



# ***FIRST QUARTER 2024 EARNINGS PRESENTATION***

May 3, 2024

A stylized globe graphic on the right side of the slide, composed of white lines connecting various points across the continents, set against a dark blue background with bokeh light effects.

**THE  
EXCHANGE  
FOR THE  
WORLD  
STAGE<sup>SM</sup>**

# Agenda

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## ◆ Strategic Review

**Fredric Tomczyk**

*Chief Executive Officer*

**Dave Howson**

*Executive Vice President, Global President*

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## ◆ Financial Review

**Jill Griebenow**

*Executive Vice President, Chief Financial Officer*

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## ◆ Questions & Answers

**Fredric Tomczyk**

**Dave Howson**

**Jill Griebenow**

**Chris Isaacson**

*Executive Vice President, Chief Operating Officer*

# Cautionary Statements Regarding Forward-Looking Information

*This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve a number of risks and uncertainties. You can identify these statements by forward-looking words such as “may,” “might,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “potential” or “continue,” and the negative of these terms and other comparable terminology. All statements that reflect our expectations, assumptions or projections about the future other than statements of historical fact are forward-looking statements. These forward-looking statements, which are subject to known and unknown risks, uncertainties and assumptions about us, may include projections of our future financial performance based on our growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from those expressed or implied by the forward-looking statements.*

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*Some factors that could cause actual results to differ include: the loss of our right to exclusively list and trade certain index options and futures products; economic, political and market conditions; compliance with legal and regulatory obligations; price competition and consolidation in our industry; decreases in trading or clearing volumes, market data fees or a shift in the mix of products traded on our exchanges; legislative or regulatory changes or changes in tax regimes; our ability to protect our systems and communication networks from security vulnerabilities and breaches; our ability to attract and retain skilled management and other personnel, increasing competition by foreign and domestic entities; our dependence on and exposure to risk from third parties; global expansion of operations; factors that impact the quality and integrity of our and other applicable indices; our ability to manage our growth and strategic acquisitions or alliances effectively; our ability to operate our business without violating the intellectual property rights of others and the costs associated with protecting our intellectual property rights; our ability to minimize the risks, including our credit, counterparty investment, and default risks, associated with operating a European clearinghouse; our ability to accommodate trading and clearing volume and transaction traffic, including significant increases, without failure or degradation of performance of our systems; misconduct by those who use our markets or our products or for whom we clear transactions; challenges to our use of open source software code; our ability to meet our compliance obligations, including managing potential conflicts between our regulatory responsibilities and our for-profit status; our ability to maintain BIDS Trading as an independently managed and operated trading venue, separate from and not integrated with our registered national securities exchanges; damage to our reputation; the ability of our compliance and risk management methods to effectively monitor and manage our risks; restrictions imposed by our debt obligations and our ability to make payments on or refinance our debt obligations; our ability to maintain an investment grade credit rating; impairment of our goodwill, long-lived assets, investments or intangible assets; the impacts of pandemics; the accuracy of our estimates and expectations; litigation risks and other liabilities; risks relating to digital assets, including winding down the Cboe Digital spot crypto market, operating a digital assets futures clearinghouse, cybercrime, changes in digital asset regulation, and fluctuations in digital asset prices. More detailed information about factors that may affect our actual results to differ may be found in our filings with the SEC, including in our Annual Report on Form 10-K for the year ended December 31, 2023 and other filings made from time to time with the SEC.*

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# ***STRATEGIC REVIEW AND OUTLOOK***

- Fredric Tomczyk, CEO
- Dave Howson, Global President

# 1Q24: Record Net Revenue in First Quarter\*

**Net revenues grew 7% Y/Y, a product of continued strong transaction and non-transaction growth**

## **8% increase in Derivatives Markets organic net revenue<sup>1</sup>**

- Total options average daily volume (ADV) up 1%, driven by a 14% increase in index options
- Total options rate per contract (RPC) up 12%

## **8% increase in Data and Access Solutions organic net revenue<sup>1</sup>**

- Continued expansion in transaction capabilities drove increased access and capacity units
- Comprehensive suite of data solutions across geographies and asset classes translated to strong user and unit growth

