UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q

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

For the quarterly period ended June 30, 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	July 26, 2024
Common Stock, par value $0.01 per share	104,634,115 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 Digital Exchange" refers to Cboe Digital Exchange, LLC, a wholly-owned subsidiary of Cboe Global Markets, Inc.
- "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 Volatility Index®, Cboe Clear®, Cboe Datashop®, Cboe Digital®, Cboe LIS®, Bats®, BIDS Trading®, BYX®, BZX®, 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;
- 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 market and transitioning digital asset futures contracts to CFE, 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)

	June 30, 2024	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 614.6	$ 543.2
Financial investments	83.7	57.5
Accounts receivable, net of $ 5.6 allowance for credit losses at June 30, 2024 and $ 4.5 at December 31, 2023	372.7	337.3
Margin deposits, clearing funds, and interoperability funds	2,728.8	848.8
Digital assets - safeguarded assets	6.9	51.3
Income taxes receivable	34.9	74.5
Other current assets	57.9	66.7
Total current assets	3,899.5	1,979.3
Investments	359.5	345.3
Property and equipment, net	115.1	109.2
Property held for sale	—	8.7
Operating lease right of use assets	115.3	136.6
Goodwill	3,132.9	3,140.6
Intangible assets, net	1,424.7	1,561.5
Other assets, net	208.6	206.3
Total assets	$ 9,255.6	$ 7,487.5
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable and accrued liabilities	$ 290.9	$ 412.7
Section 31 fees payable	120.6	51.9
Deferred revenue	9.9	5.9
Margin deposits, clearing funds, and interoperability funds	2,728.8	848.8
Digital assets - safeguarded liabilities	6.9	51.3
Income taxes payable	—	1.0
Current portion of contingent consideration liabilities	1.8	11.8
Total current liabilities	3,158.9	1,383.4
Long-term debt	1,440.1	1,439.2
Non-current unrecognized tax benefits	270.9	243.8
Deferred income taxes	194.7	217.8
Non-current operating lease liabilities	126.3	150.8
Other non-current liabilities	43.0	67.5
Total liabilities	5,233.9	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 June 30, 2024 and December 31, 2023	—	—
Common stock, $ 0.01 par value: 325,000,000 shares authorized, 105,962,230 and 104,788,542 shares issued and outstanding, respectively at June 30, 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, 1,173,688 shares at June 30, 2024 and 29,002 shares at December 31, 2023	(217.4)	(10.5)
Additional paid-in capital	1,506.0	1,478.6
Retained earnings	2,758.4	2,525.2
Accumulated other comprehensive loss, net	(26.4)	(9.4)
Total stockholders' equity	4,021.7	3,985.0
Total liabilities and stockholders' equity	$ 9,255.6	$ 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 June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Revenues:				
Cash and spot markets	$ 386.4	$ 341.3	$ 767.3	$ 748.3
Data and access solutions	142.1	135.3	282.3	264.7
Derivatives markets	445.5	431.2	881.6	883.0
Total revenues	974.0	907.8	1,931.2	1,896.0
Cost of revenues:				
Liquidity payments	307.0	337.4	645.8	709.2
Routing and clearing	16.6	20.8	32.6	44.8
Section 31 fees	77.7	34.5	119.8	109.4
Royalty fees and other cost of revenues	58.9	48.0	117.1	94.1
Total cost of revenues	460.2	440.7	915.3	957.5
Revenues less cost of revenues	513.8	467.1	1,015.9	938.5
Operating expenses:				
Compensation and benefits	116.1	106.5	231.4	216.9
Depreciation and amortization	31.8	39.8	69.1	81.2
Technology support services	24.6	28.3	48.8	50.5
Professional fees and outside services	25.8	20.4	47.3	44.3
Travel and promotional expenses	9.3	13.5	16.8	19.7
Facilities costs	6.1	6.2	12.6	13.8
Acquisition-related costs	0.6	0.7	1.2	7.1
Impairment of intangible assets	81.0	—	81.0	—
Other expenses	8.4	6.9	15.2	12.3
Total operating expenses	303.7	222.3	523.4	445.8
Operating income	210.1	244.8	492.5	492.7
Non-operating (expenses) income:				
Interest expense	(12.8)	(16.7)	(25.8)	(33.8)
Interest income	4.6	2.8	8.7	4.8
Earnings on investments	14.2	9.3	28.2	24.6
Other (expense) income, net	(13.1)	1.6	(8.5)	1.7
Income before income tax provision	203.0	241.8	495.1	490.0
Income tax provision	62.6	74.0	145.2	148.8
Net income	140.4	167.8	349.9	341.2
Net income allocated to participating securities	(0.7)	(0.8)	(1.9)	(1.6)
Net income allocated to common stockholders	$ 139.7	$ 167.0	$ 348.0	$ 339.6
Basic earnings per share	$ 1.33	$ 1.58	$ 3.30	$ 3.21
Diluted earnings per share	$ 1.33	$ 1.57	$ 3.29	$ 3.20
Basic weighted average shares outstanding	105.1	105.7	105.4	105.8
Diluted weighted average shares outstanding	105.4	106.1	105.8	106.1

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 June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Net income	$ 140.4	$ 167.8	$ 349.9	$ 341.2
Other comprehensive (loss) income, net of income tax:				
Foreign currency translation adjustments	(2.7)	10.6	(16.2)	30.4
Unrealized holding losses on financial investments	(0.5)	(0.8)	(1.0)	(1.7)
Post-retirement benefit obligations	—	—	0.2	(0.1)
Comprehensive income	137.2	177.6	332.9	369.8
Comprehensive income allocated to participating securities	(0.7)	(0.8)	(1.9)	(1.6)
Comprehensive income allocated to common stockholders, net of income tax	$ 136.5	$ 176.8	$ 331.0	$ 368.2

See accompanying notes to condensed consolidated financial statements.

Cboe Global Markets, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Stockholders' Equity
Three and Six months ended June 30, 2024 and June 30, 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
Cash dividends on common stock of $ 0.55 per share	—	—	—	—	(58.2)	—	(58.2)
Stock-based compensation	—	—	—	10.3	—	—	10.3
Repurchases of common stock from employee stock plans	—	—	(1.7)	—	—	—	(1.7)
Purchase of common stock	—	—	(90.4)	—	—	—	(90.4)
Shares issued under employee stock purchase plan	—	—	—	0.4	—	—	0.4
Net income	—	—	—	—	140.4	—	140.4
Other comprehensive loss	—	—	—	—	—	(3.2)	(3.2)
Balance at June 30, 2024	$ —	$ 1.1	$ (217.4)	$ 1,506.0	$ 2,758.4	$ (26.4)	$ 4,021.7

	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
Cash dividends on common stock of $ 0.50 per share	—	—	—	—	(53.2)	—	(53.2)
Stock-based compensation	—	—	—	9.1	—	—	9.1
Repurchases of common stock from employee stock plans	—	—	(0.3)	—	—	—	(0.3)
Purchase of common stock	—	—	(8.1)	—	—	—	(8.1)
Shares issued under employee stock purchase plan	—	—	—	0.6	—	—	0.6
Net income	—	—	—	—	167.8	—	167.8
Other comprehensive income	—	—	—	—	—	9.8	9.8
Balance at June 30, 2023	$ —	$ 1.1	$ (222.1)	$ 1,482.0	$ 2,405.8	$ (2.4)	$ 3,664.4

See accompanying notes to condensed consolidated financial statements.

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

	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023
Cash flows from operating activities:		
Net income	$ 349.9	$ 341.2
Adjustments to reconcile net income to net cash from operating activities:		
Depreciation and amortization	69.1	81.2
Amortization of debt issuance cost and debt discount	1.2	1.3
Loss on settlement of contingent consideration	3.0	—
Unrealized gain on available-for-sale financial investments	(0.9)	(1.6)
Provision for accounts receivable credit losses	1.6	1.8
Benefit for deferred income taxes	(21.2)	(17.3)
Stock-based compensation expense	22.0	26.0
Impairment of intangible assets	81.0	—
Impairment of minority investment	16.0	—
Impairment of property and equipment	0.3	—
Gain from Cboe Digital non-recourse notes and warrants wind down	(2.4)	—
Gain on sale of property held for sale	(1.0)	—
Gain on lease termination	(0.7)	—
Expenses from Cboe Digital wind down	0.8	—
Pyth tokens revenue	(1.0)	—
Equity earnings on investments	(26.5)	(22.9)
Changes in assets and liabilities:		
Accounts receivable	(44.2)	12.6
Restricted cash and cash equivalents and customer bank deposits (included in margin deposits, clearing funds, and interoperability funds)	1,923.2	168.8
Income taxes receivable	39.6	10.3
Other current assets	5.2	(4.7)
Other assets	(12.9)	(17.2)
Accounts payable and accrued liabilities	(113.3)	(36.8)
Section 31 fees payable	68.7	(37.3)
Deferred revenue	4.0	2.8
Income taxes payable	(1.0)	(3.6)
Unrecognized tax benefits	27.1	27.6
Other liabilities	1.9	(4.5)
Net cash provided by operating activities	2,389.5	527.7
Cash flows from investing activities:		
Purchases of available-for-sale financial investments	(46.3)	(69.7)
Proceeds from maturities of available-for-sale financial investments	20.6	64.4
Proceeds from sale of intangible assets	—	0.8
Proceeds from sale of property held for sale	3.3	—
Proceeds from sale of property and equipment	0.7	—
Proceeds from insurance	0.1	—
Contributions to investments	(3.7)	(18.1)
Purchases of property and equipment and leasehold improvements	(25.1)	(20.2)
Net cash used in investing activities	(50.4)	(42.8)
Cash flows used in financing activities:		
Principal payments of current portion of long-term debt	—	(140.0)
Cash dividends on common stock	(116.7)	(106.5)
Repurchases of common stock from employee stock plans	(27.2)	(13.0)
Payments of contingent consideration related to acquisitions	(13.0)	(10.2)
Shares issued under employee stock purchase plan	(5.4)	(0.9)
Payments for Cboe Digital non-recourse notes and warrants wind down	(6.0)	—
Purchase of common stock	(177.9)	(78.1)
Net cash used in financing activities	(346.2)	(348.7)
Effect of foreign currency exchange rates on cash, cash equivalents, and restricted cash and cash equivalents	(41.4)	20.3
Increase in cash, cash equivalents, and restricted cash and cash equivalents	1,951.5	156.5
Cash, cash equivalents, and restricted cash and cash equivalents:		
Beginning of period	1,397.1	979.9
End of period	$ 3,348.6	$ 1,136.4
Reconciliation of cash, cash equivalents, and restricted cash and cash equivalents:		
Cash and cash equivalents	614.6	413.6
Restricted cash and cash equivalents (included in margin deposits, clearing funds, and interoperability funds)	2,723.8	699.6
Restricted cash and cash equivalents (included in other current assets)	5.2	4.0
Customer bank deposits (included in margin deposits, clearing funds, and interoperability funds)	5.0	19.2
Total	$ 3,348.6	$ 1,136.4
Supplemental disclosure of cash transactions:		
Cash paid for income taxes, net of refunds	$ 178.3	$ 129.5
Cash paid for interest	62.4	38.4
Supplemental disclosure of noncash investing activities:		
Note receivable from sale of property held for sale	$ 6.4	$ —
Additions of intangible assets	1.0	—
Supplemental disclosure of noncash financing activities:		
Unsettled purchases of common stock	$ (1.8)	$ —
Cboe Digital non-recourse notes and warrants asset	16.2	—
Cboe Digital non-recourse notes and warrants liability	(16.2)	—

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, and FX, 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 Exchange, LLC, an operator of 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.

On April 25, 2024, the Company announced plans to refocus the digital asset business to leverage its core strengths in derivatives, technology, and product innovation. On May 31, 2024, the Company halted trading on Cboe Digital Exchange, LLC's ("Cboe Digital Exchange") spot market ("Cboe Digital spot market"), the Company's spot digital asset trading platform, in-line with the Company's plans to wind down the spot digital asset trading market by the third quarter of 2024. In addition, the company plans to transition its cash-settled Bitcoin and Ether futures contracts, currently available for trading on the Cboe Digital Exchange, to CFE in the first half of 2025, pending regulatory review. The Company plans to align Cboe Clear Digital with Cboe Clear Europe, under unified leadership, and expects to continue to facilitate the clearing of cash-settled Bitcoin and Ether futures contracts.

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 and six month periods ended June 30, 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 June 30, 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 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 June 30, 2024				
Transaction and clearing fees	$ 283.6	$ —	$ 414.0	$ 697.6
Access and capacity fees	—	90.5	—	90.5
Market data fees	14.6	50.9	8.2	73.7
Regulatory fees	63.2	—	22.7	85.9
Other revenue	25.0	0.7	0.6	26.3
	$ 386.4	$ 142.1	$ 445.5	$ 974.0

	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Three Months Ended June 30, 2023				
Transaction and clearing fees	$ 279.0	$ —	$ 406.7	$ 685.7
Access and capacity fees	—	86.9	—	86.9
Market data fees	17.7	47.7	8.1	73.5
Regulatory fees	28.7	—	15.7	44.4
Other revenue	15.9	0.7	0.7	17.3
	$ 341.3	$ 135.3	$ 431.2	$ 907.8

	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Six Months Ended June 30, 2024				
Transaction and clearing fees	$ 588.8	$ —	$ 827.3	$ 1,416.1
Access and capacity fees	—	180.6	—	180.6
Market data fees	30.6	100.2	14.9	145.7
Regulatory fees	98.1	—	38.0	136.1
Other revenue	49.8	1.5	1.4	52.7
	$ 767.3	$ 282.3	$ 881.6	$ 1,931.2

	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Six Months Ended June 30, 2023				
Transaction and clearing fees	$ 590.9	$ —	$ 827.3	$ 1,418.2
Access and capacity fees	—	171.1	—	171.1
Market data fees	35.6	92.2	16.6	144.4
Regulatory fees	91.3	—	37.6	128.9
Other revenue	30.5	1.4	1.5	33.4
	$ 748.3	$ 264.7	$ 883.0	$ 1,896.0

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 June 30, 2024							
Transaction and clearing fees	$ 385.9	$ 227.2	$ 38.9	$ 28.1	$ 17.1	$ 0.4	$ 697.6
Access and capacity fees	41.6	30.6	10.0	5.5	2.8	—	90.5
Market data fees	31.0	30.3	9.8	2.2	0.4	—	73.7
Regulatory fees	22.6	63.2	—	0.1	—	—	85.9
Other revenue	1.2	2.0	22.9	—	0.2	—	26.3
	$ 482.3	$ 353.3	$ 81.6	$ 35.9	$ 20.5	$ 0.4	$ 974.0
Timing of revenue recognition							
Services transferred at a point in time	$ 409.7	$ 292.4	$ 61.8	$ 28.2	$ 17.3	$ 0.4	$ 809.8
Services transferred over time	72.6	60.9	19.8	7.7	3.2	—	164.2
	$ 482.3	$ 353.3	$ 81.6	$ 35.9	$ 20.5	$ 0.4	$ 974.0
Three Months Ended June 30, 2023							
Transaction and clearing fees	$ 384.3	$ 229.4	$ 35.6	$ 22.4	$ 15.0	$ (1.0)	$ 685.7
Access and capacity fees	40.3	29.0	9.2	5.5	2.7	0.2	86.9
Market data fees	30.0	31.5	9.6	2.0	0.4	—	73.5
Regulatory fees	15.6	28.7	—	0.1	—	—	44.4
Other revenue	1.3	2.0	13.9	—	0.1	—	17.3
	$ 471.5	$ 320.6	$ 68.3	$ 30.0	$ 18.2	$ (0.8)	$ 907.8
Timing of revenue recognition							
Services transferred at a point in time	$ 401.2	$ 260.1	$ 49.5	$ 22.5	$ 15.1	$ (1.0)	$ 747.4
Services transferred over time	70.3	60.5	18.8	7.5	3.1	0.2	160.4
	$ 471.5	$ 320.6	$ 68.3	$ 30.0	$ 18.2	$ (0.8)	$ 907.8

	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Total
Six Months Ended June 30, 2024							
Transaction and clearing fees	$ 775.7	$ 478.9	$ 77.7	$ 51.6	$ 32.6	$ (0.4)	$ 1,416.1
Access and capacity fees	83.3	60.3	20.1	11.2	5.6	0.1	180.6
Market data fees	60.1	61.0	19.5	4.4	0.7	—	145.7
Regulatory fees	37.9	98.1	—	0.1	—	—	136.1
Other revenue	2.7	4.6	45.0	—	0.4	—	52.7
	$ 959.7	$ 702.9	$ 162.3	$ 67.3	$ 39.3	$ (0.3)	$ 1,931.2
Timing of revenue recognition							
Services transferred at a point in time	$ 816.3	$ 581.6	$ 122.7	$ 51.7	$ 33.0	$ (0.4)	$ 1,604.9
Services transferred over time	143.4	121.3	39.6	15.6	6.3	0.1	326.3
	$ 959.7	$ 702.9	$ 162.3	$ 67.3	$ 39.3	$ (0.3)	$ 1,931.2
Six Months Ended June 30, 2023							
Transaction and clearing fees	$ 780.1	$ 484.4	$ 77.7	$ 47.2	$ 30.8	$ (2.0)	$ 1,418.2
Access and capacity fees	79.2	57.4	18.1	10.8	5.3	0.3	171.1
Market data fees	58.0	63.4	18.3	4.0	0.7	—	144.4
Regulatory fees	37.5	91.3	—	0.1	—	—	128.9
Other revenue	2.8	3.9	26.5	—	0.2	—	33.4
	$ 957.6	$ 700.4	$ 140.6	$ 62.1	$ 37.0	$ (1.7)	$ 1,896.0
Timing of revenue recognition							
Services transferred at a point in time	$ 820.4	$ 579.6	$ 104.2	$ 47.3	$ 31.0	$ (2.0)	$ 1,580.5
Services transferred over time	137.2	120.8	36.4	14.8	6.0	0.3	315.5
	$ 957.6	$ 700.4	$ 140.6	$ 62.1	$ 37.0	$ (1.7)	$ 1,896.0

Contract liabilities as of June 30, 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 June 30, 2024
Liquidity provider sliding scale (1)	$ —	$ 7.2	$ (3.6)	$ 3.6
Other, net	6.1	9.7	(9.3)	6.5
Total deferred revenue	$ 6.1	$ 16.9	$ (12.9)	$ 10.1

(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 $ 0.7 million of acquisition-related costs during the three months ended June 30, 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.

The Company expensed $ 1.2 million and $ 7.1 million of acquisition-related costs during the six months ended June 30, 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 June 30, 2024 and December 31, 2023, the Company's investments were comprised of the following (in millions):

	June 30, 2024	December 31, 2023
Equity method investments:		
Investment in 7Ridge Investments 3 LP	$ 321.3	$ 292.0
Total equity method investments	321.3	292.0
Other equity investments:		
Investment in Eris Innovations Holdings, LLC	20.0	20.0
Investment in Globacap Technology Limited	—	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	4.1	3.2
Total other equity investments	38.2	53.3
Total investments	$ 359.5	$ 345.3

Equity Method Investments

The Company's investment in 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 June 30, 2024, or $321.3 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.

The Company holds an exit option to acquire Trading Technologies International Inc. ("Trading Technologies"), which is wholly owned by the 7Ridge Fund, that becomes exercisable on the earlier of (i) December 21, 2026 or (ii) the satisfaction by the general partner of 7Ridge Fund of certain performance goals set forth in the investment agreements. The exit option can be exercised individually or jointly by the limited partners of 7Ridge Fund. If the exit option is not exercised by the limited partners, the general partner of 7Ridge Fund may market Trading Technologies for sale to a third party. If Trading Technologies is sold to a third party, the general partner of the 7Ridge Fund would be entitled to receive a variable portion of the sales proceeds determined based upon the satisfaction of certain contractual performance goals. As of June 30, 2024 the exit option was not exercisable.

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.

In the second quarter of 2024, the Company recorded an impairment charge of $16.0 million on its minority investment in Globacap Technology Limited based on management's assessment of the fair value of the investment. The impairment was recorded in other (expense) income, net in the condensed consolidated statements of income.

5. PROPERTY AND EQUIPMENT, NET

Property and equipment, net consisted of the following as of June 30, 2024 and December 31, 2023 (in millions):

	June 30, 2024	December 31, 2023
Construction in progress	$ 5.1	$ 1.5
Furniture and equipment	288.4	322.9
Total property and equipment	293.5	324.4
Less accumulated depreciation	(178.4)	(215.2)
Property and equipment, net	$ 115.1	$ 109.2

Depreciation expense using the straight-line method was $8.0 million and $ 8.4 million for the three months ended June 30, 2024 and 2023, respectively, and $ 16.6 million and $ 16.9 million for the six months ended June 30, 2024 and 2023, respectively.

The sale of the Company's former headquarters including the associated land, building, and certain furniture and equipment of the former headquarters location ("the Property") was completed on June 28, 2024. In connection with the sale, the Company provided seller financing to the purchaser of the Property ("the Purchaser") in the form of a secured promissory note for a portion of the purchase price of the Property. The total purchase price of the Property was $ 12.0 million and was comprised of $ 5.0 million cash and $ 7.0 million of seller financing. On June 30, 2024, the Company recognized a gain on the sale of property held for sale of $ 1.0 million representing the difference between the property held for sale balance and the net present value of the consideration on the date of disposal of the Property, less expenses incurred.

