividends are accrued by the Company and will be paid once the PSUs, contingent on the achievement of performance conditions, vest.

In the three months ended March 31, 2024, to satisfy employees' tax obligations upon the vesting of performance stock, the Company purchased 46,867 shares of common stock totaling $8.6 million as a result of the vesting of 110,376 shares of performance stock.

As of March 31, 2024, there were $85.1 million in total unrecognized compensation costs related to restricted stock, restricted stock units, and performance stock units. These costs are expected to be recognized over a weighted average period of 2.3 years.

Employee Stock Purchase Plan

In May 2018, the Company's stockholders approved an Employee Stock Purchase Plan, ("ESPP"), under which a total of 750,000 shares of the Company's common stock will be made available for purchase to employees. The ESPP is a broad-based plan that permits employees to contribute up to 10% of wages and base salary to purchase shares of the Company's common stock at a discount, subject to applicable annual Internal Revenue Service ("IRS") limitations. Under the ESPP, a participant may not purchase more than a maximum of 312 shares of the Company's common stock during any single offering period. No participant may accrue options to purchase shares of the Company's common stock at a rate that exceeds $25,000 in fair market value of the Company's common stock (determined at the time such options are granted) for each calendar year in which such rights are outstanding at any time. The exercise price per share of common stock shall be 85% (for eligible U.S. and international employees) of the lesser of the fair value of the stock on the first day of the applicable offering period or the applicable exercise date.

The Company records compensation expense over the offering period related to the discount that is given to employees, which totaled $0.8 million and $0.3 million for the three months ended March 31, 2024 and 2023, respectively. As of March 31, 2024, 520,414 shares were reserved for future issuance under the ESPP.

Cboe Digital Restricted Common Units

On November 18, 2022, Cboe Digital Holdings entered into minority interest purchase agreements with certain digital asset industry participants, pursuant to which Cboe Digital Holdings agreed to issue 185 Restricted Common Units in Cboe Digital. In addition, certain investor members and their affiliates are our customers, including trading permit holders, trading privilege holders, participants, and members. Certain Cboe Digital investor members paid for the Restricted

Common Units through the issuance of promissory notes, which are nonrecourse in nature. The issuances of Restricted Common Units for nonrecourse promissory notes are accounted for as in-substance stock options. The promissory notes generally bear interest at a rate of 5% per annum and mature upon the earlier of the sale of vested Restricted Common Units, or either November 18, 2032 or November 18, 2037. One Cboe Digital investor member paid for the Restricted Common Units in exchange for cash.

The following table summarizes the option activity during the three months ended March 31, 2024 (in millions, except number of units and contractual term):

	Number of Units	Weighted average exercise price	Aggregate intrinsic value	Weighted average remaining contractual term
Outstanding at December 31, 2023	185	$ 0.3	$ —	5 years
Granted	—	—	—	
Vested	—	—	—	
Outstanding at March 31, 2024	185	$ 0.3	$ —	5 years

Vesting of Restricted Common Units is based on certain conditions relating to the participation and performance of the Cboe Digital investor members on the Cboe Digital platforms, generally over a five-year period. Performance is generally measured based on participation on the Cboe Digital platforms and the investor members maintaining certain average daily volumes on the platforms. Due to the existence of an option for investor members to sell their shares immediately after vesting, the options are liability classified. The options expire upon the maturity of the promissory notes, which is either November 18, 2032 or November 18, 2037, unless the options are exercised.

The cost associated with the options will be recognized as contra-revenue, net of actual forfeitures and based on the continued probability of the satisfaction of performance conditions ratably over the vesting period. At December 31, 2022, $14.0 million of contra-revenue related to the options grants was included in other assets, net within the consolidated balance sheet. At March 31, 2023 the contra-revenue balance included in other assets, net within the condensed consolidated balance sheet included a $0.1 million adjustment to the Restricted Common Units contra-revenue asset as a result of the finalization of the initial grant date fair value calculation. For the three months ended March 31, 2024 and 2023, $0.6 million and $0.8 million of contra-revenue related to the options grants was recognized in transaction and clearing fees in the condensed consolidated statements of income, respectively. As of March 31, 2024, and December 31, 2023, $10.4 million and $11.0 million of contra-revenue related to the options grants was included in other assets, net on the condensed consolidated balance sheets, respectively, and is expected to be recognized as contra-revenue in transaction and clearing fees in the condensed consolidated statements of income over the remaining contractual term.

Changes in the fair value of the options, subsequent to the grant date, is recognized in other income, net in the condensed consolidated statements of income in the period in which the fair value of the options changes. The Company uses a Black Scholes pricing model to estimate the fair value of the in-substance stock options which incorporated the following assumptions as of December 31, 2023: risk-free interest rate range (3.81 to 3.90)%, expected dividend rate (0)%, expected volatility (60 to 65)%, and expected term of 3.9 to 5.9 years. For the three months ended March 31, 2024, there was $0.3 million of other income recognized in other income, net in the condensed consolidated statements of income related to a reduction in the fair value of the options.

Certain Cboe Digital investor members can earn additional Incentive Program Units. The Incentive Program Units are subject to the same terms and conditions as the other Restricted Common Units and are similarly liability-classified awards. Cboe Digital authorized a maximum of 20 Common Units to be distributed over the two-year life of the incentive program. For the three months ended March 31, 2024, $0.2 million of contra-revenue related to the Incentive Program Units was recognized in transaction and clearing fees in the condensed consolidated statements of income. As of March 31, 2024, and December 31, 2023, $2.3 million and $2.5 million of contra-revenue related to the Incentive Program Units is included in other assets, net within the condensed consolidated balance sheets, respectively, and is expected to be recognized as contra-revenue in transaction and clearing fees in the condensed consolidated statements of income over the remaining service period associated with the Incentive Program Units.

Cboe Digital Warrants Units

On November 18, 2022, Cboe Digital Holdings entered into a Warrant Agreement with an investor member to acquire up to 80 Common Units of Cboe Digital, subject to certain vesting events. The investor member is a customer of Cboe Digital. The vesting of the Warrant Units is based upon the achievement of certain conditions relating to the service provided by the investor member over a two-year period, of which some conditions represent conditions that are not service, performance, or market conditions and, therefore, the Warrant Units are liability classified. As of March 31, 2024, 40 Warrant Units have vested, but no Warrant Units have been exercised.

The cost associated with the Warrant Units will be recognized as contra-revenue ratably throughout the expected life of the Warrant before exercise. For each of the three months ended March 31, 2024 and 2023, $0.3 million of contra-revenue related to the Warrant Units was recognized in transaction and clearing fees in the condensed consolidated statements of income. As of March 31, 2024, and December 31, 2023, $4.3 million and $4.6 million of contra-revenue related to the Warrant Units is included in other assets, net within the condensed consolidated balance sheets, respectively, and is expected to be recognized as contra-revenue in transaction and clearing fees in the condensed consolidated statements of income over the remaining life of the Warrant Units.

The following table summarizes the Warrant Unit activity during the three months ended March 31, 2024 (in millions, except number of units):

	Number of Units	Weighted average exercise price
Outstanding and exercisable at December 31, 2023	40	$ 0.2
Outstanding at December 31, 2023	80	0.2
Granted	—	—
Vested	—	—
Outstanding and exercisable at March 31, 2024	40	0.2
Outstanding at March 31, 2024	80	$ 0.2

Changes in the fair value of the Warrant Units, subsequent to the grant date, is recognized in other income, net in the condensed consolidated statements of income in the period in which the fair value of the Warrant Units change. The Company uses a Black Scholes pricing model to estimate the fair value of the Warrant Units which incorporated the following assumptions as of December 31, 2023: risk-free interest rate (3.89)%, expected dividend rate (0)%, expected volatility (65)%, and expected term of 4.0 years. For the three months ended March 31, 2024, there was $0.1 million of other income recognized in other income, net in the condensed consolidated statements of income related to a reduction in the fair value of the Warrant Units.

18. EQUITY

Common Stock

The Company’s common stock is listed on Cboe BZX under the trading symbol CBOE. As of March 31, 2024, 325,000,000 shares of the Company’s common stock were authorized, $0.01 par value, and 105,931,791 and 105,341,315 shares were issued and outstanding, respectively. As of December 31, 2023, 325,000,000 shares of the Company’s common stock were authorized, $0.01 par value, and 105,556,817 and 105,527,815 shares were issued and outstanding, respectively. The holders of common stock are entitled to one vote per share.

Common Stock in Treasury, at Cost

The Company accounts for the purchase of treasury stock under the cost method with the shares of stock repurchased reflected as a reduction to Cboe stockholders’ equity and included in common stock in treasury, at cost in the condensed consolidated balance sheets. Shares repurchased under the Company’s share repurchase program are retired or they are available to be redistributed. When treasury shares are redistributed, they are recorded at the average cost of the treasury shares acquired. When treasury shares are retired, they are removed from the common stock in treasury balance. The Company held 590,476 and 29,002 shares of common stock in treasury as of March 31, 2024 and December 31, 2023, respectively.

Share Repurchase Program

In 2011, the Board of Directors approved an initial authorization for the Company to repurchase shares of its outstanding common stock of $100 million and subsequently approved additional authorizations for a total authorization of $1.8 billion. The Company expects to fund repurchases primarily through the use of existing cash balances. The program permits the Company to purchase shares, through a variety of methods, including in the open market or through privately negotiated transactions, in accordance with applicable securities laws. It does not obligate the Company to make any repurchases at any specific time or situation.

The table below shows the repurchased shares of common stock under the Company's share repurchase program during the period presented as follows:

	Three Months Ended March 31,	
	2024	2023
Number of shares of common stock repurchased	489,686	567,073
Average price paid per share	$ 182.26	$ 123.42
Total purchase price (in millions)	$ 89.3	$ 70.0

Since inception of the program through March 31, 2024, the Company has repurchased 20,099,774 shares of common stock at an average cost per share of $74.89, for a total value of $1.5 billion.

As of March 31, 2024 and 2023, the Company had $294.8 million and $147.9 million of availability remaining under its existing share repurchase authorizations, respectively.

Purchase of Common Stock from Employees

The Company purchased 136,988 and 98,783 shares that were not part of the publicly announced share repurchase authorization from employees for an average price paid per share of $186.36 and $129.03 during the three months ended March 31, 2024, and 2023, respectively. These shares consisted of shares retained to cover payroll withholding taxes or option costs in connection with the vesting of restricted stock awards, restricted stock units, and performance share awards.

Preferred Stock

The Company has authorized the issuance of 20,000,000 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, the Company had no shares of preferred stock issued or outstanding.

Dividends

During the three months ended March 31, 2024, the Company declared and paid cash dividends per share of $0.55 for an aggregate payout of $58.5 million. During the three months ended March 31, 2023, the Company declared and paid cash dividends per share of $0.50 for an aggregate payout of $53.3 million.

Each share of common stock, including RSUs and PSUs, is entitled to receive dividend and dividend equivalents, respectively, if, as and when declared by the Board of Directors of the Company. The Company's expectation is to continue to pay dividends. The decision to pay a dividend, however, remains within the discretion of the Company's Board of Directors and may be affected by various factors, including earnings, financial condition, capital requirements, level of indebtedness and other considerations the Board of Directors deems relevant. Future debt obligations and statutory provisions, among other things, may limit, or in some cases prohibit, the Company's ability to pay dividends.

As a holding company, the Company's ability to declare and continue to pay dividends in the future with respect to its common stock will also be dependent upon the ability of its subsidiaries to pay dividends to it under applicable corporate law.

19. INCOME TAXES

The Company records income tax expense during interim periods based on the best estimate of the full year's tax rate as adjusted for discrete items, if any, that are taken into account in the relevant interim period. Each quarter, the Company updates its estimate of the annual effective tax rate and any change in the estimated rate is recorded on a cumulative basis. The effective tax rate from continuing operations was 28.3% and 30.1% for the three months ended March 31, 2024 and 2023, respectively. The lower effective tax rate for the three months ended March 31, 2024 compared to the same period in 2023 is primarily due to excess tax benefits from the vesting of equity awards during the first quarter of 2024.

During the three months ended March 31, 2024 the Company paid $72.8 million to settle its Section 199 liabilities.

20. EARNINGS PER SHARE

The computation of basic net income per common share is calculated by reducing net income for the period by dividends paid or declared and undistributed net income for the period that are allocated to participating securities to arrive at net income allocated to common stockholders. Net income allocated to common stockholders is divided by the weighted average number of common shares outstanding during the period to determine net income per share allocated to common stockholders.

The computation of diluted net income per share is calculated by dividing net income allocated to common stockholders by the sum of the weighted average number of common shares outstanding plus all additional common shares that would have been outstanding if the potentially dilutive common shares had been issued. The dilutive effect is calculated using the more dilutive of the two-class or treasury stock method.

The following table sets forth the computation of basic and diluted earnings per share for the three months ended March 31, 2024 and 2023 (in millions, except per share data):

	Three Months Ended March 31,	
	2024	2023
Basic earnings per share numerator:		
Net income	$209.5	$173.4
Net income allocated to participating securities	(1.2)	(0.8)
Net income allocated to common stockholders	$208.3	$172.6
Basic earnings per share denominator:		
Weighted average shares outstanding	105.6	105.9
Basic earnings per share	$ 1.97	$ 1.63
Diluted earnings per share numerator:		
Net income	$209.5	$173.4
Net income allocated to participating securities	(1.2)	(0.8)
Net income allocated to common stockholders	$208.3	$172.6
Diluted earnings per share denominator:		
Weighted average shares outstanding	105.6	105.9
Dilutive common shares issued under stock program	0.5	0.3
Total dilutive weighted average shares	106.1	106.2
Diluted earnings per share	$ 1.96	$ 1.63

For the periods presented, the Company did not have shares of stock-based compensation that would have an anti-dilutive effect on the computation of diluted earnings per share.

21. COMMITMENTS, CONTINGENCIES, AND GUARANTEES

Legal Proceedings

As of March 31, 2024, the Company was subject to the various legal proceedings and claims discussed below, as well as certain other legal proceedings and claims that have not been fully resolved and that have arisen in the ordinary course of business.