## **Stable Cash and Spot Markets organic net revenue<sup>1</sup>**

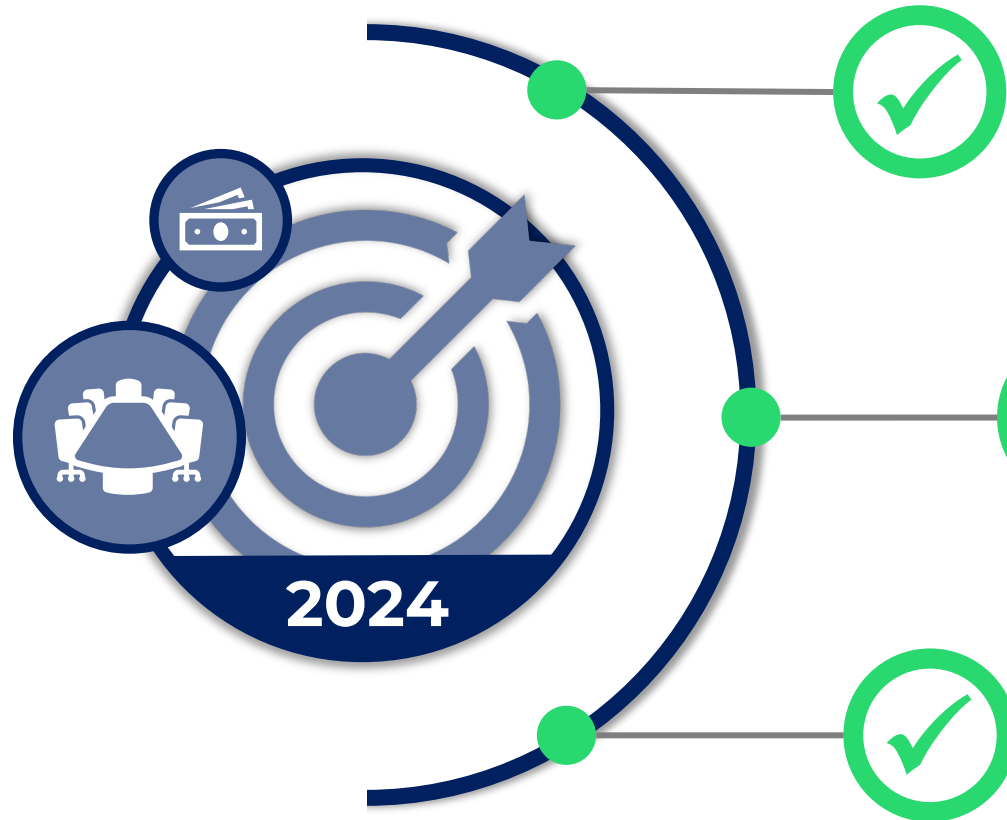
- Europe and Asia Pacific net revenue up 10% y/y
- North American Equities net revenue was down ~1% y/y as net capture rebounded from 4Q23



\*Unless otherwise noted, all comparisons are first quarter 2024 compared to the same period in 2023.

<sup>1</sup>See appendix for "Non-GAAP Information."

# CEO'S Three Key Priorities



## Sharpen Cboe's Strategic Focus Around Structural Trends and Core Strengths

### Structural Trends

- Globalization of markets
- Rise of retail
- Demand for data

### Core Strengths

- Global footprint
- Technology
- Product innovation

## Effectively Allocate Capital

- Maintain a flexible balance sheet
- Invest in organic opportunities
- Opportunistically repurchase shares

## Develop Talent and Enhance Succession Planning

- Refine organizational structure to develop leadership
- Align management along global business lines



# Derivatives Continues to Execute, Well Positioned for Future

## Derivatives Results Remain Steady

- **Derivatives net revenues up 8% y/y in 1Q24**
  - **Monthly SPX ADV Durability:** Three of the last four months\* rank in the top four highest SPX volume months of all time.
  - **Quarterly SPX ADV Durability:** Nine of the last ten quarters\* rank in the top ten highest SPX volume quarters of all time.
  - **VIX option trends:** 2024TD\* volumes on pace for record levels. 2Q24TD\* volumes on pace as second-highest volume quarter.

SPX			
Month	ADV	Quarter	ADV
1 October 2023	3,478,115	Q4 '23	3,270,211
2 January 2024	3,281,481	Q2 '24TD*	3,268,872
3 April 2024	3,268,872	Q1 '24	3,224,594
4 February 2024	3,218,574	Q3 '23	2,878,169
5 December 2023	3,206,564	Q2 '23	2,769,429
6 March 2024	3,170,882	Q1 '23	2,746,672
7 November 2023	3,113,023	Q4 '22	2,688,583
8 September 2023	3,026,710	Q3 '22	2,384,406
9 August 2023	2,961,640	Q2 '22	2,084,414
10 June 2023	2,927,296	Q4 '18	1,786,613

