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EmployerIdentification No.)20 South Wacker DriveChicagoIllinoisÂ 60606(Address of principal executive offices)Â (Zip Code)(312) 930-1000 (Registrantâ€™s telephone number, including area code)Not Applicable(Former name, former address and former fiscal year, if changed since last report)Â Securities registered pursuant to Section 12(b) of the Act:Â Â Â Â Title of each classTrading symbolName of each exchange on which registeredClass A Common StockCMEThe Nasdaq Stock MarketÂ Â Â Â Indicate by check mark whether the registrant (1)Â has filed all reports required to be filed by SectionÂ 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)Â has been subject to such filing requirements for the past 90 days.Â Â Â Â Â Â Â Â Â Â Â Â Â Â YesÂ Â â˜’Â Â Â Â NoÂ Â â˜Â Â Â Â 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 (Â§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).Â YesÂ Â â˜’Â Â Â Â NoÂ Â â˜Â Â Â Â 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 â€œlarge accelerated filer,â€ â€œaccelerated filer,â€ â€œsmaller reporting companyâ€ and "emerging growth company" in Rule 12b-2 of the Exchange Act.Large accelerated filerâ˜’Accelerated filerâ˜Non-accelerated filerÂ Â â˜Smaller reporting companyâ˜Emerging growth companyâ˜Â Â Â Â 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. â˜Â Â Â Â Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).Â YesÂ Â â˜Â Â Â Â NoÂ Â â˜’The number of shares outstanding of each of the registrantâ€™s classes of common stock as of OctoberÂ 9, 2024 was as follows: 360,359,063 shares of ClassÂ A common stock, $0.01 par value; 625 shares of Class B-1 common stock, $0.01 par value; 813 shares of Class B-2 common stock, $0.01 par value; 1,287 shares of Class B-3 common stock, $0.01 par value; and 413 shares of Class B-4 common stock, $0.01 par value.1Table of ContentsÂ CME GROUP INC.FORM 10-QINDEXÂ Â PagePART I. FINANCIAL INFORMATION3ItemÂ 1.Financial Statements5Consolidated Balance Sheets at September 30, 2024 and December 31, 20235Consolidated Statements of Income for the Quarters and Nine Months Ended September 30, 2024 and 20236Consolidated Statements of Comprehensive Income for the Quarters and Nine Months Ended September 30, 2024 and 20237Consolidated Statements of Equity for the Quarters and Nine Months Ended September 30, 2024 and 20238Consolidated Statements of Cash Flows for the Nine Months Ended September 30, 2024 and 202310Notes to Unaudited Consolidated Financial Statements12ItemÂ 2.Managementâ€™s Discussion and Analysis of Financial Condition and Results of Operations23ItemÂ 3.Quantitative and Qualitative Disclosures About Market Risk31ItemÂ 4.Controls and Procedures31PART II. OTHER INFORMATION32ItemÂ 1.Legal Proceedings32ItemÂ 1A.Risk Factors32ItemÂ 2.Unregistered Sales of Equity Securities and Use of Proceeds32ItemÂ 6.Exhibits33SIGNATURES342Table of ContentsPART I. FINANCIAL INFORMATIONCertain TermsAll references to â€œoptionsâ€ or â€œoptions contractsâ€ in the text of this document refer to options on futures contracts. Further information about CME Group and its products can be found at http://www.cmegroup.com. Information made available on our website does not constitute a part of this Quarterly Report on Form 10-Q. Information about Contract Volume and Average Rate per Contract All amounts regarding contract volume and average rate per contract are for CME Groupâ€™s listed futures and options on futures contracts unless otherwise noted. Trademark Information CME Group, the Globe logo, CME, Chicago Mercantile Exchange, Globex, and E-mini are trademarks of Chicago Mercantile Exchange Inc. CBOT and Chicago Board of Trade are trademarks of Board of Trade of the City of Chicago, Inc. NYMEX, New York Mercantile Exchange and ClearPort are trademarks of New York Mercantile Exchange, Inc. COMEX is a trademark of Commodity Exchange, Inc. BrokerTec is a trademark of BrokerTec Americas LLC and EBS is a trademark of EBS Group Limited. OSTTRA is a trademark of MarkitSERV Limited. Dow Jones, Dow Jones Industrial Average, S&P 500 and S&P are service and/or trademarks of Dow Jones Trademark Holdings LLC, Standard & Poor's Financial Services LLC and S&P Dow Jones Indices LLC, as the case may be, and have been licensed for use by Chicago Mercantile Exchange Inc. (CME). All other trademarks are the property of their respective owners. Forward-Looking Statements From time to time, in this Quarterly Report on Form 10-Q as well as in other written reports and verbal statements, we discuss our expectations regarding future performance. These forward-looking statements are identified by their use of terms and phrases such as â€œbelieve,â€ â€œanticipate,â€ â€œcould,â€ â€œestimate,â€ â€œintend,â€ â€œmay,â€ â€œplan,â€ â€œexpectâ€ and similar expressions, including references to assumptions. These forward-looking statements are based on currently available competitive, financial and economic data, current expectations, estimates, forecasts and projections about the industries in which we operate and management's beliefs and assumptions. These statements are not guarantees of future performance and involve risks, uncertainties and assumptions that are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or implied in any forward-looking statements. We want to caution you not to place undue reliance on any forward-looking statements. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. Among the factors that might affect our performance are: â€¢increasing competition by foreign and domestic entities, including increased competition from new entrants into our markets and consolidation of existing entities;â€¢our ability to keep pace with rapid technological developments, including our ability to complete the development, implementation and maintenance of the enhanced functionality required by our customers while maintaining reliability and ensuring that such technology is not vulnerable to security risks; â€¢our ability to continue introducing competitive new products and services on a timely, cost-effective basis, including through our electronic trading capabilities, and our ability to maintain the competitiveness of our existing products and services; â€¢our ability to adjust our fixed costs and expenses if our revenues decline; â€¢our ability to maintain existing customers at substantially similar trading levels, develop strategic relationships and attract new customers; â€¢our ability to expand and globally offer our products and services; â€¢changes in regulations, including the impact of any changes in laws or government policies with respect to our products or services or our industry, such as any changes to regulations and policies that require increased financial and operational resources from us or our customers;â€¢the costs associated with protecting our intellectual property rights and our ability to operate our business without violating the intellectual property rights of others; â€¢decreases in revenue from our market data as a result of decreased demand or changes to regulations in various jurisdictions; â€¢changes in our rate per contract due to shifts in the mix of the products traded, the trading venue and the mix of customers (whether the customer receives member or non-member fees or participates in one of our various incentive programs) and the impact of our tiered pricing structure; â€¢the ability of our credit and liquidity risk management practices to adequately protect us from the credit risks of clearing members and other counterparties, and to satisfy the margin and liquidity requirements associated with the BrokerTec matched principal business; 3Table of Contentsâ€¢the ability of our compliance and risk management programs to effectively monitor and manage our risks, including our ability to prevent errors and misconduct and protect our infrastructure against security breaches and misappropriation of our intellectual property assets; â€¢our dependence on third-party providers and exposure to risk through third parties, including risks related to the performance, reliability and security of technology used by our third-party providers and third-party providers that our clients rely on;â€¢volatility in commodity, equity and fixed income prices, and price volatility of financial benchmarks and instruments such as interest rates, equity indices, fixed income instruments and foreign exchange rates;â€¢economic, social, political and market conditions, including the volatility of the capital and credit markets and the impact of economic conditions on the trading activity of our current and potential customers; â€¢our ability to accommodate increases in contract volume and order messaging traffic and to implement enhancements without failure or degradation of the performance of our trading and clearing systems; â€¢our ability to execute our growth strategy and maintain our growth effectively; â€¢our ability to manage the risks, control the costs and achieve the synergies associated with our strategy for acquisitions, investments and alliances, including those associated with the performance of our joint ventures with S&P Dow Jones (S&P Dow Jones Indices LLC) in index services and in trade processing/post trade services (OSTTRA), our primary business and distribution partnersâ€™ actions and our partnership with Google Cloud; â€¢variances in earnings on cash accounts and collateral that our clearing house holds for its clients;â€¢impact of CME Group pricing and incentive changes;â€¢impact of aggregation services and internalization on trade flow and volumes;â€¢any negative financial impacts from changes to the terms of intellectual property and index rights;â€¢our ability to continue to generate funds and/or manage our indebtedness to allow us to continue to invest in our business; â€¢industry, channel partner and customer consolidation and/or concentration; â€¢decreases in trading and clearing activity; â€¢the imposition of a transaction tax or user fee on futures and options transactions and/or repeal of the 60/40 tax treatment of such transactions;â€¢increases in effective tax rates, borrowing costs or changes in tax policy;â€¢our ability to maintain our brand and reputation; and â€¢the unfavorable resolution of material legal proceedings.For a detailed discussion of these and other factors that might affect our performance, see ItemÂ 1A. of our Annual Report on Form 10-K for the year ended DecemberÂ 31, 2023, filed with the Securities and Exchange Commission on FebruaryÂ 28, 2024 and ItemÂ 1A. in Part II of this Quarterly Report on Form 10-Q.4Table of ContentsITEMÂ 1.FINANCIAL STATEMENTSCME GROUP INC. AND SUBSIDIARIESCONSOLIDATED BALANCE SHEETS(dollars in millions, except par value data; shares in thousands)September 30, 2024December 31, 2023(unaudited)AssetsCurrent Assets:Cash and cash equivalents$2,322.1Â $2,912.0Â Marketable securities112.3Â 111.7Â Accounts receivable, net of allowance of $8.6 and $7.1629.4Â 535.6Â Other current assets (includes $6.5 and $5.2 in restricted cash)622.0Â 1,138.4Â Performance bonds and guaranty fund contributions99,457.0Â 90,192.5Â Total current assets103,142.8Â 94,890.2Â Property, net of accumulated depreciation and amortization of $1,012.4 and $931.1386.2Â 409.5Â Intangible assetsâ€”trading products17,175.3Â 17,175.3Â Intangible assetsâ€”other, net2,892.2Â 3,050.2Â Goodwill10,514.1Â 10,495.3Â Other assets 3,684.5Â 3,685.6Â Total Assets$137,795.1Â $129,706.1Â Liabilities and EquityCurrent Liabilities:Accounts payable$129.9Â $90.6Â Short-term debt749.7Â â€”Â Other current liabilities485.2Â 3,133.8Â Performance bonds and guaranty fund contributions99,457.0Â 90,192.5Â Total current