The Company reviews its legal proceedings and claims, regulatory reviews and inspections and other legal proceedings on an ongoing basis and follows appropriate accounting guidance when making accrual and disclosure decisions. The Company establishes accruals for those contingencies where the incurrence of a loss is probable and can be reasonably estimated, and the Company discloses the amount accrued and the amount of a reasonably possible loss in excess of the amount accrued, if such disclosure is necessary for the condensed consolidated financial statements to not be misleading. The Company does not record liabilities when the likelihood that the liability has been incurred is probable, but the amount cannot be reasonably estimated, or when the liability is believed to be only reasonably possible or remote. The Company’s assessment of whether a loss is remote, reasonably possible, or probable is based on its assessment of the ultimate outcome of the matter following all appeals.

As of March 31, 2024, the Company does not believe that there is a reasonable possibility that any material loss exceeding the amounts already recognized for these legal proceedings and claims, regulatory reviews, inspections or other legal proceedings, if any, has been incurred. While the consequences of certain unresolved proceedings are not presently determinable, the outcome of any proceeding is inherently uncertain and an adverse outcome from certain matters could have a material effect on the financial position, results of operations, or cash flows of the Company in any given reporting period.

CAT Funding Model Order Litigation

On September 6, 2023, the SEC issued an order approving an amendment to the CAT National Market System Plan to implement a revised funding model for CATLLC to fund the CAT (“CAT Funding Model Order”). The approved CAT Funding Model contemplates two categories of CAT fees calculated based on the “executed equivalent shares” of transactions in eligible securities: (i) CAT fees assessed by CATLLC to Industry Members who are CAT Executing Brokers to recover a portion of historical CAT costs previously paid to CATLLC by the Plan Participants; and (ii) CAT fees assessed by CATLLC to CAT Executing Brokers and Plan Participants to fund prospective CAT costs.

On October 17, 2023, the American Securities Association (“AMA”) and Citadel Securities, LLC (“Citadel”) filed a Petition for Review of the CAT Funding Model Order in the U.S. Court of Appeals for the 11th Circuit (“11th Circuit”). On November 16, 2023, the Cboe U.S. national securities exchanges, the NYSE U.S. national securities exchanges, the Nasdaq U.S. national securities exchanges and CATLLC filed motions to intervene on behalf of the SEC. On January 17, 2024, the 11th Circuit granted each of the motions to intervene on behalf of the SEC and established a briefing schedule. Briefing is expected to conclude during the second quarter of 2024. Arguments are expected to occur during the third quarter of 2024. This challenge or any other challenge to the SEC order approving the CAT Funding Model and/or Plan Participant(s) fee filings may significantly delay efforts to implement the CAT fees. As a result, the Plan Participants may continue to incur additional significant costs, and/or it may result in them not being able to collect on the promissory notes related to the funding of the implementation and operation of the CAT. The Company believes the appeal is without merit and intends to vigorously litigate the matter.

Other

As self-regulatory organizations under the jurisdiction of the SEC, Cboe Options, C2, BZX, BYX, EDGX and EDGA are subject to routine reviews and inspections by the SEC. As a designated contract market under the jurisdiction of the CFTC, CFE, and Cboe Digital Exchange are subject to routine rule enforcement reviews and examinations by the CFTC. As a derivatives clearing organization under the jurisdiction of the CFTC, Cboe Clear Digital is also subject to routine audits and examinations by state regulators. Cboe SEF, LLC is a swap execution facility registered with the CFTC and subject to routine rule enforcement reviews and examinations by the CFTC. Cboe Trading, BIDS Trading and Cboe Fixed Income are subject to reviews and inspections by FINRA. The Company has from time to time received inquiries and investigative requests from the SEC’s Division of Examinations and the CFTC’s Division of Market Oversight as well as the SEC Division of Enforcement and CFTC Division of Enforcement seeking information about the Company’s compliance with its obligations as a self-regulatory organization under the federal securities laws and Commodity Exchange Act as well as members’ compliance with the federal securities laws and Commodity Exchange Act.

In addition, Cboe Europe, Cboe Chi-X Europe, Cboe Clear Europe, Cboe NL, Cboe Australia, Cboe Japan, and Cboe Canada Inc. may be subject to routine reviews, audits, examinations, investigations, or inspections, as applicable, by their respective regulators, and while they have not been the subject of any litigation or regulatory investigation in the past that resulted in a material impact on the Company's financial position, results of operations, liquidity or capital resources, there is always the possibility of such action in the future. As Cboe Europe and Cboe Chi-X Europe are domiciled in the UK, it is likely that any action would be taken in the UK courts in relation to litigation or by the FCA in relation to any regulatory enforcement action. As Cboe Clear Europe is domiciled in the Netherlands, it is likely that any action would be taken in the Dutch courts in relation to litigation or by the DNB or Dutch Authority for Financial Markets in relation to any regulatory enforcement action. For Cboe NL, also domiciled in the Netherlands, it is likely that any actions would be taken in the Dutch courts in relation to litigation or Dutch Authority for Financial Markets in relation to any regulatory enforcement action. As Cboe Australia is domiciled in Australia, it is likely that any action would be taken in the Australian courts in relation to litigation or by the ASIC, in relation to any regulatory enforcement action. As Cboe Japan is domiciled in Japan, it is likely that any action would be taken in the Japanese courts in relation to litigation or by the JFSA or the JSDA in relation to any regulatory enforcement action. As Cboe Canada Inc. is domiciled in Canada, it is likely that any action would be taken in the Canadian courts in relation to litigation or by the OSC and/or CIRO in relation to any regulatory enforcement action.

Cboe Digital has committed to securely store all digital assets it holds on behalf of users. As such, Cboe Digital may be liable to its users for losses arising from theft or loss of user private keys. Cboe Digital has no reason to believe it will incur any expense associated with such potential liability because (i) it has no known or historical experience of claims to use as a basis of measurement, (ii) it accounts for and continually verifies the amount of digital assets within its control, and (iii) it has established security around custodial private keys to minimize the risk of theft or loss. There were no loss events impacting safeguarded assets caused by the theft or loss of digital asset user private keys as of March 31, 2024.

The Company is also currently a party to various other legal and regulatory proceedings in addition to those already mentioned. Management does not believe that the likely outcome of any of these other reviews, inspections, investigations or other legal proceedings is expected to have a material impact on the Company’s financial position, results of operations, liquidity or capital resources.

See also Note 6 (“Credit Losses”) for information on promissory notes related to the CAT.

See also Note 19 (“Income Taxes”).

Contractual Obligations

The Company has contractual obligations related to licensing agreements with various licensors, some of which included fixed fees and/or variable fees calculated using agreed upon contracted rates and reported cleared volumes. Certain licensing agreements contain annual minimum fee requirements that total between $17.1 and $18.1 million each year for the next five years. On January 29, 2024, the Company entered into an addendum to our corporate agreement with a cloud services provider, which contains annual minimum fee requirements that total between $5.3 million and $6.9 million each year for the next five years. Cboe Canada Inc. has purchase obligations primarily related to software development activities of $1.0 million in total over the next three years.

See Note 12 (“Clearing Operations”) for information on the clearinghouse exposure guarantees for Cboe Clear Europe and Cboe Clear Digital.

See Note 22 (“Leases”) for information on lease obligations.

22. LEASES

The Company currently leases office space, data centers, remote network operations centers, and equipment under non-cancelable operating leases with third parties as of March 31, 2024. Certain leases include one or more options to renew, with renewal terms that can extend the lease term from one to five years or more, and some of which include the Company’s option to terminate the leases within one year. During the three months ended March 31, 2024, the Company did not add any right of use assets and lease liabilities related to new operating leases.

The following table presents the supplemental balance sheet information related to leases as of March 31, 2024 and December 31, 2023, respectively (in millions):

	March 31, 2024	December 31, 2023
Operating lease right of use assets	$ 130.6	$ 136.6

Total leased assets	$ 130.6	$ 136.6
Current operating lease liabilities (1)	$ 21.0	$ 20.8
Non-current operating lease liabilities	144.3	150.8
Total leased liabilities	$ 165.3	$ 171.6

(1) These amounts are reflected within accounts payable and accrued liabilities in the condensed consolidated balance sheets.

The following table presents operating lease costs and other information as of and for the three months ended March 31, 2024 and 2023, respectively (in millions, except as stated):

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Operating lease costs (1)	$ 9.1	$ 8.6
Lease term and discount rate information:		
Weighted average remaining lease term (years)	8.4	10.0
Weighted average discount rate	3.4 %	3.1 %
Supplemental cash flow information and non-cash activity:		
Cash paid for amounts included in the measurement of lease liabilities	$ 6.8	$ 6.4
Right of use assets obtained in exchange for lease liabilities	—	3.3

(1) Includes short-term lease and variable lease costs, which are immaterial.

The maturities of the lease liabilities are as follows as of March 31, 2024 (in millions):

	March 31, 2024
Remainder of 2024	$ 19.3
2025	26.1
2026	27.3
2027	23.0
2028	20.8
After 2028	75.5
Total lease payments (1)	$ 192.0
Less: Interest	(26.7)
Present value of lease liabilities	$ 165.3

(1) Total lease payments include $13.8 million related to options to extend lease terms that are reasonably certain of being exercised.

23. SUBSEQUENT EVENTS

On April 25, 2024, the Company announced plans to wind down the spot crypto market currently offered by Cboe Digital and transition its cash-settled Bitcoin and Ether futures contracts to CFE, pending regulatory review and certain corporate approvals. The Company expects to maintain the derivatives clearing services currently operated by Cboe Clear Digital, integrating these functions and teams into the existing organizational structure. In connection with shutting down the spot crypto exchange, the Company also plans to unwind the minority ownership structure in Cboe Digital.

For the three months ended March 31, 2024, Cboe Digital net revenue was $ (0.9) million and is included in the Digital reportable segment. The Company expects to record an estimated pre-tax charge of $39 million to $82 million, which is expected to be recorded in the quarter ending June 30, 2024, primarily related to non-cash impairment of long-lived and indefinite-lived intangible assets.

Subsequent to the three months ended March 31, 2024, from April 1, 2024 through April 30, 2024, the Company repurchased 152,383 shares of its common stock under its share repurchase program at an average cost per share of $179.54, for a total value of $27.4 million. As of April 30, 2024, the Company had $267.4 million of availability remaining under its existing share repurchase authorizations.

There have been no other subsequent events that would require disclosure in, or adjustment to, the condensed consolidated financial statements as of and for the three months ended March 31, 2024.

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

The following discussion should be read in conjunction with the accompanying unaudited condensed consolidated financial statements and the notes thereto, included in Item 1 in this Quarterly Report on Form 10-Q, and the audited consolidated financial statements in the Company’s Annual Report on Form 10-K for the year ended December 31, 2023, and as contained in that report, the information under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” This discussion contains forward-looking information. Please see “Forward-Looking Statements” for a discussion of the uncertainties, risks and assumptions associated with these statements.

Overview

Cboe Global Markets, Inc., the world’s leading derivatives and securities exchange network, delivers cutting-edge trading, clearing and investment solutions to people around the world. Cboe provides trading solutions and products in multiple asset classes, including equities, derivatives, FX, and digital assets, across North America, Europe, and Asia Pacific. Above all, the Company is committed to building a trusted, inclusive global marketplace that enables people to pursue a sustainable financial future.

Cboe’s subsidiaries include the largest options exchange and the third largest stock exchange operator in the U.S. In addition, the Company operates Cboe Europe, one of the largest stock exchanges by value traded in Europe, and owns Cboe Clear Europe, a leading pan-European equities and derivatives clearinghouse, BIDS Holdings, which owns a leading block-trading ATS by volume in the U.S., and provides block-trading services with Cboe market operators in Europe, Canada, Australia, and Japan, Cboe Australia, an operator of trading venues in Australia, Cboe Japan, an operator of trading venues in Japan, Cboe Digital, an operator of a U.S. based digital asset spot market and a regulated futures exchange, Cboe Clear Digital, an operator of a regulated clearinghouse, and Cboe Canada Inc., a recognized Canadian securities exchange. Cboe subsidiaries also serve collectively as a leading market globally for exchange-traded products (“ETPs”) listings and trading.

The Company is headquartered in Chicago with offices in Amsterdam, Belfast, Hong Kong, Kansas City, London, Manila, New York, San Francisco, Sarasota Springs, Singapore, Sydney, Tokyo, and Toronto.

Business Segments

The Company operates six reportable business segments: Options, North American Equities, Europe and Asia Pacific, Futures, Global FX, and Digital, which is reflective of how the Company's chief operating decision-maker reviews and operates the business, as discussed in Note 1 (“Organization and Basis of Presentation”). Segment performance is primarily evaluated based on operating income (loss). The Company’s chief operating decision-maker does not use segment-level assets or income and expenses below operating income (loss) as key performance metrics; therefore, such information is not presented below. The Company has aggregated all of its corporate costs, as well as other business ventures, within the Corporate Items and Eliminations totals based on the decision that those activities should not be used to evaluate the operating performance of the segments; however, operating expenses that relate to activities of a specific segment have been allocated to that segment.

Options. The Options segment includes options on market indices (“index options”), as well as on the stocks of individual corporations (“equity options”) and on ETPs such as exchange-traded funds (“ETFs”) and exchange-traded notes (“ETNs”), which are “multi-listed” options and listed on a non-exclusive basis. These options are eligible to trade, as applicable, on Cboe Options, C2, BZX, EDGX, and/or other U.S. national security exchanges. Cboe Options is the Company’s primary options market and offers trading in listed options through a single system that integrates electronic trading and traditional open outcry trading on the Cboe Options trading floor in Chicago. C2 Options, BZX Options, and EDGX Options are all-electronic options exchanges, and typically operate with different market models and fee structures than Cboe Options. The Options segment also includes applicable market data fees revenues generated from the consolidated tape plans, the licensing of proprietary options market data, index licensing, routing services, and access and capacity services.

North American Equities. The North American Equities segment includes U.S. equities and ETP transaction services that occur on fully electronic exchanges owned and operated by BZX, BYX, EDGX, and EDGA, equities transactions that occur on the BIDS Trading platform in the U.S. and Canada, and Canadian equities and other transaction services that occur on or through Cboe Canada Inc.’s order books. The North American Equities segment also includes listing services on Cboe Canada Inc., corporate and ETP listings on BZX, applicable market data fees revenues generated from the consolidated tape plans, the licensing of proprietary equities market data, routing services, and access and capacity services.