The $ 7.0 million in seller financing is in the form of a secured promissory note receivable to be repaid with an interest rate of 4.0 % per annum, payable quarterly in arrears. The loan shall be repaid to the Company upon the earlier of the following (a) the second anniversary of the closing date of the sale of the Property or (b) the closing of a sale of the Property by the Purchaser to a third party who is not related to the Purchaser. The Company will accrue interest income monthly based on the agreed upon principal amount and interest rate.

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 under the Securities Exchange Act of 1934 ("Rule 613"), and it strives to enhance regulators' ability to monitor trading activity in the U.S. national securities markets through a phased implementation. CATLLC is a national market system plan that was created by self-regulatory organizations that include the Cboe U.S. national securities exchanges, the other U.S. national securities exchanges and FINRA (who collectively are referred to as the "SROs" or "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 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 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. 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. SEC action on the fee filings is still pending as of the date of this filing.

Additional CAT fees related to a portion of other historical CAT costs and to 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.

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 the CAT fee assessed by CATLLC to CAT Executing Brokers and Plan Participants to fund prospective CAT costs is 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 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 six months ended June 30, 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	—	1.6	1.6
Write-offs charged against the allowance	—	(0.5)	(0.5)
Recoveries collected	—	—	—
Balance at June 30, 2024	$ 30.1	$ 5.6	$ 35.7

7. OTHER ASSETS, NET

Other assets, net consisted of the following as of June 30, 2024 and December 31, 2023 (in millions):

	June 30, 2024	December 31, 2023
Software development work in progress	$ 4.6	$ 3.5
Data processing software	126.9	128.1
Less accumulated depreciation and amortization	(93.3)	(88.3)
Data processing software, net	38.2	43.3
Other assets (1)	170.4	163.0
Other assets, net	$ 208.6	$ 206.3

(1) At June 30, 2024, the majority of the balance included notes receivable, net of allowance, and long-term prepaid assets.At 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 June 30, 2024 and December 31, 2023, the notes receivable, net balance was $ 154.7 million and $ 136.9 million, respectively. See Note 5 ("Property and Equipment, Net") and 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 and the repurchase of Cboe Digital Restricted Common Units and Warrant Units included within other assets, net on the condensed consolidated balance sheets at December 31, 2023. As of June 30, 2024 and December 31, 2023, the contra-revenue asset balance was zero and $ 18.1 million, respectively.

Amortization expense related to data processing software was $2.5 million and $ 2.1 million for the three months ended June 30, 2024 and 2023, respectively, and $ 5.0 million and $ 4.1 million for the six months ended June 30, 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	—	(5.2)	(2.5)	—	—	(7.7)
Balance as of June 30, 2024	$ 305.8	$ 1,999.2	$ 560.7	$ 267.2	$ —	$ 3,132.9

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
Additions	—	1.0	—	—	—	1.0
Amortization	(4.2)	(26.2)	(8.4)	(6.4)	(2.3)	(47.5)
Changes in foreign currency exchange rates	—	(2.4)	(6.9)	—	—	(9.3)
Impairment	—	—	—	—	(81.0)	(81.0)
Balance as of June 30, 2024	$ 129.9	$ 907.7	$ 337.2	$ 49.8	$ 0.1	$ 1,424.7

Following the April 2024 announcement of the Cboe Digital spot market wind down and unwinding of the minority ownership structure in the holding company parent of the Cboe Digital entities, the Company performed an interim impairment test for the intangible assets recognized in the Digital reporting unit as the announcement was considered a potential indication of impairment. The Company concluded that the carrying value of the trading registrations and licenses and technology exceeded their estimated fair value, as their projected future cash flows, subsequent to the decision to wind down the business, did not support their valuation, and recorded an impairment charge of $ 81.0 million in the condensed consolidated statements of income for the three and six months ended June 30, 2024.

For the three months ended June 30, 2024 and 2023, amortization expense was $21.3 million and $ 29.3 million, respectively. For the six months ended June 30, 2024 and 2023, amortization expense was $ 47.5 million and $ 60.2 million, respectively. The estimated future amortization expense is $ 41.2 million for the remainder of 2024, $ 69.9 million for 2025, $ 62.6 million for 2026, $ 55.9 million for 2027, and $ 50.3 million for 2028.

The following tables present the categories of intangible assets by segment as of June 30, 2024 and December 31, 2023 (in millions, except as stated):

	June 30, 2024					Weighted Average Amortization Period (in years)
	Options	North American Equities	Europe and Asia Pacific	Global FX	Digital	
Trading registrations and licenses	$ 95.5	$ 605.0	$ 206.6	$ —	$ —	Indefinite
Customer relationships	46.6	412.3	211.4	140.0	—	15
Market data customer relationships	53.6	322.0	61.0	64.4	—	8
Technology	28.1	56.3	33.8	22.5	—	6
Trademarks and tradenames	12.9	8.2	2.4	1.2	—	6
Digital assets held	—	1.0	—	—	0.1	Indefinite
Accumulated amortization	(106.8)	(497.1)	(178.0)	(178.3)	—	
	$ 129.9	$ 907.7	$ 337.2	$ 49.8	$ 0.1	

	December 31, 2023					Weighted Average Amortization Period (in years)
	Options	North American Equities	Europe and Asia Pacific	Global FX	Digital	
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.

In October 2022, the Company, through its wholly-owned subsidiary Cboe NL, entered into a Data Provider Agreement with Pyth Data Association ("Pyth") to create a data feed and begin publishing limited derived equities market data for certain symbols from one of its four U.S. equities exchanges on the Pyth Network, a decentralized financial market data distribution platform for aggregated data. In exchange, Pyth granted Cboe NL 16,666,666 restricted PYTH tokens which unlock annually over a four-year period in equal tranches; the first 25 % tranche of PYTH tokens unlocked in May 2024. The PYTH tokens, which are included within intangible assets, net in the condensed consolidated balance sheets, are carried at their historical value of $ 0.06 per token and are reviewed each reporting period for potential impairment. In May 2024, the Company recorded $ 1.0 million in market data fees revenue on the condensed consolidated statements of income, which represents the historical value of the grant of 16,666,666 restricted PYTH tokens earned for satisfying the performance obligations outlined in the Data Provider Agreement.

9. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

Accounts payable and accrued liabilities consisted of the following as of June 30, 2024 and December 31, 2023 (in millions):

	June 30, 2024	December 31, 2023
Compensation and benefit-related liabilities	$ 53.9	$ 77.1
Royalties	43.1	44.9
Accrued liabilities	56.7	70.3
Current operating lease liabilities	21.6	20.8
Rebates payable	68.1	75.1
Marketing fee payable	18.1	17.5
Current unrecognized tax benefits	4.7	82.3
Accounts payable	24.7	24.7
Total accounts payable and accrued liabilities	$ 290.9	$ 412.7

10. DEBT

The Company's debt consisted of the following as of June 30, 2024 and December 31, 2023 (in millions):

	June 30, 2024	December 31, 2023
$ 650 million fixed rate Senior Notes due January 2027, stated rate of 3.650 %	$ 648.3	$ 647.9
$ 500 million fixed rate Senior Notes due December 2030, stated rate of 1.625 %	495.1	494.8
$ 300 million fixed rate Senior Notes due March 2032, stated rate of 3.000 %	296.7	296.5
Revolving Credit Agreement	—	—
Cboe Clear Europe Credit Facility	—	—
Total debt	$ 1,440.1	$ 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 June 30, 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 June 30, 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 June 30, 2024, no borrowings were outstanding under the Revolving Credit Agreement. Accordingly, at June 30, 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 June 30, 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, June 29, 2023, and June 28, 2024, as described below.

The Facility provides for a €1.20 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 € 1.70 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 at 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 0.300 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 27, 2025, 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 June 30, 2024, no borrowings were outstanding under the Facility. Accordingly, at June 30, 2024, € 1.20 billion of borrowing capacity was available for the purposes permitted by the Facility. At June 30, 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 June 30, 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	(5.5)
Unamortized discounts on notes	(4.4)
Total debt outstanding	$ 1,440.1

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 and six months ended June 30, 2024 and 2023 are as follows (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Components of interest expense:				
Contractual interest	$ 12.2	$ 16.1	$ 24.6	$ 32.5
Amortization of debt discount and issuance costs	0.6	0.6	1.2	1.3
Interest expense	$ 12.8	$ 16.7	$ 25.8	$ 33.8
Interest income	(4.6)	(2.8)	(8.7)	(4.8)
Interest expense, net	$ 8.2	$ 13.9	$ 17.1	$ 29.0

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	(16.2)	(1.0)	0.2	(17.0)
Balance at June 30, 2024	$ (21.8)	$ (4.7)	$ 0.1	$ (26.4)

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 June 30, 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 cash and cash equivalents 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 cost 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's 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 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 in the process of surrendering money transmitter licenses that were necessary for engagement with the Cboe Digital spot market. Before the surrendering process was initiated, Cboe Clear Digital was 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. A clearing member is required to deposit collateral, which are in the form of cash and digital assets for spot products and cash for futures products to cover some or all of the credit risk of its failure to fulfill its obligations. As of June 30, 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 and six months ended June 30, 2024, interest on invested funds totaled $ 0.2 million and $ 0.5 million, respectively. 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 $ 6.9 million and $ 51.3 million at June 30, 2024, and December 31, 2023, respectively.

The following depicts the Company’s valuation of digital assets – safeguarded assets and safeguarded liabilities as of June 30, 2024 and December 31, 2023:

	June 30, 2024		
Digital Asset	**Number of Units**	**Valuation per Unit**	**Fair Value (in millions)**
Bitcoin ("BTC")	70	$ 61,900	$ 4.4
Ethereum ("ETH")	708	3,416	2.4
Litecoin ("LTC")	1,323	75	0.1
Bitcoin Cash ("BCH")	95	392	—
USD Coin ("USDC")	4,277	1	—
Total			$ 6.9

	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

Margin Deposits, Clearing Funds, and Interoperability Funds

The details of margin deposits, clearing funds, and interoperability funds as of June 30, 2024 and December 31, 2023, are as follows (in millions):

	June 30, 2024			
	Margin Deposits	Clearing Funds	Interoperability Funds	Total
Cboe Clear Europe central bank account	$ 1,146.2	$ 173.8	$ 354.5	$ 1,674.5
Cboe Clear Europe reverse repurchase and other	728.4	—	320.9	1,049.3
Cboe Clear Digital customer bank deposits	5.0	—	—	5.0
Total cash margin deposits, clearing funds, and interoperability funds	$ 1,879.6	$ 173.8	$ 675.4	$ 2,728.8

	June 30, 2024			
	Margin Deposits	Clearing Funds	Interoperability Funds	Total
Cboe Clear Europe non-cash contributions (1)	$ 522.2	$ 80.4	$ 305.2	$ 907.8

	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.

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 June 30, 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 June 30, 2024 and December 31, 2023 (in millions):

	June 30, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury securities (1)	$ 47.1	$ 47.1	$ —	$ —
Marketable securities (1):				
Mutual funds	18.8	18.8	—	—
Money market funds	17.8	17.8	—	—
Digital assets - safeguarded assets	6.9	—	6.9	—
Note receivable - building sale (2)	6.4	—	—	6.4
Total assets	$ 97.0	$ 83.7	$ 6.9	$ 6.4
Liabilities:				
Contingent consideration liabilities	$ 1.8	$ —	$ —	$ 1.8
Digital assets - safeguarded liabilities	6.9	—	6.9	—
Total liabilities	$ 8.7	$ —	$ 6.9	$ 1.8

	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 (3)	18.7	—	—	18.7
Cboe Digital warrant liability (3)	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) This amount is reflected within other assets, net in the condensed consolidated balance sheets.
(3) 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 June 30, 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 valued digital assets – safeguarded assets and digital assets – safeguarded liabilities by using the closing prices at 4:00pm Central Time on the CoinDesk Indices Price Index as of June 30, 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 on behalf of customers.

Contingent Consideration Liabilities

In connection with the acquisitions of Cboe Asia Pacific and Cboe Canada, the Company entered into contingent consideration arrangements with the sellers. The total fair value of the liabilities at June 30, 2024 was $ 1.8 million, which relate to the acquisition of Cboe Canada. In connection with the contingent consideration arrangements, the Company paid a total of $ 10.0 million in contingent consideration to the sellers of Cboe Asia Pacific during the three months ended June 30, 2024. In May 2024, Cboe Japan achieved milestones resulting in the payment of $ 5.7 million of contingent consideration, resulting in a reversal of a previously recorded gain. Additionally, Cboe Asia Pacific's contingent consideration expired in June 2024 and the remaining balance was not achieved, resulting in an equivalent gain of $ 2.7 million. The aforementioned updates resulted in a total $ 3.0 million loss on Cboe Asia Pacific contingent consideration liabilities during the period. 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 June 30, 2024.

Note Receivable – Building Sale

The Company provided seller financing in the form of a secured promissory note for a portion of the purchase price of the Property sale completed on June 28, 2024. See Note 5 ("Property and Equipment, Net") for more information. The Company has elected the fair value option available under ASC 825 for this note and subsequent changes in fair value are reported in other (expense) income, net on the condensed consolidated statements of income. The fair value was calculated using the initial projected amortization schedule, credit risk assumptions, and implied interest rates for similar instruments. These inputs are considered Level 3 in the fair value hierarchy. The note is within other assets, net on the condensed consolidated balance sheet as of June 30, 2024. The fair value option was not elected for other notes receivable described in Note 7 ("Other Assets, Net") due to uncertain payment terms and credit and legal risks as described in Note 6 ("Credit Losses"). The note receivable related to the building sale was not 90 days or more past due or in non-accrual status as of June 30, 2024.

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. For equity method investments and intangible assets, other than digital assets held, the process also involves using a discounted cash flow method to determine the fair value of each asset. Impairment is considered to have occurred if the fair value of the 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.

Equity investments without readily determinable fair values that are valued using the measurement alternative are measured at fair value on a non-recurring basis. Other than the impairment charge recorded on the Company's minority investment in Globacap Technology Limited, no observable transactions or impairments impacted the measurements of the investments accounted for as other equity investments. See Note 4 ("Investments") for more information. These measurements are considered Level 3 and these assets are recognized at fair value if they are deemed to be impaired.

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 June 30, 2024 and December 31, 2023 (in millions):

	June 30, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
U.S. Treasury securities (1)	$ 47.1	$ 47.1	$ —	$ —
Deferred compensation plan assets (1)	36.6	36.6	—	—
Digital assets - safeguarded assets	6.9	—	6.9	—
Note receivable - building sale (2)	6.4	—	—	6.4
Total assets	$ 97.0	$ 83.7	$ 6.9	$ 6.4
Liabilities:				
Contingent consideration liabilities	$ 1.8	$ —	$ —	$ 1.8
Deferred compensation plan liabilities (4)	36.6	36.6	—	—
Digital assets - safeguarded liabilities	6.9	—	6.9	—
Debt (5)	1,294.1	—	1,294.1	—
Total liabilities	$ 1,339.4	$ 36.6	$ 1,301.0	$ 1.8

	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 (3,5)	0.1	0.1	—	—
Total assets	$ 108.9	$ 57.6	$ 51.3	$ —
Liabilities:				
Contingent consideration liabilities	$ 11.8	$ —	$ —	$ 11.8
Deferred compensation plan liabilities (4)	36.7	36.7	—	—
Digital assets - safeguarded liabilities	51.3	—	51.3	—
Cboe Digital restricted common units liability (4)	18.7	—	—	18.7
Cboe Digital warrant liability (4)	5.9	—	—	5.9
Debt (5)	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) This amount is reflected within other assets, net in the condensed consolidated balance sheets.
(3) These amounts are reflected within intangible assets, net in the condensed consolidated balance sheets.
(4) These amounts are reflected within other non-current liabilities in the condensed consolidated balance sheets.
(5) These balances are presented at fair value in this table, but are carried at their historical value within 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 June 30, 2024 and December 31, 2023, the fair values of the Company's debt obligations were as follows (in millions):

	Fair Value	
	June 30, 2024	December 31, 2023
3.650 % Senior Notes	$ 627.9	$ 628.5
1.625 % Senior Notes	408.8	412.7
3.000 % Senior Notes	257.4	264.5

Information on Level 3 Financial Assets and Liabilities

The following table sets forth a summary of changes in the fair value of the Company's Level 3 financial assets and liabilities during the three and six months ended June 30, 2024 (in millions):

	Level 3 Financial Assets and Liabilities for the Three Months Ended June 30, 2024						
	Balance at Beginning of Period	Realized (Losses) Gains during Period	Adjustments	Additions	Settlements	Foreign Currency Translation	Balance at End of Period
Assets:							
Note receivable - building sale	$ —	$ (0.6)	$ —	$ 7.0	$ —	$ —	$ 6.4
Total assets	$ —	$ (0.6)	$ —	$ 7.0	$ —	$ —	$ 6.4
	Balance at Beginning of Period	Realized Losses (Gains) during Period	Adjustments	Additions	Settlements	Foreign Currency Translation	Balance at End of Period
Liabilities:							
Contingent consideration liabilities	$ 8.8	$ 3.0	$ —	$ —	$ (10.0)	$ —	$ 1.8
Cboe Digital restricted common units liability	18.4	(0.7)	(12.1)	—	(5.6)	—	—
Cboe Digital warrant liability	5.8	(1.3)	(4.1)	—	(0.4)	—	—
Total liabilities	$ 33.0	$ 1.0	$ (16.2)	$ —	$ (16.0)	$ —	$ 1.8

	Level 3 Financial Assets and Liabilities for the Six Months Ended June 30, 2024						
	Balance at Beginning of Period	Realized (Losses) Gains during Period	Adjustments	Additions	Settlements	Foreign Currency Translation	Balance at End of Period
Assets:							
Note receivable - building sale	$ —	$ (0.6)	$ —	$ 7.0	$ —	$ —	$ 6.4
Total assets	$ —	$ (0.6)	$ —	$ 7.0	$ —	$ —	$ 6.4
	Balance at Beginning of Period	Realized Losses (Gains) during Period	Adjustments	Additions	Settlements	Foreign Currency Translation	Balance at End of Period
Liabilities:							
Contingent consideration liabilities	$ 11.8	$ 3.0	$ —	$ —	$ (13.0)	$ —	$ 1.8
Cboe Digital restricted common units liability	18.7	(1.0)	(12.1)	—	(5.6)	—	—
Cboe Digital warrant liability	5.9	(1.4)	(4.1)	—	(0.4)	—	—
Total liabilities	$ 36.4	$ 0.6	$ (16.2)	$ —	$ (19.0)	$ —	$ 1.8

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 predominately for UK and Swiss 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. On April 25, 2024, the Company announced plans to transition its cash-settled Bitcoin and Ether futures contracts, currently available for trading on the Cboe Digital Exchange, to CFE in the first half of 2025, pending regulatory review.

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 spot digital asset trading market, 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. In-line with the Company’s plans to wind down the spot digital asset trading market by the third quarter of 2024, on May 31, 2024, the Company halted trading on the Cboe Digital spot market. The Company plans to transition its cash-settled Bitcoin and Ether futures contracts, currently available for trading on the Cboe Digital Exchange, to CFE in the first half of 2025, pending regulatory review. The Company intends to continue to present Digital as a distinct reportable business segment through at least the year ending December 31, 2024.