liabilities100,821.8Â 93,416.9Â Long-term debt2,677.7Â 3,425.4Â Deferred income tax liabilities, net5,310.0Â 5,327.7Â Other liabilities769.4Â 798.2Â Total Liabilities109,578.9Â 102,968.2Â Shareholdersâ€™ Equity:Preferred stock, $0.01 par value, 10,000 shares authorized as of September 30, 2024 and December 31, 2023; 4,584 issued and outstanding as of September 30, 2024 and December 31, 2023â€”Â â€”Â Class A common stock, $0.01 par value, 1,000,000 shares authorized at September 30, 2024 and December 31, 2023; 359,559 and 359,231 shares issued and outstanding as of September 30, 2024 and December 31, 2023, respectively3.6Â 3.6Â Class B common stock, $0.01 par value, 3 shares authorized, issued and outstanding as of September 30, 2024 and December 31, 2023â€”Â â€”Â Additional paid-in capital22,375.3Â 22,334.7Â Retained earnings5,848.2Â 4,455.2Â Accumulated other comprehensive income (loss)(10.9)(55.6)Total CME Group Shareholdersâ€™ Equity28,216.2Â 26,737.9Â Total Liabilities and Equity$137,795.1Â $129,706.1Â Â Â Â Â See accompanying notes to unaudited consolidated financial statements.5Table of ContentsCME GROUP INC. AND SUBSIDIARIESCONSOLIDATED STATEMENTS OF INCOME(dollars in millions, except per share data; shares in thousands)(unaudited)Â Quarter EndedNine Months EndedÂ September 30,September 30,Â 2024202320242023RevenuesClearing and transaction fees$1,297.1Â $1,085.5Â $3,755.9Â $3,404.0Â Market data and information services178.2Â 167.6Â 528.6Â 496.5Â Other109.1Â 84.7Â 320.3Â 239.1Â Total Revenues1,584.4Â 1,337.8Â 4,604.8Â 4,139.6Â ExpensesCompensation and benefits218.8Â 205.5Â 629.5Â 615.7Â Technology66.6Â 55.6Â 190.1Â 160.2Â Professional fees and outside services31.0Â 32.2Â 98.8Â 108.3Â Amortization of purchased intangibles55.7Â 57.2Â 166.4Â 171.0Â Depreciation and amortization28.2Â 31.1Â 87.0Â 95.3Â Licensing and other fee agreements97.6Â 79.5Â 271.4Â 242.4Â Other62.3Â 56.5Â 177.2Â 174.2Â Total Expenses560.2Â 517.6Â 1,620.4Â 1,567.1Â Operating Income1,024.2Â 820.2Â 2,984.4Â 2,572.5Â Non-Operating Income (Expense)Investment income1,026.8Â 1,272.5Â 3,142.6Â 4,198.4Â Interest and other borrowing costs(40.2)(39.6)(120.2)(119.7)Equity in net earnings of unconsolidated subsidiaries86.1Â 76.8Â 259.7Â 230.1Â Other non-operating income (expense)(920.0)(1,155.6)(2,821.7)(3,733.7)Total Non-Operating Income (Expense)152.7Â 154.1Â 460.4Â 575.1Â Income before Income Taxes1,176.9Â 974.3Â 3,444.8Â 3,147.6Â Income tax provision264.1Â 224.1Â 793.6Â 736.0Â Net Income$912.8Â $750.2Â $2,651.2Â $2,411.6Â Net Income Attributable to Common Shareholders of CME Group$901.3Â $740.8Â $2,617.8Â $2,381.3Â Earnings per Share Attributable to Common Shareholders of CME Group:Basic$2.51Â $2.06Â $7.29Â $6.63Â Diluted2.50Â 2.06Â 7.27Â 6.62Â Weighted Average Number of Common Shares:Basic359,400Â 359,020Â 359,329Â 358,965Â Diluted359,989Â 359,619Â 359,899Â 359,448Â See accompanying notes to unaudited consolidated financial statements.6Table of ContentsCME GROUP INC. AND SUBSIDIARIESCONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME(in millions)(unaudited)Quarter EndedNine Months EndedSeptember 30,September 30,2024202320242023Net income$912.8Â $750.2Â $2,651.2Â $2,411.6Â Other comprehensive income (loss), net of tax:Investment securities:Net unrealized holding gains (losses) arising during the period0.6Â (0.4)0.6Â (0.1)Income tax benefit (expense)(0.2)0.1Â (0.2)â€”Â Investment securities, net0.4Â (0.3)0.4Â (0.1)Defined benefit plans:Net change in defined benefit plans arising during the periodâ€”Â â€”Â (5.9)(3.5)Amortization of net actuarial (gains) losses included in compensation and benefits expense0.1Â 0.1Â 0.1Â 0.1Â Income tax benefit (expense)â€”Â (0.1)1.5Â 0.8Â Defined benefit plans, net0.1Â â€”Â (4.3)(2.6)Derivative investments:Reclassification of net unrealized (gains) losses to interest expense and other non-operating income (expense)(0.9)(0.8)(2.7)(2.7)Income tax benefit (expense)0.3Â 0.2Â 0.7Â 0.7Â Derivative investments, net(0.6)(0.6)(2.0)(2.0)Foreign currency translation:Foreign currency translation adjustments88.4Â (16.2)54.8Â 20.7Â Income tax benefit (expense)(4.2)â€”Â (4.2)â€”Â Foreign currency translation, net84.2Â (16.2)50.6Â 20.7Â Other comprehensive income (loss), net of tax84.1Â (17.1)44.7Â 16.0Â Comprehensive income$996.9Â $733.1Â $2,695.9Â $2,427.6Â See accompanying notes to unaudited consolidated financial statements.7Table of ContentsCME

GROUP INC. AND SUBSIDIARIESCONSOLIDATED STATEMENTS OF EQUITY(dollars in millions, except per share data; shares in thousands)(unaudited)Â Nine Months Ended, September 30, 2024Preferred Stock (Shares)Class ACommonStock(Shares)Class BCommonStock(Shares)Preferred Stock, CommonStock andAdditionalPaid-inCapitalRetainedEarningsAccumulatedOtherComprehensiveIncome (Loss)Total CME Group Shareholdersâ€™ EquityBalance at DecemberÂ 31, 20234,584Â 359,231Â 3Â $22,338.3Â $4,455.2Â (55.6)26,737.9Â Net income2,651.2Â 2,651.2Â Other comprehensive income (loss)44.7Â 44.7Â Dividends on common and preferred stock of $3.45 per share(1,258.2)(1,258.2)Vesting of issued restricted Class A common stock289Â (29.5)(29.5)Shares issued to Board of Directors19Â 3.7Â 3.7Â Shares issued under Employee Stock Purchase Plan20Â 4.0Â 4.0Â Stock-based compensation62.4Â 62.4Â Balance at September 30, 20244,584Â 359,559Â 3Â $22,378.9Â $5,848.2Â (10.9)28,216.2Â Quarter Ended, September 30, 2024Preferred Stock (Shares)Class ACommonStock(Shares)Class BCommonStock(Shares)Preferred Stock, CommonStock andAdditionalPaid-inCapitalRetainedEarningsAccumulatedOtherComprehensiveIncome (Loss)Total CME Group Shareholdersâ€™ EquityBalance at June 30, 20244,584Â 359,361Â 3Â $22,375.7Â $5,355.1Â (95.0)27,635.8Â Net income912.8Â 912.8Â Other comprehensive income (loss)84.1Â 84.1Â Dividends on common and preferred stock of $1.15 per share(419.7)(419.7)Vesting of issued restricted Class A common stock198Â (17.1)(17.1)Stock-based compensation20.3Â 20.3Â Balance at September 30, 20244,584Â 359,559Â 3Â $22,378.9Â $5,848.2Â (10.9)28,216.2Â See accompanying notes to unaudited consolidated financial statements.8Table of ContentsCME GROUP INC. AND SUBSIDIARIESCONSOLIDATED STATEMENTS OF EQUITY (continued)(dollars in millions, except per share data; shares in thousands)(unaudited)Â Nine Months Ended, September 30, 2023Preferred Stock (Shares)Class ACommonStock(Shares)Class BCommonStock(Shares)CommonStock andAdditionalPaid-inCapitalRetainedEarningsAccumulatedOtherComprehensiveIncome (Loss)Total CME Group Shareholdersâ€™ EquityBalance at December 31, 20224,584Â 358,929Â 3Â $22,265.2Â $4,746.8Â (133.3)26,878.7Â Net income 2,411.6Â 2,411.6Â Other comprehensive income (loss)16.0Â 16.0Â Dividends on common stock of $3.30 per share(1,202.2)(1,202.2)Vesting of issued restricted Class A common stock219Â (18.5)(18.5)Shares issued to Board of Directors20Â 3.6Â 3.6Â Shares issued under Employee Stock Purchase Plan21Â 3.8Â 3.8Â Stock-based compensation58.6Â 58.6Â Balance at September 30, 20234,584Â 359,189Â 3Â $22,312.7Â $5,956.2Â (117.3)28,151.6Â Quarter Ended, September 30, 2023Preferred Stock (Shares)Class ACommonStock(Shares)Class BCommonStock(Shares)Preferred Stock, CommonStock andAdditionalPaid-inCapitalRetainedEarningsAccumulatedOtherComprehensiveIncome (Loss)Total CME Group Shareholders' EquityBalance at June 30, 20234,584Â 358,978Â 3Â $22,311.2Â $5,606.8Â (100.2)27,817.8Â Net income750.2Â 750.2Â Other comprehensive income (loss)(17.1)(17.1)Dividends on common and preferred stock of $1.10 per share(400.8)(400.8)Vesting of issued restricted Class A common stock211Â (17.4)(17.4)Shares issued to Board of Directorsâ€"Â â€"Â â€"Â Shares issued under Employee Stock Purchase Planâ€"Â â€"Â â€"Â Stock-based compensation18.9Â 18.9Â Balance at September 30, 20234,584Â 359,189Â 3Â $22,312.7Â $5,956.2Â (117.3)28,151.6Â See accompanying notes to unaudited consolidated financial statements.9Table of ContentsCME GROUP INC. AND SUBSIDIARIESCONSOLIDATED STATEMENTS OF CASH FLOWS(in millions)(unaudited)Â Â Nine Months Ended September 30, Â 20242023Cash Flows from Operating ActivitiesNet income$2,651.2Â $2,411.6Â Adjustments to reconcile net income to net cash provided by operating activities:Stock-based compensation62.4Â 58.6Â Amortization of purchased intangibles166.4Â 171.0Â Depreciation and amortization87.0Â 95.3Â Net realized and unrealized (gains) losses on investments(11.7)(71.8)Deferred income taxes(21.9)(25.8)Change in:Accounts receivable(95.2)(74.9)Other current assets598.7Â (102.9)Other assets38.1Â 58.6Â Accounts payable39.3Â (67.5)Income taxes payable(128.0)(86.5)Other current liabilities(691.4)56.5Â Other liabilities(17.0)(34.5)Other(5.3)21.8Â Net Cash Provided by Operating Activities2,672.6Â 2,409.5Â Cash Flows from Investing ActivitiesProceeds from maturities of available-for-sale marketable securities4.9Â 4.4Â Purchases of available-for-sale marketable securities(4.3)(3.0)Purchases of property, net(67.8)(55.6)Investments in privately-held equity investments(3.6)(2.4)Proceeds from sales of investments13.5Â 97.9Â Net Cash (Used in) Provided by Investing Activities(57.3)41.3Â Cash Flows from Financing ActivitiesRepayment of debt, including call premiumâ€"Â (16.4)Cash dividends(3,165.4)(2,835.4)Change in performance bond and guaranty fund contributions9,264.5Â (48,057.1)Employee taxes paid on restricted stock vesting(29.5)(18.5)Other(9.0)(0.4)Net Cash (Used in) Provided by Financing Activities6,060.6Â (50,927.8)10Table of ContentsCME GROUP INC. AND SUBSIDIARIESCONSOLIDATED STATEMENTS OF CASH FLOWS (continued)(in millions)(unaudited)Â Nine Months Ended September 30, 20242023Net change in cash, cash equivalents, restricted cash and restricted cash equivalents$8,675.9Â $(48,477.0)Cash, cash equivalents, restricted cash and restricted cash equivalents, beginning of period93,109.7Â 137,974.4Â Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents, End of Period$101,785.6Â $89,497.4Â Reconciliation of cash, cash equivalents, restricted cash and restricted cash equivalents:Cash and cash equivalents$2,322.1Â $2,300.2Â Short-term restricted cash6.5Â 5.1Â Restricted cash and restricted cash equivalents (performance bonds and guaranty fund contributions)99,457.0Â 87,192.1Â Total$101,785.6Â $89,497.4Â Supplemental Disclosure of Cash Flow InformationIncome taxes paid$938.6Â $883.3Â Interest paid106.0Â 106.0Â See accompanying notes to unaudited consolidated financial statements.11Table of ContentsNOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS1. Basis of PresentationThe consolidated financial statements consist of CME Group Inc. (CME Group) and its subsidiaries (collectively, the company), including Chicago Mercantile Exchange Inc. (CME), Board of Trade of the City of Chicago, Inc. (CBOT), New York Mercantile Exchange, Inc. (NYMEX), Commodity Exchange, Inc. (COMEX) and NEX Group Limited (NEX). The clearing house is operated by CME.The accompanying interim consolidated financial statements have been prepared by CME Group without audit. Certain notes and other information normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States have been condensed or omitted. In the opinion of management, the accompanying consolidated financial statements include all adjustments (consisting only of normal recurring adjustments) considered necessary to present fairly the financial position of the company at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023 and the results of operations and cash flows for the periods indicated. Quarterly results are not necessarily indicative of results for any subsequent period. The accompanying consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto in CME Groupâ€™s Annual Report on Form 10-K for the year ended DecemberÂ 31, 2023, filed with the Securities