Europe and Asia Pacific. The Europe and Asia Pacific segment includes the pan-European listed equities and derivatives transaction services, ETPs, exchange-traded commodities, and international depository receipts that are hosted on MTFs operated by Cboe Europe Equities (Cboe Europe and Cboe NL equities exchanges) and Cboe Europe Derivatives ("CEDX"). It also includes the ETP listings business on RMs and clearing activities of Cboe Clear Europe, as well as the equities transaction services of Cboe Australia and Cboe Japan, operators of trading venues in Australia and Japan, respectively, along with equities transactions that occur on the BIDS Trading platform in Australia and Japan. Cboe Europe operates lit and dark books, a periodic auctions book, and Cboe BIDS Europe, a Large-in-Scale ("LIS") trading negotiation facility for UK symbols. Cboe NL, based in Amsterdam, operates similar business functionality to that offered by Cboe Europe, and provides for trading only in European Economic Area ("EEA") symbols. Cboe Europe Derivatives, a pan-European derivatives platform, offers futures and options based on Cboe Europe equity indices, and single stock options. This segment also includes Cboe Europe, Cboe NL, CEDX, Cboe Australia and Cboe Japan revenue generated from the licensing of proprietary market data and from access and capacity services.

Futures. The Futures segment includes transaction services provided by CFE, a fully electronic futures exchange, which includes offerings for trading of VIX futures and other futures products, the licensing of proprietary market data, as well as access and capacity services.

Global FX. The Global FX segment includes institutional FX trading services that occur on the Cboe FX fully electronic trading platform, non-deliverable forward FX transactions ("NDFs") offered for execution on Cboe SEF, as well as revenue generated from the licensing of proprietary market data and from access and capacity services. The segment includes transaction services for U.S. government securities executed on the Cboe Fixed Income fully electronic trading platform.

Digital. The Digital segment includes a U.S. based digital asset spot market, a regulated futures exchange, and a regulated clearinghouse, as well as revenue generated from the licensing of proprietary market data and from access and capacity services. Cboe Digital launched trading and clearing in margin futures on Bitcoin and Ether on January 11, 2024.

On April 25, 2024, the Company announced plans to wind down the spot crypto market currently offered by Cboe Digital and transition its cash-settled Bitcoin and Ether futures contracts to CFE, pending regulatory review and certain corporate approvals. The Company expects to maintain the derivatives clearing services currently operated by Cboe Clear Digital, integrating these functions and teams into the existing organizational structure. In connection with shutting down the spot crypto exchange, the Company also plans to unwind the minority ownership structure in Cboe Digital.

For the three months ended March 31, 2024, Cboe Digital net revenue was $(0.9) million and is included in the Digital reportable segment. The Company expects to record an estimated pre-tax charge of $39 million to $82 million, which is expected to be recorded in the quarter ending June 30, 2024, primarily related to non-cash impairment of long-lived and indefinite-lived intangible assets.

General Factors Affecting Results of Operations

In broad terms, our business performance is impacted by a number of drivers, including macroeconomic events affecting the risk and return of financial assets, investor sentiment, the regulatory environment for capital markets, geopolitical events, tax policies, central bank policies and changing technology, particularly in the financial services industry. We believe our future revenues and net income will continue to be influenced by a number of domestic and international economic trends, including:

- trading volumes on our proprietary products such as VIX options and futures and SPX options;
- trading volumes in listed equity securities, options, futures, and ETPs in North America, Europe, and Asia Pacific, clearing volumes in listed equity securities and ETPs in Europe, volumes in listed equity options, volumes in digital assets, and volumes in institutional FX trading;
- the demand for and pricing structure of the U.S. tape plan market data distributed by the Securities Information Processors (“SIPs”), which determines the pool size of the industry market data fees we receive based on our market share;
- consolidation and expansion of our customers and competitors in the industry;

- the demand for information about, or access to, our markets and products, which is dependent on the products we trade, our importance as a liquidity center, quality and integrity of our proprietary indices, and the quality and pricing of our data and access and capacity services;
- continuing pressure in transaction fee pricing due to intense competition in the North American, European, and Asia Pacific markets;
- significant fluctuations in foreign currency translation rates or weakened value of currencies; and
- regulatory changes and obligations relating to market structure, digital assets and increased capital requirements, and those which affect certain types of instruments, transactions, products, pricing structures, capital market participants or reporting or compliance requirements.

A number of significant structural, political and monetary issues, global conflicts continue to confront the global economy, and instability could continue, resulting in an increased or subdued level of inflation, market volatility, potential recessions, supply chain constraints and costs, changes in trading volumes, greater uncertainty, inflationary increases in our expenses, and increased costs and uncertainties related to CAT and the ability to collect on the promissory notes related to the funding of CAT may have an adverse effect on our financial results.

Components of Revenues

Cash and Spot Markets

Revenue aggregated into cash and spot markets includes associated transaction and clearing fees, the portion of market data fees relating to associated U.S. tape plan market data fees, associated regulatory fees, and associated other revenue from the Company’s North American Equities, Europe and Asia Pacific, Global FX, and Digital segments.

Data and Access Solutions

Revenue aggregated into data and access solutions includes access and capacity fees, proprietary market data fees, and associated other revenue across the Company’s six segments.

Derivatives Markets

Includes associated transaction and clearing fees, the portion of market data fees relating to associated U.S. tape plan market data fees, associated regulatory fees, and associated other fees from the Company’s Options, Futures, Europe and Asia Pacific, and Digital segments.

Components of Cost of Revenues

Liquidity Payments

Liquidity payments are primarily correlated to the volume of securities traded on our markets. As stated above, we record the liquidity rebates paid to market participants providing liquidity, in the case of Cboe Options, C2, BZX, EDGX, and Cboe Europe Equities and Derivatives, and Cboe Digital, as cost of revenue. BYX and EDGA offer a pricing model where we rebate liquidity takers for executing against an order resting on our book, which is also recorded as a cost of revenues.

Routing and Clearing

Various rules require that U.S. options and equities trade executions occur at the National Best Bid and Offer displayed by any exchange. Linkage order routing consists of the cost incurred to provide a service whereby Cboe equities and options exchanges deliver orders to other execution venues when there is a potential for obtaining a better execution price or when instructed to directly route an order to another venue by the order provider. The service affords exchange order flow providers an opportunity to obtain the best available execution price and may also result in cost benefits to those clients. Such an offering improves our competitive position and provides an opportunity to attract orders which would otherwise bypass our exchanges. We utilize third-party brokers or our broker-dealer, Cboe Trading, to facilitate such delivery. Also included within routing and clearing are the Order Management System and Execution Management System (“OMS” and “EMS”, respectively) fees incurred for U.S. Equities Off-Exchange order execution, as well as settlement costs incurred for the settlement process executed by Cboe Clear Europe and Cboe Clear Digital.

Section 31 Fees

Exchanges under the authority of the SEC (Cboe Options, C2, BZX, BYX, EDGX, and EDGA as well as CFE to the extent that CFE offers trading in security futures products) are assessed fees pursuant to the Exchange Act designed to recover the costs to the U.S. government of supervision and regulation of securities markets and securities professionals. We treat these fees as a pass-through charge to customers executing eligible listed equities and listed equity options trades. Accordingly, we recognize the amount that we are charged under Section 31 as a cost of revenues and the corresponding amount that we charge our customers as regulatory transaction fees revenue. Since the regulatory transaction fees recorded in revenues are equal to the Section 31 fees recorded in cost of revenues, there is no impact on our operating income. Cboe Trading, Cboe Europe, Cboe NL, BIDS, Cboe FX, Cboe Australia, Cboe Japan, Cboe Digital, and Cboe Canada Inc. are not U.S. national securities exchanges, and accordingly are not charged Section 31 fees.

Royalty Fees and Other Cost of Revenues

Royalty fees primarily consist of license fees paid by us for the use of underlying indices in our proprietary products usually based on contracts traded. The Company has licenses with the owners of the S&P 500 Index, S&P 100 Index and certain other S&P indices, FTSE Russell indices, the DJIA, MSCI, and certain other index products. This category also includes fees related to the dissemination of market data related to S&P indices and other products through Cboe Global Indices Feed (“CGIF”).

Other cost of revenues primarily consists of interest expense from clearing operations, electronic access permit fees and other miscellaneous costs associated with other revenue.

Components of Operating Expenses

Compensation and Benefits

Compensation and benefits represent our largest expense category and tend to be driven by our staffing requirements, financial performance, and the general dynamics of the employment market. Stock-based compensation is a non-cash expense related to employee equity awards. Stock-based compensation can vary depending on the quantity and fair value of the award on the date of grant and the related service period.

Depreciation and Amortization

Depreciation and amortization expense results from the depreciation of long-lived assets purchased, the amortization of purchased and internally developed software, and the amortization of intangible assets.

Technology Support Services

Technology support services consists primarily of costs related to the maintenance of computer equipment supporting our system architecture, circuits supporting our wide area network, support for production software, operating system license and support fees, fees paid to information vendors for displaying data and off-site system hosting fees.

Professional Fees and Outside Services

Professional fees and outside services consist primarily of consulting services, which include supplemental staff activities primarily related to systems development and maintenance, legal, regulatory and audit, and tax advisory services, as well as compensation paid to non-employee directors, including stock-based compensation and deferred compensation.

Travel and Promotional Expenses

Travel and promotional expenses primarily consist of advertising, costs for special events, sponsorship of industry conferences, options education seminars and travel-related expenses.

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Facilities Costs

Facilities costs primarily consist of expenses related to owned and leased properties including rent, maintenance, utilities, real estate taxes and telecommunications costs.

Acquisition-Related Costs

Acquisition-related costs relate to acquisitions and other strategic opportunities. The acquisition-related costs include fees for investment banking advisors, lawyers, accountants, tax advisors, public relations firms, severance and retention costs, and other external costs directly related to mergers and acquisitions.

Other Expenses

Other expenses represent costs necessary to support our operations that are not already included in the above categories, including, but not limited to the impairment of digital assets held presented in intangible assets, net as part of the ordinary operations of the Digital segment, and changes in contingent consideration.

Non-Operating Income (Expenses)

Income and expenses incurred through activities outside of our core operations are considered non-operating and are classified as other income (expense). These activities primarily include interest earned on the investing of excess cash, commitment fees and interest expense related to outstanding debt facilities, income and unrealized gains and losses related to investments held in a trust for the Company’s non-qualified retirement and benefit plans, including non-employee director deferred compensation, realized gains and losses related to the Company’s previously held minority investments, income earned related to the Company’s minority investments, equity earnings or losses from our investments in other business ventures, impairment of the Company’s investments, and investment establishment costs associated with new business ventures.

Financial Summary

The following are summaries of changes in financial performance and include certain non-GAAP financial measures. Management uses these non-GAAP measures internally in conjunction with GAAP measures to help evaluate our performance and to help make financial and operational decisions. These non-GAAP financial measures assist management in comparing our performance on a consistent basis for purposes of business decision making by removing the impact of certain items management believes do not reflect our underlying operations.

We believe our presentation of these measures provides investors with greater transparency into financial measures used by management and is useful to investors for period-to-period comparisons of our ongoing operating performance.

These non-GAAP financial measures are not presented in accordance with, or as an alternative to, GAAP financial measures and may be calculated differently from non-GAAP measures used by other companies, which reduces their usefulness as comparative measures. We encourage analysts, investors and other interested parties to use these non-GAAP measures as supplemental information to the GAAP financial measures included herein, including our condensed consolidated financial statements, to enhance their analysis and understanding of our performance and in making comparisons. Please see the footnotes below for definitions, additional information, and reconciliations from the closest GAAP measure.

The following summarizes changes in financial performance for the three months ended March 31, 2024, compared to the three months ended March 31, 2023:

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(1) These are Non-GAAP figures for which reconciliations are provided below (in millions, except percentages, earnings per share, and as noted below).

	Three Months Ended March 31, 2024	2023	Increase/ (Decrease)	Percent Change

Total revenues	$ 957.2	$ 988.2	$ (31.0)	(3)%
Total cost of revenues	455.1	516.8	(61.7)	(12)%
Revenues less cost of revenues	502.1	471.4	30.7	7 %
Total operating expenses	219.7	223.5	(3.8)	(2)%
Operating income	282.4	247.9	34.5	14 %
Income before income tax provision	292.1	248.2	43.9	18 %
Income tax provision	82.6	74.8	7.8	10 %
Net income	$ 209.5	$ 173.4	$ 36.1	21 %
Basic earnings per share	$ 1.97	$ 1.63	$ 0.34	21 %
Diluted earnings per share	1.96	1.63	0.33	20 %
EBITDA (1)	337.1	303.9	33.2	11 %
EBITDA margin (2)	67.1 %	64.5 %	2.6 %	*
Adjusted EBITDA (1)	$ 337.3	$ 310.3	$ 27.0	9 %
Adjusted EBITDA margin (3)	67.2 %	65.8 %	1.4 %	*
Adjusted earnings (4)	$ 227.7	$ 201.8	$ 25.9	13 %
Adjusted earnings margin (4)	45.3 %	42.8 %	2.5 %	*
Diluted weighted average shares outstanding	106.1	106.2	(0.1)	(0)%
Adjusted Diluted earnings per share (5)	$ 2.15	$ 1.90	$ 0.25	13 %

* Not meaningful

(1) EBITDA is defined as income before interest, income taxes, depreciation and amortization. Adjusted EBITDA is defined as EBITDA before acquisition-related costs and gains or losses on the revaluation of Digital non-recourse notes and warrants. EBITDA and adjusted EBITDA do not represent, and should not be considered as, alternatives to net income as determined in accordance with GAAP. We have presented EBITDA and adjusted EBITDA because we consider them important supplemental measures of our performance and believe that they are frequently used by analysts, investors and other interested parties in the evaluation of companies. In addition, we use adjusted EBITDA as a measure of operating performance for preparation of our forecasts and evaluating our leverage ratio for the debt to earnings covenant included in our outstanding credit facility. Other companies may calculate EBITDA and adjusted EBITDA differently than we do. EBITDA and adjusted EBITDA have limitations as analytical tools, and you should not consider them in isolation or as substitutes for analysis of our results as reported under GAAP.