## Secular Drivers

### Wider Adoption

**Rise of retail options trading:** More platforms coming online for index options trading; XSP margin relief

Protected options approval for XSP received in 1Q24

### Expanded Access

**Globalization of markets:** CEDX creating single access point to trade pan-European products; further expansion of access in APAC/EMEA

SPX GTH increased 41% y/y in 1Q24, April up 73% QTD vs. 2Q23

### Increased Utility

**ODTE options allow trading of more granular risk:** Introduction of Tu/Th expiries for Russell 2000 index options

RUT ODTE volume grew from 8.7% in 4Q23 to 12% in 1Q24

### Regulatory Trends

**Move toward listed, transparent, centrally cleared products:** Planned launch of variance and dispersion futures to bring more OTC trading to listed

SFT on track for 3Q24 launch<sup>1</sup>

**Cyclical Tailwinds | Macro (inflation, geopolitics, election) | Positioning (navigate up/down markets)**

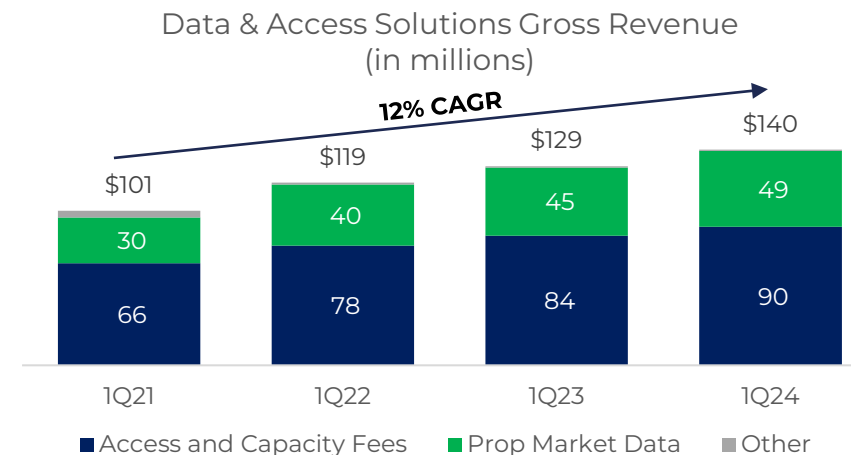
<sup>1</sup>Certain potential initiatives and timing are subject to regulatory approval and vendor/customer readiness

\* Monthly stats as of April 30, 2024, 2Q24 is QTD through April 30, 2024

# Data and Access Solutions: Driving Durable Growth

## DnA growth trends have been strong:

- ◆ 12% CAGR in first quarter DnA gross revenues since 1Q21
- ◆ Anticipate new opportunities across the data and access solutions ecosystem will help drive future growth
  - ◆ Continued demand for global access
  - ◆ Prop data feeds and options analytics
  - ◆ Global indices



## Many Avenues of Potential Growth

### Distribution as a Service

#### *Distributing 3<sup>rd</sup> party data across the Cboe network*

- ❖ Strengthens Cboe's streaming data services, Cboe Global Indices Feed, of more than 400 real-time indices
- ❖ Leverages global footprint and extensive list of industry vendors and partners
- ❖ 24x7 distribution service with a quick to market contributor API, leading to the partnership with Morningstar

### Packaging our Global Content

#### *Providing a cohesive, low-cost global data offering*

- ❖ Develop proprietary benchmark products
- ❖ Leverages Cboe's market-leading position in multiple asset classes around the globe
- ❖ Reduces friction through a consistent and uniform data feed, across geographies
- ❖ Ability to price competitively against incumbents
- ❖ Expanded Cboe One functionality

### Expanding Global Data Distribution

#### *Improving global access through technology*

- ❖ Cboe Global Cloud extends access to Europe and Asia Pacific
- ❖ Lower connectivity costs to obtain data in key locations globally
- ❖ Greater ability for regional data vendors to redistribute Cboe data
- ❖ Recent integration in Australia driving data sales



# Unlocking Global Growth Potential

## North America

### North America

- ◆ Canadian equities market share improved to 15.3% in 1Q24 from 14.3% in 1Q23
- ◆ US on-exchange overall market share increased slightly, with addressable market share up over 60bps

## Europe

### Europe

- ◆ Cboe Europe was the region's largest exchange by value traded during the quarter
- ◆ Cboe Clear Europe market share<sup>1</sup> grew to 34.8% in 1Q24 from 34.1% in 1Q23

## Asia Pacific

### Asia Pacific

- ◆ Grew Cboe Australia equities market share to 20.4% for 1Q24 from 18.5% in 1Q23
- ◆ Grew Cboe Japan equities market share to 5.0% for 1Q24 from 4.8% in 1Q23