and Exchange Commission (SEC) on FebruaryÂ 28, 2024.2. Revenue RecognitionThe company generates revenue from customers from the following sources:Clearing and transaction fees. Clearing and transaction fees include electronic trading fees and brokerage commissions, surcharges for privately-negotiated transactions, risk mitigation and other volume-related charges for trade contracts. Clearing and transaction fees are assessed upfront at the time of trade execution. As such, the company recognizes the majority of the fee revenue upon successful execution of the trade. The minimal remaining portion of the fee revenue related to settlement activities performed after trade execution is recognized over the short-term period that the contract is outstanding, based on managementâ€™s estimates of the average contract lifecycle. These estimates are based on various assumptions to approximate the amount of fee revenue to be attributed to services performed through contract settlement, expiration, or termination. For cleared trades, these assumptions include the average number of days that a contract remains in open interest, contract turnover, average revenue per day, and revenue remaining in open interest at the end of each period. The nature of contracts gives rise to several types of variable consideration, including volume-based pricing tiers, customer incentives associated with market maker programs and other fee discounts. The company includes fee discounts and incentives in the estimated transaction price when there is a basis to reasonably estimate the amount of the fee reduction. These estimates are based on historical experience, anticipated performance, and best judgment at the time. Because of the companyâ€™s certainty in estimating these amounts, they are included in the transaction price of contracts. Market data and information services. Market data and information services represent revenue from the dissemination of market data to subscribers, distributors, and other third-party licensees of market data. Pricing for market data is primarily based on the number of reportable devices used as well as the number of subscribers enrolled under the arrangement. Fees for these services are generally billed monthly. Market data services are satisfied over time and revenue is recognized on a monthly basis as the customers receive and consume the benefit of the market data services. However, the company also maintains certain annual license arrangements with one-time upfront fees. The fees for annual licenses are initially recorded as a contract liability and recognized as revenue monthly over the term of the annual period. Other. Other revenues include certain access and communication fees, fees for non-cash collateral management, equity membership subscription fees, and fees for trade order routing through agreements from various strategic relationships. Access and communication fees are charged to customers that utilize various telecommunications networks and communications services. Fees for these services are generally billed monthly and the associated fee revenue is recognized as billed. Collateral management fees are charged to clearing firms that have non-cash collateral on deposit with the clearing house to meet their minimum performance bond and guaranty fund obligations on the exchange. These fees are calculated based on daily non-cash collateral balances and are billed monthly. This fee revenue is recognized monthly as billed as the customers receive and consume the benefits of the services. The company also has an equity membership program which provides equity members the option to substitute a monthly subscription fee for their existing requirement to hold CME Group Class A common stock. Choosing to pay this fee in lieu of holding Class A shares is entirely voluntary and the clientâ€™s choice. Fee revenue under this program is earned monthly as billed over the contractual term. Pricing for strategic relationships may be driven by customer levels and activity. There are fee arrangements which provide for monthly as well as quarterly payments in arrears. Revenue is recognized monthly for strategic relationship arrangements as the customers receive and consume the benefits of the services. 12Table of ContentsThe following table represents a disaggregation of revenue from contracts with customers by product line for the quarters ended SeptemberÂ 30, 2024 and 2023:Â Quarter Ended September 30,Nine Months Ended September 30, (in millions)2024202320242023Interest rates$445.8Â $350.9Â $1,249.1Â $1,148.5Â Equity indexes291.8Â 250.1Â 828.1Â 767.6Â Foreign exchange51.9Â 46.9Â 150.2Â 138.9Â Agricultural commodities139.1Â 119.9Â 432.5Â 382.6Â Energy204.9Â 177.4Â 601.0Â 521.1Â Metals71.8Â 49.6Â 218.4Â 166.9Â BrokerTec fixed income33.3Â 37.3Â 108.9Â 114.4Â EBS foreign exchange35.2Â 32.2Â 99.0Â 100.0Â Interest rate swap23.3Â 21.2Â 68.7Â 64.0Â Total clearing and transaction fees1,297.1Â 1,085.5Â 3,755.9Â 3,404.0Â Market data and information services178.2Â 167.6Â 528.6Â 496.5Â Other 109.1Â 84.7Â 320.3Â 239.1Â Total revenues$1,584.4Â $1,337.8Â $4,604.8Â $4,139.6Â Timing of Revenue RecognitionServices transferred at a point in time$1,270.0Â $1,060.3Â $3,677.5Â $3,330.9Â Services transferred over time309.5Â 272.8Â 912.2Â 794.8Â One-time charges and miscellaneous revenues4.9Â 4.7Â 15.1Â 13.9Â Total revenues$1,584.4Â $1,337.8Â $4,604.8Â $4,139.6Â The timing of revenue recognition, billings and cash collections results in billed accounts receivable, and customer advances and deposits (contract liabilities) on the consolidated balance sheets. Certain fees for transactions, annual licenses, and other revenue arrangements are billed upfront before revenue is recognized, which results in the recognition of contract liabilities. These liabilities are recognized on the consolidated balance sheets on a contract-by-contract basis upon commencement of services under the customer contract. These upfront customer payments are recognized as revenue over time as the obligations under the contracts are satisfied. Changes in the contract liability balances during the third quarter of 2024 were not materially impacted by any other factors. The balance of contract liabilities was $29.5 million and $13.2 million as of SeptemberÂ 30, 2024 and DecemberÂ 31, 2023, respectively.3. Performance Bonds and Guaranty Fund ContributionsPerformance Bonds and Guaranty Fund Contribution Reinvestment. CME reinvests cash performance bonds and guaranty fund contributions and distributes a portion of the interest earned back to the clearing firms. The reinvestment of cash can include certain commercial and central bank deposits, government securities, reverse repurchase agreements, and money market funds. CME has been designated as a systemically important financial market utility by the Financial Stability Oversight Council and is authorized to maintain cash accounts at the Federal Reserve Bank of Chicago. At SeptemberÂ 30, 2024, CME maintained $87.7Â billion within the cash account at the Federal Reserve Bank of Chicago. The cash deposit at the Federal Reserve Bank of Chicago is included within performance bonds and guaranty fund contributions on the consolidated balance sheets. Cash performance bonds and guaranty fund contributions are included as restricted cash and restricted cash equivalents on the consolidated statements of cash flows. In the third quarter and first nine months of 2024, earnings from cash performance bond and guaranty fund contributions were $991.3Â million and $3,035.6Â million, compared with $1,246.5Â million and $4,042.9Â million in the third quarter and first nine months of 2023, respectively. In the third quarter and first nine months of 2024, expenses related to the distribution of interest earned on collateral reinvestments were $922.6Â million and $2,829.4Â million, compared with $1,160.5Â million and $3,756.8Â million in the third quarter and first nine months of 2023, respectively. The earnings from cash performance bonds and guaranty fund contributions are included in investment income and the expense related to the distribution of interest earned is included in other non-operating income (expense) on the consolidated statements of income. Clearing House Contract Settlement. The clearing house marks-to-market open positions at least once a day (twice a day for all futures and options contracts). Based on values derived from the mark-to-market process, the clearing house requires payments 13Table of Contentsfrom clearing firms whose positions have lost value and makes payments to clearing firms whose positions have gained value. Under the extremely unlikely scenario of simultaneous default by every clearing firm who has open positions with unrealized losses, the maximum exposure related to positions other than cleared-only interest rate swap contracts would be one half day of changes in fair value of all open positions, before considering the clearing houseâ€™s ability to access defaulting clearing firms' collateral deposits. For cleared interest rate swap contracts, the maximum exposure at the time of default related to the clearing houseâ€™s guarantee would be one full day of changes in fair value of all open positions, before considering the clearing houseâ€™s ability to access defaulting clearing firms' collateral.During the first nine months of 2024, the clearing house transferred an average of approximately $5.7Â billion a day through its clearing systems for settlement from clearing firms whose positions had lost value to clearing firms whose positions had gained value. The clearing house reduces its guarantee exposure through initial and maintenance performance bond requirements and mandatory guaranty fund contributions. Management has assessed the fair value of the companyâ€™s settlement guarantee liability by taking the following factors into consideration: the design and operations of the clearing risk management process, the financial safeguard packages in place, historical evidence of default by a clearing member and the estimated probability of potential payouts by the clearing house. Based on the assessment performed, management estimates the guarantee liability to be nominal and therefore has not recorded any liability at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023. The company does not have a history of significant losses recognized on performance bond collateral as posted by our clearing members, and management currently does not anticipate any future credit losses on its performance bond assets. Accordingly, the company has not provided an allowance for credit losses on these performance bond deposits, nor has it recorded any liabilities to reflect an allowance for credit losses related to our off-balance sheet credit exposures and guarantees. 