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

	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Corporate Items and Eliminations	Total
Three Months Ended June 30, 2024								
Revenues	$ 482.3	$ 353.3	$ 81.6	$ 35.9	$ 20.5	$ 0.4	$ —	$ 974.0
Operating income (loss)	215.6	45.3	9.2	26.3	9.2	(90.3)	(5.2)	210.1
Three Months Ended June 30, 2023								
Revenues	$ 471.5	$ 320.6	$ 68.3	$ 30.0	$ 18.2	$ (0.8)	$ —	$ 907.8
Operating income (loss)	203.7	22.8	5.5	18.4	5.0	(11.0)	0.4	244.8

	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Corporate Items and Eliminations	Total
Six Months Ended June 30, 2024								
Revenues	$ 959.7	$ 702.9	$ 162.3	$ 67.3	$ 39.3	$ (0.3)	$ —	$ 1,931.2
Operating income (loss)	432.4	83.3	19.4	48.4	15.8	(100.5)	(6.3)	492.5
Six Months Ended June 30, 2023								
Revenues	$ 957.6	$ 700.4	$ 140.6	$ 62.1	$ 37.0	$ (1.7)	$ —	$ 1,896.0
Operating income (loss)	404.7	51.2	16.8	39.3	9.7	(22.4)	(6.6)	492.7

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 June 30, 2024	$ 450.2	$ 63.6	$ 513.8
Three months ended June 30, 2023	408.0	59.1	467.1

	United States	Non-U.S.	Total
Revenues less cost of revenues:			
Six months ended June 30, 2024	$ 889.7	$ 126.2	$ 1,015.9
Six months ended June 30, 2023	819.6	118.9	938.5

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 $ 36.6 million and $ 36.7 million at June 30, 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 (expense) 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 $ 4.2 million and $ 4.1 million to these plans for the three months ended June 30, 2024, and 2023, respectively, and $ 7.9 million and $ 7.7 million to the defined contribution plans for the six months ended June 30, 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 $ 1.1 million and $ 1.0 million for the three months ended June 30, 2024 and 2023, respectively, and $ 2.5 million and $ 2.2 million for the six months ended June 30, 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 June 30, 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 June 30, 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 June 30, 2024 (in millions):

Subsidiary	Regulatory Authority	Actual	Minimum Requirement
Cboe Trading	FINRA/SEC	$ 10.6	$ 0.8
BIDS Trading	FINRA/SEC	11.8	0.2
Cboe Fixed Income	FINRA/SEC	5.4	0.1
Cboe Europe	FCA	74.9	32.8
Cboe Chi-X Europe	FCA	0.1	0.1
Cboe NL	Dutch Authority for Financial Markets	17.9	7.6
Cboe Clear Europe	DNB	91.4	64.2
CFE	CFTC	60.3	44.3
Cboe SEF	CFTC	2.5	2.1
Cboe Digital Exchange	CFTC	40.9	5.5
Cboe Clear Digital	CFTC	33.2	4.0
Cboe Australia	ASIC	17.9	5.2
Cboe Japan	JFSA	9.0	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 $ 9.8 million and $ 9.1 million for the three months ended June 30, 2024 and 2023, respectively, and $ 21.3 million and $ 26.0 million for the six months ended June 30, 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 $ 0.5 million and $ 0.4 million for the three months ended June 30, 2024 and 2023, respectively, and $ 0.8 million and $ 0.9 million for the six months ended June 30, 2024 and 2023, respectively. Stock-based compensation expense relating to Restricted Common Units and Warrant Units granted to former investor members of Cboe Digital was 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 six months ended June 30, 2024 was as follows:

RSUs

The following table summarizes RSU activity during the six months ended June 30, 2024:

	Number of Shares	Weighted average grant date fair value
Nonvested stock at December 31, 2023	638,181	$ 125.25
Granted	223,399	183.04
Vested	(263,071)	113.90
Forfeited	(20,307)	144.77
Nonvested stock at June 30, 2024	578,202	$ 152.06

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 six months ended June 30, 2024, to satisfy employees' tax obligations upon the vesting of restricted stock, the Company purchased 99,194 shares of common stock totaling $ 18.5 million as a result of the vesting of 262,717 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 six months ended June 30, 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 June 30, 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.

During the six months ended June 30, 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 June 30, 2024, there were $74.6 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 2.1 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 $ 0.5 million and $ 0.6 million for the three months ended June 30, 2024 and 2023, respectively, and $ 1.3 million and $ 0.9 million for the six months ended June 30, 2024 and 2023, respectively. As of June 30, 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 former investor members and their affiliates are our customers, including trading permit holders, trading privilege holders, participants, and members. Certain former Cboe Digital investor members paid for the Restricted Common Units through the issuance of promissory notes, which were 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 bore interest at a rate of 5 % per annum and matured upon the earlier of the sale of vested Restricted Common Units, or either November 18, 2032 or November 18, 2037. One former Cboe Digital investor member paid for the Restricted Common Units in exchange for cash.

As of March 31, 2024, 185 Restricted Common Units (all unvested) were outstanding, with a weighted average exercise price of $ 0.3 million and a weighted average remaining contractual term of 5 years. On April 25, 2024, the Company announced plans to wind down the spot digital asset trading market currently offered by Cboe Digital and to dissolve its minority ownership structure.

In connection with winding down the Cboe Digital spot market, on June 12, 2024, the Company entered into Unit Repurchase Agreements with holders of Cboe Digital Restricted Common Units to repurchase its outstanding Restricted Common Units in exchange for forgiveness of the related promissory note. Certain former investor members also received a cash payment in addition to the forgiveness of their promissory note. The former Cboe Digital investor who paid for their Restricted Common Units in cash also received an additional payment equal to the amount they paid for their Restricted Common Units. As a result, all Cboe Digital Restricted Common Units were forfeited as of June 30, 2024. The Company paid $ 3.3 million in total to settle the Restricted Common Units.

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

The cost associated with the options was 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. The wind down of the Cboe Digital spot market resulted in a forfeiture of all Cboe Digital Restricted Common Units and a reversal of contra-revenue previously recorded. Cash payments to former investor members attributable to the Restricted Common Units (other than payments to the former investor member to refund their cash payment for the Restricted Common Units) were recorded as contra-revenue. As a result, $ 2.4 million of contra-revenue was reversed in the three months ended June 30, 2024. All amounts previously recorded within other assets, net relating to the Restricted Common Units were reversed.

Any impact to other (expense) income, net for changes in the fair value of the Cboe Digital Restricted Common Units was reversed.

Changes in the fair value of the options, subsequent to the grant date, were recognized in other (expense) income, net in the condensed consolidated statements of income in the period in which the fair value of the options changed. The Company used 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 June 30, 2024, there was $(0.3) million recognized in other (expense) income, net in the condensed consolidated statements of income related to a reversal of previously recognized fair value adjustments of the options.

Prior to the execution of Unit Repurchase Agreements, certain former Cboe Digital investor members were able to earn additional Incentive Program Units. The Incentive Program Units were subject to the same terms and conditions as the other Restricted Common Units and were 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 wind down of the Cboe Digital spot market resulted in a forfeiture of all earned Incentive Program Units and a reversal of contra-revenue previously recorded. Cash payments to former investor members attributable to the Incentive Program Units were recorded as contra-revenue. The Company paid $ 2.3 million in total to settle the Incentive Program Units. As a result, $ 1.4 million of contra-revenue was recorded in the three months ended June 30, 2024, due to the cash payments exceeding the amount of contra-revenue previously recorded for Incentive Program Units. All amounts previously recorded within other assets, net and other (expense) income, net for changes in the fair value relating to the Restricted Common Units were reversed.

Cboe Digital Warrants Units

On November 18, 2022, Cboe Digital Holdings entered into a Warrant Agreement with a former investor member to acquire up to 80 Common Units of Cboe Digital, subject to certain vesting events. The former investor member is a customer of Cboe Digital.

The vesting of the Warrant Units was based upon the achievement of certain conditions relating to the service provided by the former investor member over a two-year period, of which some conditions represented conditions that are not service, performance, or market conditions and, therefore, the Warrant Units were liability classified. As of March 31, 2024, 40 Warrant Units (with a weighted average exercise price of $ 0.2 million) had vested, but no Warrant Units were exercised.

In connection with winding down the spot digital asset trading market, this former investor member agreed to settle their outstanding Warrant Units for a one-time cash payment as a part of their Unit Repurchase Agreement. Unvested Warrant Units were forfeited. The Company paid $ 0.4 million in total to settle the Warrant Units.

The cost associated with the Warrant Units was recognized as contra-revenue ratably throughout the expected life of the Warrant before exercise. Changes in the fair value of the Warrant Units, subsequent to the grant date, were recognized in other (expense) income, net in the condensed consolidated statements of income in the period in which the fair value of the Warrant Units changed. The Company used 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. Given the cash payment to the Warrant Units holder relates to a settlement of a vested instrument, the difference between the liability previously recorded for the vested Warrant Units and the amount of the Unit Repurchase Agreement was recorded as $ 1.3 million recognized in other (expense) income, net in the condensed consolidated statements of income in the three months ended June 30, 2024.

18. EQUITY

Common Stock

The Company's common stock is listed on Cboe BZX under the trading symbol CBOE. As of June 30, 2024, 325,000,000 shares of the Company's common stock were authorized, $ 0.01 par value, and 105,962,230 and 104,788,542 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 1,173,688 and 29,002 shares of common stock in treasury as of June 30, 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 June 30,	
	2024	2023
Number of shares of common stock repurchased	514,239	61,141
Average price paid per share	$ 175.76	$ 132.45
Total purchase price (in millions)	$ 90.4	$ 8.1

Since inception of the program through June 30, 2024, the Company has repurchased 20,614,013 shares of common stock at an average cost per share of $ 77.40 , for a total value of $ 1.6 billion.

As of June 30, 2024 and 2023, the Company had $204.4 million and $ 139.8 million of availability remaining under its existing share repurchase authorizations, respectively.

Purchase of Common Stock from Employees

The Company purchased 9,073 and 2,006 shares that were not part of the publicly announced share repurchase authorization from employees for an average price paid per share of $ 182.61 and $ 144.90 during the three months ended June 30, 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 June 30, 2024, and December 31, 2023, the Company had no shares of preferred stock issued or outstanding.

Dividends

During the three months ended June 30, 2024, the Company declared and paid cash dividends per share of $0.55 for an aggregate payout of $ 58.2 million. During the three months ended June 30, 2023, the Company declared and paid cash dividends per share of $ 0.50 for an aggregate payout of $ 53.2 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 30.8 % and 30.6 % for the three months ended June 30, 2024 and 2023, respectively, and29.3 % and 30.4 % for the six months ended June 30, 3034 and 2023, respectively.

The higher effective tax rate for the three months ended June 30, 2024 compared to the same period in 2023 is primarily due to the valuation allowance associated with the impairment of the Globacap Technology Limited investment. The lower effective tax rate for the six months ended June 30, 2024 compared to the same period in 2023 is primarily due to the excess tax benefits from the vesting of equity awards that occurred during the first quarter of 2024.

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 and six months ended June 30, 2024 and 2023 (in millions, except per share data):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Basic earnings per share numerator:				
Net income	$ 140.4	$ 167.8	$ 349.9	$ 341.2
Net income allocated to participating securities	(0.7)	(0.8)	(1.9)	(1.6)
Net income allocated to common stockholders	$ 139.7	$ 167.0	$ 348.0	$ 339.6
Basic earnings per share denominator:				
Weighted average shares outstanding	105.1	105.7	105.4	105.8
Basic earnings per share	$ 1.33	$ 1.58	$ 3.30	$ 3.21
Diluted earnings per share numerator:				
Net income	$ 140.4	$ 167.8	$ 349.9	$ 341.2
Net income allocated to participating securities	(0.7)	(0.8)	(1.9)	(1.6)
Net income allocated to common stockholders	$ 139.7	$ 167.0	$ 348.0	$ 339.6
Diluted earnings per share denominator:				
Weighted average shares outstanding	105.1	105.7	105.4	105.8
Dilutive common shares issued under stock program	0.3	0.4	0.4	0.3
Total dilutive weighted average shares	105.4	106.1	105.8	106.1
Diluted earnings per share	$ 1.33	$ 1.57	$ 3.29	$ 3.20

For the periods presented, the Company did no t 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 June 30, 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 June 30, 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 ("ASA") 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 concluded in the second quarter of 2024 and the 11th Circuit is expected to schedule oral argument to occur in the second half of 2024. This challenge or any other challenge to the CAT Funding Model Order 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.

CAT Putative Class Action

A putative class action was filed on April 16, 2024 captioned Erik A. Davidson, John Restivo and National Center for Public Policy Research vs. Gary Gensler, SEC and CATLLC. Cboe and the Plan Participants are not parties to this litigation. 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 CATLLC's assessment of CAT fees to recover a portion of CAT costs. 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.

Citadel Petition for Review of SEC Temporary Conditional Exemptive Order

On July 17, 2024, Citadel filed a Petition for Review ("PFR") of the SEC's May 20, 2024 Order Granting A Temporary Conditional Exemption Pursuant to Section 36(a)(1) of the Securities Exchange Act of 1934 ("Exchange Act") and Rule 608(e) of Regulation NMS Under the Exchange Act, Relating to the Reporting of Responses to Requests for Quotes and Other Solicitation Responses Provided in a Standard Electronic Format, as Required by Section 6.4(d) of the NMS Plan Governing the CAT ("CAT RFQ Exemptive Order") in the 11th Circuit. The PFR does not identify any requested relief. On July 19, 2024, Citadel filed an Unopposed Motion to Hold Petition in Abeyance ("Motion") and requested that the 11th Circuit hold the PFR in abeyance pending the final disposition of the CAT Funding Model Order Litigation (described above), which is also before the 11th Circuit. CATLLC and the Plan Participants are not parties to this litigation. Motions to Intervene are expected to be due on August 16, 2024 and the Cboe U.S. national securities exchanges are evaluating whether to file motions to intervene. This challenge or any other challenge to SEC Orders concerning the CAT may delay the CATLLC's implementation of CAT fees to recover a portion of CAT costs. 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.

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 June 30, 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.

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 million 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 $ 0.8 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 June 30, 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 June 30, 2024, $0.3 million of right of use assets and $ 0.3 of lease liabilities were added related to existing lease extensions.

In May 2024, the Company entered into an agreement to amend its lease agreement for its Lenexa, Kansas office space. As part of the agreement, the lease term was reduced and now ends on September 30, 2025. In consideration for the reduction in lease term, the Company agreed to pay a reduction fee totaling $ 1.3 million to be paid in two equal installments in May 2024 and September 2025. The amended lease agreement was treated as a full termination without an embedded option to terminate included in the original agreement. Upon the termination, the Company considered the present value of future lease payments and adjusted its right of use assets and lease liabilities balances accordingly based on the percentage reduction in the remaining lease term; the right of use assets decreased $ 10.3 million and the lease liabilities decreased $ 11.0 million, with the $ 0.7 million difference recorded as a gain on lease termination in other (expense) income, net in the condensed consolidated statements of income. The $1.3 million lease reduction payments are included in the present value of the lease liability balance along with normal rent payments and will be recognized through straight-line lease expense over the remaining term of the lease.

The following table presents the supplemental balance sheet information related to leases as of June 30, 2024 and December 31, 2023, respectively (in millions):

	June 30, 2024	December 31, 2023
Operating lease right of use assets	$ 115.3	$ 136.6
Total leased assets	$ 115.3	$ 136.6
Current operating lease liabilities (1)	$ 21.6	$ 20.8
Non-current operating lease liabilities	126.3	150.8
Total leased liabilities	$ 147.9	$ 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 and six months ended June 30, 2024 and 2023, respectively (in millions, except as stated):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Operating lease costs (1)	$ 9.4	$ 8.9	$ 18.5	$ 17.5
Lease term and discount rate information:				
Weighted average remaining lease term (years)			7.7	9.9
Weighted average discount rate			3.3 %	3.2 %
Supplemental cash flow information and non-cash activity:				
Cash paid for amounts included in the measurement of lease liabilities	$ 7.6	$ 6.6	$ 14.4	$ 13.0
Right of use assets obtained in exchange for lease liabilities	0.3	(0.2)	0.3	3.1
Reduction in lease liability due to remeasurement	(11.5)	—	(11.5)	—

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

The maturities of the lease liabilities are as follows as of June 30, 2024 (in millions):

	June 30, 2024
Remainder of 2024	$ 12.4
2025	26.3
2026	25.8
2027	21.5
2028	19.4
After 2028	64.0
Total lease payments	$ 169.4
Less: Interest	(21.5)
Present value of lease liabilities	$ 147.9

23. SUBSEQUENT EVENTS

On July 1, 2024, the Company liquidated all digital assets held by Cboe Digital for customers. As a result, after July 1, 2024, the Company no longer held any digital assets – safeguarded assets or liabilities on the condensed consolidated balance sheets.

Subsequent to the three months ended June 30, 2024, from July 1, 2024 through July 31, 2024, the Company repurchased 144,370 shares of its common stock under its share repurchase program at an average cost per share of $ 170.45 , for a total value of $ 24.6 million. As of July 31, 2024, the Company had $ 179.8 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 six months ended June 30, 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, and FX, 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 Exchange, LLC, an operator of 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.

On April 25, 2024, the Company announced plans to refocus the digital asset business to leverage its core strengths in derivatives, technology, and product innovation. On May 31, 2024, the Company halted trading on Cboe Digital Exchange, LLC's ("Cboe Digital Exchange") spot market ("Cboe Digital spot market"), the Company's spot digital asset trading platform, in-line with the Company's plans to wind down the spot digital asset trading market by the third quarter of 2024. In addition, the company plans to transition its cash-settled Bitcoin and Ether futures contracts, currently available for trading on the Cboe Digital Exchange, to CFE in the first half of 2025, pending regulatory review. The Company plans to align Cboe Clear Digital with Cboe Clear Europe, under unified leadership, and expects to continue to facilitate the clearing of cash-settled Bitcoin and Ether futures contracts.

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.

Recent Developments

Pyth Tokens Unlocking

In October 2022, the Company, through its wholly-owned subsidiary Cboe NL entered into a Data Provider Agreement with Pyth Data Association ("Pyth") to create a data feed and begin publishing limited derived equities market data for certain symbols from one of its four U.S. equities exchanges on the Pyth Network, a decentralized financial market data distribution platform for aggregated data. In exchange, Pyth granted Cboe NL 16,666,666 restricted PYTH tokens which unlock annually over a four-year period in equal tranches; the first 25% tranche of PYTH tokens unlocked in May 2024. The PYTH tokens, which are included within intangible assets, net in the condensed consolidated balance sheets, are carried at their historical value of $0.06 per token and are reviewed each reporting period for potential impairment. In May 2024, the Company recorded $1.0 million in market data fees revenue on the condensed consolidated statements of income, which represents the historical value of the grant of 16,666,666 restricted PYTH tokens earned for satisfying the performance obligations outlined in the Data Provider Agreement.

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 predominately for UK and Swiss 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. On April 25, 2024, the Company announced plans to transition its cash-settled Bitcoin and Ether futures contracts, currently available for trading on the Cboe Digital Exchange, to CFE in the first half of 2025, pending regulatory review.

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 spot digital asset trading market, 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. In-line with the Company's plans to wind down the spot digital asset trading market by the third quarter of 2024, on May 31, 2024, the Company halted trading on the Cboe Digital spot market. The Company plans to transition its cash-settled Bitcoin and Ether futures contracts, currently available for trading on the Cboe Digital Exchange, to CFE in the first half of 2025, pending regulatory review. The Company intends to continue to present Digital as a distinct reportable business segment through at least the year ending December 31, 2024.

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 ("OMS") and Execution Management System ("EMS") 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.

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.

Impairment of Intangible Assets

Impairment of intangible assets consists of charges to impair intangible assets if the carrying value exceeds the fair value.

Other Expenses

Other expenses represents costs necessary to support our operations that are not already included in the above categories, including, but not limited to, changes in contingent consideration.

Non-Operating (Expenses) Income

Income and expenses incurred through activities outside of our core operations are considered non-operating and are classified as other (expenses) income. 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, investment establishment costs associated with new business ventures, and gains/losses related to the dissolution of the Cboe Digital syndication.