(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

(3) Adjusted EBITDA margin represents adjusted EBITDA divided by revenues less cost of revenues.

(4) Adjusted earnings is defined as net income adjusted for amortization of acquired intangible assets, acquisition-related costs, certain tax reserve changes, gains or losses on the revaluation of Digital non-recourse notes and warrants, and net income or loss allocated to participating securities, net of the income tax effects of these adjustments. Adjusted earnings does not represent, and should not be considered as, an alternative to net income or loss, as determined in accordance with GAAP. We have presented adjusted earnings because we consider it an important supplemental measure of our performance and we use it as the basis for monitoring our own core operating financial performance relative to other operators of exchanges. We also believe that it is frequently used by analysts, investors and other interested parties in the evaluation of companies. We believe that investors may find this non-GAAP measure useful in evaluating our performance compared to that of peer companies in our industry. Other companies may calculate adjusted earnings differently than we do. Adjusted earnings has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP.

(5) Adjusted diluted earnings per share represents adjusted earnings divided by diluted weighted average shares outstanding.

The following is a reconciliation of net income allocated to common stockholders to EBITDA and adjusted EBITDA (in millions) for the three months ended March 31, 2024 and 2023, respectively:

	Three Months Ended March 31, 2024							
	Options	**North American Equities**	**Europe and Asia Pacific**	**Futures**	**Global FX**	**Digital**	**Corporate**	**Total**
Net income (loss) allocated to common stockholders	$215.5	$ 37.3	$ 8.5	$22.0	$ 6.5	$ (8.6)	$ (72.9)	$208.3
Interest expense (income), net	(0.1)	(0.3)	1.2	—	—	(1.1)	9.2	8.9
Income tax provision	—	0.8	0.3	—	—	—	81.5	82.6
Depreciation and amortization	7.1	15.8	7.9	0.6	4.1	1.8	—	37.3
EBITDA	222.5	53.6	17.9	22.6	10.6	(7.9)	17.8	337.1
Acquisition-related costs	—	0.2	0.2	—	—	0.1	0.1	0.6
Gain on revaluation of Digital non-recourse notes and warrants	—	—	—	—	—	(0.4)	—	(0.4)
Adjusted EBITDA	$222.5	$ 53.8	$18.1	$22.6	$10.6	$ (8.2)	$ 17.9	$337.3

	Three Months Ended March 31, 2023							
	Options	**North American Equities**	**Europe and Asia Pacific**	**Futures**	**Global FX**	**Digital**	**Corporate**	**Total**
Net income (loss) allocated to common stockholders	$200.0	$ 26.9	$ 9.6	$20.8	$ 4.4	$(10.2)	$ (78.9)	$172.6
Interest expense (income), net	—	(0.3)	1.5	—	—	(0.2)	14.1	15.1
Income tax provision (benefit)	—	1.7	0.2	—	0.3	(1.0)	73.6	74.8
Depreciation and amortization	6.8	18.6	8.4	0.6	5.2	1.8	—	41.4
EBITDA	206.8	46.9	19.7	21.4	9.9	(9.6)	8.8	303.9
Acquisition-related costs	—	0.4	0.7	—	—	0.6	4.7	6.4
Adjusted EBITDA	$206.8	$ 47.3	$20.4	$21.4	$ 9.9	$ (9.0)	$ 13.5	$310.3

The following is a reconciliation of net income allocated to common stockholders to adjusted earnings (in millions):

	Three Months Ended March 31,	
	2024	**2023**
Net income allocated to common stockholders	$ 208.3	$ 172.6

Amortization of acquired intangible assets	26.2	30.9
Acquisition-related costs	0.6	6.4
Gain on revaluation of Digital non-recourse notes and warrants	(0.4)	—
Tax effect of adjustments	(6.9)	(9.5)
Increase of tax reserves	—	1.5
Net income allocated to participating securities	(0.1)	(0.1)
Adjusted earnings	$ 227.7	$ 201.8

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The following summarizes changes in certain operational and financial metrics for the three months ended March 31, 2024, compared to the three months ended March 31, 2023:

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The following summarizes changes in certain operational and financial metrics for the three months ended March 31, 2024, compared to the three months ended March 31, 2023 (continued from previous page):

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The following table includes operational and financial metrics for our Options, North American Equities, Europe and Asia Pacific, Futures, and Global FX segments. The following summarizes changes in certain operational and financial metrics for the three months ended March 31, 2024 compared to the three months ended March 31, 2023:

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023	Increase/ (Decrease)	Percent Change
	(in millions, except percentages, trading days, and as noted below)			
Options:				
Average daily volume (ADV) (in millions of contracts):				
Market ADV	47.5	46.1	1.4	3 %
Total touched contracts (1)	14.8	14.7	0.1	1 %
Multi-listed contract ADV	10.7	11.1	(0.4)	(3)%
Index contract ADV	4.1	3.6	0.5	14 %
Number of trading days	61	62	(1)	(2)%
Total Options revenue per contract (RPC) (2)	$ 0.299	$ 0.267	$ 0.032	12 %
Multi-listed options RPC (2)	$ 0.064	$ 0.064	$ —	0 %
Index options RPC (2)	$ 0.915	$ 0.889	$ 0.026	3 %
Total Options market share	31.3 %	31.8 %	(0.5)%	*
Multi-listed options market share	24.8 %	26.1 %	(1.3)%	*
North American Equities:				
U.S. Equities:				
U.S. Equities - Exchange:				
ADV:				
Total touched shares (in billions) (1)	1.6	1.6	—	(0)%
Market ADV (in billions)	11.8	11.8	—	(0)%
Market share	12.8 %	12.7 %	0.1 %	*
U.S. Equities - Exchange (net capture per one hundred touched shares) (3)	$ 0.019	$ 0.019	$ —	(0)%
U.S. ETPs: launches (number of launches)	49	16	33	206 %
U.S. ETPs: listings (number of listings)	703	603	100	17 %
U.S. Equities - Off-Exchange:				
ADV:				
Total touched shares (in millions) (1)	77.1	89.4	(12.3)	(14)%
U.S. Equities - Off-Exchange (net capture per one hundred touched shares) (4)	$ 0.141	$ 0.113	$ 0.028	24 %
Trading days	61	62	(1)	(2)%
Canadian Equities:				
ADV (matched shares, in millions) (5)	146.3	150.8	(4.5)	(3)%
Trading days	62	63	(1)	(2)%
Net capture (per 10,000 touched shares, in Canadian dollars) (6)	$ 3.997	$ 4.039	$ (0.042)	(1)%
Europe and Asia Pacific:				
European Equities:				
ADNV:				
Matched ADNV (Euros - in billions) (7)	€ 9.9	€ 11.4	€ (1.5)	(13)%
Market ADNV (in billions)	€ 41.8	€ 45.8	€ (4.0)	(9)%
Trading days	63	65	(2)	(3)%
Market share	23.7 %	24.9 %	(1.2)%	*
Net capture (per matched notional value (bps), in Euros) (8)	€ 0.249	€ 0.215	€ 0.034	16 %
Cboe Clear Europe:				
Trades cleared (9)	294.3	359.4	(65.1)	(18)%
Fee per trade cleared (10)	€ 0.008	€ 0.008	€ —	(3)%

European equities market share cleared (11)		34.8 %		34.1 %		0.7 %	*
Net settlement volume (12)		2.5		2.7		(0.2)	(5)%
Net fee per settlement (13)	€	1.072	€	0.953	€	0.119	12 %
Australian Equities:							
ADNV (AUD - in billions)	$	0.8	$	0.8	$	—	0 %
Trading days		62		63		(1)	(2)%
Market share - Continuous		20.4 %		18.5 %		1.9 %	*
Net capture (per matched notional value (bps), in Australian Dollars) (14)	$	0.156	$	0.160	$	(0.004)	(3)%
Japanese Equities:							
ADNV (JPY - in billions)	¥	315.9	¥	183.3	¥	132.6	72 %
Trading days		58		60		(2)	(3)%
Market share - Lit Continuous		5.0 %		4.8 %		0.2 %	*
Net capture (per matched notional value (bps), in Yen) (15)	¥	0.227	¥	0.243	¥	(0.016)	(7)%
Futures:							
ADV (in thousands)		220.0		231.8		(11.8)	(5)%
Trading days		61		62		(1)	(2)%
Revenue per contract	$	1.749	$	1.725	$	0.024	1 %
Global FX:							
ADNV ($ - in billions)	$	45.3	$	45.0	$	0.3	1 %
Market share		20.3 %		19.0 %		1.3 %	*
Trading days		64		65		(1)	(2)%
Net capture (per one million dollars traded) (16)	$	2.62	$	2.64	$	(0.02)	(1)%
Average British pound/U.S. dollar exchange rate	$	1.268	$	1.214	$	0.054	4 %
Average Canadian dollar/U.S. dollar exchange rate	$	0.742	$	0.740	$	0.002	0 %
Average Euro/U.S. dollar exchange rate	$	1.086	$	1.073	$	0.013	1 %
Average Euro/British pound exchange rate	£	0.856	£	0.883	£	(0.027)	(3)%
Average Australian dollar/U.S. dollar exchange rate	$	0.658	$	0.684	$	(0.026)	(4)%
Average Japanese Yen/U.S. dollar exchange rate	$	0.007	$	0.008	$	(0.001)	(16)%

*Not meaningful
Note, the percent change listed represents the change in the unrounded metrics figures.

(1) Touched volume represents the total number of shares of equity securities and ETFs internally matched on our exchanges or routed to and executed on an external market center.
(2) Average revenue per contract, for options and futures represents total net transaction fees recognized for the period divided by total contracts traded during the period.
(3) Net capture per one hundred touched shares refers to transaction fees less liquidity payments and routing and clearing costs divided by the product of one-hundredth ADV of touched shares on BZX, BYX, EDGX, and EDGA and the number of trading days.
(4) Net capture per one hundred touched shares refers to transaction fees less order and execution management system (OMS/EMS) fees and clearing costs divided by the product of one-hundredth ADV of touched shares on BIDS Trading and the number of trading days for the period.
(5) Matched volume represents the total number of shares of equity securities and ETFs activity executed on our exchanges.
(6) Net capture per 10,000 touched shares refers to transaction fees divided by the product of one-ten thousandth ADV of shares for Cboe Canada Inc. and the number of trading days.
(7) Matched ADNV represents the average daily notional value of shares or contracts executed on our exchanges.
(8) Net capture per matched notional value refers to transaction fees less liquidity payments in British pounds divided by the product of ADNV in British pounds of shares matched on Cboe Europe Equities and the number of trading days.
(9) Trades cleared refers to the total number of non-interoperable trades cleared.
(10) Fee per trade cleared refers to clearing fees divided by number of non-interoperable trades cleared.
(11) European Equities market share cleared represents Cboe Clear Europe’s client volume cleared divided by the total volume of the publicly reported European venues.
(12) Net settlement volume refers to the total number of settlements executed after netting.
(13) Net fee per settlement refers to settlement fees less direct costs incurred to settle divided by the number of settlements executed after netting.
(14) Net capture per matched notional value refers to transaction fees less liquidity payments in Australian dollars divided by the product of ADNV in Australian dollars of shares matched on Cboe Australia and the number of Australian Equities trading days.
(15) Net capture per matched notional value refers to transaction fees less liquidity payments in Japanese Yen divided by the product of ADNV in Japanese Yen of shares matched on Cboe Japan and the number of Japanese Equities trading days.
(16) Net capture per one million dollars traded refers to net transaction fees less liquidity payments, if any, divided by the Spot and SEF products of one-thousandth of ADNV traded on the Cboe FX Markets and the number of trading days, divided by two, which represents the buyer and seller that are both charged on the transaction.

Revenues

Total revenues for the three months ended March 31, 2024 decreased $31.0 million, or 3%, compared to the same period in 2023 primarily due to a decrease in cash and spot markets and derivatives markets revenue, driven by a decrease in the Section 31 fee rate following a rate change in February 2023, coupled with a decline in volumes traded on the Options, European Equities, and U.S. Equities exchanges, partially offset by an increase in access and capacity fees and proprietary market data across segments.

The following summarizes changes in revenues for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 (in millions, except percentages):

	Three Months Ended March 31,		Increase/	Percent
	2024	**2023**	**(Decrease)**	**Change**
Cash and spot markets	$ 380.9	$ 407.0	$ (26.1)	(6)%
Data and access solutions	140.2	129.4	10.8	8 %
Derivatives markets	436.1	451.8	(15.7)	(3)%
Total revenues	$ 957.2	$ 988.2	$ (31.0)	(3)%

Cash and Spot Markets

Cash and spot markets revenue decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to decreases in regulatory fees and transaction and clearing fees, partially offset by an increase in other revenue. Regulatory fees decreased primarily due to a 54% decrease in the Section 31 fee rate, from an average rate of $17.41 per million dollars of covered sales for the three months ended March 31, 2023 to an average rate of $8.00 per million dollars of covered sales for the three months ended March 31, 2024. Transaction and clearing fees decreased primarily due to a 13% decrease in European Equities matched ADNV, a slight decline in total touched shares on the U.S. Equities exchanges, and a decrease in the number of trading days on the European and U.S. Equities exchanges. Other revenue increased primarily due to an increase in interest income attributable to Cboe Clear Europe as a result of the changing interest rate environment, coupled with additional interest earned in accordance with its investment policy. See Note 12 (“Clearing Operations”) for additional information.

Data and Access Solutions

Data and access solutions revenue increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to increases in access and capacity fees and proprietary market data fees. Access and capacity fees increased primarily due to increased physical port fees in the North American Equities, Options, and Europe and Asia Pacific segments and increased logical port fees in the Options, Europe and Asia Pacific and Futures segments, both driven by increases in pricing and subscribers. Proprietary market data fees increased primarily due to increases in proprietary market data fees in the Options, Europe and Asia Pacific, and North American Equities segments.