14Table of Contents4. Intangible Assets and GoodwillIntangible assets consisted of the following at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023:Â Â September 30, 2024December 31, 2023(inÂ millions)Assigned ValueAccumulatedAmortizationNet BookValueAssigned ValueAccumulatedAmortizationNet BookValueAmortizable Intangible Assets:Clearing firm, market data and other customer relationships$4,706.9Â $(2,289.9)$2,417.0Â $4,694.4Â $(2,124.9)$2,569.5Â Technology-related intellectual property62.5Â (62.5)â€"Â 62.5Â (62.2)0.3Â Other73.6Â (48.4)25.2Â 71.6Â (41.2)30.4Â Total amortizable intangible assets$4,843.0Â $(2,400.8)$2,442.2Â $4,828.5Â $(2,228.3)$2,600.2Â Indefinite-Lived Intangible Assets:Trade names450.0Â 450.0Â Total intangible assets â€" other, net$2,892.2Â $3,050.2Â Trading products (1)$17,175.3Â $17,175.3Â Â Â Â Â (1)Trading products represent futures and options products acquired in our business combinations with CBOT Holdings, Inc., NYMEX Holdings, Inc. and The Board of Trade of Kansas City, Missouri, Inc. Clearing and transaction fees are generated through the trading of these products. These trading products, most of which have traded for decades, require authorization from the Commodity Futures Trading Commission (CFTC). Product authorizations from the CFTC have no term limits.Total amortization expense for intangible assets was $55.7 million and $57.2 million for the quarters ended SeptemberÂ 30, 2024 and 2023, respectively. Total amortization expense for intangible assets was $166.4 million and $171.0 million for the nine months ended SeptemberÂ 30, 2024 and 2023, respectively. As of SeptemberÂ 30, 2024, the future estimated amortization expense related to amortizable intangible assets is expected to be as follows:(in millions)Â Amortization ExpenseRemainder of 2024$55.8Â 2025223.2Â 2026223.2Â 2027221.9Â 2028215.3Â 2029215.3Â Thereafter1,287.5Â Goodwill activity consisted of the following for the periods ended SeptemberÂ 30, 2024 and DecemberÂ 31, 2023:(in millions)GoodwillBalance at December 31, 2022$10,482.5Â Foreign currency translation12.8Balance at December 31, 202310,495.3Â Foreign currency translation18.8Â Balance at September 30, 2024$10,514.1Â 15Table of Contents5. DebtShort-term debt consisted of the following at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023:(in millions)September 30, 2024December 31, 2023$750.0 million fixed rate notes due March 2025, stated rate of 3.00% (1)$749.7Â $â€"Â Total short-term debt$749.7Â $â€"Â (1)The company maintained a forward-starting interest rate swap agreement that modified the interest obligation associated with these notes so that the interest payable on the notes effectively became fixed at a rate of 3.11%.Long-term debt consisted of the following at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023:Â (in millions)September 30, 2024December 31, 2023$750.0 million fixed rate notes due March 2025, stated rate of 3.00% (1)â€"Â 749.1Â $500.0 million fixed rate notes due June 2028, stated rate of 3.75%498.4Â 498.1Â $750.0 million fixed rate notes due March 2032, stated rate of 2.65% 743.5Â 742.9Â $750.0 million fixed rate notes due September 2043, stated rate of 5.30% (2)744.2Â 744.0Â $700.0 million fixed rate notes due June 2048, stated rate of 4.15%691.6Â 691.3Â Total long-term debt$2,677.7Â $3,425.4Â (1)The company maintained a forward-starting interest rate swap agreement that modified the interest obligation associated with these notes so that the interest payable on the notes effectively became fixed at a rate of 3.11%.(2)The company maintained a forward-starting interest rate swap agreement that modified the interest obligation associated with these notes so that the interest payable on the notes effectively became fixed at a rate of 4.73%. Long-term debt maturities, at par value, were as follows at SeptemberÂ 30, 2024: Â (in millions)Par Value2025$â€"Â 2026â€"Â 2027â€"Â 2028500.0Â 2029â€"Â Thereafter2,200.0Â 6. ContingenciesLegal and Regulatory Matters. In the normal course of business, the company discusses matters with its regulators raised during regulatory examinations or otherwise subject to their inquiry and oversight. These matters could result in censures, fines, penalties or other sanctions. Management believes the outcome of any resulting actions will not have a material impact on the company's consolidated financial position or results of operations. However, the company is unable to predict the outcome or the timing of the ultimate resolution of these matters, or the potential fines, penalties or injunctive or other equitable relief, if any, that may result from these matters. A putative class action complaint was filed January 15, 2014 in the Circuit Court of Cook County, Chancery Division, against CME Group Inc. and the Board of Trade of the City of Chicago, Inc. The plaintiffs, certain Class B shareholders of CME Group and Class B members of CBOT, allege breach of contract and breach of the implied covenant of good faith and fair dealing for violations of their core rights granted in the defendantsâ€™ respective Certificates of Incorporation. On December 2, 2021, the court granted the plaintiffsâ€™ motion for certification of a damages-only class. No trial date has been set. Given the uncertainty of factors that may potentially affect the resolution of the matter, at this time the company is unable to estimate the reasonably possible loss or range of reasonably possible losses in the unlikely event it were found to be liable at trial. Based on its investigation to date, the company believes that it has strong factual and legal defenses to the claims.In addition, the company is a defendant in, and has potential for, various other legal proceedings arising from its regular business activities. While the ultimate results of such proceedings against the company cannot be predicted with certainty, the company believes that the resolution of any of these matters on an individual or aggregate basis will not have a material impact on its consolidated financial position or results of operations.No accrual was required for contingent legal and regulatory matters as none were probable and estimable as of SeptemberÂ 30, 2024 and DecemberÂ 31, 2023.16Table of ContentsIntellectual Property Indemnifications. Certain agreements with customers and other third parties related to accessing the CME Group platforms, utilizing market data services and licensing SPAN and SPAN 2 software may contain indemnifications from intellectual property claims that may be made against them as a result of their use of the applicable products and/or services. The potential future claims relating to these indemnifications cannot be estimated and therefore no liability has been recorded.7. LeasesThe company has operating leases for corporate offices. The operating leases have remaining lease terms of up to 14 years, some of which include options to extend or renew the leases for up to an additional five years, and some of which include options to early terminate the leases in less than 12 months. Management evaluates whether these options are exercisable at least quarterly in order to determine whether the contract term must be reassessed. For a small number of the leases, primarily the international locations, managementâ€™s approach is to enter into short-term leases for a lease term of 12 months or less in order to provide for greater flexibility in the local environment. For certain office spaces, the company has entered into arrangements to sublease excess space to third parties, while the original lease contract remains in effect with the landlord. The company also has one finance lease, which is related to the sale of our data center in March 2016. In connection with the sale, the company leased back a portion of the property. The transaction was recognized under the financing method and not as a sale leaseback arrangement. The right-of-use lease asset is recorded within other assets, and the present value of the lease liability is recorded within other liabilities (segregated between short term and long term) on the consolidated balance sheets. The discount rate applied to the lease payments represents the companyâ€™s incremental borrowing rate. The components of lease costs were as follows:Quarter Ended September 30,Nine Months Ended September 30, (in millions)2024202320242023Operating lease expense:Operating lease cost$12.7Â $13.8Â $38.9Â $41.7Â Short-term lease cost0.1Â 0.1Â 0.3Â 0.3Â Total operating lease expense included in other expense$12.8Â $13.9Â $39.2Â $42.0Â Finance lease expense:Interest expense$0.5Â $0.6Â $1.7Â $1.9Â Depreciation expense2.2Â 2.2Â 6.5Â 6.5Â Total finance lease expense$2.7Â $2.8Â $8.2Â $8.4Â Sublease revenue included in other revenue$2.5Â $2.5Â $7.2Â $7.3Â Supplemental cash flow information related to leases was as follows:Quarter Ended September 30,Nine Months Ended September 30, (in millions)2024202320242023Cash outflows for operating leases$15.4Â $16.9Â $45.9Â $50.6Â Cash outflows for finance leases4.3Â 4.3Â 13.0Â 12.9Â 17Table of ContentsSupplemental balance sheet information related to leases was as follows: Operating leases (in millions)September 30, 2024December 31, 2023Operating lease right-of-use assets$241.6Â $272.0Â Operating lease liabilities:Other current liabilities$46.8Â $46.7Â Other liabilities307.5Â 344.0Â Total operating lease liabilities$354.3Â $390.7Â Weighted average remaining lease term (in months)108114Weighted average discount rate4.1Â %3.8Â %Finance leases (in millions)September 30, 2024December 31, 2023Finance lease right-of-use assets$56.3Â $62.8Â Finance lease liabilities:Other current liabilities$8.6Â $8.4Â Other liabilities52.9Â 59.4Â Total finance lease liabilities$61.5Â $67.8Â Weighted average remaining lease term (in months)7887Weighted average discount rate3.5Â %3.5Â %Future minimum lease payments were as follows as of SeptemberÂ 30, 2024 for operating and finance leases:(in millions)Operating LeasesRemainder of 2024$15.2Â 202558.1Â 202652.7Â 202750.2Â 202849.2Â 202935.2Â Thereafter154.2Â Total lease payments414.8Â Less: imputed interest(60.5)Present value of lease liability$354.3Â 18Table of Contents(in millions)Finance LeasesRemainder of 2024$4.4Â 202517.5Â 202617.6Â 202717.8Â 202817.9Â 202918.1Â Thereafter22.9Â Total lease payments116.2Â Less: imputed interest(54.7)Present value of lease liability$61.5Â 8. GuaranteesMutual Offset Agreement. CME and Singapore Exchange Limited (SGX) maintain a mutual offset agreement with a current term through April 2025. This agreement enables market participants to open a futures position on one exchange and liquidate it on the other. The term of the agreement will automatically renew for a two-year period after April 2025 unless either party provides advance notice of their intent to terminate. CME can maintain collateral in the form of irrevocable, standby letters of credit. At SeptemberÂ 30, 2024, CME was contingently liable to SGX on letters of credit totaling $400.0 million. CME also maintains a $350.0Â million line of credit to meet its obligations under this agreement. Regardless of the collateral, CME guarantees all cleared transactions submitted through SGX and would initiate procedures designed to satisfy these financial obligations in the event of a default, such as the use of performance bonds and guaranty fund contributions of the defaulting clearing firm. Management has assessed the fair value of the companyâ€™s guarantee liability under this mutual offset agreement by taking the following factors into consideration: the design and operations of the clearing risk management process, the financial safeguard packages in place, historical evidence of default by a clearing member and the estimated probability of potential payouts by the clearing house. Based on the assessment performed, management estimates the guarantee liability to be nominal and therefore has not recorded any liability at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023.Family Farmer and Rancher Protection Fund. In 2012, the company established the Family Farmer and Rancher Protection Fund (the Fund). The Fund is designed to provide payments, up to certain maximum levels, to family farmers, ranchers and other agricultural industry participants who use the companyâ€™s agricultural commodity products and who suffer losses to their segregated account balances due to their CME clearing member becoming insolvent. Under the terms of the Fund, farmers and ranchers are eligible for up to $25,000 per participant. Farming and ranching