Financial Summary

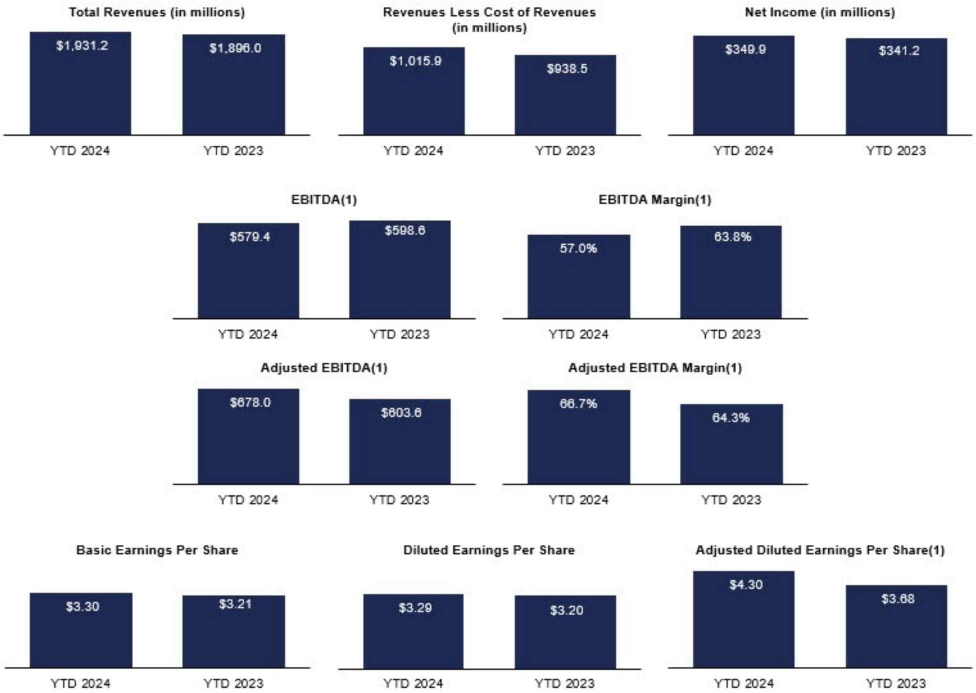
The following are summaries of changes in financial performance and include certain non-GAAP financial measures. Management uses these non-GAAP measures internally in conjunction with GAAP measures to help evaluate our performance and to help make financial and operational decisions. These non-GAAP financial 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 and six months ended June 30, 2024, compared to the three and six months ended June 30, 2023. “YTD” represents the six month periods ended June 30, 2024 and 2023, respectively:



(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 June 30, 2024	Three Months Ended June 30, 2023	Increase/ (Decrease)	Percent Change	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023	Increase/ (Decrease)	Percent Change
Total revenues	$ 974.0	$ 907.8	$ 66.2	7 %	$ 1,931.2	$ 1,896.0	$ 35.2	2 %
Total cost of revenues	460.2	440.7	19.5	4 %	915.3	957.5	(42.2)	(4)%
Revenues less cost of revenues	513.8	467.1	46.7	10 %	1,015.9	938.5	77.4	8 %
Total operating expenses	303.7	222.3	81.4	37 %	523.4	445.8	77.6	17 %
Operating income	210.1	244.8	(34.7)	(14)%	492.5	492.7	(0.2)	(0)%
Income before income tax provision	203.0	241.8	(38.8)	(16)%	495.1	490.0	5.1	1 %
Income tax provision	62.6	74.0	(11.4)	(15)%	145.2	148.8	(3.6)	(2)%
Net income	$ 140.4	$ 167.8	$ (27.4)	(16)%	$ 349.9	$ 341.2	$ 8.7	3 %
Basic earnings per share	$ 1.33	$ 1.58	$ (0.25)	(16)%	$ 3.30	$ 3.21	$ 0.09	3 %
Diluted earnings per share	1.33	1.57	(0.24)	(15)%	3.29	3.20	0.09	3 %
EBITDA (1)	242.3	294.7	(52.4)	(18)%	579.4	598.6	(19.2)	(3)%
EBITDA margin (2)	47.2 %	63.1 %	(15.9)%	*	57.0 %	63.8 %	(6.8)%	*
Adjusted EBITDA (1)	$ 340.7	$ 293.3	$ 47.4	16 %	$ 678.0	$ 603.6	$ 74.4	12 %
Adjusted EBITDA margin (3)	66.3 %	62.8 %	3.5 %	*	66.7 %	64.3 %	2.4 %	*
Adjusted earnings (4)	$ 226.2	$ 188.7	$ 37.5	20 %	$ 453.9	$ 390.4	$ 63.5	16 %
Adjusted earnings margin (4)	44.0 %	40.4 %	3.6 %	*	44.7 %	41.6 %	3.1 %	*
Diluted weighted average shares outstanding	105.4	106.1	(0.7)	(1)%	105.8	106.1	(0.3)	(0)%
Adjusted diluted earnings per share (5)	$ 2.15	$ 1.78	$ 0.37	21 %	$ 4.30	$ 3.68	$ 0.62	17 %

* 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, change in contingent consideration, impairment of intangible assets, impairment of investments, costs related to the Cboe Digital wind down, gains or losses on sale of property held for sale, gains or losses on the Cboe Digital non-recourse notes and warrants wind down, and income from investments. 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, change in contingent consideration, impairment of investments, costs related to the Cboe Digital wind down, impairment of intangible assets, gains or losses on the Cboe Digital non-recourse notes and warrants wind down, income from investments, certain tax reserve changes, 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 June 30, 2024 and 2023, respectively:

	Three Months Ended June 30, 2024							
	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Corporate	Total
Net income (loss) allocated to common stockholders	$ 215.4	$ 44.8	$ 9.9	$ 26.2	$ 9.2	$ (87.7)	$ (78.1)	$ 139.7
Interest expense (income), net	—	(0.5)	0.9	—	—	(1.1)	8.9	8.2
Income tax provision (benefit)	—	0.9	(1.9)	—	—	—	63.6	62.6
Depreciation and amortization	6.4	14.3	6.6	0.6	3.2	0.7	—	31.8
EBITDA	221.8	59.5	15.5	26.8	12.4	(88.1)	(5.6)	242.3
Acquisition-related costs	—	—	0.1	—	—	0.1	0.4	0.6
Change in contingent consideration	—	—	—	—	—	—	3.0	3.0
Impairment of intangible assets	—	—	—	—	—	81.0	—	81.0
Impairment of investment	—	—	—	—	—	—	16.0	16.0
Costs related to Cboe Digital wind down	—	—	—	—	—	0.8	—	0.8
Gain on sale of property held for sale	(1.0)	—	—	—	—	—	—	(1.0)
Gain on Cboe Digital non-recourse notes and warrants wind down	—	—	—	—	—	(2.0)	—	(2.0)
Adjusted EBITDA	$ 220.8	$ 59.5	$ 15.6	$ 26.8	$ 12.4	$ (8.2)	$ 13.8	$ 340.7

	Three Months Ended June 30, 2023							
	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Corporate	Total
Net income (loss) allocated to common stockholders	$ 202.7	$ 22.4	$ 4.9	$ 18.3	$ 4.9	$ (10.5)	$ (75.7)	$ 167.0
Interest expense (income), net	—	(0.3)	1.1	—	(0.1)	(0.4)	13.6	13.9
Income tax provision (benefit)	—	0.5	(1.1)	—	—	—	74.6	74.0
Depreciation and amortization	6.8	17.6	8.1	0.6	4.9	1.8	—	39.8
EBITDA	209.5	40.2	13.0	18.9	9.7	(9.1)	12.5	294.7
Acquisition-related costs	—	0.5	0.2	—	—	0.2	(0.2)	0.7
Income from investment	—	—	—	—	—	—	(2.1)	(2.1)
Adjusted EBITDA	$ 209.5	$ 40.7	$ 13.2	$ 18.9	$ 9.7	$ (8.9)	$ 10.2	$ 293.3

The following is a reconciliation of net income allocated to common stockholders to EBITDA and adjusted EBITDA (in millions) for the six months ended June 30, 2024 and 2023, respectively:

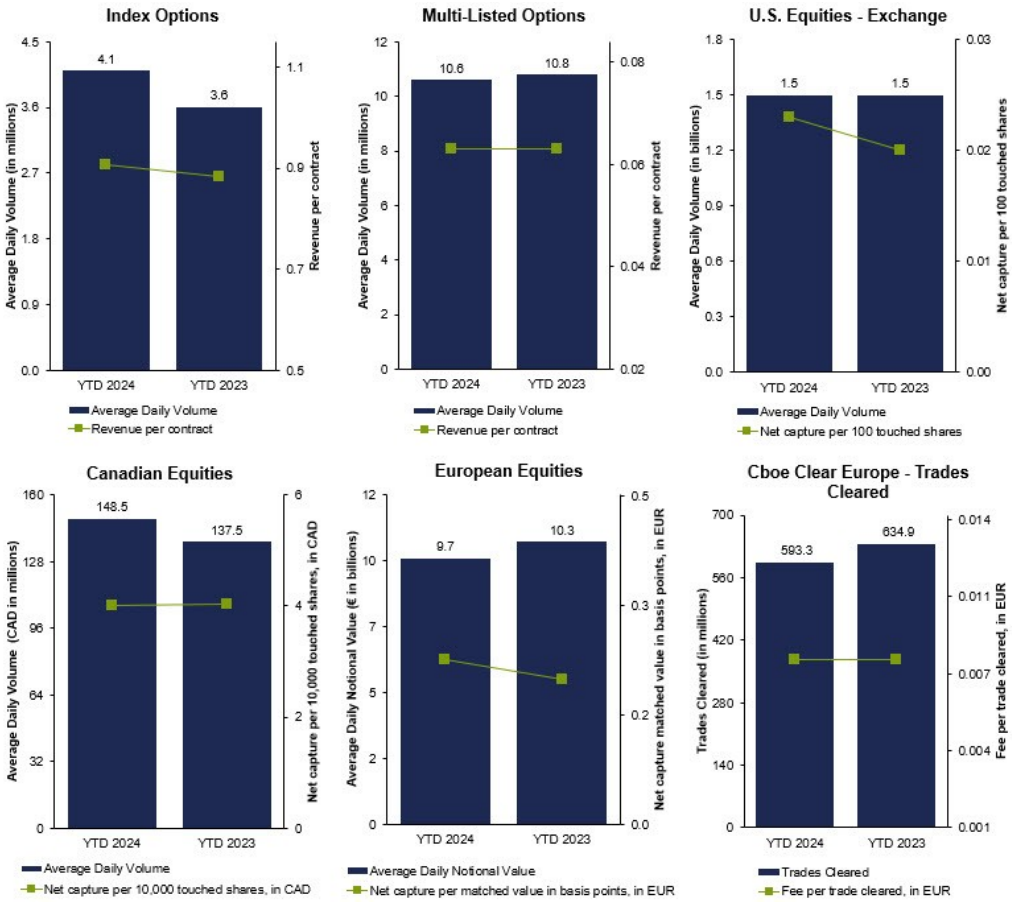
	Six Months Ended June 30, 2024							
	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Corporate	Total
Net income (loss) allocated to common stockholders	$ 430.9	$ 82.1	$ 18.4	$ 48.2	$ 15.7	$ (96.3)	$ (151.0)	$ 348.0
Interest expense (income), net	(0.1)	(0.8)	2.1	—	—	(2.2)	18.1	17.1
Income tax provision (benefit)	—	1.7	(1.6)	—	—	—	145.1	145.2
Depreciation and amortization	13.5	30.1	14.5	1.2	7.3	2.5	—	69.1
EBITDA	444.3	113.1	33.4	49.4	23.0	(96.0)	12.2	579.4
Acquisition-related costs	—	0.2	0.3	—	—	0.2	0.5	1.2
Change in contingent consideration	—	—	—	—	—	—	3.0	3.0
Impairment of intangible assets	—	—	—	—	—	81.0	—	81.0
Impairment of investment	—	—	—	—	—	—	16.0	16.0
Costs related to Cboe Digital wind down	—	—	—	—	—	0.8	—	0.8
Gain on sale of property held for sale	(1.0)	—	—	—	—	—	—	(1.0)
Gain on Cboe Digital non-recourse notes and warrants wind down	—	—	—	—	—	(2.4)	—	(2.4)
Adjusted EBITDA	$ 443.3	$ 113.3	$ 33.7	$ 49.4	$ 23.0	$ (16.4)	$ 31.7	$ 678.0

	Six Months Ended June 30, 2023							
	Options	North American Equities	Europe and Asia Pacific	Futures	Global FX	Digital	Corporate	Total
Net income (loss) allocated to common stockholders	$ 402.7	$ 49.3	$ 14.5	$ 39.1	$ 9.3	$ (20.7)	$ (154.6)	$ 339.6
Interest expense (income), net	—	(0.6)	2.6	—	(0.1)	(0.6)	27.7	29.0
Income tax provision (benefit)	—	2.2	(0.9)	—	0.3	(1.0)	148.2	148.8
Depreciation and amortization	13.6	36.2	16.5	1.2	10.1	3.6	—	81.2
EBITDA	416.3	87.1	32.7	40.3	19.6	(18.7)	21.3	598.6
Acquisition-related costs	—	0.9	0.9	—	—	0.8	4.5	7.1
Income from investment	—	—	—	—	—	—	(2.1)	(2.1)
Adjusted EBITDA	$ 416.3	$ 88.0	$ 33.6	$ 40.3	$ 19.6	$ (17.9)	$ 23.7	$ 603.6

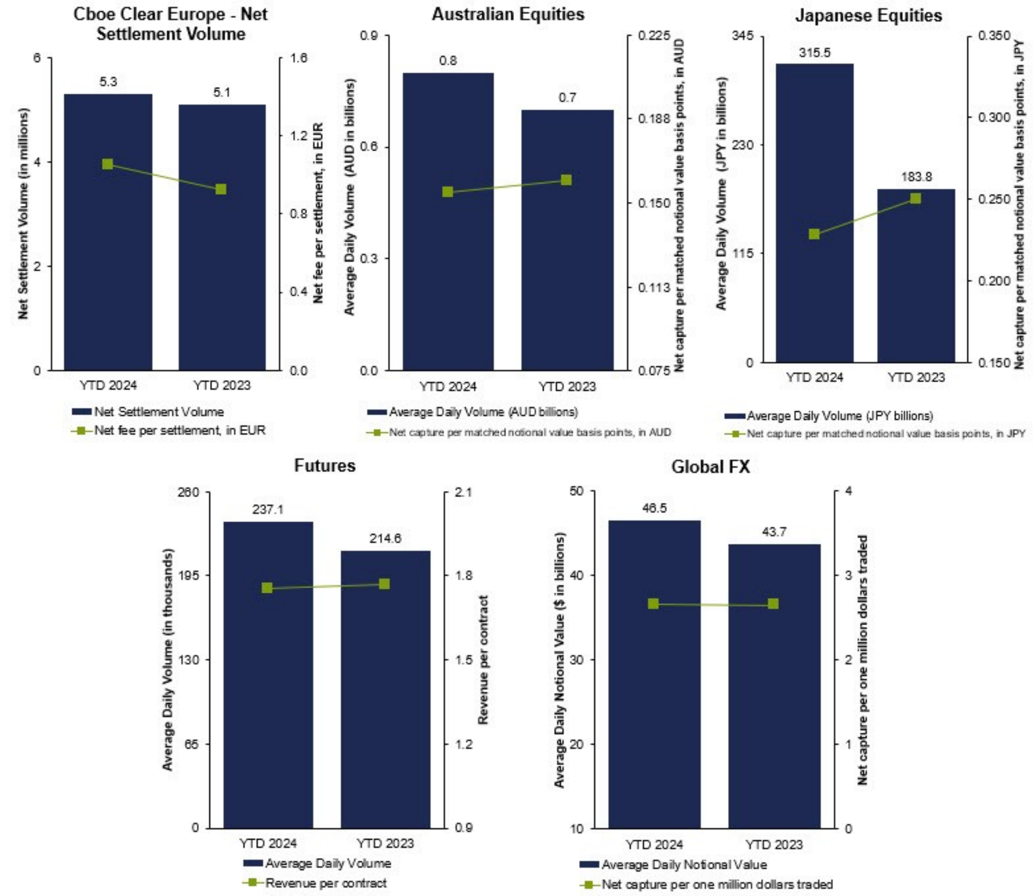
The following is a reconciliation of net income allocated to common stockholders to adjusted earnings (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Net income allocated to common stockholders	$ 139.7	$ 167.0	$ 348.0	$ 339.6
Amortization of acquired intangible assets	21.2	29.3	47.4	60.2
Acquisition-related costs	0.6	0.7	1.2	7.1
Change in contingent consideration	3.0	—	3.0	—
Impairment of investment	16.0	—	16.0	—
Costs related to Cboe Digital wind down	0.8	—	0.8	—
Impairment of intangible assets	81.0	—	81.0	—
Gain on Cboe Digital non-recourse notes and warrants wind down	(2.0)	—	(2.4)	—
Gain on sale of property held for sale	(1.0)	—	(1.0)	—
Income from investment	—	(2.1)	—	(2.1)
Tax effect of adjustments	(32.7)	(6.8)	(39.6)	(16.3)
Increase of tax reserves	(4.0)	0.7	(4.0)	2.2
Valuation allowances	4.1	—	4.1	—
Net income allocated to participating securities	(0.5)	(0.1)	(0.6)	(0.3)
Adjusted earnings	$ 226.2	$ 188.7	$ 453.9	$ 390.4

The following summarizes changes in certain operational and financial metrics for the six months ended June 30, 2024, compared to the six months ended June 30, 2023:



The following summarizes changes in certain operational and financial metrics for the six months ended June 30, 2024, compared to the six months ended June 30, 2023 (continued from previous page):



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 and six months ended June 30, 2024 compared to the three and six months ended June 30, 2023:

	Three Months Ended June 30, 2024	Three Months Ended June 30, 2023	Increase/ (Decrease)	Percent Change	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023	Increase/ (Decrease)	Percent Change
	(in millions, except percentages, trading days, and as noted below)				(in millions, except percentages, trading days, and as noted below)			
Options:								
Average daily volume (ADV) (in millions of contracts):								
Market ADV	46.1	43.0	3.1	7 %	46.8	44.5	2.3	5 %
Total touched contracts (1)	14.4	14.3	0.1	1 %	14.6	14.5	0.1	1 %
Multi-listed contract ADV	10.4	10.6	(0.2)	(2)%	10.6	10.8	(0.2)	(3)%
Index contract ADV	4.0	3.7	0.3	9 %	4.1	3.6	0.5	11 %
Number of trading days	63	62	1	2 %	124	124	—	— %
Total Options revenue per contract (RPC) (2)	$ 0.295	$ 0.271	$ 0.024	9 %	$ 0.297	$ 0.269	$ 0.028	11 %
Multi-listed options RPC (2)	$ 0.062	$ 0.061	$ 0.001	1 %	$ 0.063	$ 0.063	$ —	1 %
Index options RPC (2)	$ 0.898	$ 0.877	$ 0.021	2 %	$ 0.906	$ 0.883	$ 0.023	3 %
Total Options market share	31.2 %	33.3 %	(2.1)%	*	31.2 %	32.5 %	(1.3)%	*
Multi-listed options market share	24.6 %	27.1 %	(2.5)%	*	24.7 %	26.5 %	(1.8)%	*
North American Equities:								
U.S. Equities:								
U.S. Equities - Exchange:								
ADV:								
Total touched shares (in billions) (1)	1.4	1.4	—	(1)%	1.5	1.5	—	(1)%
Market ADV (in billions)	11.8	10.7	1.1	9 %	11.8	11.3	0.5	4 %
Market share	11.4 %	12.7 %	(1.3)%	*	12.1 %	12.7 %	(0.6)%	*
U.S. Equities - Exchange (net capture per one hundred touched shares) (3)	$ 0.027	$ 0.021	$ 0.006	30 %	$ 0.023	$ 0.020	$ 0.003	15 %
U.S. ETPs: launches (number of launches)	49	25	24	96 %	98	41	57	139 %
U.S. ETPs: listings (number of listings)	744	619	125	20 %	744	619	125	20 %
U.S. Equities - Off-Exchange:								
ADV:								
Total touched shares (in millions) (1)	74.7	78.7	(4.0)	(5)%	78.3	84.1	(5.8)	(7)%
U.S. Equities - Off-Exchange (net capture per one hundred touched shares) (4)	$ 0.136	$ 0.122	$ 0.014	12 %	$ 0.134	$ 0.117	$ 0.017	14 %
Trading days	63	62	1	2 %	124	124	—	— %
Canadian Equities:								
ADV (matched shares, in millions) (5)	150.6	124.2	26.4	21 %	148.5	137.5	11.0	8 %
Trading days	64	63	1	2 %	126	126	—	— %
Net capture (per 10,000 touched shares, in Canadian dollars) (6)	$ 4.046	$ 4.055	$ (0.009)	(0)%	$ 4.023	$ 4.046	$ (0.023)	(1)%
Europe and Asia Pacific:								
European Equities:								
ADNV:								
Matched ADNV (Euros - in billions) (7)	€ 9.6	€ 9.2	€ 0.4	4 %	€ 9.7	€ 10.3	€ (0.6)	(6)%
Market ADNV (in billions)	€ 42.6	€ 38.7	€ 3.9	10 %	€ 42.2	€ 42.3	€ (0.1)	(0)%
Trading days	64	63	1	2 %	127	128	(1)	(1)%
Market share	22.5 %	23.8 %	(1.3)%	*	23.1 %	24.4 %	(1.3)%	*
Net capture (per matched notional value (bps), in Euros) (8)	€ 0.251	€ 0.230	€ 0.021	9 %	€ 0.250	€ 0.221	€ 0.029	13 %
Cboe Clear Europe:								
Trades cleared (9)	299.0	275.5	23.5	9 %	593.3	634.9	(41.6)	(7)%
Fee per trade cleared (10)	€ 0.008	€ 0.009	€ (0.001)	(8)%	€ 0.008	€ 0.008	€ —	(5)%
European equities market share cleared (11)	36.5 %	33.8 %	2.7 %	*	35.7 %	34.0 %	1.7 %	*
Net settlement volume (12)	2.8	2.4	0.4	15 %	5.3	5.1	0.2	4 %
Net fee per settlement (13)	€ 1.038	€ 0.887	€ 0.151	17 %	€ 1.054	€ 0.922	€ 0.132	14 %
Australian Equities:								
ADNV (AUD - in billions)	$ 0.8	$ 0.7	$ 0.1	12 %	$ 0.8	$ 0.7	$ 0.1	6 %
Trading days	62	61	1	2 %	124	124	—	— %
Market share - Continuous	20.8 %	18.2 %	2.6 %	*	20.6 %	18.3 %	2.3 %	*
Net capture (per matched notional value (bps), in Australian Dollars) (14)	$ 0.155	$ 0.160	$ (0.005)	(3)%	$ 0.155	$ 0.160	$ (0.005)	(3)%
Japanese Equities:								
ADNV (JPY - in billions)	¥ 315.2	¥ 184.3	¥ 130.9	71 %	¥ 315.5	¥ 183.8	¥ 131.7	72 %
Trading days	62	62	—	— %	120	122	(2)	(2)%
Market share - Lit Continuous	5.5 %	4.1 %	1.4 %	*	5.2 %	4.4 %	0.8 %	*
Net capture (per matched notional value (bps), in Yen) (15)	¥ 0.229	¥ 0.256	¥ (0.027)	(11)%	¥ 0.228	¥ 0.250	¥ (0.022)	(9)%
Futures:								
ADV (in thousands)	253.6	197.4	56.2	28 %	237.1	214.6	22.5	10 %
Trading days	63	62	1	2 %	124	124	—	— %
Revenue per contract	$ 1.757	$ 1.826	$ (0.069)	(4)%	$ 1.754	$ 1.771	$ (0.017)	(1)%
Global FX:								
ADNV ($ - in billions)	$ 47.7	$ 42.5	$ 5.2	12 %	$ 46.5	$ 43.7	$ 2.8	6 %
Market share	20.2 %	19.5 %	0.7 %	*	20.2 %	19.2 %	1.0 %	*
Trading days	65	65	—	— %	129	130	(1)	(1)%
Net capture (per one million dollars traded) (16)	$ 2.69	$ 2.66	$ 0.03	1 %	$ 2.66	$ 2.65	$ 0.01	0 %
Average British pound/U.S. dollar exchange rate	$ 1.262	$ 1.252	$ 0.010	1 %	$ 1.265	$ 1.233	$ 0.032	3 %
Average Canadian dollar/U.S. dollar exchange rate	$ 0.731	$ 0.744	$ (0.013)	(2)%	$ 0.736	$ 0.742	$ (0.006)	(1)%
Average Euro/U.S. dollar exchange rate	$ 1.076	$ 1.089	$ (0.013)	(1)%	$ 1.081	$ 1.081	$ —	(0)%
Average Euro/British pound exchange rate	£ 0.853	£ 0.870	£ (0.017)	(2)%	£ 0.855	£ 0.877	£ (0.022)	(3)%
Average Australian dollar/U.S. dollar exchange rate	$ 0.659	$ 0.668	$ (0.009)	(1)%	$ 0.658	$ 0.676	$ (0.018)	(3)%
Average Japanese Yen/U.S. dollar exchange rate	$ 0.006	$ 0.007	$ (0.001)	(8)%	$ 0.007	$ 0.007	$ —	(6)%

*Not meaningful

*The Digital segment is not included as results were not material for the three and six months ended June 30, 2024 and 2023.
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 June 30, 2024 increased $66.2 million, or 7%, compared to the same period in 2023 primarily due to increases in cash and spot markets and derivatives markets revenue, driven by an increase in the Section 31 fee rate following a rate change in May 2024, coupled with an increase in other revenue attributable to Cboe Clear Europe and an increase in volumes traded on the Cboe futures exchange. Total revenues for the six months ended June 30, 2024 increased $35.2 million, or 2%, compared to the same period in 2023 primarily due to an increase in cash and spot markets revenue, driven by an increase in other revenue attributable to Cboe Clear Europe, coupled with an increase in access and capacity fees and proprietary market data across segments, partially offset by a decrease in industry market data fees in the North American Equities and Options segments.