Derivatives Markets

Derivatives markets revenue decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to decreases in transaction and clearing fees and regulatory fees. Transaction and clearing fees decreased primarily due to a 1% decline in multi-listed options market share, a 3% decrease in multi-listed options ADV, a decrease in routed trades on the

Options exchanges, and a decrease in the number of trading days on the Options exchanges, partially offset by a 14% increase in index options ADV. Regulatory fees decreased primarily due to a 54% decrease in the Section 31 fee rate, from an average rate of $17.41 per million dollars of covered sales for the three months ended March 31, 2023 to an average rate of $8.00 per million dollars of covered sales for the three months ended March 31, 2024.

Cost of Revenues

The following tables reconcile the disaggregated cost of revenues captions presented on the condensed consolidated statements of income to the net revenue captions presented on the condensed consolidated statements of income for the three months ended March 31, 2024 and 2023, respectively (in millions):

	Three Months Ended March 31, 2024			
	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Liquidity payments	$ 222.9	$ —	$ 115.9	$ 338.8
Routing and clearing fees	11.8	—	4.2	16.0
Section 31 fees	34.7	—	7.4	42.1
Royalty fees and other cost of revenues	14.2	2.5	41.5	58.2
Total cost of revenues	$ 283.6	$ 2.5	$ 169.0	$ 455.1

	Three Months Ended March 31, 2023			
	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Liquidity payments	$ 227.0	$ —	$ 144.8	$ 371.8
Routing and clearing fees	14.3	—	9.7	24.0
Section 31 fees	61.4	—	13.5	74.9
Royalty fees and other cost of revenues	7.1	2.2	36.8	46.1
Total cost of revenues	$ 309.8	$ 2.2	$ 204.8	$ 516.8

Total cost of revenues decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to decreased derivatives markets and cash and spot markets costs of revenues, driven by a decrease in liquidity payments as a result of multi-listed options declining market share and a decrease in the number of trading days, coupled with a decrease in Section 31 fees as a result of a decrease in the Section 31 fee rate, partially offset by an increase in operating interest expense attributable to Cboe Clear Europe.

The following summarizes changes in the disaggregated cost of revenues for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 (in millions, except percentages):

	Three Months Ended March 31,		Increase/	Percent
	2024	2023	(Decrease)	Change
Liquidity payments	$ 338.8	$ 371.8	$ (33.0)	(9)%
Routing and clearing	16.0	24.0	(8.0)	(33)%
Section 31 fees	42.1	74.9	(32.8)	(44)%
Royalty fees and other cost of revenues	58.2	46.1	12.1	26 %
Total cost of revenues	$ 455.1	$ 516.8	$ (61.7)	(12)%

Liquidity Payments

Liquidity payments decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to a decline in multi-listed options market share, a decrease in multi-listed options ADV, and a decrease in the number of trading days on the Options exchanges.

Routing and Clearing

Routing and clearing fees decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to a decrease in routed trades on the Options exchanges, coupled with a decrease in routed shares on the U.S. Equities exchanges.

Section 31 Fees

Section 31 fees decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to a 54% decrease in the Section 31 fee rate, from an average rate of $17.41 per million dollars of covered sales for the three months ended March 31, 2023 to an average rate of $8.00 per million dollars of covered sales for the three months ended March 31, 2024.

Royalty Fees and Other Cost of Revenues

Royalty fees and other cost of revenues increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to an increase in operating interest expense attributable to Cboe Clear Europe as a result of the changing interest rate environment and additional interest expense in accordance with its investment policy, coupled with an increase in trading volumes of licensed products in the Options segment. See Note 12 (“Clearing Operations”) for additional information on Cboe Clear Europe’s investment policy.

Revenues Less Cost of Revenues

Revenues less cost of revenues increased $30.7 million, or 7% for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to increases in derivatives markets revenues less cost of revenues driven by an increase in volumes traded on the Options exchanges, coupled with an increase in access and capacity fees and proprietary market data across segments, partially offset by an increase in royalty fees in the Options segment.

The following summarizes the components of revenues less cost of revenues for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 (in millions, except percentages):

	Three Months Ended March 31,		Increase/	Percent
	2024	2023	(Decrease)	Change
Cash and spot markets	$ 97.3	$ 97.2	$ 0.1	0 %
Data and access solutions	137.7	127.2	10.5	8 %
Derivatives markets	267.1	247.0	20.1	8 %
Total revenues less cost of revenues	$ 502.1	$ 471.4	$ 30.7	7 %

Cash and Spot Markets

Cash and spot markets revenues less cost of revenues was relatively flat for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to an increase in net other revenue, partially offset by decreases in industry market data fees and net regulatory fees. Net other revenue increased primarily due to an increase in interest income attributable to Cboe Clear Europe as a result of the changing interest rate environment, coupled with additional interest earned in accordance with its investment policy. Industry market data fees decreased primarily due to a decrease in U.S. tape plan revenue driven by a decrease in audit recoveries. Net regulatory fees decreased primarily due to a decrease in regulatory assessments and fines within the North American Equities segment. See Note 12 (“Clearing Operations”) for additional information on Cboe Clear Europe’s investment policy.

Data and Access Solutions

Data and access solutions revenues less cost of revenues increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to increases in access and capacity fees and proprietary market data fees. Access and capacity fees increased primarily due to increased physical port fees in the North American Equities, Options, and Europe and Asia Pacific segments and increased logical port fees in the Options, Europe and Asia Pacific and Futures segments, both driven by increases in pricing and subscribers. Proprietary market data fees increased primarily due to increases in proprietary market data fees in the Options, Europe and Asia Pacific, and North American Equities segments.

Derivatives Markets

Derivatives markets revenues less cost of revenues increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to increases in net transaction and clearing fees driven by a 14% increase in index options ADV, partially offset by an increase in royalty fees due to an increase in trading volumes of licensed products in the Options segment.

Operating Expenses

Total operating expenses for the three months ended March 31, 2024 compared to the same period in 2023 decreased $3.8 million, or 2%, primarily due to decreases in acquisition-related costs and depreciation and amortization, partially offset by increases in compensation and benefits.

The following summarizes changes in operating expenses for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 (in millions, except percentages):

	Three Months Ended March 31,			
	2024	**2023**	**Increase/ (Decrease)**	**Percent Change**
Compensation and benefits	$ 115.3	$ 110.4	$ 4.9	4 %
Depreciation and amortization	37.3	41.4	(4.1)	(10)%
Technology support services	24.2	22.2	2.0	9 %
Professional fees and outside services	21.5	23.9	(2.4)	(10)%
Travel and promotional expenses	7.5	6.2	1.3	21 %
Facilities costs	6.5	7.6	(1.1)	(14)%
Acquisition-related costs	0.6	6.4	(5.8)	(91)%
Other expenses	6.8	5.4	1.4	26 %
Total operating expenses	$ 219.7	$ 223.5	$ (3.8)	(2)%

Compensation and Benefits

Compensation and benefits increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to a $8.1 million increase in salaries and bonuses driven by increased headcount, partially offset by a $5.2 million decrease in equity compensation due to a change in the vesting requirements for new equity award agreements, which provide for additional vesting requirements after an applicable retirement date. See Note 17 (“Stock-Based Compensation”) for additional information.

Depreciation and Amortization

Depreciation and amortization decreased for the three months ended March 31, 2024 compared to the same period in 2023 due to a decline in amortization under the discounted cash flow method for the intangibles acquired in the Merger.

Technology Support Services

Technology support services increased for the three months ended March 31, 2024 compared to the same period in 2023 due to increases in software maintenance, market data technology support, and primary data center hosting expenses, partially offset by decreases in hardware maintenance.

Professional Fees and Outside Services

Professional fees and outside services decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to decreases in regulatory costs associated with CAT expenses, and consulting fees, partially offset by increases in legal fees and contract services.

Travel and Promotional Expenses

Travel and promotional expenses increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to increases in marketing and advertising expenses driven by advertising campaigns and sponsorships.

Facilities Costs

Facilities costs decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to a decrease in real estate taxes.

Acquisition-Related Costs

Acquisition-related costs decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to a decrease in professional fees and retention-related compensation costs associated with prior acquisitions.

Other Expenses

Other expenses increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to an increase in bad debt expense related to provisions for expected credit losses.

Operating Income

As a result of the items above, operating income for the three months ended March 31, 2024 was $282.4 million, compared to operating income of $247.9 million for the three months ended March 31, 2023, an increase of $34.5 million.

Interest Expense

Interest expense decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to repayments on the Term Loan in 2023, which was paid off in the fourth quarter of 2023.

Interest Income

Interest income increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to increases in interest rates in 2024.

Earnings in Investments

Earnings in investments decreased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to a $1.6 million decrease in the equity earnings on the Company’s investment in 7Ridge Fund (which owns Trading Technologies) recorded in the first quarter of 2024 compared to the same period in 2023, partially offset by a decrease in non-qualified deferred compensation.

Other Income, Net

Net other income increased for the three months ended March 31, 2024 compared to the same period in 2023 primarily due to $4.1 million in dividend income from the Company’s minority ownership of Vest Financial Group, Inc. recorded in the first quarter of 2024.

Income Before Income Tax Provision

As a result of the above, income before income tax provision for the three months ended March 31, 2024 was $292.1 million, compared to income before income tax provision of $248.2 million for the three months ended March 31, 2023, an increase of $43.9 million.

Income Tax Provision

The effective tax rate from continuing operations was 28.3% and 30.1% for the three months ended March 31, 2024 and 2023, respectively. The lower effective tax rate for the three months ended March 31, 2024 compared to the same period in 2023 is primarily due to excess tax benefits from the vesting of equity awards during the first quarter of 2024.

Net Income

As a result of the items above, net income for the three months ended March 31, 2024 was $209.5 million, compared to net income of $173.4 million for the three months ended March 31, 2023, an increase of $36.1 million.

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Segment Operating Results

We report results from our six segments: Options, North American Equities, Europe and Asia Pacific, Futures, Global FX, and Digital. Segment performance is primarily based on operating income. We have aggregated all corporate costs, as well as other business ventures, within Corporate Items and Eliminations as those activities should not be used to evaluate a segment's operating performance. All operating expenses that relate to activities of a specific segment have been allocated to that segment. Operating expenses increased or decreased in certain segments for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to changes in the allocation of shared-service expenses.

The following summarizes our total revenues by segment (in millions, except percentages):

Graphic

Note, the chart excludes Digital revenues of $(0.7) million and $(0.9) million for the three months ended March 31, 2024 and 2023, respectively.

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Options	$ 477.4	$ 486.1	(2)%	50 %	49 %
North American Equities	349.6	379.8	(8)%	37 %	39 %

Europe and Asia Pacific	80.7	72.3	12 %	8 %	7 %
Futures	31.4	32.1	(2)%	3 %	3 %
Global FX	18.8	18.8	— %	2 %	2 %
Digital	(0.7)	(0.9)	22 %	* %	* %
Total revenues	$ 957.2	$ 988.2	(3)%	100 %	100 %

* Not meaningful

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The following summarizes our revenues less cost of revenues by segment (in millions, except percentages):

Graphic

Note, the chart excludes Digital revenues less cost of revenues of $(0.9) million and $(1.3) million for the three months ended March 31, 2024 and 2023, respectively.

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Less Cost of Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Options	$ 307.4	$ 280.7	10 %	61 %	59 %
North American Equities	92.6	93.1	(1)%	18 %	20 %
Europe and Asia Pacific	54.1	49.3	10 %	11 %	10 %
Futures	30.5	31.1	(2)%	6 %	7 %
Global FX	18.4	18.5	(1)%	4 %	4 %
Digital	(0.9)	(1.3)	31 %	* %	* %
Total revenues less cost of revenues	$ 502.1	$ 471.4	7 %	100 %	100 %

* Not meaningful

Options

The following summarizes revenues less cost of revenues, operating expenses, operating income, EBITDA, and EBITDA margin for our Options segment (in millions, except percentages):

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 307.4	$ 280.7	10 %	64 %	58 %
Operating expenses	90.6	79.7	14 %	19 %	16 %
Operating income	$ 216.8	$ 201.0	8 %	45 %	41 %
EBITDA (1)	$ 222.5	$ 206.8	8 %	47 %	43 %
EBITDA margin (2)	72.4 %	73.7 %	*	*	*

* Not meaningful

(1) See footnote (1) to the table under “Financial Summary” above for a reconciliation of net income to EBITDA, and management’s reasons for using such non-GAAP measures.

(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

Revenues less cost of revenues increased $26.7 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to an increase in net transaction and clearing fees driven by a 14% increase in index options ADV, and an increase in physical and logical port fees, partially offset by an increase in royalty fees due to an increase in trading volumes of licensed products. For the three months ended March 31, 2024, operating income for the Options segment increased $15.8 million compared to the three months ended March 31, 2023 primarily due to an increase in revenues less cost of revenues, partially offset by an increase in operating expenses. Operating expenses increased $10.9 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to increases in compensation and benefits, technology support services, and travel and promotional expenses.

North American Equities

The following summarizes revenues less cost of revenues, operating expenses, operating income, EBITDA, and EBITDA margin for our North American Equities segment (in millions, except percentages):

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 92.6	$ 93.1	(1)%	26 %	25 %
Operating expenses	54.6	64.7	(16)%	16 %	17 %
Operating income	$ 38.0	$ 28.4	34 %	11 %	7 %
EBITDA (1)	$ 53.6	$ 46.9	14 %	15 %	12 %
EBITDA margin (2)	57.9 %	50.4 %	*	*	*

* Not meaningful

(1) See footnote (1) to the table under “Financial Summary” above for a reconciliation of net income to EBITDA, and management’s reasons for using such non-GAAP measures.

(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

Revenues less cost of revenues decreased $0.5 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to a decrease in industry market data fees primarily due to a decrease in U.S. tape plan revenue, coupled with a decrease in regulatory assessments and fines on the U.S. Equities exchanges, partially offset by an increase in physical port fees and an increase in listing fees. For the three months ended March 31, 2024, operating income for the North American Equities segment increased $9.6 million compared to the three months ended March 31, 2023 due to a decrease in operating expenses, partially offset by a decrease in revenues less cost of revenues. Operating expenses decreased $10.1 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to decreases in compensation and benefits, depreciation and amortization, professional fees and outside services, and technology support services.