cooperatives are eligible for up to $100,000 per cooperative. The Fund was established with a maximum of $100.0 million available for distribution to participants. Since its establishment, the Fund has made payments of approximately $2.0 million, which leaves $98.0 million available for future claims. If, at any time, payments due to participants were to exceed the amount remaining in the Fund, payments would be pro-rated. Clearing members and customers must register with the company in advance and provide certain documentation in order to substantiate their eligibility. The company believes that its guarantee liability is nominal and therefore has not recorded any liability at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023.19Table of Contents9. Accumulated Other Comprehensive Income (LossThe following tables present changes in the accumulated balances for each component of other comprehensive income (loss), including current period other comprehensive income (loss) and reclassifications out of accumulated other comprehensive income (loss):(in millions)Investment SecuritiesDefined Benefit PlansDerivative InvestmentsForeign Currency TranslationTotalBalance at December 31, 2023(0.4)(23.4)$62.0Â (93.8)(55.6)Other comprehensive income (loss) before reclassifications and income tax benefit (expense)0.6Â (5.9)â€"Â 54.8Â 49.5Â Amounts reclassified from accumulated other comprehensive income (loss)â€"Â 0.1Â (2.7)â€"Â (2.6)Income tax benefit (expense)(0.2)1.5Â 0.7Â (4.2)(2.2)Net current period other comprehensive income (loss) 0.4Â (4.3)(2.0)50.6Â 44.7Â Balance at September 30, 2024$â€"Â (27.7)60.0Â (43.2)(10.9)(in millions)Investment SecuritiesDefined Benefit PlansDerivative InvestmentsForeign Currency TranslationTotalBalance at December 31, 2022(0.9)(22.8)$64.7Â (174.3)(133.3)Other comprehensive income (loss) before reclassifications and income tax benefit (expense)(0.1)(3.5)â€"Â 20.7Â 17.1Â Amounts reclassified from accumulated other comprehensive income (loss)â€"Â 0.1Â (2.7)â€"Â (2.6)Income tax benefit (expense)â€"Â 0.8Â 0.7Â â€"Â 1.5Â Net current period other comprehensive income (loss) (0.1)(2.6)(2.0)20.7Â 16.0Â Balance at September 30, 2023(1.0)(25.4)$62.7Â (153.6)(117.3) 10. Fair Value MeasurementsThe company uses a three-level classification hierarchy of fair value measurements for disclosure purposes: â€¢Level 1 inputs, which are considered the most reliable evidence of fair value, consist of quoted prices (unadjusted) for identical assets or liabilities in active markets. â€¢Level 2 inputs consist of observable market data, such as quoted prices for similar assets and liabilities in active markets, or inputs other than quoted prices that are directly observable. â€¢Level 3 inputs consist of unobservable inputs which are derived and cannot be corroborated by market data or other entity-specific inputs.The companyâ€™s level 1 assets generally include investments in publicly traded mutual funds, equity securities and corporate debt securities with quoted market prices. In general, the company uses quoted prices in active markets for identical assets to determine the fair value of marketable securities. The companyâ€™s level 2 assets and liabilities generally consist of long-term debt notes. The fair values of the long-term debt notes were based on quoted market prices in an inactive market. The companyâ€™s level 3 assets and liabilities include certain investments that were adjusted to fair value. 20Table of ContentsRecurring Fair Value Measurements. Financial assets and liabilities recorded at fair value on the consolidated balance sheet as of SeptemberÂ 30, 2024 were classified in their entirety based on the lowest level of input that was significant to each asset and liabilityâ€™s fair value measurement. The following table presents financial instruments measured at fair value on a recurring basis:Â September 30, 2024(in millions)LevelÂ 1LevelÂ 2LevelÂ 3TotalAssets at Fair Value:Marketable securities:Corporate debt securities$9.4Â $â€"Â $â€"Â $9.4Â Mutual funds102.7Â â€"Â â€"Â 102.7Â Equity securities0.2Â â€"Â â€"Â 0.2Â Total Marketable Securities112.3Â â€"Â â€"Â 112.3Â Total Assets at Fair Value$112.3Â $â€"Â $â€"Â $112.3Â Non-Recurring Fair Value Measurements. The company recognized an unrealized gain on investments of $1.5 million on an equity investment without readily determinable fair value during the first nine months of 2024. The fair value of this investment was estimated to be $8.6Â million at SeptemberÂ 30, 2024. This fair value assessment was based on quantitative factors, including observable price changes. The fair value measurement of this investment is considered level 3 and non-recurring. This investment is included in other assets on the consolidated balance sheet. Fair Values of Debt Notes. The following presents the estimated fair values of short-term and long-term debt notes, which are carried at amortized cost on the consolidated balance sheets. The fair values below are classified as level 2 under the fair value hierarchy and were estimated using quoted market prices in inactive markets. At SeptemberÂ 30, 2024, the fair values were as follows:(in millions)FairÂ ValueLevel$750.0 million fixed rate notes due March 2025$744.1Â Level 2$500.0 million fixed rate notes due June 2028498.2Â Level 2$750.0 million fixed rate notes due March 2032679.0Â Level 2$750.0 million fixed rate notes due September 2043808.1Â Level 2$700.0 million fixed rate notes due June 2048631.2Â Level 221Table of Contents11. Earnings Per ShareThe company uses the two-class method to calculate basic and diluted earnings per common share because its Series G preferred stock are participating securities. Under the two-class method, undistributed earnings are allocated to common stock and participating securities according to their respective rights in undistributed earnings, as if all of the earnings for the period had been distributed. Basic earnings per common share is computed by dividing the net income attributable to common shareholders by the weighted average number of common shares outstanding during the period. Net income attributable to common shareholders is reduced for preferred stock dividends earned during the period. Preferred stock also receives a proportionate allocation of undistributed or overdistributed earnings for the period because Series G preferred stock has a contractual obligation to share in profits and losses of the company. Diluted earnings per share is computed by dividing the net income attributable to common shareholders by the weighted average number of common shares outstanding plus potentially dilutive common shares. Anti-dilutive stock awards were as follows for the periods presented:Quarter Ended September 30,Nine Months Ended September 30, (in thousands)2024202320242023Stock awards333Â 333Â 334Â 373Â Total333Â 333Â 334Â 373Â The following table presents the earnings per share calculation for the periods presented:Â Quarter Ended September 30,Nine Months Ended September 30, 2024202320242023Net Income (in millions)$912.8Â $750.2Â $2,651.2Â $2,411.6Â Less: preferred stock dividends(5.3)(5.0)(15.8)(15.1)Less: undistributed earnings allocated to preferred stock(6.2)(4.4)(17.6)(15.2)Net Income Attributable to Common Shareholders of CME Group$901.3Â $740.8Â $2,617.8Â $2,381.3Â Weighted Average Number of Common Shares (in thousands):Basic359,400Â 359,020Â 359,329Â 358,965Â Effect of stock options, restricted stock and performance shares589Â 599Â 570Â 483Â Diluted359,989Â 359,619Â 359,899Â 359,448Â Earnings per Common Share Attributable to Common Shareholders of CME Group:Basic$2.51Â $2.06Â $7.29Â $6.63Â Diluted2.50Â 2.06Â 7.27Â 6.62Â 12. Subsequent EventsThe company has evaluated subsequent events through the date the financial statements were issued. The company has determined that there were no subsequent events that met the requirement for recognition or disclosure in the consolidated financial statements. 22Table of ContentsITEMÂ 2.MANAGEMENTâ€™S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONSThe following discussion is provided as a supplement to, and should be read in conjunction with, the accompanying unaudited consolidated financial statements and notes in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on February 28, 2024. References in this discussion and analysis to â€œweâ€ and â€œourâ€ are to CME Group Inc. (CME Group) and its consolidated subsidiaries, collectively. References to â€œexchangeâ€ are to Chicago Mercantile Exchange Inc. (CME), the Board of Trade of the City of Chicago, Inc. (CBOT), New York Mercantile Exchange, Inc. (NYMEX), and Commodity Exchange, Inc. (COMEX), collectively, unless otherwise noted. RESULTS OF OPERATIONSFinancial HighlightsThe following summarizes significant changes in our financial performance for the periods presented.Â Quarter Ended September 30,Â Nine Months Ended September 30, Â (dollars in millions, except per share data)20242023Change20242023ChangeTotal revenues$1,584.4Â $1,337.8Â 18Â %$4,604.8Â $4,139.6Â 11Â %Total expenses560.2Â 517.6Â 8Â 1,620.4Â 1,567.1Â 3Â Operating margin64.6Â %61.3Â %64.8Â %62.1Â %Non-operating income (expense)$152.7Â $154.1Â (1)$460.4Â $575.1Â (20)Effective tax rate22.4Â %23.0Â %23.0Â %23.4Â %Net income $912.8Â $750.2Â 22Â $2,651.2Â $2,411.6Â 10Â Diluted earnings per common share2.50Â 2.06Â 21Â 7.27Â 6.62Â 10Â Cash flows from operating activities2,672.6Â 2,409.5Â 11Â RevenuesÂ Quarter Ended September 30,Nine Months Ended September 30, Â (dollars in millions)20242023Change20242023ChangeClearing and transaction fees$1,297.1Â $1,085.5Â 20Â %$3,755.9Â $3,404.0Â 10Â %Market data and information services178.2Â 167.6Â 6Â 528.6Â 496.5Â 6Â Other109.1Â 84.7Â 29Â 320.3Â 239.1Â 34Â Total Revenues$1,584.4Â $1,337.8Â 18Â $4,604.8Â $4,139.6Â 11Â Clearing and Transaction FeesFutures and Options ContractsThe following table summarizes our total contract volume, revenue and average rate per contract for futures and options. Total contract volume includes contracts that are traded on our exchange and cleared through our clearing house and certain cleared-only contracts. Volume is measured in round turns, which is considered a completed transaction that involves a purchase and an offsetting sale of a contract. Average rate per contract is determined by dividing total clearing and transaction fees by total contract volume. Contract volume and average rate per contract disclosures exclude trading volume for the cash markets business and interest rate swaps volume. Quarter Ended September 30,Nine Months Ended September 30, Â 20242023Change20242023ChangeTotal contract volume (in millions)1,810.5Â 1,408.2Â 29Â %5,052.8Â 4,492.0Â 12Â %Clearing and transaction fees (in millions)$1,205.3Â $994.8Â 21Â $3,479.3Â $3,125.6Â 11Â Average rate per contract$0.666Â $0.707Â (6)$0.689Â $0.696Â (1)23Table of ContentsWe estimate the following net changes in clearing and transaction fees based on the changes in total contract volumes and the changes in average rate per contract for futures and options during the third quarter and first nine months of 2024 when compared with the same periods in 2023.Â (in millions)Quarter EndedNine Months EndedIncreases due to a changes in total contract volume$267.9Â $386.8Â Decreases due to a changes in average rate per contract(57.4)(33.1)Net increases in clearing and transaction fees$210.5Â $353.7Â Average rate per contract is impacted by our rate structure, including volume-based incentives; product mix; trading venue; and the percentage of volume executed by customers who are members compared with non-member customers. Due to the relationship between average rate per contract and contract volume, the change in clearing and transaction fees attributable to changes in each is only an approximation.Contract VolumeThe following table summarizes average daily contract volume. Contract volume can be influenced by many factors, including political and economic conditions, the regulatory environment and market competition.