## Market Data Expansion

### Related Revenue Opportunities

- ◆ 43% of data sales occurred outside the Americas
- ◆ 15% y/y growth in DnA net revenue<sup>2</sup> in Australia
- ◆ 13% y/y growth in DnA net revenue<sup>2</sup> in Europe
- ◆ 75% of Cboe Global Cloud incremental revenue from outside the Americas

## Securities Financing Transactions

- ◆ Nine launch participants expected for the SFT clearing service, including banks, clearing firms, asset managers and custodians
- ◆ Tighter capital requirements with Basel III endgame and Basel IV frameworks coming into focus
- ◆ SFT has potential to meaningfully reduce risk weighted assets for customers

<sup>1</sup> European market share - European market share represents Cboe Clear Europe's client volume cleared divided by the total volume of publicly reported European venues

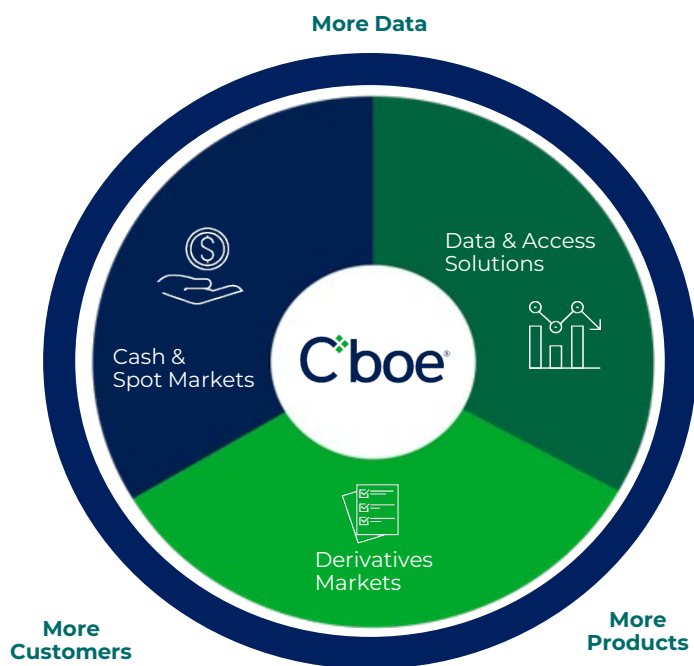
<sup>2</sup> Growth in USD

Note: All commentary as of 1Q24

# Executing on Growth Priorities

## Drivers

- Rise of Retail
- Greater Global Access
- Multi-Asset Trading
- Demand for Data
- Shorter Duration, Tailored Products
- Macro Uncertainty



## Progress

### Global Derivatives

- ◆ Derivatives delivered 8% y/y organic net revenue growth<sup>1</sup> in 1Q24
- ◆ Strong overall index trends to start 2024
- ◆ ODTE SPX trading made up 48% of 1Q24 SPX activity; ODTE volume was up 32% y/y in 1Q24
- ◆ CEDX saw record March activity levels
- ◆ Announced digital asset futures moving to CFE

### Global Data and Access Solutions

- ◆ Delivered 8% organic net revenue growth<sup>1</sup> in 1Q24
- ◆ DnA organic net revenue growth target for 2024<sup>3</sup> is 7-10%

## Opportunity

- ◆ Targeting >150mn retail accounts with smaller & more flexible products<sup>2</sup>
- ◆ U.S. market equity and index options market is ~17x larger than the Pan-European market
- ◆ Expand expirations & trading hours for prop products toolkit
- ◆ Proprietary Benchmarks
- ◆ Global trading requires 24x7 dependable access to markets and accurate data
- ◆ \$36bn annual spend on financial market data<sup>4</sup>
- ◆ \$5bn annual spend in indices<sup>4</sup>

<sup>1</sup>See appendix for "Non-GAAP Information."

<sup>2</sup>Estimate based on 2021 analysis of top 4 retail brokers' platforms

<sup>3</sup>See appendix for "Non-GAAP Information" for disclosures on growth targets; all medium-term financial targets as of 11/16/21, all 2024 guidance as of 5/3/24

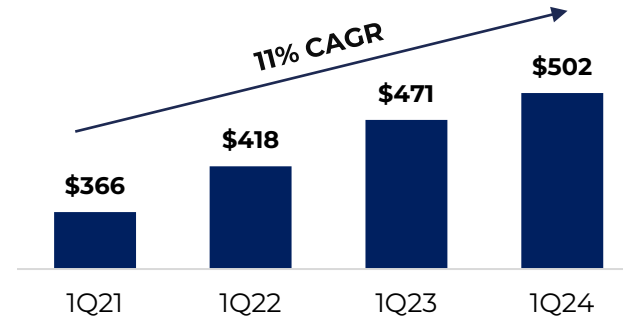
<sup>4</sup>Based on Burton-Taylor research reports