Europe and Asia Pacific

The following summarizes revenues less cost of revenues, operating expenses, operating income, EBITDA, and EBITDA margin for our Europe and Asia Pacific segment (in millions, except percentages):

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 54.1	$ 49.3	10 %	67 %	68 %
Operating expenses	43.9	38.0	16 %	54 %	53 %
Operating income	$ 10.2	$ 11.3	(10)%	13 %	16 %
EBITDA (1)	$ 17.9	$ 19.7	(9)%	22 %	27 %
EBITDA margin (2)	33.1 %	40.0 %	*	*	*

* Not meaningful

(1) See footnote (1) to the table under "Financial Summary" above for a reconciliation of net income to EBITDA, and management's reasons for using such non-GAAP measures.

(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

Revenues less cost of revenues increased $4.8 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to an increase in operating interest income attributable to Cboe Clear Europe, an increase in proprietary market data fees, and an increase in logical and physical port fees. For the three months ended March 31, 2024, operating income for the Europe and Asia Pacific segment decreased $1.1 million compared to the three months ended March 31, 2023 primarily due to an increase in operating expenses, partially offset by an increase in revenues less cost of revenues. Operating expenses increased $5.9 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to increases in compensation and benefits, professional fees and outside services, and technology support services.

Futures

The following summarizes revenues less cost of revenues, operating expenses, operating income, EBITDA, and EBITDA margin for our Futures segment (in millions, except percentages):

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 30.5	$ 31.1	(2)%	97 %	97 %
Operating expenses	8.4	10.2	(18)%	27 %	32 %
Operating income	$ 22.1	$ 20.9	6 %	70 %	65 %
EBITDA (1)	$ 22.6	$ 21.4	6 %	72 %	67 %
EBITDA margin (2)	74.1 %	68.8 %	*	*	*

* Not meaningful

(1) See footnote (1) to the table under "Financial Summary" above for a reconciliation of net income to EBITDA, and management's reasons for using such non-GAAP measures.

(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

Revenues less cost of revenues decreased $0.6 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to an increase in net transaction and clearing fees as a result of a 5% decrease in ADV, partially offset by a 1% increase in net capture. For the three months ended March 31, 2024, operating income for the Futures segment increased $1.2 million compared to the three months ended March 31, 2023 primarily due to a decrease in operating expenses, partially offset by a decrease in revenues less cost of revenues. Operating expenses decreased $1.8 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to decreases in professional fees and outside services and compensation and benefits.

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Global FX

The following summarizes revenues less cost of revenues, operating expenses, operating income, EBITDA, and EBITDA margin for our Global FX segment (in millions, except percentages):

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 18.4	$ 18.5	(1)%	98 %	98 %
Operating expenses	11.8	13.8	(14)%	63 %	73 %
Operating income	$ 6.6	$ 4.7	40 %	35 %	25 %
EBITDA (1)	$ 10.6	$ 9.9	7 %	56 %	53 %
EBITDA margin (2)	57.6 %	53.5 %	*	*	*

* Not meaningful

(1) See footnote (1) to the table under “Financial Summary” above for a reconciliation of net income to EBITDA, and management’s reasons for using such non-GAAP measures.

(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

Revenues less cost of revenues were relatively flat for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to a decrease in net transaction and clearing fees driven by an 1% decrease in net capture, partially offset by a 1% increase in ADNV and an increase in logical port fees. For the three months ended March 31, 2024, operating income for the Global FX segment increased $1.9 million compared to the three months ended March 31, 2023 due to a decrease in operating expenses. Operating expenses decreased $2.0 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to decreases in depreciation and amortization, compensation and benefits, and technology support services.

Digital

The following summarizes revenues less cost of revenues, operating expenses, operating loss, EBITDA, and EBITDA margin for our Digital segment (in millions, except percentages):

	Three Months Ended March 31,		Percent	Percentage of Total Revenues Three Months Ended March 31,	
	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ (0.9)	$ (1.3)	31 %	* %	* %
Operating expenses	9.3	10.1	(8)%	* %	* %
Operating loss	$ (10.2)	$ (11.4)	11 %	* %	* %
EBITDA (1)	$ (7.9)	$ (9.6)	18 %	* %	* %
EBITDA margin (2)	* %	* %	*	*	*

* Not meaningful

(1) See footnote (1) to the table under “Financial Summary” above for a reconciliation of net income to EBITDA, and management’s reasons for using such non-GAAP measures.

(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

Revenues less cost of revenues increased $0.4 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to an increase in net transaction and clearing fees driven by an increase in Digital spot ADNV and net capture. For the three months ended March 31, 2024, operating loss for the Digital segment decreased $1.2 million compared to the three months ended March 31, 2023 primarily due to a decrease in operating expenses and an increase in revenues less cost of revenues. Operating expenses decreased $0.8 million for the three months ended March 31, 2024 compared to the three months ended March 31, 2023 primarily due to decreases in acquisition-related costs and professional fees and outside services, partially offset by an increase in technology support services.

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Liquidity and Capital Resources

Below are charts that reflect elements of our capital allocation:

Graphic

Graphic

We expect our cash on hand at March 31, 2024 and other available resources, including cash generated from operations, to be sufficient to continue to meet our cash requirements for the foreseeable future. In the near term, we expect that our cash from operations and availability under the Revolving Credit Facility and potentially participating in future financing transactions to obtain additional capital will meet our cash needs to fund our operations, capital expenditures, interest payments on debt, any dividends, potential strategic acquisitions, and opportunities for common stock repurchases under the previously announced program. See Note 10 (“Debt”) of the condensed consolidated financial statements for further information.

Cboe Clear Europe also has a €1.25 billion committed syndicated multicurrency revolving and swingline credit facility agreement with Cboe Clear Europe as borrower and the Company as guarantor of scheduled interest and fees on borrowings (but not the principal amount of any borrowings) (the “Facility”). The Facility is available to be drawn by Cboe Clear Europe towards (a) financing unsettled amounts in connection with the settlement of transactions in securities and other items processed through Cboe Clear Europe’s clearing system and (b) financing any other liability or liquidity requirement of Cboe Clear Europe incurred in the operation of its clearing system. Borrowings under the Facility are secured by cash, eligible bonds and eligible equity assets deposited by Cboe Clear Europe into secured accounts. As a result, should the Facility be drawn by Cboe Clear Europe it could potentially impact Cboe Clear Europe’s liquidity, and we can give no assurance that this Facility will be sufficient to meet all of such obligations or sufficiently mitigate Cboe Clear Europe’s liquidity risk to meet its payment obligations when due. Additionally, a default of the Facility may allow lenders, under certain circumstances, to accelerate any related drawn amounts and may result in the acceleration of the Company’s other outstanding debt to which a cross-acceleration or cross-default provision applies, which may limit the Company’s liquidity, business and financing activities. The facility is expected to terminate on June 28, 2024 and we may not be able to enter into a replacement facility on commercially reasonable terms, or at all. Please refer to Note 10 ("Debt") for further information.

Our long-term cash needs will depend on many factors, including an introduction of new products, enhancements of current products, capital needs of our subsidiaries, the geographic mix of our business and any potential acquisitions. We believe our cash from operations and the availability under our Revolving Credit Facility will meet any long-term needs unless a significant acquisition or acquisitions are identified, in which case we expect that we would be able to borrow the necessary funds and/or issue additional shares of our common stock to complete such acquisition(s).

Cash and cash equivalents include cash in banks and all non-restricted, highly liquid investments, including short-term repurchase agreements, with original maturities of three months or less at the time of purchase. Cash and cash equivalents as of March 31, 2024 decreased $6.9 million from December 31, 2023 primarily due to outflows from the change in accounts payable and accrued liabilities, share repurchases, cash dividends, repurchases of common stock from employee stock plans, and purchases of available-for-sale financial investments, partially offset by the results of operations. See “Cash Flow” below for further discussion.

Our cash and cash equivalents held outside of the United States in various foreign subsidiaries totaled $240.3 million as of March 31, 2024. The remaining balance was held in the United States and totaled $296.0 million as of March 31, 2024. The majority of cash held outside the United States is available for repatriation, but under current law, could subject us to additional United States income taxes, less applicable foreign tax credits.

Our financial investments include deferred compensation plan assets, as well as investments with original or acquired maturities longer than three months, but that mature in less than one year from the balance sheet date and are recorded at fair value. As of March 31, 2024 and December 31, 2023, financial investments primarily consisted of U.S. Treasury securities and deferred compensation plan assets.

Cash Flow

The following table summarizes our cash flow data for the three months ended March 31, 2024 and 2023, respectively (in millions):

	Three Months Ended March 31,	
	2024	**2023**
Net cash provided by operating activities	$ 895.6	$ 1,030.8
Net cash (used in) provided by investing activities	(13.3)	1.9
Net cash used in financing activities	(168.6)	(141.2)
Effect of foreign currency exchange rate changes on cash, cash equivalents, and restricted cash and cash equivalents	(25.0)	21.1
Increase in cash, cash equivalents, and restricted cash and cash equivalents	$ 688.7	$ 912.6

	As of March 31,	
	2024	**2023**
Reconciliation of cash, cash equivalents, and restricted cash and cash equivalents:		
Cash and cash equivalents	$ 536.3	$ 435.6
Restricted cash and cash equivalents (included in margin deposits, clearing funds, and interoperability funds)	1,524.9	1,428.4
Restricted cash and cash equivalents (included in other current assets)	4.9	4.1
Customer bank deposits (included in margin deposits, clearing funds, and interoperability funds)	19.7	24.4
Total	$ 2,085.8	$ 1,892.5

Net Cash Flows Provided by Operating Activities

During the three months ended March 31, 2024, net cash provided by operating activities was $686.1 million higher than net income. The variance is primarily attributable to the change in restricted cash and cash equivalents, driven by margin deposits, clearing funds, and interoperability funds related to Cboe Clear Europe of $730.0 million, income taxes receivable of $67.7 million, and depreciation and amortization of $37.3 million, partially offset by the change in accounts payable and accrued liabilities of $113.5 million and the change in accounts receivable of $40.7 million for the three months ended March 31, 2024.

Net cash flows provided by operating activities were $895.6 million and $1,030.8 million for the three months ended March 31, 2024 and 2023, respectively. The change in net cash flows provided by operating activities was primarily due to the change in restricted cash and cash equivalents and customer bank deposits driven by margin deposits, clearing funds, and interoperability funds related to Cboe Clear Europe and the change in accounts payable and accrued liabilities, partially offset by the change in Section 31 fees payable and the change in net income for the three months ended March 31, 2024 compared to the three months ended March 31, 2023.

Net Cash Flows (Used in) Provided by Investing Activities

Net cash flows (used in) provided by investing activities were $(13.3) million and $1.9 million for the three months ended March 31, 2024 and 2023, respectively. The variance is primarily due to the change in proceeds from maturities of available-for-sale financial investments, partially offset by the change in purchases of available-for-sale financial investments for the three months ended March 31, 2024 compared to the three months ended March 31, 2023.

Net Cash Flows Used in Financing Activities

Net cash flows used in financing activities were $168.6 million and $141.2 million for the three months ended March 31, 2024 and 2023, respectively. The variance is primarily attributable to the change in repurchases of common stock from employee stock plans, the change in purchase of common stock, and the change in cash dividends on common stock for the three months ended March 31, 2024 compared to the three months ended March 31, 2023.

Financial Assets

The following summarizes our financial assets, excluding margin deposits, clearing funds, and interoperability funds as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024	December 31, 2023
Cash and cash equivalents	$ 536.3	$ 543.2
Financial investments	58.8	57.5
Less deferred compensation plan assets	(35.2)	(36.7)
Less cash collected for Section 31 fees	(23.1)	(30.5)
Adjusted cash (1)	$ 536.8	$ 533.5

(1) Adjusted cash is a non-GAAP measure and represents cash and cash equivalents plus financial investments, minus deferred compensation plan assets and cash collected for Section 31 fees. We have presented adjusted cash because we consider it an important supplemental measure of our liquidity and believe that it is frequently used by analysts, investors and other interested parties in the evaluation of companies.

Debt

The following summarizes our debt obligations as of March 31, 2024 and December 31, 2023 (in millions):

	March 31, 2024	December 31, 2023
3.650% Senior Notes	$ 650.0	$ 650.0
1.625% Senior Notes	500.0	500.0
3.000% Senior Notes	300.0	300.0
Revolving Credit Agreement	—	—
EuroCCP Credit Facility	—	—
	(10.4)	(10.8)

Less unamortized discount and debt issuance costs		
Total debt	$ 1,439.6	$ 1,439.2

As of March 31, 2024 and December 31, 2023, we were in compliance with the covenants of our debt agreements.

In addition to the debt outstanding, as of March 31, 2024, we had an additional $400.0 million available through our revolving credit facility, with the ability to borrow another $200.0 million by increasing the commitments under the facility, subject to the agreement of the applicable lenders. Together with adjusted cash, we had $989.5 million available to fund our operations, capital expenditures, potential acquisitions, debt repayments and any dividends, net of minimum regulatory capital requirements of $147.3 million as of March 31, 2024, which are subject to potential applicable regulatory restrictions and approvals and potential associated tax costs.

Dividends

The Company’s expectation is to continue to pay dividends. The decision to pay a dividend, however, remains within the discretion of the Company's Board of Directors and may be affected by various factors, including our earnings, financial condition, capital requirements, level of indebtedness and other considerations our Board of Directors deems relevant. Future debt obligations and statutory provisions, among other things, may limit, or in some cases prohibit, our ability to pay dividends.

Share Repurchase Program

In 2011, the Board of Directors approved an initial authorization for the Company to repurchase shares of its outstanding common stock of $100 million and subsequently approved additional authorizations for a total authorization of $1.8 billion. The program permits the Company to purchase shares through a variety of methods, including in the open market or through privately negotiated transactions, in accordance with applicable securities laws. It does not obligate the Company to make any repurchases at any specific time or situation. Share repurchases are repurchased to the Company’s Treasury stock and ultimately retired or they are available to be redistributed.