Â Quarter Ended September 30,Nine Months Ended September 30, (amounts in thousands)20242023Change20242023ChangeAverage Daily Volume by Product Line:Interest rates14,88110,96736Â %13,87712,23613Â %Equity indexes7,4076,35317Â 7,0186,6236Â Foreign exchange1,08894216Â 1,05093712Â Agricultural commodities1,6141,43313Â 1,6961,52112Â Energy2,5712,12621Â 2,4782,10418Â Metals72852838Â 75859627Â Aggregate average daily volume28,28922,34927Â 26,87724,01712Â Average Daily Volume by Venue:CME Globex26,19920,83926Â 24,79221,96613Â Open outcry1,09671354Â 1,0821,151(6)Privately negotiated99479725Â 1,00390011Â Aggregate average daily volume28,28922,34927Â 26,87724,01712Â Electronic Volume as a Percentage of Total Volume93Â %93Â %92Â %91Â %Market uncertainty remained high through the first nine months of 2024. Interest rate, equity and foreign exchange markets experienced significant uncertainty surrounding the United States' Federal Reserveâ€™s (Federal Reserve) interest rate policy. The Federal Open Markets Committee (FOMC) had initially signaled the potential for several future rate cuts throughout 2024, but has since only cut interest rates once as a result of continued inflation. Energy, metals and agricultural commodities markets were more uncertain in the first nine months of 2024 mainly as a result of geopolitical events as well as uncertain weather conditions, which led to higher volumes within those markets. We believe these factors contributed to the increase in total volumes in the third quarter and first nine months of 2024 when compared with the same periods in 2023.24Table of ContentsInterest Rate ProductsThe following table summarizes average daily contract volume for our key interest rate products. We no longer offer Eurodollar contract trading as of June 2023. Â Â Quarter Ended September 30,Â Nine Months Ended September 30, Â (amounts in thousands)20242023Change20242023ChangeEurodollar futures and options:Futures expiring within two yearsâ€”Â â€”Â â€”Â %â€”Â 117Â (100)%Â Â Â Â Â Â Â Optionsâ€”Â â€”Â â€”Â â€”Â 54Â (100)Futures expiring beyond two yearsâ€”Â â€”Â â€”Â â€”Â 28Â (100)SOFR futures and options:Futures expiring within two years3,044Â 2,217Â 37Â 2,676Â 2,539Â 5Â Options1,790Â 1,178Â 52Â 1,661Â 1,738Â (4)Futures expiring beyond two years1,069Â 819Â 31Â 954Â 804Â 19Â U.S. Treasury futures and options:10-Year3,376Â 2,505Â 35Â 3,279Â 2,595Â 26Â 5-Year2,088Â 1,742Â 20Â 2,014Â 1,788Â 13Â 2-Year1,142Â 770Â 48Â 1,045Â 793Â 32Â Treasury Bond699Â 594Â 18Â 701Â 538Â 30Â Federal Funds futures and options529Â 324Â 63Â 414Â 470Â (12)In the third quarter and first nine months of 2024, overall interest rate contract volumes increased when compared with the same periods in 2023. Volumes increased in the third quarter and first nine months of 2024 due to volatility as a result of mixed inflation results that occurred during 2024 as well as continued market uncertainty regarding the Federal Reserve's interest rate policy. Equity Index ProductsThe following table summarizes average daily contract volume for our key equity index products. Â Â Quarter Ended September 30,Â Nine Months Ended September 30, Â (amounts in thousands)20242023Change20242023ChangeE-mini S&P 500 futures and options4,320Â 3,865Â 12Â %4,136Â 4,099Â 1Â %E-mini Nasdaq 100 futures and options2,277Â 1,862Â 22Â 2,127Â 1,811Â 17Â E-mini Russell 2000 futures and options337Â 270Â 25Â 319Â 304Â 5Â Equity index contract volumes increased in the third quarter and first nine months of 2024 when compared with the same periods in 2023 due to periods of higher equity market volatility. We believe the higher volatility was a result of continued uncertainty surrounding the Federal Reserve's interest rate policy decision. Foreign Exchange ProductsThe following table summarizes average daily contract volume for our key foreign exchange products.Â Quarter Ended September 30,Nine Months Ended September 30, (amounts in thousands)20242023Change20242023ChangeEuro257Â 245Â 5Â %257Â 251Â 2Â %Japanese Yen227Â 184Â 23Â 201Â 180Â 12Â British Pound126Â 114Â 11Â 123Â 112Â 10Â Australian dollar125Â 108Â 16Â 119Â 102Â 16Â In the third quarter and first nine months of 2024, overall foreign exchange volumes increased when compared with the same periods in 2023. Despite a broad decline in foreign exchange market volatility, there was an increase in price volatility with the Japanese yen due to uncertainty surrounding the Japanese monetary policy and rate cuts from the Federal Reserve. The overall increases in volumes were also due to growing client adoption of our foreign currency products. 25Table of ContentsAgricultural Commodity ProductsThe following table summarizes average daily contract volume for our key agricultural commodity products.Â Quarter Ended September 30,Nine Months Ended September 30, (amounts in thousands)20242023Change20242023ChangeCorn481Â 427Â 13Â %509Â 468Â 9Â %Soybean329Â 286Â 15Â 352Â 312Â 13Â Wheat196Â 203Â (4)234Â 211Â 11Â Overall commodity contract volumes increased in the third quarter and first nine months of 2024 when compared with the same periods in 2023. We believe these increases were due to higher overall market volatility as a result of a change in market expectations regarding grain supplies as well as uncertain weather conditions in 2024. In addition, the first nine months of 2023 saw lower overall volatility within the commodities markets due to risk aversion by market participants following price increases and global trade uncertainty resulting from the conflict between Russia and Ukraine. We believe these factors contributed to higher overall commodity volumes in the third quarter and first nine months of 2024 compared with the same periods in 2023. Energy ProductsThe following table summarizes average daily contract volume for our key energy products.Â Quarter Ended September 30,Nine Months Ended September 30, (amounts in thousands)20242023Change20242023ChangeWTI crude oil1,290Â 1,129Â 14Â %1,185Â 1,091Â 9Â %Natural gas723Â 533Â 36Â 780Â 577Â 35Â Refined products388Â 368Â 5Â 383Â 345Â 11Â Energy contract volumes increased in the third quarter and first nine months of 2024 when compared with the same periods in 2023, which we believe were due to higher overall market volatility. Natural gas volatility was higher as a result of uncertain weather conditions in the United States, which impacted prices throughout the quarter. In addition, crude oil volatility was slightly higher as a result of ongoing geopolitical issues in the Middle East as well economic uncertainty between the United States and China. Metal ProductsThe following table summarizes average daily volume for our key metal products. Â Quarter Ended September 30,Nine Months Ended September 30, (amounts in thousands)20242023Change20242023ChangeGold447Â 300Â 49Â %436Â 354Â 23Â %Copper113Â 104Â 8Â 145Â 115Â 27Â Silver119Â 88Â 35Â 127Â 93Â 36Â In the third quarter and first nine months of 2024, overall metal contract volumes increased when compared with the same periods in 2023. We believe gold and silver volumes increased as a result of continued uncertainty surrounding the Federal Reserve's monetary policy decision, which resulted in higher overall volatility. Average Rate per Contract The average rate per contract decreased in the third quarter and first nine months of 2024 when compared with the same periods in 2023. The decreases in the average rate per contract were primarily due to higher member trading as a percentage of total volume as well as our tiered volume pricing structure. The overall decrease was partially offset by an increase in our fee structure, which went into effect on February 1, 2024.The decrease in the third quarter of 2024 when compared with the same period in 2023 is also do to a change in product mix. In the third quarter of 2024, interest rate contract volume increased by 4 percentage points as a percent of total volume, while all other products collectively decreased by 4 percentage points. In general, interest rate products have a lower rate per contract compared with the remaining contracts.26Table of ContentsCash Markets BusinessTotal clearing and transaction fees revenues in the third quarter and first nine months of 2024 include $68.5 million and $207.9 million of transaction fees attributable to the cash markets business, compared with $69.5 million and $214.3 million, respectively, in the third quarter and first nine months of 2023. This revenue includes BrokerTec Americas LLC's fixed income volume and EBS's foreign exchange volume.Quarter Ended September 30,Nine Months Ended September 30, (amounts in millions)20242023Change20242023ChangeBrokerTec fixed income transaction fees$33.3Â $37.3Â (11)%$108.9Â $114.3Â (5)%EBS foreign exchange transaction fees35.2Â 32.2Â 9Â %99.0Â 100.0Â (1)%The related average daily notional value for the third quarter and first nine months of 2024 and 2023 were as follows:Quarter Ended September 30,Nine Months Ended September 30, (amounts in billions)20242023Change20242023ChangeEuropean Repo (in euros)$285.9Â $313.9Â (9)%$289.5Â $340.1Â (15)%U.S. Treasury109.3Â 98.3Â 11Â %102.1Â 106.9Â (4)Spot FX67.0Â 54.4Â 23Â %58.9Â 57.9Â 2Â Overall average daily notional values for the cash markets business were slightly lower in the third quarter and first nine months of 2024 when compared with the same periods in 2023. Concentration of RevenueWe bill a substantial portion of our clearing and transaction fees directly to our clearing firms. The majority of clearing and transaction fees received from clearing firms represent charges for trades executed and cleared on behalf of their customers. One individual firm represented at least approximately 10% of our clearing and transaction fees in the first nine months of 2024. Should a clearing firm withdraw, we believe that the customer portion of the firmâ€™s trading activity would likely transfer to another clearing firm of the exchange. Therefore, we do not believe we are exposed to significant risk from the ongoing loss of revenue received from or through a particular clearing firm.Other Sources of RevenueMarket data and information services. During the third quarter and first nine months of 2024, overall market data and information services revenues increased when compared with the same periods in 2023, largely due to price increases for certain products.The two largest resellers of our market data represented approximately 30% of our market data and information services revenue in the first nine months of 2024. Despite this concentration, we consider exposure to significant risk of revenue loss to be minimal. In the event that one of these vendors no longer subscribes to our market data, we believe the majority of that vendorâ€™s customers would likely subscribe to our market data through another reseller. Additionally, several of our largest institutional customers that utilize services from our two largest resellers report usage and remit payment of their fees directly to us.Other revenues. In the third quarter and first nine months of 2024, the increases in other revenues when compared with the same periods in 2023 were largely attributable to higher custody fees due to an increase in non-cash collateral as well as a fee increase. Other revenues also increased mainly due to higher co-location fees.27Table of ContentsExpensesÂ Â Quarter Ended September 30,Â Nine Months Ended September 30, Â (dollars in millions)20242023Change20242023ChangeCompensation and benefits$218.8Â $205.5Â 6Â %$629.5Â $615.7Â 2Â %Technology66.6Â 55.6Â 20Â 190.1Â 160.2Â 19Â Professional fees and outside services31.0Â 32.2Â (4)98.8Â 108.3Â (9)Amortization of purchased intangibles55.7Â 57.2Â (2)166.4Â 171.0Â (3)Depreciation and amortization28.2Â 31.1Â (9)87.0Â 95.3Â (9)Licensing and other fee agreements97.6Â 79.5Â 23Â 271.4Â 242.4Â 12Â Other62.3Â 56.5Â 10Â 177.2Â 174.2Â 2Â Total Expenses$560.2Â $517.6Â 8Â %$1,620.4Â $1,567.1Â 3Â %Operating expenses increased by $42.6 million and $53.3 million in the third quarter and first nine months of 2024 when compared with the same periods in 2023. The following table shows the estimated impacts of key factors resulting in the changes in operating expenses:Â Â Â Quarter Ended September 30, 2024Nine Months Ended September 30, 2024Â Â AmountÂ ofChangeChangeÂ asÂ aPercentageÂ ofTotalÂ ExpensesAmountÂ ofChangeChangeÂ asÂ aPercentageÂ ofTotalÂ Expenses(dollars in millions)Technology support services$11.1Â 2Â %$29.7Â 2Â %License fees18.1Â 4Â 29.0Â 2Â Salaries, benefits and employer taxes12.6Â 2Â 16.5Â 1Â Depreciation and amortization(3.0)(1)(8.3)â€”Â Occupancy and building operations(3.9)(1)(9.2)(1)Professional fees and outside services(1.2)â€”Â (9.5)(1)Other expenses, net8.9Â 2Â 5.1Â â€”Â Total increase$42.6Â 8Â %$53.3Â 3Â %Increases in operating expenses in the third quarter and first nine months of 2024 when compared with the same periods in 2023 were as follows:â€¢The increases in expenses related to technology support services were primarily driven by higher software license fees and third party services to support the ongoing Google Cloud transformation project.