The following summarizes changes in revenues for the three and six months ended June 30, 2024 compared to the three and six months ended June 30, 2023 (in millions, except percentages):

	Three Months Ended June 30,		Increase/	Percent	Six Months Ended June 30,		Increase/	Percent
	2024	2023	(Decrease)	Change	2024	2023	(Decrease)	Change
Cash and spot markets	$ 386.4	$ 341.3	$ 45.1	13 %	$ 767.3	$ 748.3	$ 19.0	3 %
Data and access solutions	142.1	135.3	6.8	5 %	282.3	264.7	17.6	7 %
Derivatives markets	445.5	431.2	14.3	3 %	881.6	883.0	(1.4)	(0)%
Total revenues	$ 974.0	$ 907.8	$ 66.2	7 %	$ 1,931.2	$ 1,896.0	$ 35.2	2 %

Cash and Spot Markets

Cash and spot markets revenue increased for the three months ended June 30, 2024 compared to the same period in 2023 primarily due to increases in regulatory fees and other revenue. Regulatory fees increased primarily due to a 109% increase in the Section 31 fee rate, from an average rate of $8.00 per million dollars of covered sales for the three months ended June 30, 2023 to an average rate of $16.70 per million dollars of covered sales for the three months ended June 30, 2024. 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.

Cash and spot markets revenue increased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to increases in other revenue and regulatory fees, partially offset by a decrease in industry market data fees. 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. Regulatory fees increased primarily due to an increase in notional volumes on the U.S. Equities exchanges, partially offset by a 3% decrease in the Section 31 fee rate, from an average rate of $12.71 per million dollars of covered sales for the six months ended June 30, 2023 to an average rate of $12.35 per million dollars of covered sales for the six months ended June 30, 2024. Industry market data fees decreased primarily due a decrease in U.S. tape plan revenue driven by a 1% decline in market share on the U.S. Equities exchanges.

Data and Access Solutions

Data and access solutions revenue increased for the three months ended June 30, 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 and logical port fees in the North American Equities, Options, and Europe and Asia Pacific segments, both driven by increases in pricing. Proprietary market data fees increased primarily due to increases in proprietary market data fees in the North American Equities, Options, and Futures segments.

Data and access solutions revenue increased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to increases in access and capacity fees, proprietary market data fees, and licensing revenue within the Options segment. Access and capacity fees increased primarily due to increased physical and logical port fees in the Options, North American Equities, and Europe and Asia Pacific 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, North American Equities, and Europe and Asia Pacific segments.

Derivatives Markets

Derivatives markets revenue increased for the three months ended June 30, 2024 compared to the same period in 2023 primarily due to increases in transaction and clearing fees and regulatory fees. Transaction and clearing fees increased primarily due to a 28% increase in futures ADV, coupled with a 9% increase in index options ADV, partially offset by a 2% decrease in multi-listed options ADV and a decrease in routed trades on the Cboe options exchanges. Regulatory fees increased primarily due to a 109% increase in the Section 31 fee rate, from an average rate of $8.00 per million dollars of covered sales for the three months ended June 30, 2023 to an average rate of $16.70 per million dollars of covered sales for the three months ended June 30, 2024, partially offset by a decrease in options regulatory fees ("ORF").

Derivatives markets revenue decreased slightly for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to a decrease in industry market data fees attributable to a decrease in Options Price Reporting Authority ("OPRA") revenue in the Options segment as a result of a decline in market share on the Cboe options exchanges.

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 and six months ended June 30, 2024 and 2023, respectively (in millions):

	Three Months Ended June 30, 2024			
	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Liquidity payments	$ 192.0	$ —	$ 115.0	$ 307.0
Routing and clearing fees	12.6	—	4.0	16.6
Section 31 fees	63.1	—	14.6	77.7
Royalty fees and other cost of revenues	15.0	2.5	41.4	58.9
Total cost of revenues	$ 282.7	$ 2.5	$ 175.0	$ 460.2

	Three Months Ended June 30, 2023			
	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Liquidity payments	$ 201.0	$ —	$ 136.4	$ 337.4
Routing and clearing fees	12.7	—	8.1	20.8
Section 31 fees	28.7	—	5.8	34.5
Royalty fees and other cost of revenues	8.6	2.3	37.1	48.0
Total cost of revenues	$ 251.0	$ 2.3	$ 187.4	$ 440.7

	Six Months Ended June 30, 2024			
	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Liquidity payments	$ 414.9	$ —	$ 230.9	$ 645.8
Routing and clearing fees	24.4	—	8.2	32.6
Section 31 fees	97.8	—	22.0	119.8
Royalty fees and other cost of revenues	29.2	5.0	82.9	117.1
Total cost of revenues	$ 566.3	$ 5.0	$ 344.0	$ 915.3

	Six Months Ended June 30, 2023			
	Cash and Spot Markets	Data and Access Solutions	Derivatives Markets	Total
Liquidity payments	$ 428.0	$ —	$ 281.2	$ 709.2
Routing and clearing fees	27.0	—	17.8	44.8
Section 31 fees	90.1	—	19.3	109.4
Royalty fees and other cost of revenues	15.7	4.5	73.9	94.1
Total cost of revenues	$ 560.8	$ 4.5	$ 392.2	$ 957.5

Total cost of revenues increased for the three months ended June 30, 2024 compared to the same period in 2023 primarily due to increased cash and spot markets cost of revenues, driven by an increase in the Section 31 fee rate and an increase in operating interest expense attributable to Cboe Clear Europe, partially offset by a decrease in derivatives markets cost of revenues, driven by a decrease in liquidity payments on the Cboe options exchanges.

Total cost of revenues decreased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to decreased derivatives markets cost of revenues, driven by a decrease in liquidity payments on the Cboe options exchanges, partially offset by an increase in cash and spot markets cost of revenue, driven by an increase in Section 31 fees.

The following summarizes changes in the disaggregated cost of revenues for the three and six months ended June 30, 2024 compared to the three and six months ended June 30, 2023 (in millions, except percentages):

	Three Months Ended June 30, 2024	Three Months Ended June 30, 2023	Increase/ (Decrease)	Percent Change	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023	Increase/ (Decrease)	Percent Change
Liquidity payments	$ 307.0	$ 337.4	$ (30.4)	(9)%	$ 645.8	$ 709.2	$ (63.4)	(9)%
Routing and clearing	16.6	20.8	(4.2)	(20)%	32.6	44.8	(12.2)	(27)%
Section 31 fees	77.7	34.5	43.2	125 %	119.8	109.4	10.4	10 %
Royalty fees and other cost of revenues	58.9	48.0	10.9	23 %	117.1	94.1	23.0	24 %
Total cost of revenues	$ 460.2	$ 440.7	$ 19.5	4 %	$ 915.3	$ 957.5	$ (42.2)	(4)%

Liquidity Payments

Liquidity payments decreased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to a decrease in liquidity payments within the Options segment as a result of pricing changes made in the second half of 2023 to improve overall net capture, coupled with a decrease in liquidity payments within the North American Equities segment as a result of pricing changes made in the first half of 2024 to improve overall net capture.

Routing and Clearing

Routing and clearing fees decreased for the three months ended June 30, 2024 compared to the same period in 2023 primarily due to a decrease in routed trades on the Cboe options exchanges. Routing and clearing fees decreased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to a decrease in routed trades on the Cboe options exchanges, coupled with a decrease in routed shares on the U.S Equities exchanges.

Section 31 Fees

Section 31 fees increased for the three months ended June 30, 2024 compared to the same period in 2023 primarily due to a 109% increase in the Section 31 fee rate, from an average rate of $8.00 per million dollars of covered sales for the three months ended June 30, 2023 to an average rate of $16.70 per million dollars of covered sales for the three months ended June 30, 2024. Section 31 fees increased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to an increase in notional volumes, partially offset by a 3% decrease in the Section 31 fee rate, from an average rate of $12.71 per million dollars of covered sales for the six months ended June 30, 2023 to an average rate of $12.35 per million dollars of covered sales for the six months ended June 30, 2024.

Royalty Fees and Other Cost of Revenues

Royalty fees and other cost of revenues increased for the three and six months ended June 30, 2024 compared to the same periods 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 $46.7 million, or 10%, and $77.4 million, or 8%, for the three and six months ended June 30, 2024, respectively, compared to the same periods in 2023 primarily due to increases in derivatives markets revenues less cost of revenues driven by an increase in volumes traded on the Cboe options exchanges, coupled with an increase in RPC and net capture on the Options, U.S. Equities and European Equities exchanges, as applicable, increase in access and capacity fees and proprietary market data across segments, and an increase in net other revenue attributable to Cboe Clear Europe.

The following summarizes the components of revenues less cost of revenues for the three and six months ended June 30, 2024 compared to the three and six months ended June 30, 2023 (in millions, except percentages):

	Three Months Ended June 30,		Increase/	Percent	Six Months Ended June 30,		Increase/	Percent
	2024	2023	(Decrease)	Change	2024	2023	(Decrease)	Change
Cash and spot markets	$ 103.7	$ 90.3	$ 13.4	15 %	$ 201.0	$ 187.5	$ 13.5	7 %
Data and access solutions	139.6	133.0	6.6	5 %	277.3	260.2	17.1	7 %
Derivatives markets	270.5	243.8	26.7	11 %	537.6	490.8	46.8	10 %
Total revenues less cost of revenues	$ 513.8	$ 467.1	$ 46.7	10 %	$ 1,015.9	$ 938.5	$ 77.4	8 %

Cash and Spot Markets

Cash and spot markets revenues less cost of revenues increased for the three months ended June 30, 2024 compared to the same period in 2023 primarily due to increases in transaction and clearing fees less liquidity payments and routing and clearing costs ("net transaction and clearing fees") in the North American Equities, Europe and Asia Pacific, and Global FX segments, coupled with an increase in net other revenue, partially offset by a decrease in industry market data fees. Net transaction and clearing fees increased primarily due to a 30% increase in U.S. Equities net capture, a 9% increase in European Equities net capture, a 17% increase in net fee per settlement by Cboe Clear Europe, and a 12% increase in Global FX ADNV, partially offset by a 1% decrease in total touched shares on the U.S. Equities exchanges. Net other revenue increased primarily due to an increase in operating interest income attributable to Cboe Clear Europe as a result of the changing interest rate environment and additional interest income in accordance with its investment policy. See Note 12 ("Clearing Operations") for additional information on Cboe Clear Europe's investment policy. Industry market data fees decreased primarily due a decrease in U.S. tape plan revenue driven by a 1% decline in market share on the U.S. Equities exchanges.

Cash and spot markets revenues less cost of revenues increased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to increases in net transaction and clearing fees in the North American Equities, Europe and Asia Pacific, and Global FX segments, coupled with an increase in net other revenue, partially offset by a decrease in industry market data fees. Net transaction and clearing fees increased primarily due to a 15% increase in U.S. Equities net capture, a 13% increase in European Equities net capture, a 6% increase in Global FX ADNV, and a 72% increase in Japanese Equities ADNV. Net other revenue increased primarily due to an increase in operating interest income attributable to Cboe Clear Europe as a result of the changing interest rate environment and additional interest income in accordance with its investment policy. See Note 12 ("Clearing Operations") for additional information on Cboe Clear Europe's investment policy. Industry market data fees decreased primarily due a decrease in U.S. tape plan revenue driven by a 1% decline in market share on the U.S. Equities exchanges.

Data and Access Solutions

Data and access solutions revenue increased for the three months ended June 30, 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 and logical port fees in the North American Equities, Options, and Europe and Asia Pacific segments, both driven by increases in pricing. Proprietary market data fees increased primarily due to increases in proprietary market data fees in the North American Equities, Options, and Futures segments.

Data and access solutions revenue increased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to increases in access and capacity fees, proprietary market data fees, and licensing revenue within the Options segment. Access and capacity fees increased primarily due to increased physical and logical port fees in the Options, North American Equities, and Europe and Asia Pacific 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, North American Equities, and Europe and Asia Pacific segments.

Derivatives Markets

Derivatives markets revenues less cost of revenues increased for the three months ended June 30, 2024 compared to the same period in 2023 primarily due to an increase in net transaction and clearing fees driven by a 9% increase in index options ADV, a 2% increase in index options RPC, and a 28% increase in futures ADV, partially offset by an increase in royalty fees due to an increase in trading volumes of licensed products in the Options segment.

Derivatives markets revenues less cost of revenues increased for the six months ended June 30, 2024 compared to the same period in 2023 primarily due to an increase in net transaction and clearing fees driven by an 11% increase in index options ADV, a 3% increase in index options RPC, and a 10% increase in futures 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 and six months ended June 30, 2024 compared to the same periods in 2023 increased $81.4 million, or 37%, and $77.6 million, or 17%, respectively, primarily due to the impairment of intangible assets charge recorded to the Digital segment in the second quarter of 2024.

The following summarizes changes in operating expenses for the three and six months ended June 30, 2024 compared to the three and six months ended June 30, 2023 (in millions, except percentages):

	Three Months Ended June 30,		Increase/	Percent	Six Months Ended June 30,		Increase/	Percent
	2024	2023	(Decrease)	Change	2024	2023	(Decrease)	Change
Compensation and benefits	$ 116.1	$ 106.5	$ 9.6	9 %	$ 231.4	$ 216.9	$ 14.5	7 %
Depreciation and amortization	31.8	39.8	(8.0)	(20)%	69.1	81.2	(12.1)	(15)%
Technology support services	24.6	28.3	(3.7)	(13)%	48.8	50.5	(1.7)	(3)%
Professional fees and outside services	25.8	20.4	5.4	26 %	47.3	44.3	3.0	7 %
Travel and promotional expenses	9.3	13.5	(4.2)	(31)%	16.8	19.7	(2.9)	(15)%
Facilities costs	6.1	6.2	(0.1)	(2)%	12.6	13.8	(1.2)	(9)%
Acquisition-related costs	0.6	0.7	(0.1)	(14)%	1.2	7.1	(5.9)	(83)%
Impairment of intangible assets	81.0	—	81.0	* %	81.0	—	81.0	* %
Other expenses	8.4	6.9	1.5	22 %	15.2	12.3	2.9	24 %
Total operating expenses	$ 303.7	$ 222.3	$ 81.4	37 %	$ 523.4	$ 445.8	$ 77.6	17 %

*Not meaningful

Compensation and Benefits

Compensation and benefits increased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to increases in salaries, bonuses, and payroll taxes of $8.1 million and $18.1 million, respectively, driven by increased headcount, increases in bonuses from strong Company performance year to date, and merit increases. For the six months ended June 30, 2024, the increase in compensation and benefits was partially offset by a $4.8 million decrease in equity compensation compared to the same period in 2023 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 and six months ended June 30, 2024 compared to the same periods 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 decreased for the three and six months ended June 30, 2024 compared to the same periods in 2023 due to decreases in hardware maintenance and purchases, partially offset by increases in software maintenance, market data services, and software licenses and subscriptions.

Professional Fees and Outside Services

Professional fees and outside services increased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to increases in consulting fees, contract services, and legal fees, partially offset by a decrease in recruiting fees. For the six months ended June 30, 2024, the increase in professional fees and outside services was partially offset by a decrease in regulatory costs related to CAT fees compared to the same period in 2023.

Travel and Promotional Expenses

Travel and promotional expenses decreased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to decreases in marketing and advertising expenses driven by the Company's rebranding, advertising campaigns and sponsorships, and special events in the prior year.

Facilities Costs

Facilities costs decreased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to a decrease in accrued real estate taxes.

Acquisition-Related Costs

Acquisition-related costs decreased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to a decrease in professional fees and retention-related compensation costs associated with prior acquisitions.

Impairment of Intangible Assets

Impairment of intangible assets increased for the three and six months ended June 30, 2024 compared to the same periods in 2023 due to the impairment of intangible assets recognized in the Digital segment.

Other Expenses

Other expenses increased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to an increase in contingent consideration related to prior acquisitions. For the three months ended June 30, 2024, the increase in other expenses was partially offset by a decrease in bad debt expense provisions compared to the same period in 2023.

Operating Income

As a result of the items above, operating income for the three months ended June 30, 2024 was $210.1 million, compared to operating income of $244.8 million for the three months ended June 30, 2023, a decrease of $34.7 million.

As a result of the items above, operating income for the six months ended June 30, 2024 was $492.5 million, compared to operating income of $492.7 million for the six months ended June 30, 2023, a decrease of $0.2 million.

Interest Expense

Interest expense decreased for the three and six months ended June 30, 2024 compared to the same periods 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 and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to increases in interest rates in 2024.

Earnings on Investments

Earnings on investments increased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to increases of $5.3 million, and $3.7 million, respectively, in the equity earnings on the Company's investment in 7Ridge Fund (which owns Trading Technologies) recorded in 2024 compared to the same periods in 2023, partially offset by an increase in non-qualified deferred compensation.

Other (Expense) Income, Net

Net other expense decreased for the three and six months ended June 30, 2024 compared to the same periods in 2023 primarily due to a $16.0 million impairment recorded on the Company's minority investment in Globacap Technology Limited ("Globacap") recorded in the second quarter of 2024, coupled with $2.1 million in dividend income from the Company's minority ownership of Vest Financial Group, Inc. ("Vest") recorded in the second quarter of 2023, which did not recur in the three months ended June 30, 2024. For the six months ended June 30, 2024, the decrease in net other expense was partially offset by $4.1 million in dividend income from Vest 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 June 30, 2024 was $203.0 million, compared to income before income tax provision of $241.8 million for the three months ended June 30, 2023, a decrease of $38.8 million.

As a result of the above, income before income tax provision for the six months ended June 30, 2024 was $495.1 million, compared to income before income tax provision of $490.0 million for the six months ended June 30, 2023, an increase of $5.1 million.

Income Tax Provision

The effective tax rate from continuing operations was 30.8% and 30.6% for the three months ended June 30, 2024 and 2023, respectively, and 29.3% and 30.4% for the six months ended June 30, 2024 and 2023, respectively.

The higher effective tax rate for the three months ended June 30, 2024 compared to the same period in 2023 is primarily due to the valuation allowance associated with the impairment of the Globacap investment. The lower effective tax rate for the six months ended June 30, 2024 compared to the same period in 2023 is primarily due to the excess tax benefits from the vesting of equity awards that occurred during the first quarter of 2024.