The Company repurchased 489,686 shares of its common stock under its share repurchase program during the three months ended March 31, 2024 at an average cost per share of $182.26, for a total value of $89.3 million.

As of March 31, 2024, the Company had $294.8 million of availability remaining under its existing share repurchase authorizations.

Commercial Commitments and Contractual Obligations

As of March 31, 2024, our commercial commitments and contractual obligations included operating leases, data and telecommunications agreements, equipment leases, our long-term debt outstanding, contingent considerations, software development activities and other obligations. See Note 21 (“Commitments, Contingencies, and Guarantees”) to the condensed consolidated financial statements for a discussion of commitments and contingencies, Note 10 (“Debt”) for a discussion of the outstanding debt, Note 12 (“Clearing Operations”) for information on Cboe Clear Europe and Cboe Digital’s clearinghouse exposure guarantees, and Note 22 (“Leases”) for discussion on operating leases and equipment leases.

Guarantees

We use Wedbush and Morgan Stanley to clear our routed equities transactions for our U.S. Equities exchanges. Wedbush and Morgan Stanley guarantee the trade until one day after the trade date, after which time the National Securities Clearing Corporation (“NSCC”) provides a guarantee. The BIDS Trading ATS platform delivers matched trades to BofA Securities, Inc. (“BOA”), which delivers the matched trades to the NSCC. BOA guarantees the trade until one day after the trade date, after which time the NSCC provides a guarantee. In the case of failure to perform on the part of Wedbush or Morgan Stanley on routed transactions for our U.S. Equities exchanges, we provide the guarantee to the counterparty to the trader. In the case of failure to perform on the part of BOA on transactions for the BIDS Trading ATS platform, BIDS has obligations to the counterparties to satisfy the trades. OCC acts as a central counterparty on all transactions in listed equity options in our Options segment, and as such, guarantees clearance and settlement of all of our options transactions. We believe that any potential requirement for us to make payments under these guarantees is remote and accordingly, have not recorded any liability in the condensed consolidated financial statements for these guarantees. Similarly, with respect to trades in U.S. listed equity options and futures occurring on Cboe Options, C2, BZX, EDGX, and CFE, we deliver matched trades of our customers to the OCC, which acts as a central counterparty on all transactions occurring on these exchanges and, as such, guarantees clearance and settlement of all of those matched options and futures trades. With respect to U.S. government securities transactions executed on Cboe Fixed Income, we use Mirae Asset Securities (USA) Inc. to deliver matched trades to the Fixed Income Clearing Corporation (FICC) Government Securities Division (GSD), which acts as a central counterparty on all transactions occurring on Cboe Fixed Income and, as such, guarantees clearance and settlement of all of those matched trades. With respect to Canadian equities, we deliver matched trades of our customers to The Canadian Depository for Securities, which acts as a central counterparty on all transactions occurring on Cboe Canada Inc. and, as such, guarantees clearance and settlement of all of our matched Canadian equities trades. With respect to trades in options and futures occurring on Cboe Europe Derivatives, we deliver matched trades of our customers to Cboe Clear Europe, which acts as a central counterparty on all transactions occurring on Cboe Europe Derivatives and, as such, guarantees clearance and settlement of all of those matched options and futures trades. With respect to Australian equities and derivatives, we deliver matched trades of our customers to ASX Clear Pty Ltd and ASX Settlement Pty Ltd. ASX Clear Pty Ltd acts as a central counterparty on all transactions occurring on Cboe Australia and, as such, guarantees clearance and settlement on all of our matched trades in Australia. With respect to Japanese equities, we deliver matched trades of our customers to the Japanese Securities Clearing Corporation, which acts as a central counterparty on all transactions occurring on Cboe Japan and, as such, guarantees clearance and settlement on all of our matched trades in Japan. With respect to trades in digital assets occurring on Cboe Digital Exchange, we deliver matched trades of our customers to Cboe Clear Digital, which acts as a central counterparty on all transactions occurring on Cboe Digital Exchange and, as such, guarantees clearance and settlement of all of those matched spot and futures trades.

Critical Accounting Estimates

The preparation of condensed consolidated financial statements in conformity with U.S. GAAP requires our management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of the amounts of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates. On an ongoing basis, the Company evaluates its estimates, including those related to areas that require a significant level of judgment or are otherwise subject to an inherent degree of uncertainty. The Company bases its estimates on historical experience, observance of trends in particular areas, information available from outside sources and various other assumptions that are believed to be reasonable under the circumstances. Information from these sources form the basis for making judgments about the carrying values of assets and liabilities that may not be readily apparent from other sources.

In the three months ended March 31, 2024, there were no significant changes to our critical accounting estimates from those disclosed in the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our 2023 Annual Report on Form 10-K.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

As a result of our operating activities, we are exposed to market risks such as foreign currency exchange rate risk, equity risk, credit risk, interest rate risk, and liquidity risk. We have implemented policies and procedures to measure, manage and monitor and report risk exposures, which are reviewed regularly by management and our Board of Directors.

Foreign Currency Exchange Rate Risk

Our operations in Europe, Canada and Asia Pacific are subject to increased currency translation risk as revenues and expenses are denominated in foreign currencies, primarily the British pound, Euro, Australian dollar, Canadian dollar, and Japanese Yen. We also have de minimis exposure to other foreign currencies, including the Singapore dollar and Philippine Peso.

For the three months ended March 31, 2024, our primary exposure to foreign-denominated revenues less cost of revenues and expenses is presented by foreign currency in the following table (in millions, except percentages):

	Three Months Ended March 31, 2024		
	British Pounds (1)	Euros (1)	Australian Dollars (1)

Foreign denominated % of:						
Revenues less cost of revenues		5.2 %		4.3 %		1.9 %
Operating expenses		9.6 %		7.1 %		4.5 %
Impact of 10% adverse currency fluctuation on:						
Revenues less cost of revenues	$	2.6	$	2.2	$	1.0
Operating expenses		2.1		1.6		1.0

(1) An average foreign exchange rate to the U.S. dollar for the period was used. See Item 2 (“Management’s Discussion and Analysis of Financial Condition and Results of Operations”) for the table summarizing the changes in certain operational and financial metrics for more information.

Equity Risk

Our investment in European, Canadian, and Asia Pacific operations is exposed to volatility in currency exchange rates through translation of our net assets or equity to U.S. dollars. The assets and liabilities of our European businesses are denominated in British pounds or Euros. The assets and liabilities of our Canadian businesses are denominated in Canadian dollars. The assets and liabilities of our Asia Pacific businesses are denominated in Australian dollars, Japanese Yen, Singapore dollars, Hong Kong dollars, or Philippine Pesos. Fluctuations in currency exchange rates may create volatility in our reported results as we are required to translate foreign currency reported statements of financial condition and operational results into U.S. dollars for consolidated reporting. The translation of these non-U.S. dollar statements of financial condition into U.S. dollars for consolidated reporting results in a cumulative translation adjustment, which is recorded in accumulated other comprehensive loss, net within stockholders' equity on our condensed consolidated balance sheet.

Our primary exposure to this equity risk as of March 31, 2024 is presented by foreign currency in the following table (in millions):

	British Pounds (1)	Euros (1)	Canadian Dollars (1)
Net equity investment in Cboe Europe Equities and Derivatives, Cboe Clear Europe, and Cboe Canada Inc.	$ 631.9	$ 194.8	$ 538.7
Impact on consolidated equity of a 10% adverse currency fluctuation	63.2	19.5	53.9

(1) Converted to U.S. dollars using the foreign exchange rate of British pounds per U.S. dollar, Euros per U.S. dollar, and Canadian dollars per U.S. dollar, respectively, as of March 31, 2024.

Credit Risk

We are exposed to credit risk from third parties, including customers, counterparties and clearing agents. These parties may default on their obligations due to bankruptcy, lack of liquidity, operational failure or other reasons. We limit our exposure to credit risk by considering such risk when selecting the counterparties with which we make investments and execute agreements.

We do not have counterparty credit risk with respect to trades matched on our exchanges in the U.S., Canada, and Europe. With respect to listed equities, we deliver matched trades of our customers to the NSCC without taking on counterparty risk for those trades. NSCC acts as a central counterparty on all equity transactions occurring on BZX, BYX, EDGX and EDGA and, as such, guarantees clearance and settlement of all of our matched equity trades. Similarly, with respect to U.S. listed equity options and futures, we deliver matched trades of our customers to the OCC, which acts as a central counterparty on all transactions occurring on Cboe Options, C2, BZX, EDGX and CFE and, as such, guarantees clearance and settlement of all of our matched options and futures trades. With respect to U.S. government securities transactions, we deliver matched trades to FICC’s GSD without taking on counterparty risk for those trades. FICC GSD acts as a central counterparty on all U.S. government securities transactions occurring on Cboe Fixed Income and, as such, guarantees clearance and settlement of all of those matched trades. With respect to Canadian equities, we deliver matched trades of our customers to The Canadian Depository for Securities, which acts as a central counterparty on all transactions occurring on Cboe Canada Inc. and, as such, guarantees clearance and settlement of all of our matched Canadian equities trades. The BIDS Trading ATS platform delivers matched trades to BOA, which delivers the matched trades to the NSCC. BOA guarantees the trade until one day after the trade date, after which time the NSCC provides a guarantee. Thus, BIDS Trading is potentially exposed to credit risk to the counterparty between the trade date and one day after the trade date in the event BOA fails. With respect to Australian equities and derivatives, we deliver matched trades of our customers to ASX Clear Pty Ltd and ASX Settlement Pty Ltd. ASX Clear Pty Ltd acts as a central counterparty on all transactions occurring on Cboe Australia and, as such, guarantees clearance and settlement on all of our matched trades in Australia. With respect to Japanese equities, we deliver matched trades of our customers to the Japanese Securities Clearing Corporation, which acts as a central counterparty on all transactions occurring on Cboe Japan and, as such, guarantees clearance and settlement on all of our matched trades in Japan.

With respect to orders Cboe Trading routes to other markets for execution on behalf of our customers, Cboe Trading is exposed to some counterparty credit risk in the case of failure to perform on the part of our clearing firms, Morgan Stanley or Wedbush. Morgan Stanley and Wedbush guarantee trades until one day after the trade date, after which time NSCC provides a guarantee. The BIDS Trading ATS platform delivers matched trades to BOA, which delivers the matched trades to the NSCC. Thus, Cboe Trading is potentially exposed to credit risk to the counterparty to a trade routed to another market center between the trade date and one day after the trade date in the event that Morgan Stanley or

Wedbush fails. The BIDS Trading ATS platform is potentially exposed to counterparty credit risk on equities trades between the trade date and one day after the trade date in the event that BOA fails. We believe that any potential requirement for us to make payments under these guarantees is remote and accordingly, have not recorded any liability in the condensed consolidated financial statements for these guarantees.

Historically, we have not incurred any 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 more visible market participants could also result in market-wide credit difficulties or other market disruptions.

We do not have counterparty credit risk with respect to institutional spot FX trades occurring on our platform because Cboe FX is not a counterparty to any FX transactions. All transactions occurring on our platform occur bilaterally between two banks or prime brokers as counterparties to the trade. While Cboe FX does not have direct counterparty risk, Cboe FX may suffer a decrease in transaction volume if a bank or prime broker experiences an event that causes other prime brokers to decrease or revoke the credit available to the prime broker experiencing the event. Therefore, Cboe FX may have risk that is related to the credit of the banks and prime brokers that trade FX on the Cboe FX platform.

We also have credit risk related to transaction fees that are billed in arrears to customers on a monthly basis. Our potential exposure to credit losses on these transactions is represented by the receivable balances in our balance sheet. Our customers are financial institutions whose ability to satisfy their contractual obligations may be impacted by volatile securities markets.

The Company is exposed to further credit and investment risk through our clearing operations. Cboe Clear Europe holds material amounts of clearing participant collateral, both cash and non-cash deposits, which are held or invested primarily to provide security of capital while minimizing credit risk as well as liquidity and market risks. Cboe Digital holds amounts of clearing participant collateral including cash and digital assets, which are held primarily to provide security of capital while minimizing credit risk as well as custody, valuation and market risks. The following is a summary of the risks associated with these deposits and how these risks are mitigated:

- Credit Risk - The credit risk is predominantly in the event a clearing participant fails to meet a financial or contractual obligation and related to custodians and settlement banks. Cboe Clear Europe attempts to mitigate this risk through minimum participant requirements for clearing participants and monitoring their financial health. To cover potential loss to Cboe Clear Europe in the event of a clearing participant default, collateral is required from clearing participants. Besides potential defaults of clearing participants, the main credit risk faced by the clearinghouse is exposure to clearing participants when a trade fails to settle. To help mitigate this risk, a fail fee is charged to discourage late settlements. This fee covers Cboe Clear Europe's costs but also acts as a deterrent as required by applicable settlement efficiency regulation. Cboe Clear Digital sets minimum financial requirements on custodian institutions and any clearing member that may expose the clearinghouse to credit risk. The financial strength of custodians and such clearing members are monitored routinely. Furthermore, Cboe Digital requires clearing members to post collateral (full or margined, depending on the product eligible for clearing) or other forms of financial guarantee and their trading activities are subject to pre-trade checks enforced by Cboe Digital Exchange and administered by Cboe Clear Digital. On June 5, 2023, the CFTC approved an amended order of registration for Cboe Clear Digital to clear digital asset futures on a margined basis for futures commission merchants. The new products launched January 11, 2024. As of March 31, 2024, Cboe Digital does not expect a material loss concerning credit risk on any member participant, custodian, or settlement bank.

- Liquidity Risk - Liquidity risk is the risk Cboe Clear Europe may not be able to meet its payment obligations in the right currency, in the right place and at the right time. To help mitigate this risk, Cboe Clear Europe monitors its liquidity requirements closely and maintains funds and assets in a manner which attempt to minimize 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 making only short-term investments serves to help reduce liquidity risks. Liquidity is mainly required for securities settlement. The payment and settlement obligations generally stem from the function of Cboe Clear Europe as a cash equity clearinghouse: shares are bought and sold by clearing participants on a trading platform or OTC, and netted to settle two days later. During the settlement the actual payment for and delivery of the shares take place, this process requires intraday liquidity. If counterparties, which receive shares against payment, are unable to settle, an overnight liquidity need arises. The overnight liquidity is typically very short term, and is usually limited to a few days. Cboe Clear Digital monitors its liquidity requirements closely and maintains funds and assets in a manner which attempt to minimize the risk of loss or delay in the access by the clearinghouse to such funds and assets. For example, only allowing highly liquid USD denominated assets to be posted as collateral. Cboe Clear Digital may not be able to meet its payment obligations in a timely manner in the event of delay in payment or default by a clearing member.