â€¢License fees were higher primarily due to increases in volume for certain equity products and improved revenue performance related to certain arrangements.â€¢Salaries, benefits and employer taxes were higher due to increases in headcount during the year, which were primarily attributable to additional headcount in the company's international locations, as well as an increase in compensation expenses due to a law change for vacation carryover.Decreases in operating expenses in the third quarter and first nine months of 2024 when compared with the same periods in 2023 were as follows:â€¢Depreciation and amortization expense decreased as a result of a decline in fixed asset purchases over the last few years and certain assets becoming fully depreciated.â€¢Occupancy and building operations expenses decreased due to lower rent expenses and real estate taxes.â€¢The decreases in professional fees and outside services are largely due to decreases in consulting costs associated with the Google Cloud Migration, which began in late 2021, as well as lower legal fees during the periods. 28Table of ContentsNon-Operating Income (Expense)Â Â Quarter Ended September 30,Â Nine Months Ended September 30, Â (dollars in millions)20242023Change20242023ChangeInvestment income$1,026.8Â $1,272.5Â (19)%$3,142.6Â $4,198.4Â (25)%Interest and other borrowing costs(40.2)(39.6)2Â (120.2)(119.7)â€”Â %Equity in net earnings of unconsolidated subsidiaries86.1Â 76.8Â 12Â 259.7Â 230.1Â 13Â Other non-operating income (expense)(920.0)(1,155.6)(20)(2,821.7)(3,733.7)(24)Total Non-Operating$152.7Â $154.1Â (1)$460.4Â $575.1Â (20)Investment income. Earnings from cash performance bond and guaranty fund contributions that are reinvested decreased in the third quarter and first nine months of 2024 when compared with the same periods in 2023 due to lower average reinvestment balances. In the third quarter and first nine months of 2024, earnings from cash performance bond and guaranty fund contributions were $991.3Â million and $3,035.6Â million, compared with $1,246.5Â million and $4,042.9Â million, respectively, in the third quarter and first nine months of 2023. We also recognized lower net realized and unrealized gains on investments in the first nine months of 2024.Equity in net earnings (losses) of unconsolidated subsidiaries. Higher income generated from our S&P/Dow Jones Indices LLC (S&P/DJI) business venture contributed to an increase in equity in net earnings of unconsolidated subsidiaries in the third quarter and first nine months of quarter of 2024 when compared with the same periods in 2023.Other non-operating income (expense). We recognized lower expenses related to the distribution of interest earned on performance bond collateral reinvestments to the clearing firms in conjunction with lower interest income earned on our reinvestment during the third quarter and first nine months of 2024 when compared with the same periods in 2023. In the third quarter and first nine months of 2024, expenses related to the distribution of interest earned on collateral reinvestments were $922.6Â million and $2,829.4Â million, compared with $1,160.5Â million and $3,756.8Â million in the third quarter and first nine months of 2023. Income Tax ProvisionThe following table summarizes the effective tax rates for the periods presented:Â 20242023Quarter ended September 3022.4Â %23.0Â %Nine months ended September 3023.0Â 23.4Â The overall effective tax rate remained relatively consistent in the third quarter and first nine months of 2024 when compared with the same periods in 2023.Liquidity and Capital ResourcesSources and Uses of Cash. Net cash provided by operating activities increased in the first nine months of 2024 when compared with the same period in 2023 was largely due to an increase in revenues. Cash used in investing activities increased in the first nine months of 2024 when compared with the same period in 2023 due to a decrease in proceeds from sales of investments. Cash provided by financing activities was higher during the first nine months of 2024 when compared with the same period in 2023 due to an increase in cash performance bonds and guaranty fund contributions. 29Table of ContentsDebt Instruments. The following table summarizes our debt outstanding at SeptemberÂ 30, 2024: (in millions)ParÂ ValueFixed rate notes due March 2025, stated rate of 3.00% (1)$750.0Â Fixed rate notes due June 2028, stated rate of 3.75%500.0Â Fixed rate notes due March 2032, stated rate of 2.65%750.0Â Fixed rate notes due September 2043, stated rate of 5.30% (2)750.0Â Fixed rate notes due June 2048, stated rate of 4.15%700.0Â Â _______________(1)We maintained a forward-starting interest rate swap agreement that modified the interest obligation associated with these notes so that the interest payable on the notes effectively became fixed at a rate of 3.11%.(2)We maintained a forward-starting interest rate swap agreement that modified the interest obligation associated with these notes so that the interest payable effectively became fixed at a rate of 4.73%.We maintain a $2.3 billion multi-currency revolving senior credit facility with various financial institutions, which matures in November 2026. The proceeds from this facility can be used for general corporate purposes, which includes providing liquidity for our clearing house in certain circumstances at CME Group's discretion and, if necessary, for maturities of commercial paper. As long as we are not in default under this facility, we have the option to increase it up to $3.3 billion with the consent of the agent and lenders providing the additional funds. This facility is voluntarily pre-payable from time to time without premium or penalty. Under this facility, we are required to remain in compliance with a consolidated net worth test, which is defined as our consolidated shareholders' equity at September 30, 2021, giving effect to share repurchases made and special dividends paid during the term of the agreements (and in no event greater than $2.0 billion in aggregate), multiplied by 0.65. We currently do not have any borrowings outstanding under this facility, but any commercial paper balance if or when outstanding can be backstopped against this facility.We maintain a 364-day multi-currency revolving secured credit facility with a consortium of domestic and international banks to be used in certain situations by the clearing house. The facility provides for borrowings of up to $7.0 billion. We may use the proceeds to provide temporary liquidity in the unlikely event a clearing firm fails to promptly discharge an obligation to the clearing house operated by CME, in the event of a liquidity constraint or default by a depositary (custodian for our collateral), in the event of a temporary disruption with the domestic payments system that would delay payment of settlement variation between us and our clearing firms, or in other cases as provided by the CME rulebook. Clearing firm guaranty fund contributions received in the form of cash or U.S. Treasury securities as well as the performance bond assets (pursuant to the CME rulebook) can be used to collateralize the facility. At SeptemberÂ 30, 2024, guaranty fund contributions available to collateralize the facility totaled $10.0Â billion. We have the option to request an increase in the line from $7.0 billion to $10.0 billion. Our 364-day facility contains a requirement that CME remain in compliance with a consolidated tangible net worth test, defined as CME's consolidated shareholder's equity less intangible assets (as defined in the agreement), of not less than $800.0 million. We currently do not have any borrowings outstanding under this facility. The indentures governing our fixed rate notes, our $2.3 billion multi-currency revolving senior credit facility and our 364-day multi-currency revolving secured credit facility for $7.0 billion do not contain specific covenants that restrict the ability to pay dividends. These documents, however, do contain other customary financial and operating covenants that place restrictions on the operations of the company that could indirectly affect the ability to pay dividends. At SeptemberÂ 30, 2024, we have excess borrowing capacity for general corporate purposes of approximately $2.3 billion under our multi-currency revolving senior credit facility. At SeptemberÂ 30, 2024, we were in compliance with the various covenant requirements of all our debt facilities. CME Group, as a holding company, has no operations of its own.