# ***FINANCIAL OVERVIEW AND GUIDANCE***

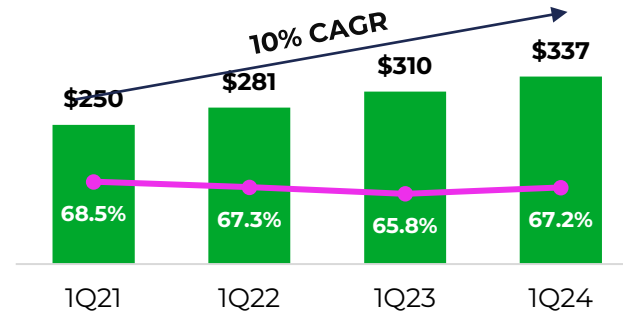
➤ Jill Griebenow, EVP, CFO

# 1Q24 Financial Summary

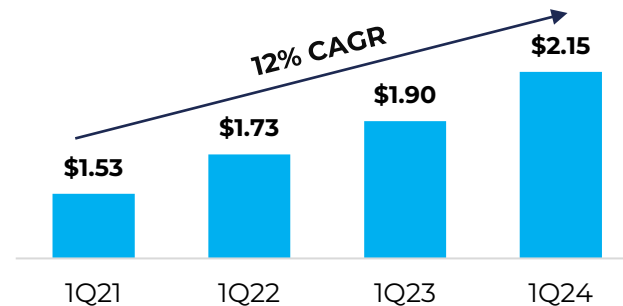
**\$502mn**  
Net Revenue  
**+7% Y/Y**



**\$337mn**  
Adjusted EBITDA<sup>1</sup>  
**+9% Y/Y**  
(Adjusted EBITDA margin<sup>1</sup> of 67.2%)



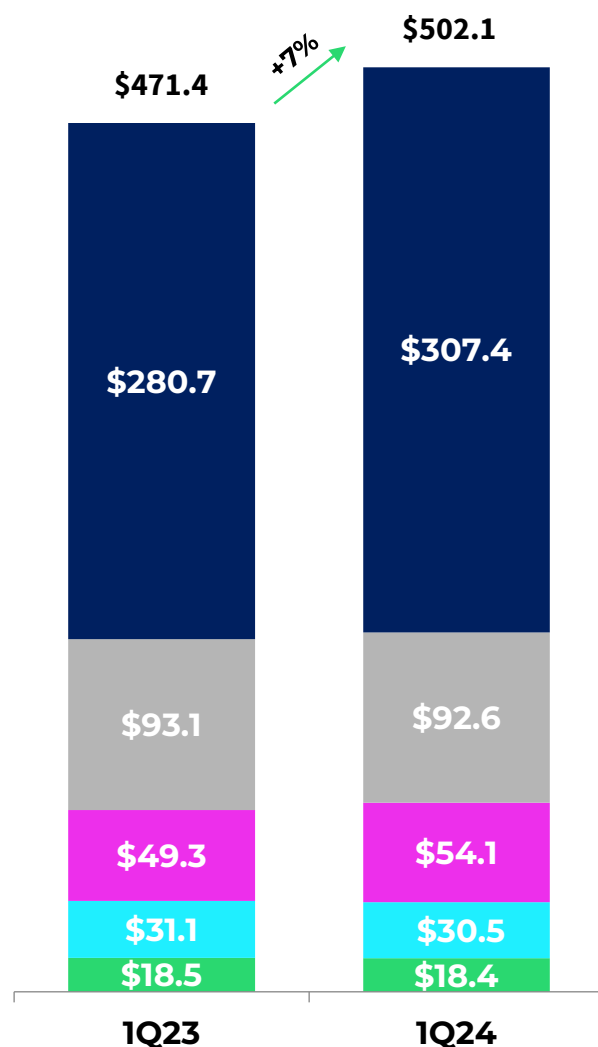
**\$2.15**  
Adjusted Diluted EPS<sup>1</sup>  
**+13% Y/Y**



<sup>1</sup>See appendix for "Non-GAAP Information."