Net Income

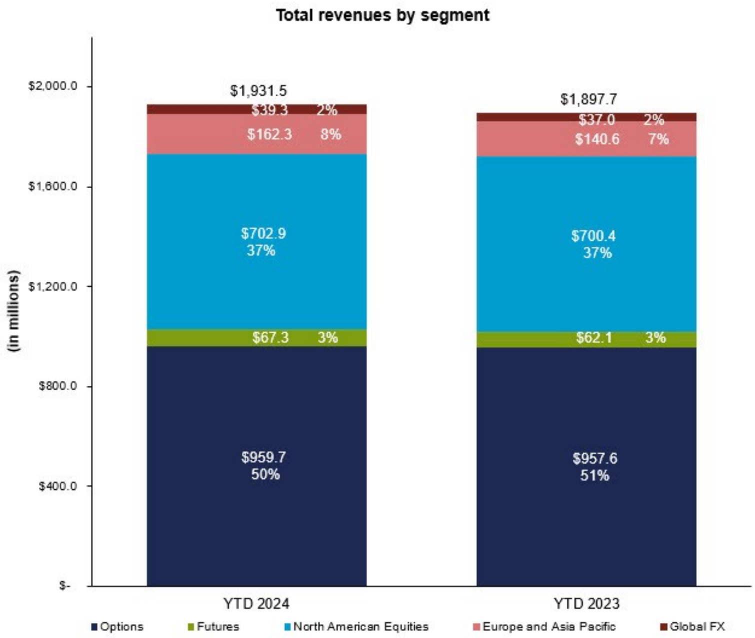
As a result of the items above, net income for the three months ended June 30, 2024 was $140.4 million, compared to net income of $167.8 million for the three months ended June 30, 2023, a decrease of $27.4 million.

As a result of the items above, net income for the six months ended June 30, 2024 was $349.9 million, compared to net income of $341.2 million for the six months ended June 30, 2023, an increase of $8.7 million.

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 and six months ended June 30, 2024 compared to the three and six months ended June 30, 2023 primarily due to changes in the allocation of shared-service expenses.

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

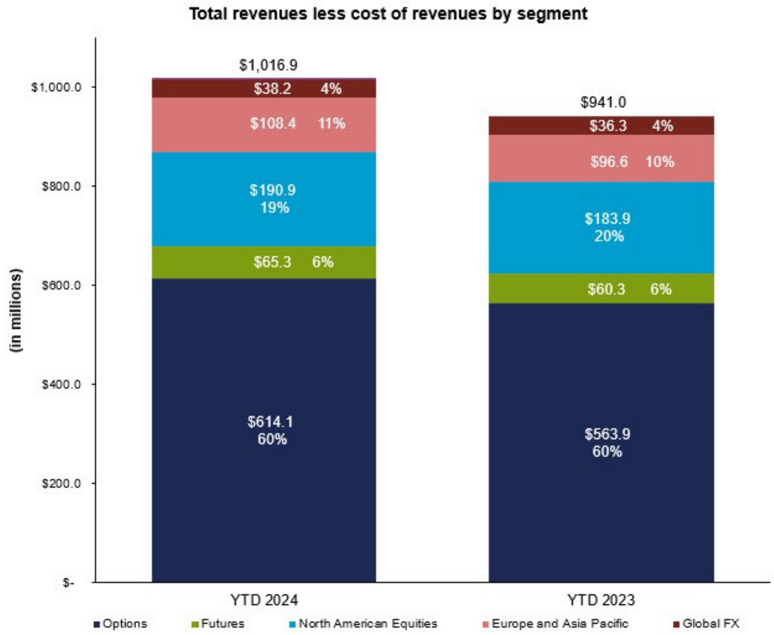


Note, the chart excludes Digital revenues of $(0.3) million and $(1.7) million for the six months ended June 30, 2024 and 2023, respectively.

	Three Months Ended June 30,		Percent Change	Percentage of Total Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent Change	Percentage of Total Revenues Six Months Ended June 30,	
	2024	2023		2024	2023	2024	2023		2024	2023
Options	$ 482.3	$ 471.5	2 %	50 %	52 %	$ 959.7	$ 957.6	0 %	50 %	51 %
North American Equities	353.3	320.6	10 %	36 %	35 %	702.9	700.4	0 %	37 %	37 %
Europe and Asia Pacific	81.6	68.3	19 %	8 %	8 %	162.3	140.6	15 %	8 %	7 %
Futures	35.9	30.0	20 %	4 %	3 %	67.3	62.1	8 %	3 %	3 %
Global FX	20.5	18.2	13 %	2 %	2 %	39.3	37.0	6 %	2 %	2 %
Digital	0.4	(0.8)	150 %	* %	* %	(0.3)	(1.7)	82 %	* %	* %
Total revenues	$ 974.0	$ 907.8	7 %	100 %	100 %	$ 1,931.2	$ 1,896.0	2 %	100 %	100 %

* Not meaningful

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



Note, the chart excludes Digital revenues less cost of revenues of $(1.0) million and $(2.5) million for the six months ended June 30, 2024 and 2023, respectively.

	Three Months Ended June 30,		Percent	Percentage of Total Revenues Less Cost of Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent	Percentage of Total Revenues Less Cost of Revenues Six Months Ended June 30,	
	2024	2023	Change	2024	2023	2024	2023	Change	2024	2023
Options	$ 306.7	$ 283.2	8 %	60 %	61 %	$ 614.1	$ 563.9	9 %	60 %	60 %
North American Equities	98.3	90.8	8 %	19 %	19 %	190.9	183.9	4 %	19 %	20 %
Europe and Asia Pacific	54.3	47.3	15 %	10 %	10 %	108.4	96.6	12 %	11 %	10 %
Futures	34.8	29.2	19 %	7 %	6 %	65.3	60.3	8 %	6 %	6 %
Global FX	19.8	17.8	11 %	4 %	4 %	38.2	36.3	5 %	4 %	4 %
Digital	(0.1)	(1.2)	92 %	* %	* %	(1.0)	(2.5)	60 %	* %	* %
Total revenues less cost of revenues	$ 513.8	$ 467.1	10 %	100 %	100 %	$ 1,015.9	$ 938.5	8 %	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 June 30,		Percent	Percentage of Total Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent	Percentage of Total Revenues Six Months Ended June 30,	
	2024	2023	Change	2024	2023	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 306.7	$ 283.2	8 %	64 %	60 %	$ 614.1	$ 563.9	9 %	64 %	59 %
Operating expenses	91.1	79.5	15 %	19 %	17 %	181.7	159.2	14 %	19 %	17 %
Operating income	$ 215.6	$ 203.7	6 %	45 %	43 %	$ 432.4	$ 404.7	7 %	45 %	42 %
EBITDA (1)	$ 221.8	$ 209.5	6 %	46 %	44 %	$ 444.3	$ 416.3	7 %	46 %	43 %
EBITDA margin (2)	72.3 %	74.0 %	*	*	*	72.3 %	73.8 %	*	*	*

* 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 increased $23.5 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by a 9% increase in index options ADV, a 2% increase in index options RPC, an increase in proprietary market data revenue, and an increase in physical 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 June 30, 2024, operating income for the Options segment increased $11.9 million compared to the three months ended June 30, 2023 primarily due to an increase in revenues less cost of revenues, partially offset by an increase in operating expenses. Operating expenses increased $11.6 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to increases in compensation and benefits and professional fees and outside services.

Revenues less cost of revenues increased $50.2 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by an 11% increase in index options ADV, a 3% increase in index options RPC, an increase in physical and logical port fees, and an increase in proprietary market data revenue, partially offset by an increase in royalty fees due to an increase in trading volumes of licensed products. For the six months ended June 30, 2024, operating income for the Options segment increased $27.7 million compared to the six months ended June 30, 2023 primarily due to an increase in revenues less cost of revenues, partially offset by an increase in operating expenses. Operating expenses increased $22.5 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to increases in compensation and benefits, technology support services, and professional and outside services.

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 June 30,		Percent	Percentage of Total Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent	Percentage of Total Revenues Six Months Ended June 30,	
	2024	2023	Change	2024	2023	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 98.3	$ 90.8	8 %	28 %	28 %	$ 190.9	$ 183.9	4 %	27 %	26 %
Operating expenses	53.0	68.0	(22)%	15 %	21 %	107.6	132.7	(19)%	15 %	19 %
Operating income	$ 45.3	$ 22.8	99 %	13 %	7 %	$ 83.3	$ 51.2	63 %	12 %	7 %
EBITDA (1)	$ 59.5	$ 40.2	48 %	17 %	13 %	$ 113.1	$ 87.1	30 %	16 %	12 %
EBITDA margin (2)	60.5 %	44.3 %	*	*	*	59.2 %	47.4 %	*	*	*

* 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 increased $7.5 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by a 30% increase in U.S. Equities net capture, an increase in proprietary market data revenue, and an increase in physical port fees, partially offset by a decrease in industry market data fees driven by a decrease in U.S. tape plan revenue as a result of a 1% decline in market share on the U.S. Equities exchanges. For the three months ended June 30, 2024, operating income for the North American Equities segment increased $22.5 million compared to the three months ended June 30, 2023 primarily due to a decrease in operating expenses, coupled with an increase in revenues less cost of revenues. Operating expenses decreased $15.0 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 due to decreases in technology support services, depreciation and amortization, compensation and benefits, and travel and promotional expenses.

Revenues less cost of revenues increased $7.0 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by a 15% increase in U.S. Equities net capture, an increase in physical port fees, and an increase in proprietary market data revenue, partially offset by a decrease in industry market data fees driven by a decrease in U.S. tape plan revenue as a result of a 1% decline in market share on the U.S. Equities exchanges. For the six months ended June 30, 2024, operating income for the North American Equities segment increased $32.1 million compared to the six months ended June 30, 2023 due to a decrease in operating expenses, coupled with an increase in revenues less cost of revenues. Operating expenses decreased $25.1 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to decreases in compensation and benefits, depreciation and amortization, technology support services, and professional fees and outside 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 June 30,		Percent	Percentage of Total Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent	Percentage of Total Revenues Six Months Ended June 30,	
	2024	2023	Change	2024	2023	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 54.3	$ 47.3	15 %	67 %	69 %	$ 108.4	$ 96.6	12 %	67 %	69 %
Operating expenses	45.1	41.8	8 %	55 %	61 %	89.0	79.8	12 %	55 %	57 %
Operating income	$ 9.2	$ 5.5	67 %	11 %	8 %	$ 19.4	$ 16.8	15 %	12 %	12 %
EBITDA (1)	$ 15.5	$ 13.0	19 %	19 %	19 %	$ 33.4	$ 32.7	2 %	21 %	23 %
EBITDA margin (2)	28.5 %	27.5 %	*	*	*	30.8 %	33.9 %	*	*	*

* 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 $7.0 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by a 9% increase in European Equities net capture, a 17% increase in net fee per settlement by Cboe Clear Europe, and a 71% increase in Japanese Equities ADNV, coupled with an increase in operating interest income attributable to Cboe Clear Europe. For the three months ended June 30, 2024, operating income for the Europe and Asia Pacific segment increased $3.7 million compared to the three months ended June 30, 2023 primarily due to an increase in revenues less cost of revenues, partially offset by an increase in operating expenses. Operating expenses increased $3.3 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to increases in compensation and benefits and professional fees and outside services.

Revenues less cost of revenues increased $11.8 million for the six months ended June 30, 2024 compared to the six months ended June 30, 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 six months ended June 30, 2024, operating income for the Europe and Asia Pacific segment increased $2.6 million compared to the six months ended June 30, 2023 primarily due to an increase in revenues less cost of revenues, partially offset by an increase in operating expenses. Operating expenses increased $9.2 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to increases in compensation and benefits, professional fees and outside services, and technology support services, partially offset by a decrease in depreciation and amortization.

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 June 30,		Percent	Percentage of Total Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent	Percentage of Total Revenues Six Months Ended June 30,	
	2024	2023	Change	2024	2023	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 34.8	$ 29.2	19 %	97 %	97 %	$ 65.3	$ 60.3	8 %	97 %	97 %
Operating expenses	8.5	10.8	(21)%	24 %	36 %	16.9	21.0	(20)%	25 %	34 %
Operating income	$ 26.3	$ 18.4	43 %	73 %	61 %	$ 48.4	$ 39.3	23 %	72 %	63 %
EBITDA (1)	$ 26.8	$ 18.9	42 %	75 %	63 %	$ 49.4	$ 40.3	23 %	73 %	65 %
EBITDA margin (2)	77.0 %	64.7 %	*	*	*	75.7 %	66.8 %	*	*	*

* 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 increased $5.6 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees as a result of a 28% increase in ADV, partially offset by a 4% decrease in RPC. For the three months ended June 30, 2024, operating income for the Futures segment increased $7.9 million compared to the three months ended June 30, 2023 primarily due to an increase in revenues less cost of revenues, coupled with a decrease in operating expenses. Operating expenses decreased $2.3 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to decreases in technology support services, compensation and benefits, and travel and promotional expenses.

Revenues less cost of revenues increased $5.0 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees as a result of a 10% increase in ADV, partially offset by a 1% decrease in RPC. For the six months ended June 30, 2024, operating income for the Futures segment increased $9.1 million compared to the six months ended June 30, 2023 primarily due to an increase in revenues less cost of revenues, coupled with a decrease in operating expenses. Operating expenses decreased $4.1 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to decreases in compensation and benefits and technology support services.

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 June 30,		Percent	Percentage of Total Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent	Percentage of Total Revenues Six Months Ended June 30,	
	2024	2023	Change	2024	2023	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ 19.8	$ 17.8	11 %	97 %	98 %	$ 38.2	$ 36.3	5 %	97 %	98 %
Operating expenses	10.6	12.8	(17)%	52 %	70 %	22.4	26.6	(16)%	57 %	72 %
Operating income	$ 9.2	$ 5.0	84 %	45 %	27 %	$ 15.8	$ 9.7	63 %	40 %	26 %
EBITDA (1)	$ 12.4	$ 9.7	28 %	60 %	53 %	$ 23.0	$ 19.6	17 %	59 %	53 %
EBITDA margin (2)	62.6 %	54.5 %	*	*	*	60.2 %	54.0 %	*	*	*

* 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 $2.0 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by a 12% increase in ADNV. For the three months ended June 30, 2024, operating income for the Global FX segment increased $4.2 million compared to the three months ended June 30, 2023 primarily due to a decrease in operating expenses, coupled with an increase in revenues less cost of revenues. Operating expenses decreased $2.2 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to decreases in depreciation and amortization and technology support services.

Revenues less cost of revenues increased $1.9 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by a 6% increase in ADNV, coupled with an increase in logical port fees. For the six months ended June 30, 2024, operating income for the Global FX segment increased $6.1 million compared to the six months ended June 30, 2023 primarily due to a decrease in operating expenses, coupled with an increase in revenues less cost of revenues. Operating expenses decreased $4.2 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to decreases in depreciation and amortization 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 June 30,		Percent	Percentage of Total Revenues Three Months Ended June 30,		Six Months Ended June 30,		Percent	Percentage of Total Revenues Six Months Ended June 30,	
	2024	2023	Change	2024	2023	2024	2023	Change	2024	2023
Revenues less cost of revenues	$ (0.1)	$ (1.2)	92 %	(25)%	* %	$ (1.0)	$ (2.5)	60 %	333 %	* %
Operating expenses	90.2	9.8	* %	* %	* %	99.5	19.9	* %	* %	* %
Operating loss	$ (90.3)	$ (11.0)	* %	* %	* %	$ (100.5)	$ (22.4)	* %	* %	* %
EBITDA (1)	$ (88.1)	$ (9.1)	* %	* %	* %	$ (96.0)	$ (18.7)	* %	* %	* %
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.

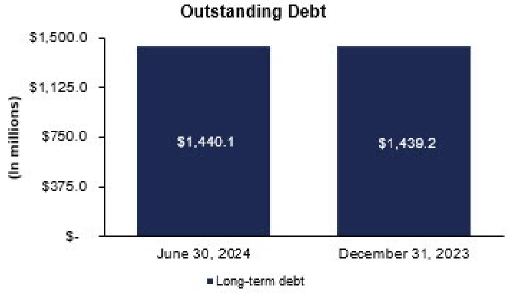
(2) EBITDA margin represents EBITDA divided by revenues less cost of revenues.

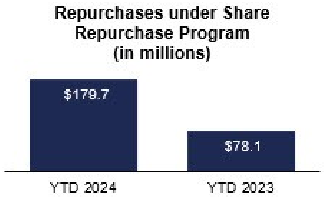
Revenues less cost of revenues increased $1.1 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by the reversal of $1.0 million of contra-revenue recorded as part of the syndication wind down. For the three months ended June 30, 2024, operating loss for the Digital segment increased $79.3 million compared to the three months ended June 30, 2023 primarily due to the impairment of intangible assets of $81.0 million related to the Cboe Digital spot market wind down in the three months ended June 30, 2024. Operating expenses increased $80.4 million for the three months ended June 30, 2024 compared to the three months ended June 30, 2023 due to the impairment of intangible assets.

Revenues less cost of revenues increased $1.5 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to an increase in net transaction and clearing fees driven by the reversal of $1.0 million of contra-revenue recorded as part of the syndication wind down, coupled with an increase in Digital spot ADNV. For the six months ended June 30, 2024, operating loss for the Digital segment increased $78.1 million compared to the six months ended June 30, 2023 primarily due to the impairment of intangible assets of $81.0 million related to the Cboe Digital spot market wind down. Operating expenses increased $79.6 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to the impairment of intangible assets.

Liquidity and Capital Resources

Below are charts that reflect elements of our capital allocation:





We expect our cash on hand at June 30, 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 €1.20 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 27, 2025 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 June 30, 2024 increased $71.4 million from December 31, 2023 primarily due to inflows from the results of operations, partially offset by the increase in share repurchases, the increase in cash dividends, the change in accounts payable and accrued liabilities, the change in accounts receivable, the change in purchases of available-for-sale financial investments, and the increase in repurchases of common stock from employee stock plans. See “Cash Flow” below for further discussion.

Our cash and cash equivalents held outside of the United States in various foreign subsidiaries totaled $264.7 million as of June 30, 2024. The remaining balance was held in the United States and totaled $349.9 million as of June 30, 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 June 30, 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 six months ended June 30, 2024 and 2023, respectively (in millions):

	Six Months Ended June 30,	
	2024	2023
Net cash provided by operating activities	$ 2,389.5	$ 527.7
Net cash used in investing activities	(50.4)	(42.8)
Net cash used in financing activities	(346.2)	(348.7)
Effect of foreign currency exchange rate changes on cash, cash equivalents, and restricted cash and cash equivalents	(41.4)	20.3
Increase in cash, cash equivalents, and restricted cash and cash equivalents	$ 1,951.5	$ 156.5

	As of June 30,	
	2024	2023
Reconciliation of cash, cash equivalents, and restricted cash and cash equivalents:		
Cash and cash equivalents	$ 614.6	$ 413.6
Restricted cash and cash equivalents (included in margin deposits, clearing funds, and interoperability funds)	2,723.8	699.6
Restricted cash and cash equivalents (included in other current assets)	5.2	4.0
Customer bank deposits (included in margin deposits, clearing funds, and interoperability funds)	5.0	19.2
Total	$ 3,348.6	$ 1,136.4

Net Cash Flows Provided by Operating Activities

During the six months ended June 30, 2024, net cash provided by operating activities was $2,039.6 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 $1,923.2 million, impairment of intangible assets of $81.0 million, depreciation and amortization of $69.1 million, and Section 31 fees payable of $68.7 million, partially offset by the change in accounts payable and accrued liabilities of $113.3 million for the six months ended June 30, 2024.

Net cash flows provided by operating activities were $2,389.5 million and$527.7 million for the six months ended June 30, 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, the change in Section 31 fees payable, the change in impairment of intangible assets, and the change in income taxes receivable, partially offset by the change in accounts payable and accrued liabilities and the change in accounts receivable for the six months ended June 30, 2024 compared to the six months ended June 30, 2023.

Net Cash Flows Used in Investing Activities

Net cash flows used in investing activities were $50.4 million and $42.8 million for the six months ended June 30, 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, and the change in contributions to investments for the six months ended June 30, 2024 compared to the six months ended June 30, 2023.

Net Cash Flows Used in Financing Activities

Net cash flows used in financing activities were $346.2 million and $348.7 million for the six months ended June 30, 2024 and 2023, respectively. The variance is primarily attributable to the decrease in principal payments of current portion of long-term debt, partially offset by the increase in purchases of common stock, the increase in repurchases of common stock from employee stock plans, and the increase in cash dividends on common stock for the six months ended June 30, 2024 compared to the six months ended June 30, 2023.

Financial Assets

The following summarizes our financial assets, excluding margin deposits, clearing funds, and interoperability funds as of June 30, 2024 and December 31, 2023 (in millions):

	June 30, 2024	December 31, 2023
Cash and cash equivalents	$ 614.6	$ 543.2
Financial investments	83.7	57.5
Less deferred compensation plan assets	(36.6)	(36.7)
Less cash collected for Section 31 fees	(67.2)	(30.5)
Adjusted cash (1)	$ 594.5	$ 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 June 30, 2024 and December 31, 2023 (in millions):

	June 30, 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	—	—
Cboe Clear Europe Credit Facility	—	—
Less unamortized discount and debt issuance costs	(9.9)	(10.8)
Total debt	$ 1,440.1	$ 1,439.2

As of June 30, 2024 and December 31, 2023, the Company was in compliance with the covenants of our debt agreements.

In addition to the debt outstanding, as ofJune 30, 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 approximately $1.0 billion available to fund our operations, capital expenditures, potential acquisitions, debt repayments and any dividends, net of minimum regulatory capital requirements of $171.2 million as of June 30, 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 514,239 shares of its common stock under its share repurchase program during the three months ended June 30, 2024 at an average cost per share of $175.76, for a total value of $90.4 million. Since inception of the program through June 30, 2024, the Company has repurchased 20,614,013 shares of common stock at an average cost per share of $77.40, totaling $1.6 billion.