Instead, it relies on dividends declared and paid to it by its subsidiaries in order to provide the funds which it uses to pay dividends to its shareholders. To satisfy our performance bond obligation with Singapore Exchange Limited, we may pledge irrevocable standby letters of credit. At SeptemberÂ 30, 2024, the letters of credit totaled $400.0 million. We also maintain a $350.0 million line of credit to meet our obligations under this agreement.30Table of ContentsThe following table summarizes our credit ratings at SeptemberÂ 30, 2024: Â Â Â Â Short-TermÂ Â Long-TermÂ Â Â Rating AgencyÂ Â DebtÂ RatingÂ Â DebtÂ RatingÂ Â OutlookStandardÂ & Poorâ€™s Global RatingsÂ Â A1+Â Â AA-Â Â StableMoodyâ€™s Investors Service, Inc.Â Â P1Â Â Aa3Â Â StableGiven our cash flow generation, our ability to pay down debt levels and our ability to refinance existing debt facilities if necessary, we expect to maintain an investment grade rating. If our ratings are downgraded below investment grade within certain specified time periods due to a change of control, we are required to make an offer to repurchase our fixed rate notes at a price equal to 101% of the principal amount, plus accrued and unpaid interest. No report of any rating agency is incorporated by reference herein.Liquidity and Cash Management. Cash and cash equivalents totaled $2.3 billion and $2.9 billion at SeptemberÂ 30, 2024 and DecemberÂ 31, 2023, respectively. The balance retained in cash and cash equivalents is a function of anticipated or possible short-term cash needs, prevailing interest rates, our corporate investment policy and alternative investment choices. A majority of our cash and cash equivalents balance is invested in money market mutual funds that invest only in U.S. Treasury securities, U.S. government agency securities and U.S. Treasury security reverse repurchase agreements and short-term bank deposits. Our exposure to credit and liquidity risk is minimal given the nature of the investments. Cash that is not available for general corporate purposes because of regulatory requirements or other restrictions is classified as restricted cash and is included in cash performance bonds and guaranty fund contributions, other current assets or other assets in the consolidated balance sheets.On November 7, 2024, the company declared a regular quarterly dividend of $1.15 per share for all outstanding common and preferred shares. The dividend will be payable on December 27, 2024 to shareholders of record on December 9, 2024. Assuming no changes in the number of shares outstanding, the fourth quarter dividend payment will total approximately $420 million.Regulatory Requirements. CME is regulated by the CFTC as a Derivatives Clearing Organization (DCO). DCOs are required to maintain capital, as defined by the CFTC, in an amount at least equal to one year of projected operating expenses as well as cash, liquid securities, or a line of credit at least equal to six months of projected operating expenses. CME was designated by the Financial Stability Oversight Council as a systemically important financial market utility under Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act. As a result, CME must comply with CFTC regulations applicable to a systemically important DCO for financial resources and liquidity resources. CME is in compliance with all DCO financial requirements.CME, CBOT, NYMEX and COMEX are regulated by the CFTC as Designated Contract Markets (DCM). DCMs are required to maintain capital, as defined by the CFTC, in an amount at least equal to one year of projected operating expenses as well as cash, liquid securities or a line of credit at least equal to six months of projected operating expenses. Our DCMs are in compliance with all DCM financial requirements. BrokerTec Americas LLC is required to maintain sufficient net capital under Securities Exchange Act of 1934, as amended (Exchange Act), Rule 15c3-1 (the Net Capital Rule). The Net Capital Rule focuses on liquidity and is designed to protect securities customers, counterparties, and creditors by requiring that broker-dealers have sufficient liquid resources on hand at all times to satisfy claims promptly. Rule 15c3-3, or the customer protection rule, which complements Rule 15c3-1, is designed to ensure that customer property (securities and funds) in the custody of broker-dealers is adequately safeguarded. By law, both of these rules apply to the activities of registered broker-dealers, but not to unregistered affiliates. The firm began operating as a (k)(2)(i) broker dealer in November 2017 following notification to the Financial Industry Regulatory Authority and the SEC. A company operating under the (k)(2)(i) exemption is not required to lock up customer funds as would otherwise be required under Exchange Act Rule 15c3-3.ITEMÂ 3.QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISKWe are subject to various market risks, including those caused by changes in interest rates, credit, foreign currency exchange rates and equity prices. There have not been material changes in our exposure to market risk since DecemberÂ 31, 2023. Refer to ItemÂ 7A. of CME Groupâ€™s Annual Report on Form 10-K for the year ended DecemberÂ 31, 2023, filed with the SEC on FebruaryÂ 28, 2024, for additional information. ITEMÂ 4.CONTROLS AND PROCEDURES(a) Disclosure Controls and Procedures. Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Based on such evaluation, 31Table of Contentsour Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, our disclosure controls and procedures are effective.(b) Changes in Internal Control Over Financial Reporting. As required by Rule 13a-15(d) under the Exchange Act, the companyâ€™s management, including the companyâ€™s Chief Executive Officer and Chief Financial Officer, have evaluated the companyâ€™s internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) to determine whether any changes occurred during the quarter covered by this quarterly report that have materially affected, or are reasonably likely to materially affect, the companyâ€™s internal control over financial reporting. There were no changes in the companyâ€™s internal control over financial reporting which occurred during the fiscal quarter ended SeptemberÂ 30, 2024, that have materially affected, or are reasonably likely to materially affect, the companyâ€™s internal control over financial reporting.PART II. OTHER INFORMATIONITEMÂ 1.LEGAL PROCEEDINGSThe disclosure under â€œLegal and Regulatory Mattersâ€ in Note 6. Contingencies in the Notes to Unaudited Consolidated Financial Statements in Item 1 of Part I of this report is incorporated herein by reference. Such disclosure includes updates to the legal proceedings disclosed in the companyâ€™s Annual Report on Form 10-K for the year ended DecemberÂ 31, 2023, filed with the SEC on FebruaryÂ 28, 2024.ITEMÂ 1A.RISK FACTORSThere have been no material changes in the company's risk factors from those disclosed in the company's Annual Report on Form 10-K for the year ended DecemberÂ 31, 2023, filed with the SEC on FebruaryÂ 28, 2024.ITEMÂ 2.UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDSIssuer Purchases of Equity SecuritiesPeriod(a)Â TotalÂ NumberÂ ofClass ASharesÂ PurchasedÂ (1)(b)Â AverageÂ PricePaidÂ PerÂ Share(c)Â TotalÂ NumberÂ of Class A SharesÂ PurchasedÂ asPart of Publicly Announced PlansÂ orÂ Programs(d)Â Maximum Number (or Approximate Value) of shares thatMayÂ YetÂ Be PurchasedUnder theÂ PlansÂ or Programs(in millions)July 1 to July 31302Â $195.50Â â€”Â $â€”Â August 1 to August 3131Â 208.41Â â€”Â â€”Â September 1 to September 3081,073Â 216.99Â â€”Â â€”Â Total81,406Â â€”Â (1)Shares purchased consist of an aggregate of 81,406 shares of ClassÂ A common stock surrendered in the third quarter of 2024 to satisfy employeesâ€™ tax obligations upon the vesting of restricted stock.32Table of ContentsITEMÂ 6.EXHIBITS31.1Â Â Section 302 Certificationâ€”Terrence A. Duffy31.2Â Â Section 302 Certificationâ€”Lynne Fitzpatrick32.1Â Â Section 906 Certification101Â Â The following materials from CME Group Inc.â€™s Quarterly Report on Form 10-Q for the quarterly period ended SeptemberÂ 30, 2024, formatted in Inline XBRL (Xtensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statements of Equity, (v) the Consolidated Statements of Cash Flows and (vi) Notes to Unaudited Consolidated Financial Statements, tagged as blocks of text.104Â Â Cover Page Interactive Data File included in the Inline XBRL Document Set for Exhibit 101.101.DEFÂ Â XBRL Taxonomy Extension Definition Linkbase101.LABÂ Â XBRL Taxonomy Extension Label Linkbase Document101.PREÂ Â XBRL Taxonomy Extension Presentation Linkbase Document33Table of ContentsSIGNATURESPursuant 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.Â Â Â CME Group Inc.(Registrant)Dated: November 8, 2024Â Â By:Â Â /s/ Lynne FitzpatrickÂ Â Â Lynne FitzpatrickSenior Managing Director and Chief Financial OfficerPrincipal Financial Offer andDuly Authorized Officer34DocumentExhibit 31.1 CERTIFICATIONI, Terrence A. Duffy, certify that: Â Â Â Â 1. I have reviewed this report on Form 10-Q of CME Group Inc.; Â Â Â Â 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; Â Â Â Â 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; Â Â Â Â 4. The registrantâ€™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: Â Â Â Â 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; Â Â Â Â 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; Â Â Â Â c) Evaluated the effectiveness of the registrantâ€™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 Â Â Â Â d) Disclosed in this report any change in the registrantâ€™s internal control over financial reporting that occurred during the registrantâ€™s most recent fiscal quarter (the registrantâ€™s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrantâ€™s internal control over financial reporting; and Â Â Â Â 5. The registrantâ€™s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrantâ€™s auditors and the audit committee of the registrantâ€™s board of directors (or persons performing the equivalent functions): Â Â Â Â 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 registrantâ€™s ability to record, process, summarize and report financial information; and Â Â Â Â b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrantâ€™s internal control over financial reporting. Dated: November 8, 2024/s/ Terrence A. DuffyName: Terrence A. DuffyTitle: Chief Executive OfficerDocumentExhibit 31.2 CERTIFICATIONI, Lynne Fitzpatrick, certify that: Â Â Â Â 1. I have reviewed this report on Form 10-Q of CME Group Inc.; Â Â Â Â 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; Â Â Â Â 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; Â Â Â Â 4. The registrantâ€™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: Â Â Â Â 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; Â Â Â Â 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; Â Â Â Â c) Evaluated the effectiveness of the registrantâ€™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 Â Â Â Â d) Disclosed in this report any change in the registrantâ€™s internal control over financial reporting that occurred during the registrantâ€™s most recent fiscal quarter (the registrantâ€™s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrantâ€™s internal control over financial reporting; and Â Â Â Â 5. The registrantâ€™s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrantâ€™s auditors and the audit committee of the registrantâ€™s board of directors (or persons performing the equivalent functions): Â Â Â Â 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 registrantâ€™s ability to record, process, summarize and report financial information; and Â Â Â Â b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrantâ€™s internal control over financial reporting. Dated: November 8, 2024/s/ Lynne FitzpatrickName: Lynne FitzpatrickTitle: Chief Financial OfficerDocumentExhibit 32.1 Certification of CEO and CFO Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 Â Â Â Â In connection with the Quarterly Report on Form 10-Q of CME Group Inc. (the â€œCompanyâ€) for the quarter ended SeptemberÂ 30, 2024 as filed with the Securities and Exchange Commission on the date hereof (the â€œReportâ€), Terrence A. Duffy, as Chief Executive Officer of the Company, and Lynne Fitzpatrick, as Chief Financial Officer of the Company, each hereby certifies, pursuant to 18 U.S.C. Â§ 1350, as adopted pursuant to Â§ 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his knowledge: Â Â Â Â (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and Â Â Â Â (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. /s/ Terrence A. DuffyName: Terrence A. DuffyTitle: Chief Executive OfficerDated: November 8, 2024 /s/ Lynne FitzpatrickName: Lynne FitzpatrickTitle: Chief Financial OfficerDated: November 8, 2024 Â Â Â Â This certification accompanies the Report pursuant to Â§ 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by the Company for purposes of Â§18 of the Securities Exchange Act of 1934, as amended. Â Â Â Â A signed original of this written statement required by Â§ 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.