# 1Q24 Net Revenue by Segment<sup>1</sup> and Key Drivers

## Net Revenue (in millions)



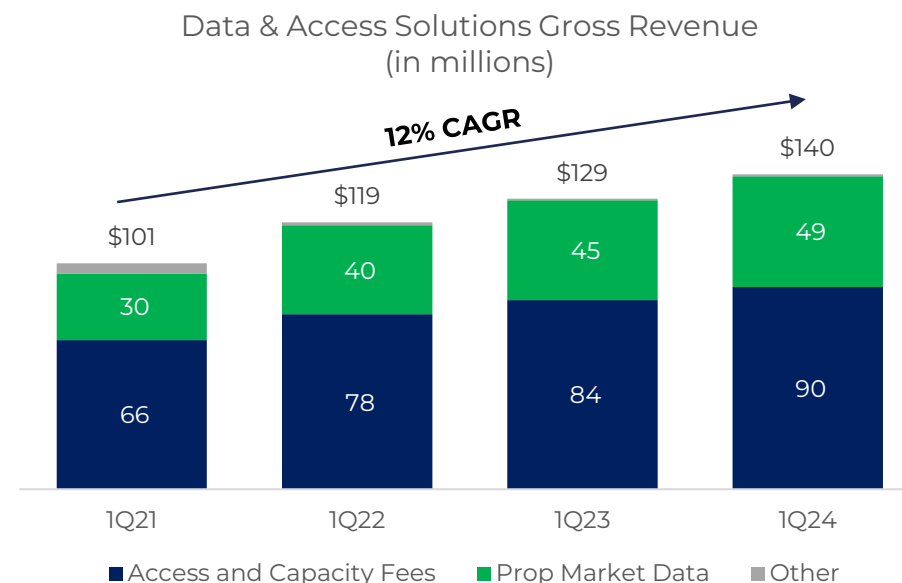
Segment	1Q24 Key Drivers	
	Net Rev. Growth	Key Drivers
<b>Options</b> <i>CBOE - C2 - BZX - EDGX</i>	<b>+10%</b>	<ul style="list-style-type: none"> <li>Higher index options trading volume and RPC</li> <li>Strong growth in access and capacity and proprietary market data fees</li> </ul>
<b>N.A. Equities</b> <i>BYX - BZX - EDGA - EDGX - BIDS - MATCHNow - Cboe Canada</i>	<b>(1%)</b>	<ul style="list-style-type: none"> <li>Lower industry market data</li> <li>Steady net transaction and clearing fees – improving addressable market share</li> <li>Solid growth in access and capacity fees</li> </ul>
<b>Europe and Asia Pacific</b> <i>Europe Lit &amp; Dark - BXTR - BIDS Europe - Cboe Clear Europe - EU Derivs - Cboe Asia Pacific</i>	<b>+10%</b>	<ul style="list-style-type: none"> <li>Strong non-transaction growth</li> <li>Lower industry volumes in Europe</li> <li>Growth in Cboe Australia and Japan market share</li> <li>Growth in Cboe Clear Europe market share</li> </ul>
<b>Futures</b> <i>CFE</i>	<b>(2%)</b>	<ul style="list-style-type: none"> <li>Lower trading activity</li> <li>Solid growth in access and capacity fees and market data</li> </ul>
<b>Global FX</b> <i>Spot - Forwards - SEF</i>	<b>(1%)</b>	<ul style="list-style-type: none"> <li>Slightly lower net capture rate</li> </ul>

<sup>1</sup>The Digital segment is not shown as results were not material (negative \$0.9mn in 1Q24 and negative \$1.3mn in 1Q23).

# Grew 1Q24 Data and Access Solutions Net Revenue 8% YoY Organically<sup>1</sup>

**Reaffirmed 2024 organic net revenue growth rate<sup>1</sup> target for Data and Access Solutions business of 7-10%, in line with our medium-term financial targets<sup>2</sup>**

- ❖ 1Q24 Data and Access Solutions net revenue of \$138 million up 8% YoY organically<sup>1</sup>
- ❖ 2024 outlook for Data and Access Solutions organic net revenue<sup>1</sup> within medium-term financial targets
- ❖ Anticipate new opportunities across the data and access solutions ecosystem will help drive future growth
  - ◆ Continued demand for global access
  - ◆ Prop data feeds and options analytics
  - ◆ Global indices
- ❖ For the quarter, 57% of market data and access solutions was driven by new subscriptions or incremental units



<sup>1</sup>See appendix for "Non-GAAP Information" including disclosure on growth targets.

<sup>2</sup>2024 Guidance is as of Feb 2, 2024, medium-term financial targets as of Nov 16, 2021.