As of June 30, 2024, the Company had $204.4 million of availability remaining under its existing share repurchase authorizations.

Commercial Commitments and Contractual Obligations

As of June 30, 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 guarantees regarding 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 six months ended June 30, 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, with the exception of Goodwill and Other Intangible Assets, as described below.

Goodwill and Other Intangible Assets

Description

Our various acquisitions, including the acquisition of Cboe Digital resulted in the recording of goodwill and other intangible assets. In accordance with ASC 350—Intangibles—Goodwill and Other, we test the carrying values of goodwill and indefinite-lived intangible assets for impairment at least annually, or more frequently when events or changes in circumstances signal indicators of impairment are present.

Judgments and Uncertainties

The estimated fair values of our reporting units are based on the market approach and the income approach (using discounted estimated future cash flows). The estimated fair values of indefinite-lived intangibles used the income approach. The estimated fair value of these intangibles are expected to be updated, with the exception of indefinite-lived intangibles recorded as a result of the Cboe Digital acquisition, which were valued using the cost approach. The discounted estimated future cash flow analysis requires judgments about the discount rate, forecasted revenue growth rate, and operating expenses, that are inherent in these fair value estimates over the estimated remaining operating period. Additionally, the analysis contains uncertainty surrounding future events. As such, actual results may differ from these estimates and lead to a revaluation of our goodwill and indefinite-lived intangible assets.

Effect if Actual Results Differ from Assumptions

If updated estimates indicate that the fair value of goodwill or any indefinite-lived intangibles is less than the carrying value of the asset, an impairment charge is expected to be recorded in the condensed consolidated statements of income in the period of the change in estimate, which could result in a material change to the condensed consolidated financial statements. However, due to the results of our impairment analyses completed in 2023, in which all reporting units estimated fair value exceeded their carrying value, we do not consider our goodwill and indefinite-lived intangibles to have a significant risk of impairment, except as previously identified in our 2023 Annual Report on Form 10-K and as noted below.

Following the April 2024 announcement of the Cboe Digital spot market wind down and unwinding of the minority ownership structure in the holding company parent of the Cboe Digital entities, the Company performed an interim impairment test for the intangible assets recognized in the Digital reporting unit as the announcement was considered a potential indication of impairment. The Company concluded that the carrying value of the trading registrations and licenses and technology intangible assets exceeded their estimated fair value, as their projected future cash flows did not support its valuation and recorded an intangible assets impairment charge of $81.0 million in the condensed consolidated statements of income for the three and six months ended June 30, 2024.

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 Euro, British pound, Canadian dollar, Australian dollar, and Japanese Yen. We also have de minimis exposure to other foreign currencies, including the Singapore dollar and Philippine Peso.

For the three and six months ended June 30, 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 June 30, 2024			Six Months Ended June 30, 2024		
	Euros (1)	British Pounds (1)	Canadian Dollars (1)	Euros (1)	British Pounds (1)	Canadian Dollars (1)
Foreign denominated % of:						
Revenues less cost of revenues	5.8 %	2.9 %	1.5 %	5.8 %	2.9 %	1.5 %
Operating expenses	6.0 %	6.5 %	3.1 %	6.7 %	7.6 %	3.8 %
Impact of 10% adverse currency fluctuation on:						
Revenues less cost of revenues	$ 3.0	$ 1.5	$ 0.7	$ 5.9	$ 3.0	$ 1.5
Operating expenses	1.8	2.0	0.9	3.5	4.0	2.0

(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 June 30, 2024 is presented by foreign currency in the following table (in millions):

	Euros (1)	British Pounds (1)	Canadian Dollars (1)
Net equity investment in Cboe Europe Equities and Derivatives, Cboe Clear Europe, and Cboe Canada Inc.	$ 204.2	$ 642.7	$ 523.8
Impact on consolidated equity of a 10% adverse currency fluctuation	20.4	64.3	52.4

(1) Converted to U.S. dollars using the foreign exchange rate of Euros per U.S. dollar, British pounds per U.S. dollar, and Canadian dollars per U.S. dollar, respectively, as of June 30, 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 June 30, 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 €1.20 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 June 30, 2024 held $2,723.8 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 June 30, 2024 and 2023, our cash and cash equivalents and financial investments were $698.3 million and $517.3 million, respectively, of which $264.7 million and $227.2 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 June 30, 2024, we had $1,440.1 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 June 30, 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 second quarter of 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 21 (“Commitments, Contingencies, and Guarantees”) of the condensed consolidated financial statements included herein.

Item 1A. Risk Factors.

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, and Quarterly Report on Form 10-Q for the quarter ended March 31, 2024. 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.

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 514,239 shares of its common stock under its share repurchase program during the three months ended June 30, 2024 at an average cost per share of $175.76, for a total value of $90.4 million and had $204.4 million of availability remaining under its existing share repurchase authorizations as of June 30, 2024.

The table below shows the purchases of equity securities by the Company which settled during the three months ended June 30, 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)
April 1 to April 30, 2024	152,383	$ 179.54	152,383	$ 267.4
May 1 to May 31, 2024	125,191	180.81	125,191	244.8
June 1 to June 30, 2024	236,665	170.65	236,665	204.4
Total	514,239	$ 175.76	514,239	

Purchase of common stock from employees

The table below reflects the acquisition of common stock by the Company in the three months ended June 30, 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
April 1 to April 30, 2024	5,565	$ 182.51
May 1 to May 31, 2024	3,340	182.88
June 1 to June 30, 2024	168	180.74
Total	9,073	$ 182.61

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 March 31, 2024, to June 30, 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
Jill M. Griebenow *Executive Vice President, Chief Financial Officer*	6/3/2024 (2)	12/31/2024	Sale of up to 1,622 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).

Item 6. Exhibits.

Exhibit No.	Description
10.1	Amendment No. 23 to the Restated License Agreement, dated November 1, 1994, by and between Standard & Poor's Financial Services LLC (as successor-in-interest to Standard & Poor's, a division of McGraw-Hill, Inc.) and Cboe Exchange, Inc. (f/k/a Chicago Board Options Exchange, Incorporated), effective as of May 31, 2024 (Filed herewith).+
10.2	Amendment and Restatement Agreement, dated June 25, 2024, by and among Cboe Clear Europe N.V., as borrower, Cboe Global Markets, Inc., as guarantor, Bank of America Europe Designated Activity Company, as co-ordinator and facility agent and Citibank N.A., London Branch as security agent relating to a Facility Agreement originally dated July 1, 2020, by and among the same parties (as previously amended and restated by way of an amendment and restatement agreement dated July 1, 2021, June 30, 2022 and June 29, 2023, respectively, and further amended and restated), incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-34771) filed on June 28, 2024.
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).

+ Certain confidential portions (as indicated therein) of this exhibit have been omitted.

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: August 2, 2024

By: /s/ Jill M. Griebenow
Jill M. Griebenow
Executive Vice President, Chief Financial Officer

Date: August 2, 2024

EXHIBIT 10.1

CERTAIN CONFIDENTIAL INFORMATION (MARKED BY BRACKETS AS “[*confidential treatment requested*]”) HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

AMENDMENT NO. 23 TO LICENSE AGREEMENT

This Amendment No. 23 (“Amendment No. 23”), effective as of May 31, 2024, (“Amendment Effective Date”) to the Restated License Agreement dated as of November 1, 1994, as previously amended by Amendment No. 1 effective January 15, 1995, Amendment No. 2 effective April 1, 1998, Amendment No. 3 effective July 28, 2000, Amendment No. 4 effective October 27, 2000, Amendment No. 5 effective March 1, 2003, Amended and Restated Amendment No. 6 effective February 24, 2009, Amended and Restated Amendment No. 7 effective February 24, 2009, Amendment No. 8 effective January 9, 2005, (Amendment No. 9 effective April 23, 2007 having been terminated as of February 24, 2009), Amendment No. 10 effective June 19, 2009, Amendment No. 11 effective April 29, 2010, Amendment No. 12 effective March 8, 2013, Amendment No. 13 effective December 21, 2017, Amendment No. 14 effective January 1, 2017, Amendment No. 15 effective January 15, 2019, Amendment No. 16 effective April 1, 2020, Amendment No. 17 effective August 1, 2020, Amendment No. 18 effective October 26, 2021, Amendment No. 19 effective February 23, 2022, Amendment No. 20, effective as of April 25, 2022, Amendment No. 21, effective as of October 20, 2022, and Amendment No. 22, effective as of September 1, 2022 (collectively, the “License Agreement”), is made by and between S&P Dow Jones Indices LLC (“S&P”) and Cboe Exchange, Inc. (“CBOE”).

WHEREAS, S&P agrees to grant and CBOE desires to receive a license for CBOE and its Affiliates to use the iBoxx USD Liquid Emerging Market Sovereigns & Sub-Sovereigns Index (as modified from time to time, the “iBoxx USD EM Sovereign Bond Index”), as the basis for Options Contracts, Futures Contracts, and/or Option on Futures Contracts.

NOW THEREFORE, the parties agree as follows:

1. Capitalized terms used but not defined herein shall have the meanings ascribed thereto in the License Agreement.

2. Except as expressly modified hereby, all other provisions in the License Agreement shall continue in full force and effect.

3. The preamble is hereby deleted and amended and restated in its entirety as follows (and, consequently, the signature blocks in the License Agreement should be understood to refer to S&P Dow Jones Indices LLC (with reference to S&P) and Cboe Exchange, Inc. (with reference to CBOE)):

> “THIS RESTATED LICENSE AGREEMENT effective as of November 1, 1994 (the “Effective Date”), is made by and between S&P Dow Jones Indices LLC (“S&P”), a New York limited liability company having an office at 55 Water Street, New York, New York 10041, and the CBOE EXCHANGE, INC. (“CBOE”), a Delaware corporation having an office at 433 West Van Buren Street, Chicago, Illinois 60607.”

4. The second recital is hereby deleted and amended and restated in its entirety as follows:

“WHEREAS, S&P compiles, calculates, maintains, and owns rights in and to composite stock indexes known as the S&P 500 Stock Index, the S&P 100 Stock Index, the S&P SmallCap 600 Stock Index, the S&P 500 Dividend Index, the S&P Super Composite 1500 Stock Index, the Select Sector Indices, S&P 500 ESG Index and the iBoxx USD Liquid Emerging Market Sovereigns & Sub-Sovereigns Index (“iBoxx USD EM Sovereign Bond Index”) and to the proprietary data therein contained (such rights being hereinafter referred to individually with respect to each such index as the “S&P 500”, “S&P 100”, “S&P SmallCap 600”, “S&P 500 Dividend Index”, the “S&P Super Composite 1500”, the Select Sector Indices, S&P 500 ESG Index and iBoxx USD EM Sovereign Bond Index, respectively, and referred to collectively, together with the S&P/BARRA Growth Index and the S&P/BARRA Value Index defined below, as the “S&P Indexes”).”

5. The fifth recital is hereby deleted and amended and restated in its entirety as follows:

“WHEREAS, S&P uses in commerce and owns trade name and trademark rights to designations associated with the S&P Indexes, including but not limited to “Standard & Poor’s®”, “S&P®”, “Standard & Poor’s 500”, “S&P 500®”, “500”, “Standard & Poor’s 100”, “S&P 100®”, “100”, “Standard & Poor’s SmallCap 600”, “S&P SmallCap 600®”, “Standard & Poor’s Super Composite 1500”, “S&P Super Composite 1500®”, “Select Sector®”, “S&P 500 ESG”, “SPX®”, “DSPX”, “DSPBX”, “XSP”, “US 500”, “The 500”, “iBoxx” and the S&P Index names and corresponding tickers listed on Exhibit C and Exhibit F attached hereto (collectively, the “S&P Marks”).”

6. Section 1(i) is hereby deleted and amended and restated in its entirety as follows:

“The term “Non-exclusive Period” means, with respect to any S&P Index in respect of which an exclusive license is in effect pursuant to this Agreement, any period of time, starting on the day on which the trading volume on any Organized Securities Market other than CBOE or an Affiliate of CBOE for Contracts, Futures Contracts or Option on Futures Contracts based on that S&P Index (or, in the case of the S&P 100 Index, for Indexed Securities Products based on the S&P 100 Index) first exceeds [*confidential treatment requested*] percent ([*confidential treatment requested*]%) of the trading volume in such Contracts, Futures Contracts, Option on Futures Contracts or Indexed Securities Products, as the case may be, on the markets of CBOE and any Affiliate, during which such Organized Securities Market provides a market for trading Contracts, Futures Contracts, Option on Futures Contracts or Indexed Securities Products based on that S&P Index.”

7. New Sections 1(t), (u), (v), and (w) are hereby added as follows:

“(t) “Futures Contracts” has the definition set forth in Addendum No. 1.

(u) “Option on Futures Contracts” has the definition set forth in Addendum No. 1.

(v) “Futures Contract Market” shall mean a designated contract market regulated by the Commodity Futures Trading Commission (“CFTC”) and/or an organized foreign market for the trading of instruments that are the equivalent of Futures Contracts and/or Option on Futures Contracts.

(w) “Select Sector Indices” or “Select Sector Indexes” means the indexes identified in Exhibit C as Select Sector Indices.”

8. Section 3(a)’s first sentence’s first clause is hereby deleted and amended and restated in its entirety as follows:

> “Subject to the terms and conditions of this Agreement and except as otherwise expressly provided herein, S&P hereby grants to CBOE a nontransferable, worldwide license permitting CBOE and any Affiliate:”

9. Section 3(a) is hereby amended to add the following sentence immediately following its first sentence:

> “Commencing on December 21, 2017, the license to use the S&P Indexes and Select Sector Indexes for Standardized Option Contracts shall be limited to the United States.”

10. Section 3(e)’s first sentence is hereby deleted and amended and restated in its entirety as follows:

> “Except as otherwise expressly provided herein, the license granted to CBOE in Section 3(a) above in respect of the S&P Indexes other than the S&P 100 Index does not cover Other Option Indexed Instruments.”

11. Section 3(h) is hereby deleted and amended and restated in its entirety as follows:

> “Subject to the terms and conditions of this Agreement, S&P hereby grants to CBOE a non-transferable, non-assignable, non-sub-licensable, license, with respect to each of the indexes listed in Exhibit C hereto and such modified or successor indexes as they exist from time to time (such indices, collectively, "Exhibit C Indexes"), for CBOE and its Affiliates to use each of the Exhibit C Indexes as the basis for Standardized Option Contracts to be listed for trading on an Organized Securities Market in the United States and to use and refer to the S&P Marks associated with the Exhibit C Indexes in connection with the trading, marketing and promotion of such Standardized Options Contracts and with making disclosure about such Standardized Options Contracts as CBOE and its Affiliates deem necessary or desirable under any applicable laws, rules or regulations in order to indicate the source of the Exhibit C Indexes. Subject to the terms and conditions of this Agreement (including without limitation, with respect to the license fees payable by one party to the other party), S&P hereby grants to CBOE a non-transferable, non-assignable, non-sub-licensable, license, with respect to each of the indexes listed in Exhibit F hereto and such modified or successor indexes as they exist from time to time (such indices, collectively, "Exhibit F Indexes"), for CBOE and its Affiliates to use each of the Exhibit F Indexes as the basis for Futures Contracts and/or Option on Futures Contracts to be listed for trading on a Futures Contract Market in the United States and to use and refer to the S&P Marks associated with the Exhibit F Indexes in connection with the trading, marketing and promotion of such Futures Contracts and/or Option on Futures Contracts and with making disclosure about such Futures Contracts and/or Option on Futures Contracts as CBOE and its Affiliates deem necessary or desirable under any applicable

laws, rules or regulations in order to indicate the source of the Exhibit F Indexes. It is understood that the license granted in respect to the Exhibit F Indexes, in addition to trading, includes all activities associated with the trading of Futures Contracts and Option on Futures Contracts that are the subject of such license, including the creation, issuance, exercise, clearance and settlement of such Futures Contracts and Option on Futures Contracts by CBOE or any Affiliate or by any registered clearing agency or other person performing such activities on behalf of CBOE or any Affiliate. Unless terminated earlier as provided herein, the foregoing license for use of the Exhibit C Indexes in creating, issuing and listing for trading Standardized Option Contracts in the United States and the license for use of the Exhibit F Indexes for Futures Contracts and Option on Futures Contracts shall be exclusive for so long as the license granted to CBOE with respect to the S&P 500 in paragraphs 3(a) and 3(c) of this Agreement is exclusive in the United States, and shall be subject to all of the terms and conditions of this Agreement (including Addendums hereto) that apply to use of the S&P 500 Index for Standardized Option Contracts and related Amendment No. 6 Indexes (including without limitation, with respect to the license fees payable by one party to the other party), except that, unless separately agreed by the parties in writing (i) Section 6(d) shall not apply to any Exhibit C Indexes or Exhibit F Indexes; (ii) the exclusive aspect of CBOE’s license with respect to the iBoxx USD EM Sovereign Bond Index for use with the Standardized Option Contracts, Futures Contracts and/or Option on Futures Contracts in the United States (but not the licenses themselves) shall be terminable in S&P’s sole discretion by giving CBOE thirty days’ notice at any time after May 15, 2027, (iii) CBOE’s rights under Addendum No. 1 (added via the Amended and Restated Amendment No. 6 dated February 24, 2009) shall not apply to the iBoxx USD EM Sovereign Bond Index; (iv) for the avoidance of doubt, the iBoxx USD EM Sovereign Bond Index shall not be subject to the Derivative Index License Agreement dated February 24, 2009; (iv) CBOE shall not use, authorize and/or license, directly or indirectly, the market data (including, without limitation, the bids, asks, prices or values thereof) from the trading of Standardized Option Contracts, Futures Contracts and/or Option on Futures Contracts based on the iBoxx USD EM Sovereign Bond Index in the creation or calculation of any proprietary or third party index or similar work or to create input data for use in the creation or calculation of any proprietary or third party index or similar work ; and (v) CBOE shall prohibit the use of market data (including, without limitation, the bids, asks, prices or values thereof) from the trading of the Standardized Option Contracts, Futures Contracts and Option on Futures Contracts based on the iBoxx USD EM Sovereign Bond Index in the creation or calculation of any index or similar work or to create input data for use in the creation or calculation of any index or similar work in its market data subscription agreement pursuant to which third parties receive access to such market data. For the avoidance of doubt, Futures Contracts and Option on Futures Contracts based on the Exhibit F Indexes, Standardized Option Contracts based on the Exhibit C Indexes and Products based on Amendment No. 6 Indexes based directly or indirectly on the Exhibit C Indexes shall not be SPX Min/Max Products or VIX Min/Max Products.”

12. Section 3(i) is hereby deleted and amended and restated in its entirety as follows:

“Subject to the terms and conditions of this Agreement, S&P further grants to CBOE a non-exclusive, nontransferable license to disseminate the S&P Indexes to third party communications vendors for informational purposes in connection with the trading by CBOE and any Affiliate of the Futures Contracts, Option on Futures Contracts or Indexed Securities Products licensed hereunder. Nothing herein shall preclude: (i) CBOE from disseminating the S&P Indexes free of charge to the Options Price Reporting Authority ("OPRA"), the Consolidated Tape Association ("CTA"), the Consolidated Quotation System ("CQS"), or to any other registered futures or securities information processor which performs similar functions for CBOE or any Affiliate; (ii) CBOE or any Affiliate from collecting CBOE's or the Affiliate's normal share of OPRA, CTA, CQS or other revenues from the dissemination of quotation and last sale price information on the Futures Contracts, Option on Futures Contracts or Indexed Securities Products licensed hereunder; and (iii) CBOE or any Affiliate from transmitting to its members any information received from S&P pursuant to Section 8(d), provided that CBOE shall, and shall cause any Affiliate to, not provide electronic dissemination to its members of any information regarding changes in the composition of any of the S&P Indexes for a period of twenty-four (24) hours following the public announcement by S&P of any such change. Nothing herein shall preclude the Options Clearing Corporation ("OCC") or any other registered clearing agency from performing for CBOE and any Affiliate in relation to Standardized Option Contracts, Futures Contracts and Option on Futures Contracts, functions OCC normally performs in the issuance, clearance, exercise and settlement of options contracts, futures contracts and options on futures contracts."

13. Section 3(j) is hereby deleted and amended and restated in its entirety as follows:

"CBOE acknowledges that (1) the S&P Marks, the S&P 500, the S&P 100, the S&P SmallCap 600, the S&P Super Composite 1500, the S&P 500 Dividend Index, the Select Sector Indices and the iBoxx USD EM Sovereign Bond Index are the exclusive property of S&P and (2) the S&P/BARRA Marks, the S&P/BARRA Growth Index and the S&P/BARRA Value Index are the exclusive property of S&P and BARRA. CBOE further acknowledges that (1) the S&P 500, the S&P 100, the S&P SmallCap 600, the S&P Super Composite 1500, the S&P 500 Dividend Index, the Select Sector Indices and the iBoxx USD EM Sovereign Bond Index and their compilation and composition are in the exclusive control, and changes thereof are in the exclusive discretion, of S&P and (2) the S&P/BARRA Growth Index and the S&P/BARRA Value Index and their compilation and composition are in the exclusive control, and changes thereof are in the exclusive discretion, of S&P and BARRA. In making any changes to the securities comprising or in the method of calculating an S&P Index, S&P shall use its best efforts to preserve the continuity of the S&P Index as a measure of that segment of the market it was designed to reflect so that the issuer of the Contracts, Futures Contracts or Option on Futures Contracts is not compelled by its by-laws to adjust the Contracts, Futures Contracts or Option on Futures Contracts to compensate for a discontinuity."