Cboe Clear Europe entered into a €1.25 billion committed syndicated multicurrency revolving and swingline credit facility that is available to be drawn by Cboe Clear Europe towards (a) financing unsettled amounts in connection with the settlement of transactions in securities and other items processed through Cboe Clear Europe's clearing system and (b) financing any other liability or liquidity requirement of Cboe Clear Europe incurred in the operation of its clearing system, however we can give no assurance that this facility will be sufficient to meet all such obligations or sufficiently mitigate Cboe Clear Europe's liquidity risk to meet its payment obligations when due.

- Custody Risk – Cboe Digital holds customer digital clearing assets through accounts with third party custodians and, in the case of hot and warm wallets, through self-custody. Cboe Digital's custody strategy is designed to maximize liquidity and efficient access to assets by making those assets readily available. Cboe Digital monitors its cash and the digital asset balances it maintains with custodians. Digital assets require control of one or more unique public and private keys relating to the local or online digital wallet in which the digital assets are held. The networks require one or more private keys relating to a digital wallet to authorize a spending transaction. If private keys are lost or destroyed, this could prevent the ability to transfer the corresponding digital asset. Security breaches, computer malware, and computer hacking attacks have been a prevalent concern in digital asset markets. Cboe Digital has committed to securely store digital assets it holds on behalf of users. As such, Cboe Digital may be liable to its users for losses arising from theft or loss of user private keys. Cboe Digital has no reason to believe it will incur any expense associated with such potential liability because (i) it has no known or historical experience of claims to use as a basis of measurement, (ii) it accounts for and continually verifies the amount of digital assets within its control, and (iii) it has established security around custodial private keys to minimize the risk of theft or loss.

- Valuation Risk - Cboe Digital is exposed to risk with respect to digital asset prices and valuations which are largely based on the supply and demand for those digital assets in financial markets. Cboe Digital's valuation governance framework includes numerous controls and other procedural safeguards that are intended to maximize the quality of fair value measurements. New products and valuation techniques are reviewed and approved by senior management. Cboe Digital's valuation process for digital assets are fair value estimates that are also validated by the finance control function independently. Independent price verification is performed by finance control through benchmarking fair value estimates with observable market prices or other independent sources. Reasonably designed controls and governance framework are in place and are intended to help ensure quality third-party pricing sources were used.

- Market Risk – Cboe Clear Europe is also exposed to market risk in the event that a clearing participant defaults and the market prices of the securities in its open positions have moved adversely so the clearinghouse can only close out the participant's obligations at a loss. To help mitigate market risk, Cboe Clear Europe collects collateral on an end of day and intraday basis from clearing participants to cover for the probable loss during normal market conditions, together with contributions to the clearing fund to cover losses if a default occurred during extreme but plausible market conditions. Adverse movements in exchange rates affecting the value of obligations and collateral are factored into the calculation of the amount of collateral to be collected. To help ensure an orderly market, Cboe Digital maintains digital assets to support its clearing operations which may be subject to significant changes in value and therefore exposed to market risk with the fluctuation in market prices. Cboe Digital monitors this risk on a daily, weekly and monthly basis. The business model is such that Cboe Digital earns digital assets and at times may accumulate positions that are subject to market risk. Customer positions do have market risk based on daily activity and settlement prices. Cboe Clear Digital is also exposed to market risk in the event that a clearing participant defaults and the market prices of the securities in its open positions have moved adversely so the clearinghouse can only close out the participant’s obligations at a loss or the clearing participant has already realized trading losses in excess of the collateral at the time of default or the combination of the two. Cboe Clear Digital collects collateral on an end of day and intraday basis from clearing participants that are clearing margin eligible futures contracts. Cboe Clear Digital only allows collateral in USD at this time. Cboe Clear Digital maintains pre-funded resources to cover probable losses during normal market conditions due to default of clearing participants. Cboe Clear Digital clearing members clearing spot digital assets mostly operate on a fully funded basis. Cboe Clear Digital may allow certain well qualified members to trade in the spot market without fully funding their accounts. Cboe Clear Digital collects collateral from such members to cover probable losses under extreme but plausible market conditions as determined by Cboe Clear Digital. The adequacy of such collateral is routinely reviewed.

- Investment Risk – Cboe Clear Europe as of March 31, 2024 held $1,524.9 million of clearing member margin deposits, clearing funds, and interoperability funds which are held or invested primarily to provide security of capital while minimizing credit, market and liquidity risks. Effective August 14, 2023, Cboe Clear Europe enacted changes in its rules, and is able to invest the cash collateral received in the form of interoperability fund deposits from clearing participants in certain investments, typically securities issued by pre-approved sovereign issuers and reverse repurchase agreements with overnight maturities. When investments are made in accordance with the policy, Cboe Clear Europe receives the amount of investment earnings and pays the clearing participants those earnings minus a set basis point cost of collateral. Cboe Clear Europe is able to direct the investment of the cash interoperability fund deposits received from the clearing participants within the program parameters and receive an economic benefit from those investments. See Note 12 (“Clearing Operations”) for more information. In the event that a sovereign government or reverse repurchase agreement counterparty defaults, the value we hold as collateral might not be sufficient to cover our capital requirements in the event of defaults. While Cboe Clear Europe seeks to achieve a reasonable rate of return which may generate interest income for clearing participants, Cboe Clear Europe is primarily concerned with preservation of capital and managing the risks associated with these deposits. As Cboe Clear Europe passes on interest revenues (minus costs) to the clearing members, this could include negative or reduced yield due to market conditions. While Cboe Clear Europe has policies and procedures that strive to help ensure that clearing participant collateral is protected, Cboe Clear Europe cannot absolutely assure that these measures and safeguards will be sufficient to protect margin deposits, clearing funds, and interoperability funds from a default or that we will not be materially and adversely affected in the event of a significant default.

On a regular basis, we review and evaluate changes in the status of our counterparties’ creditworthiness. Credit losses such as those described above could adversely affect our condensed consolidated financial position and results of operations. Any such effects to date have been minimal.

Interest Rate Risk

We have exposure to market risk for changes in interest rates relating to our cash and cash equivalents, financial investments, and indebtedness. As of March 31, 2024 and 2023, our cash and cash equivalents and financial investments were $595.1 million and $515.8 million, respectively, of which $240.3 million and $205.0 million is held outside of the United States in various foreign subsidiaries in 2024 and 2023, respectively. The remaining cash and cash equivalents and financial investments are denominated in U.S. dollars. We do not use our investment portfolio for trading or other speculative purposes. Due to the nature of these investments, we have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates, assuming no change in the amount or composition of our cash and cash equivalents and financial investments.

As of March 31, 2024, we had $1,439.6 million in outstanding debt, all of which relates to our Senior Notes, which bear interest at fixed interest rates. Changes in interest rates will have no impact on the interest we pay on fixed-rate obligations. We are also exposed to changes in interest rates as a result of borrowings under our Revolving Credit Agreement and the Cboe Clear Europe Credit Facility, as these facilities bear interest at fluctuating rates. As of March 31, 2024, there were no outstanding borrowings under our Revolving Credit Agreement or Cboe Clear Europe Credit Facility, respectively. See Note 10

(“Debt”) to the condensed consolidated financial statements for a discussion of debt agreements.

Liquidity Risk

We are exposed to liquidity risk under certain circumstances in relation to the cross-acceleration and cross-default provisions within the Revolving Credit Agreement as a result of the Company, as guarantor, entering into the Cboe Clear Europe Credit Facility. A default of the Facility may allow lenders to accelerate any related drawn amounts and may result in the acceleration of the Company’s other outstanding debt to which a cross-acceleration or cross-default provision applies, which may limit the Company’s liquidity, business and financing activities. See Note 10 (“Debt”) to the condensed consolidated financial statements for a discussion of debt agreements.

Item 4. Controls and Procedures

a) Disclosure controls and procedures. The Company’s management, with the participation of its Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company’s disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(e) under the Securities Exchange Act of 1934) as of the end of the period covered by this report. Based upon that evaluation, the Company’s Chief Executive Officer and Chief Financial

Officer have concluded that, as of the end of such period, the Company's disclosure controls and procedures are effective.

b) Internal controls over financial reporting. No changes occurred in the Company's internal control over financial reporting during the first quarter 2024 that materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

Cboe incorporates herein by reference the discussion set forth in Note 19 ("Income Taxes") and Note 21 ("Commitments, Contingencies, and Guarantees") of the condensed consolidated financial statements included herein.

Item 1A. Risk Factors.

Other than the risk factor listed below, there have been no material updates during the period covered by this Form 10-Q to the Risk Factors as set forth in Item 1A. of our Annual Report on Form 10-K for the year ended December 31, 2023. These risks and uncertainties, however, are not the only risks and uncertainties that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also significantly impact us. Any risks and uncertainties may materially and adversely affect our business, financial condition or results of operations, liquidity and cash flows.

Our recent decision to wind down the Cboe Digital spot crypto market may negatively impact our digital asset business.

In April 2024, we announced plans to wind down the spot crypto market currently offered by Cboe Digital and transition its cash-settled Bitcoin and Ether futures contracts to CFE, pending regulatory review and certain corporate approvals. The Company expects to maintain the derivatives clearing services currently operated by Cboe Clear Digital, integrating these functions and teams into the existing organizational structure. In connection with shutting down the spot crypto exchange, the Company also plans to unwind the minority ownership structure in Cboe Digital. Our decision to wind down the Cboe Digital spot crypto market may adversely impact our ability to develop new products based on digital assets, including the development and distribution of digital asset indices for potential use in exchange traded products and other derivative product opportunities. The wind down could impact our reputation within the digital asset industry and negatively impact the demand for our Bitcoin and Ether futures contracts. We expect competition to increase as existing and new competitors introduce new products or enhance existing products and the wind down of the spot crypto market may impact how market participants perceive us. In addition, there can be no assurance that we will be able to obtain the regulatory approvals necessary to wind down the Cboe Digital spot crypto market on a timely basis and we cannot provide assurance that we will be able to successfully transition Cboe Digital's cash-settled Bitcoin and Ether futures contracts to CFE and integrate the clearing services currently operated by Cboe Clear Digital into the existing organizational structure.

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

Share repurchase program

In 2011, the Board of Directors approved an initial authorization for the Company to repurchase shares of its outstanding common stock of $100 million and subsequently approved additional authorizations for a total authorization of $1.8 billion. The program permits the Company to purchase shares, through a variety of methods, including in the open market or through privately negotiated transactions, in accordance with applicable securities laws. It does not obligate the Company to make any repurchases at any specific time or situation. The Company repurchased 489,686 shares of its common stock under its share repurchase program during the three months ended March 31, 2024 at an average cost per share of $182.26, for a total value of $89.3 million and had $294.8 million of availability remaining under its existing share repurchase authorizations as of March 31, 2024.

The table below shows the purchases of equity securities by the Company which settled during the three months ended March 31, 2024, reflecting the purchase of common stock under the Company's share repurchase program:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in millions)
January 1 to January 31, 2024	8,861	$ 174.52	8,861	$ 382.5
February 1 to February 29, 2024	—	—	—	382.5
March 1 to March 31, 2024	480,825	182.40	480,825	294.8
Total	489,686	$ 182.26	489,686	

Purchase of common stock from employees

The table below reflects the acquisition of common stock by the Company in the three months ended March 31, 2024 that were not part of the publicly announced share repurchase authorization. These shares consisted of shares retained to cover payroll withholding taxes in connection with the vesting of restricted stock unit awards and performance share awards.

Period	Total Number of Shares Purchased	Average Price Paid per Share
January 1 to January 31, 2024	475	$ 178.56
February 1 to February 29, 2024	134,987	185.58
March 1 to March 31, 2024	1,526	187.02
Total	136,988	$ 185.86

Use of proceeds

None.

Item 3. Defaults upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

Securities Trading Plans of Executive Officers and Directors

During the period from January 1, 2024, to March 31, 2024, our executive officers and directors adopted or terminated contracts, instructions or written plans for the purchase or sale of our securities as noted below:

Name and Title	Date of Adoption of Trading Plan	Scheduled Expiration Date of Trading Plan(1)	Aggregate Number of Securities to Be Purchased or Sold
Christopher A. Isaacson Executive Vice President, Chief Operating Officer	3/8/2024[2]	9/30/2024	Sale of up to 12,000 shares of common stock
	3/11/2024[2]	12/31/2024	

David Howson Executive Vice President, Global President		Sale of up to 10,000 shares of common stock

(1) The trading plan may also expire on such earlier date as all transactions under the trading plan are completed.
(2) Intended to satisfy the affirmative defense of Rule 10b5-1(c).

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Item 6. Exhibits.

Exhibit No.	Description
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14 (Filed herewith).
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14 (Filed herewith).
32.1	Certificate of Chief Executive Officer pursuant to Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (Filed herewith).
32.2	Certificate of Chief Financial Officer pursuant to Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (Filed herewith).
101.INS	XBRL Instance Document (Filed herewith). — The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema Document (Filed herewith).
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document (Filed herewith).
101.DEF	XBRL Taxonomy Extension Definition Linkbase (Filed herewith).
101.LAB	XBRL Taxonomy Extension Label Linkbase Document (Filed herewith).
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document (Filed herewith).
104	Cover Page Interactive Data File (embedded as Inline XBRL document).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CBOE GLOBAL MARKETS, INC.
Registrant

	By:	/s/ Fredric J. Tomczyk
		Fredric J. Tomczyk
		Chief Executive Officer
Date: May 3, 2024		
	By:	/s/ Jill M. Griebenow
		Jill M. Griebenow
		Executive Vice President, Chief Financial Officer
Date: May 3, 2024		