# 1Q24 Adjusted Operating Expenses<sup>1</sup> Up 4%, Driven by Compensation and Benefits and Technology

- ❖ 1Q24 expense increase driven by higher compensation and benefits and technology support services
  - ❖ \$5 million increase in compensation-related expenses
  - ❖ \$2 million increase in technology support services

Adjusted Operating Expenses <sup>1</sup> (in millions)	1Q24	1Q23	% Chg
Compensation and benefits	\$115.3	\$110.4	4%
Depreciation and amortization <sup>1</sup>	11.1	10.5	6%
Technology support services	24.2	22.2	9%
Professional fees and outside services	21.5	23.9	-10%
Travel and promotional	7.5	6.2	21%
Facilities costs	6.5	7.6	-14%
Other expenses	6.8	5.4	26%
<b>Total<sup>1</sup></b>	<b>\$192.9</b>	<b>\$186.2</b>	<b>4%</b>

<sup>1</sup>Adjusted to reflect the impact of certain items. See Appendix for "Non-GAAP Information."

# 2024 Guidance

2024 Full-Year Guidance <sup>1</sup> (\$ in millions)	2024 Guidance as of May 3, 2024	2024 Guidance as of Feb. 2, 2024	2023 Actual <sup>2</sup>
<b>Data and Access Solutions<sup>3</sup> organic net revenue growth rate</b>	7 to 10%	7 to 10%	7%
<b>Total organic net revenue growth rate</b>	higher end of 5 to 7%	5 to 7%	10%
<b>Adjusted operating expenses<sup>4</sup></b> <i>implied growth rate</i>	\$795 to 805 6 to 7%	\$798 to 808 6 to 8%	\$750.5 15%
<b>Earnings in investments</b>	\$33 to 37	--	--
<b>Other income, net</b>	\$4 to 6	--	--
<b>Non-operating income benefit from minority investments</b>	\$37 to 43	\$37 to 43	\$40
<b>Depreciation and amortization</b> (excluding amortization of acquired intangible assets)	\$43 to 47	\$43 to 47	\$41
<b>Effective tax rate on adjusted earnings</b>	28.5 to 30.5%	28.5 to 30.5%	28.0%
<b>Capital expenditures</b>	\$51 to 57	\$51 to 57	\$45

<sup>1</sup>Specific quantifications of the amounts that would be required to reconcile the company's organic and inorganic growth guidance, adjusted operating expenses guidance and the effective tax rate on adjusted earnings guidance are not available. The company believes that there is uncertainty and unpredictability with respect to certain of its GAAP measures, primarily related to acquisition-related revenues and expenses that would be required to reconcile to GAAP revenues less costs of revenues, GAAP operating expenses and GAAP effective tax rate, which preclude the company from providing accurate guidance on certain forward-looking GAAP to non-GAAP reconciliations. The company believes that providing estimates of the amounts that would be required to reconcile the range of the company's organic growth, adjusted operating expenses and the effective tax rate on adjusted earnings would imply a degree of precision that would be confusing or misleading to investors for the reasons identified above.

<sup>2</sup>See "Non-GAAP Information" in the appendix for reconciliations of 2023 actual.

<sup>3</sup>Represents Access and Capacity Fees, Proprietary Market Data and revenue generated from licensing and indices related revenue reported in "Other Revenue."

<sup>4</sup>Adjusted operating expenses exclude acquisition-related expenses and amortization of acquired intangible assets. The amortization of acquired intangible assets was \$117 million for 2023 and is now expected to be \$93 million for 2024. Adjustments included in the non-GAAP reconciliation.

# Efficient Allocation of Capital to Create Long-Term Shareholder Value

Debt Outstanding (\$ in millions)	June 30, 2023	Sept. 30, 2023	Dec. 31, 2023	Mar. 31, 2024
3.650% Senior Notes (10Y; Due 2027)	\$650	\$650	\$650	\$650
1.625% Senior Notes (10Y; Due 2030)	500	500	500	500
3.000% Senior Notes (10Y; Due 2032)	300	300	300	300
Revolving Credit Agreement	-	-	-	-
Term Loan Facility	165	75	-	-
Cboe Clear Europe Credit Facility	-	-	-	-
<b>Total Debt (Gross)</b>	<b>\$1,615</b>	<b>\$1,525</b>	<b>\$1,450</b>	<b>\$1,450</b>
Debt to Adjusted EBITDA TTM <sup>1</sup>	1.4x	1.3x	1.2x	1.1x
Adjusted Cash & Financial Investments <sup>1</sup>	\$403	\$404	\$534	\$537
Share Repurchases	\$8.1	-	\$5.8	\$89.3
Dividends Paid	53.2	58.5	58.5	58.5
<b>Total Capital Returned to Shareholders</b>	<b>\$61.3</b>	<b>\$58.5</b>	<b>\$64.3</b>	<b>\$147.8</b>
Dividends Per Share	\$0.50	\$0.55	\$0.55	\$0.55