14. Section 3(m) is hereby deleted and amended and restated in its entirety as follows:

"At the request of CBOE, S&P will grant a non-exclusive license for CBOE and/or Affiliates of CBOE to use S&P Indexes for Standardized Options Contracts traded on an Organized Securities Market, and/or to use the iBoxx USD EM Sovereign Bond Index in connection with Futures Contracts and/or Option on Futures Contracts, in a territory outside the United States if there is no applicable local proposed, pending or existing legislation on the date of grant or known date in the future that, either (i) would prohibit or treat as unlawful the grant of such a license to CBOE, or (ii) as a result of the license to CBOE, would require that S&P grant a similar license to third parties."

15. Section 3(n)'s first sentence is hereby deleted and amended and restated in its entirety as follows:

"Unless it has obtained CBOE's prior written consent, S&P shall not grant any third party a license to use the (i) iBoxx USD EM Sovereign Bond Index in connection with trading Contracts, Futures Contracts or Option on Futures Contracts outside the United States while the license for Cboe to use the iBoxx USD EM Sovereign Bond Index in connection with trading Contracts, Futures Contracts or Option on Futures Contracts is exclusive in the United States; or (ii) the S&P 500 Index or the Select Sector Indices in connection with trading Standardized Option Contracts outside the United States, for so long as the license granted to CBOE with respect to the S&P 500 remains exclusive in the United States."

16. Section 3(o)'s first sentence is hereby deleted and amended and restated in its entirety as follows:

"In addition to the rights set forth above, S&P hereby grants CBOE a non-exclusive, royalty-free license to use "SPX" and "XSP" and/or "iBoxx" as or in tickers of CBOE issued financial products based on the S&P 500 Index, S&P 500 ESG Index and iBoxx USD EM Sovereign Bond Index, as applicable, pursuant to this Agreement."

17. New Section 5(a)(ix) is hereby added as follows:

"(ix) A fee for all cleared iBoxx USD EM Sovereign Bond Index Standardized Options Contracts, Futures Contracts and/or Option on Futures Contracts offered for trading on an Organized Securities Market or Futures Contract Market, as the case may be, operated by CBOE and/or Affiliates of CBOE as reflected in the records of the clearing agency utilized to clear trades in such Standardized Options Contracts, Futures Contracts and/or Option on Futures Contracts, at the rate of [*confidential treatment requested*] percent ([*confidential treatment requested*]%) of Net Transaction Fees (as defined below). "<u>Transaction Fees</u>" shall mean all transaction fee revenue received by CBOE and/or Affiliates of CBOE from trades of Standardized Options Contracts, Futures Contracts and/or Option on Futures Contracts during the relevant period. "<u>Net Transaction Fees</u>" shall mean Transaction Fees minus expenses paid to a third party by CBOE and/or Affiliates of CBOE in connection with marketing the products and operating the Standardized Options Contracts, Futures Contract Markets for the relevant period, including benefit payments made under any market maker programs, refunds, discounts, credits, rebates, clearing fees, and/or regulatory fees; provided however, the aggregated expenses that are netted against Transaction Fees (to determine Net Transaction Fees) for each type of product shall be capped at $[*confidential treatment requested*] (i.e., $[*confidential treatment requested*] for Futures Contracts and $[*confidential treatment requested*] for Option on Futures Contracts) for each calendar year. Such expense cap shall be prorated where the Standardized Options Contracts, Futures Contracts and/or Option on Futures Contracts are offered for trading on the subject Organized Securities Market or Futures Contract Market, as the case may be, for less than a full calendar year. Within thirty (30) days after the end of each calendar quarter, CBOE shall provide S&P a written report setting forth expenses paid to third parties with respect to such quarter, including a break out of refunds, discounts, credits, rebates, benefit payments made under any market maker programs, clearing fees and regulatory fees."

18. Section 5(c)’s first sentence is hereby deleted and amended and restated in its entirety as follows:

> “The license fees shall be determined (1) for each calendar quarter for fees pertaining to Contracts, Futures Contracts, Option on Futures Contracts, and Indexed Warrants, as applicable, based on the S&P 500, the S&P/BARRA Growth Index, the S&P/BARRA Value Index, the S&P SmallCap 600, the S&P Super Composite 1500, the S&P 500 Dividend Index, the Select Sector Indices, the S&P 500 ESG Index and the iBoxx USD EM Sovereign Bond Index, and (2) for each 12-month period for fees pertaining to S&P 100 Contracts, and shall be paid within thirty (30) days after the end of the quarter or 12-month period, as applicable, to which the payment relates.”

19. Section 5(i)(i) is hereby deleted and amended and restated in its entirety as follows:

> “CBOE shall not be obligated to pay any fees with respect to Contracts, Futures Contracts or Option on Futures Contracts on such S&P Index until such time during the term of the Agreement, if ever, when S&P causes the license again to be exclusive.”

20. Section 5(j) is hereby deleted and amended and restated in its entirety as follows:

> “If, with respect to Contracts, Futures Contracts and Option on Futures Contracts on an S&P Index in respect of which S&P has granted CBOE a non-exclusive license in this Agreement, S&P establishes a rate for purposes of calculating S&P’s license fee in any license agreement with one or more other Organized Securities Markets that is less than the applicable rate provided for in this Agreement for such Contracts, Futures Contracts and Option on Futures Contracts on such S&P Index, as applicable, S&P shall promptly notify CBOE thereof, and during the effectiveness of any such license agreement the license fee payable by CBOE with respect to such Contracts, Futures Contracts and Option on Futures Contracts shall be calculated at the same rate as the lowest rate payable by any other Organized Securities Market with respect to such Contracts, Futures Contracts and Option on Futures Contracts instead of at the rate specified in this Agreement.”

21. Section 5(k) is hereby deleted and amended and restated in its entirety as follows:

> “If S&P becomes aware that any Organized Securities Market or Futures Contract Market other than CBOE or an Affiliate of CBOE is holding itself out as providing a marketplace for trading Contracts, Futures Contracts or Option on Futures Contracts based on an S&P Index in respect of which S&P has granted CBOE a non-exclusive license in the Agreement on any regular or ongoing basis, whether by listing or pursuant to unlisted trading privileges, and such Organized Securities Market or Futures Contract Market is doing so without having entered into a license agreement with S&P and therefore without paying a license fee to S&P, for so long as such trading continues on such Organized Securities Market or Futures Contract Market (i.e., without such Market paying a license fee to S&P), CBOE shall not be required to pay any license fee to S&P with respect to Contracts, Futures Contracts or Option on Futures Contracts based on such S&P Index notwithstanding any other provision of the Agreement.”

22. Section 6(c) is hereby deleted and amended and restated in its entirety as follows:

“S&P shall have the right, in its sole discretion, to discontinue compilation and publication of any of the S&P Indexes and to terminate the license granted hereunder for trading Contracts, Futures Contracts, Option on Futures Contracts and/or Indexed Warrants based upon such Index; provided, however, unless a shorter time is required because S&P will no longer have access to the data necessary to calculate the Index, S&P shall give CBOE at least one (1) year’s written notice prior to such discontinuance and shall extend such license beyond the stated termination date for the listing of additional option series on such Index with expiration dates within the twelve (12) month notice period and in expiration months already listed at the time the notice was received. Notwithstanding the foregoing, in no event will such license be extended for more than 30 months beyond the date on which such termination notice is given. CBOE’s obligations to make any payment to S&P with respect to any Contract, Futures Contracts, Option on Futures Contracts or Indexed Warrants licensed pursuant to this Agreement shall terminate effective with the termination of the license therefor.”

23. Section 7(a) is hereby deleted and amended and restated in its entirety as follows:

“In the event of discontinuance of any S&P Index under Section 6(c) (other than the iBoxx USD EM Sovereign Bond Index), S&P at the time the notice of discontinuance is provided to CBOE, shall provide a non-exclusive perpetual and royalty-free license to CBOE as of the date of discontinuance of the S&P Index, for the benefit of any Affiliate as well as itself, to calculate the S&P Index and use the index for the uses described in Section 3 hereof, and shall provide CBOE with a list of companies, shares outstanding and divisors for the terminated S&P Index as of the date of discontinuance. CBOE shall not thereafter make any reference to the S&P Marks except as provided in Section 7(b) and S&P shall have no further obligations to CBOE with respect to any such S&P Index or Contract, Futures Contract, Option on Futures Contract or Indexed Warrant after furnishing CBOE with the aforesaid information.”

24. Section 7(b) is hereby deleted and amended and restated in its entirety as follows:

“Upon termination of any of the licenses granted by S&P hereunder as provided in Section 6(c), CBOE shall not, and shall cause any Affiliate not to, list for trading additional expirations of futures contracts, option on futures contracts, or option series except in expiration months already listed when the license terminated. CBOE and any Affiliate may continue to use the S&P Marks in connection with the trading of open Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, relating to that license in expiration months already listed at the time the license was terminated. Upon receipt of any notice of license termination by S&P hereunder as provided in Section 6(c) (except with respect to the iBoxx USD EM Sovereign Bond Index), CBOE may elect, by written notice to S&P, to redesignate the Index and Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, thereon as CBOE’s and continue to list for trading additional expirations of futures contracts and option on futures contracts or option series, as the case may be, as if no notice of termination had been received, except that, from time of receipt of such notice of election until termination of the license, such index shall be described as the “CBOE_______Index”, formerly “S&P_______Index”. In the event of such an election, CBOE’s obligations to make any payment to S&P with respect to such Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants shall still terminate effective with the termination of the license therefor. Thereafter, upon termination of the license, CBOE may promote and list for trading securities options contracts, futures contracts and/or option on futures contracts based upon the CBOE securities index designated by the name “CBOE_____Index” or equivalent provided that the name “500” is not utilized by CBOE and CBOE prominently disclaims any relationship with S&P in respect to the contract.”

25. Section 8(a)’s first sentence is hereby deleted and amended and restated in its entirety as follows:

“S&P shall participate to a reasonable degree in a reasonable number of CBOE seminars relating to any of the S&P Indexes.”

26. Section 8(b) is hereby deleted and amended and restated in its entirety as follows:

“S&P shall reasonably assist CBOE and any Affiliate in connection with the preparation of factual materials for presentation to the SEC, CFTC, or any other governmental entity, in connection with any application by CBOE or any Affiliate for approval to trade any of the Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, licensed hereunder, or any investigations or hearings regarding any such Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants.”

27. Section 8(c) is hereby deleted and amended and restated in its entirety as follows:

“S&P shall widely disseminate in S&P publications information concerning all S&P Indexes used as the basis for Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, licensed hereunder.”

28. Section 8(d)’s first sentence is hereby deleted and amended and restated in its entirety as follows:

“At no cost to CBOE, other than the royalties described in Section 5, S&P shall do the following: S&P, or its agent, shall compute and disseminate to CBOE’s communications center the value of each of the S&P Indexes used for Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, at least once every fifteen (15) seconds during normal trading hours.”

29. Section 8(d)’s last sentence is hereby deleted and amended and restated in its entirety as follows:

“The foregoing provisions of this Section 8(d) shall not apply to the S&P 500 Dividend Index or the iBoxx USD EM Sovereign Bond Index, and, commencing on a date prior to the first day that Standardized Option Contracts, Futures Contracts or Option on Futures Contracts based thereon are available for trading on CBOE that is mutually agreed to by the parties, at no cost to CBOE other than the applicable royalty described in Section 5, S&P or its agent shall compute and disseminate to CBOE’s communications center the value of the S&P 500 Dividend Index and the iBoxx USD EM Sovereign Bond Index once per trading day at the time that such value is disseminated generally.”

30. Section 8(e)’s fourth sentence is hereby deleted and amended and restated in its entirety as follows:

"Employees of S&P who are directly responsible for changes in the components of any of the S&P Indexes used as the basis for the Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, shall be expressly prohibited by S&P from trading any such Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be."

31. Section 8(f) is hereby amended to add the following sentence immediately following its first sentence:

"S&P further recognizes that CBOE's Affiliates that operate designated contract markets are obligated to conduct their activities to carry out the purposes of the Commodity Exchange Act and to comply with the rules and regulations thereunder."

32. Section 9(a)'s second sentence is hereby deleted and amended and restated in its entirety as follows:

"CBOE shall maintain, and shall cause any Affiliate to maintain, high standards of fairness and truthfulness in, and, to the extent practicable, CBOE shall allow S&P to review and approve all advertisements, brochures, promotional and information materials of CBOE and any Affiliate relating to or referring to any of the S&P Indexes or Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants."

33. Section 9(b) is hereby deleted and amended and restated in its entirety as follows:

"As between S&P and CBOE, CBOE shall be responsible for conducting and paying for promotional and educational efforts in connection with the marketing and trading of the Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, and S&P shall not be required to bear any of the costs thereof except the expenses of seminar participation referred to in Section 8(a)."

34. Section 9(c)'s first and second sentences are hereby deleted and amended and restated in their entirety as follows:

"CBOE shall use its best efforts, and shall cause any Affiliate to use its best efforts, to comply with the federal securities and commodities laws and the rules of the CBOE or the Affiliate (as applicable) and the rules of the Options Clearing Corporation insofar as those laws and rules relate to exchange trading of the Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, licensed hereunder. CBOE shall take reasonable steps, and shall cause any Affiliate to take reasonable steps, to ensure that the trading of the Contracts, Futures Contracts, Option on Futures Contracts or Indexed Warrants, as the case may be, is carried out in accordance with high ethical and legal standards."

35. Section 10(b)(i) is hereby deleted and amended and restated in its entirety as follows:

"(i) the exclusive license granted to CBOE in Section 3(a) or 3(h) above and such use involves (x) trading on an Organized Securities Market or Futures Contract Market, as applicable, in North America, or (y) trading outside of North America that has or may reasonably be expected to have a material adverse impact upon the benefits derived by CBOE from such license, or"

36. Section 12(c) is hereby deleted and amended and restated in its entirety as follows:

> "The Contracts, Futures Contracts, Option on Futures Contracts and Indexed Warrants are not sponsored, endorsed, sold or promoted by S&P. S&P's only relationship to CBOE is the licensing of certain trademarks and trade names of S&P and of the S&P Indexes which are determined, composed and calculated by S&P without regard to the Contracts, Futures Contracts, Option on Futures Contracts or the Indexed Warrants. S&P has no obligation to take the needs of persons having an interest in the Contracts, Futures Contracts, Option on Futures Contracts or the Indexed Warrants into consideration in determining, composing or calculating the S&P Indexes. S&P has no obligation or liability in connection with the administration, marketing or trading of the Contracts, Futures Contracts, Option on Futures Contracts or the Indexed Warrants.
>
> S&P SHALL OBTAIN INFORMATION FOR INCLUSION IN OR FOR USE IN THE CALCULATION OF THE S&P INDEXES FROM SOURCES WHICH S&P CONSIDERS RELIABLE, BUT S&P DOES NOT GUARANTEE THE ACCURACY AND/OR THE COMPLETENESS OF THE S&P INDEXES OR ANY DATA INCLUDED THEREIN AND S&P SHALL HAVE NO LIABILITY FOR ANY ERRORS, OMISSIONS, OR INTERRUPTIONS THEREIN. S&P MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO RESULTS TO BE OBTAINED BY ANY PERSON OR ANY ENTITY FROM THE USE OF THE S&P INDEXES OR ANY DATA INCLUDED THEREIN IN CONNECTION WITH THE TRADING OF THE CONTRACTS, FUTURES CONTRACTS, OPTION ON FUTURES CONTRACTS OR THE INDEXED WARRANTS, OR FOR ANY OTHER USE. S&P MAKES NO EXPRESS OR IMPLIED WARRANTIES, AND EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE S&P INDEXES OR ANY DATA INCLUDED THEREIN. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL S&P HAVE ANY LIABILITY FOR ANY SPECIAL, PUNITIVE, INDIRECT, OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS), EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES."

37. Section 12(d)'s reference to "CBOE Rule 24.14" is hereby deleted and amended to read as "CBOE Rule 1.12".

38. Section 15(a)'s first sentence is hereby deleted and amended and restated in its entirety as follows:

> "Except as provided in Subsection (b) below, CBOE shall indemnify and hold harmless S&P, its affiliates (including S&P Global, Inc.) and their officers, directors, employees and agents against any and all judgments, damages, costs or losses of any kind (including reasonable attorneys' and experts' fees) as a result of any claim, action or proceeding instituted after the Effective Date that arises out of or relates to (i) this Agreement (other than a breach by S&P of its representations, warranties and agreements hereunder), (ii) the Contracts, Futures Contracts and Option on Futures Contracts, or (iii) Indexed Securities Products; provided, however, that S&P notifies CBOE promptly of any such claim, action or proceeding."

39. Section 16(d) is hereby deleted and amended and restated in its entirety as follows:

"All notices and other communications under this Agreement shall be in writing and may be sent by email or delivered by courier service or mail to the addresses set forth below; provided, if sent by email, that the notice shall be deemed to have been received only upon receipt by the sending party of an acknowledgment of receipt; if sent by courier, that the notice shall be deemed to have been received when signed for as shown in the records of the courier service; and, if sent by mail, that the notice shall be sent postage prepaid by registered or certified mail, return receipt requested and shall be deemed to have been received five (5) days after mailing. Any such notice shall be sent to the following addresses of the other party or such other addresses as either party shall specify by a written notice to the other.

Notice to S&P:	S&P Opco LLC Attn: Chief Commercial Officer 55 Water Street 44th Floor New York, New York 10041-0003
With a copy to:	S&P Dow Jones Indices LLC Attn: General Counsel 55 Water Street 44th Floor New York, New York 10041 Email: legalsupport@spglobal.com; and joseph.depaolo@spglobal.com
Notice to CBOE:	Cboe Exchange, Inc. Attn: General Counsel 433 W. Van Buren Street Chicago, Illinois 60607 Email: legalnotices@cboe.com"

40. Exhibit C is hereby deleted and amended and restated in its entirety as the Exhibit C attached to this Amendment No. 23.

41. Exhibit F as attached to this Amendment No. 23 is hereby incorporated into the License Agreement as Exhibit F.

[*signature page follows*]

EXHIBIT 10.1

CERTAIN CONFIDENTIAL INFORMATION (MARKED BY BRACKETS AS “[*confidential treatment requested*]”) HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

AMENDMENT NO. 23 TO LICENSE AGREEMENT

IN WITNESS WHEREOF, the parties hereto have caused this Amendment No. 23 to be executed and effective as of the Amendment Effective Date.

CBOE EXCHANGE, INC.		**S&P DOW JONES INDICES LLC**	
Signature:	/s/ Catherine Clay	Signature:	/s/ Nashwan Hyder
Name:	Catherine Clay	Name:	Nashwan Hyder
Title:	EVP, Global Head of Derivatives	Title:	Global Head of Inside Sales
Date:	5/30/2024	Date:	5/31/2024

EXHIBIT C

Exhibit C Indexes

The following Exhibit C Indexes are “S&P Indexes” as referred to in the Agreement:

Select Sector Indices	**Ticker**
Financial Select Sector Index	IXM
Energy Select Sector Index	IXE
Technology Select Sector Index	IXT
Health Care Select Sector Index	IXV
Utilities Select Sector Index	IXU
Consumer Staples Select Sector Index	IXR
Industrials Select Sector Index	IXI
Consumer Discretionary Select Sector Index	IXY
Materials Select Sector Index	IXB
Real Estate Select Sector Index	IXRE
Communications Services Select Sector Index	IXC

Other S&P Indexes	**Ticker**
S&P 500 ESG Index	SPXESUP
iBoxx USD Liquid Emerging Market Sovereigns & Sub-Sovereigns Index	IBXXEMLQ

EXHIBIT F

Exhibit F Indexes

CBOE may list Futures Contracts and Option on Futures Contracts on the following S&P Indexes:

1) iBoxx USD Liquid Emerging Markets Sovereigns & Sub-Sovereigns Index

EXHIBIT 31.1

CERTIFICATION

I, Fredric J. Tomczyk, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Cboe Global Markets, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 2, 2024

/s/ Fredric J. Tomczyk
Fredric J. Tomczyk
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION

I, Jill M. Griebenow, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Cboe Global Markets, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 2, 2024

/s/ Jill M. Griebenow
Jill M. Griebenow
Chief Financial Officer

EXHIBIT 32.1

Written Statement of the Chief Executive Officer
Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

Solely for the purposes of complying with 18 U.S.C. Section 1350, I, the undersigned Chief Executive Officer of Cboe Global Markets, Inc. (the “Company”), hereby certify, based on my knowledge, that the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2024 (the “Report”) fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and that information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Fredric J. Tomczyk
Fredric J. Tomczyk
August 2, 2024

EXHIBIT 32.2

Written Statement of the Chief Financial Officer
Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

Solely for the purposes of complying with 18 U.S.C. Section 1350, I, the undersigned Chief Financial Officer of Cboe Global Markets, Inc. (the "Company"), hereby certify, based on my knowledge, that the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2024 (the "Report") fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and that information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Jill M. Griebenow
Jill M. Griebenow
August 2, 2024