## Preserving balance sheet flexibility remains a priority

- ❖ Capital allocation priorities include:
  - ◆ Consistent dividend payments and growth
  - ◆ Investing in the growth of our business
  - ◆ Opportunistic share repurchases
  - ◆ Inorganic opportunities to facilitate growth strategy
- ❖ Returned \$58.5 million in capital through dividends and \$89.3 million in share repurchases;
- ❖ In April, the Company repurchased an additional \$27.4 million of its common stock under its share repurchase program.
- ❖ As of April 30, 2024, the Company had \$267.4 million of availability remaining under its existing share repurchase authorizations.

<sup>1</sup>See Appendix for "Non-GAAP Information."

# Positioned to Innovate, Integrate and Grow to Create Value



**Innovate** to capture growing demand for trading products and data services, globally

- ◆ Increase access to data products and trading solutions
- ◆ Unrivaled transaction capabilities
- ◆ Global presence in highest value markets



**Integrate** across ecosystem to increase efficiency and better serve customers

- ◆ Industry-leading technology
- ◆ Non-siloed integrations expand ecosystem and fuels flywheel
- ◆ Strong cash flow generation and operating efficiency



**Grow** by accessing untapped addressable markets

- ◆ Proven organic investment and M&A track record
- ◆ Expands and diversifies revenue opportunity set

# Q&A

# Appendix



# Options 1Q24 Net Revenue Up 10%, Reflecting Y/Y Increase in ADV and Recurring Non-Transaction Revenue

Options Selected Revenue Data (\$ in millions)	1Q24	1Q23	Chg
<b>Net Revenue</b>	<b>\$307.4</b>	<b>\$280.7</b>	<b>10%</b>
<b>Net transaction and clearing fees<sup>1</sup></b>	<b>\$270.3</b>	<b>\$241.9</b>	<b>12%</b>
Index options	228.1	198.3	15%
Multi-listed options	42.2	43.6	-3%
<b>Access and capacity</b>	<b>\$41.7</b>	<b>\$38.9</b>	<b>7%</b>
<b>Market data</b>	<b>\$29.1</b>	<b>\$28.0</b>	<b>4%</b>
Market data – proprietary	22.4	19.5	15%
Market data – industry	6.7	8.5	-21%
Options Key Operating Stats	1Q24	1Q23	Chg
<b>Total market share</b>	<b>31.3%</b>	<b>31.8%</b>	<b>-0.5pts</b>
Multi-listed options	24.8%	26.1%	-1.3pts
<b>Total ADV (in thousands)</b>	<b>14,833</b>	<b>14,657</b>	<b>1%</b>
Index options	4,089	3,595	14%
Multi-listed options	10,744	11,062	-3%
<b>Total RPC</b>	<b>\$0.299</b>	<b>\$0.267</b>	<b>12%</b>
Index options	\$0.915	\$0.889	3%
Multi-listed options	\$0.064	\$0.064	0%

- ◆ Higher transaction fees from index options given stronger volumes and RPC
- ◆ Access and capacity fees were up 7%
- ◆ Proprietary market data fees up 15%

<sup>1</sup>See appendix for "Non-GAAP Information."

# North American (N.A.) Equities 1Q24 Net Revenue Down 1% Driven by Lower Industry Market Data

N.A. Equities Selected Revenue Data (\$ in millions)	1Q24	1Q23	Chg
<b>Net Revenue</b>	<b>\$92.6</b>	<b>\$93.1</b>	<b>-1%</b>
<b>Net transaction and clearing fees<sup>1</sup></b>	<b>\$29.4</b>	<b>\$29.7</b>	<b>-1%</b>
<b>Market data</b>	<b>\$30.7</b>	<b>\$31.9</b>	<b>-4%</b>
Market data - proprietary	14.6	14.0	4%
Market data - SIP <sup>2</sup>	16.1	17.9	-10%
<b>Access and capacity fees</b>	<b>\$29.7</b>	<b>\$28.4</b>	<b>5%</b>
N.A. Equities Key Operating Stats	1Q24	1Q23	Chg
<b>U.S. Equities Exchange</b> (shares in billions)			
Total Market Share	12.8%	12.7%	0.1pts
Market ADV	11.8	11.8	0%
ADV (matched shares)	1.5	1.5	0%
Net capture (per 100 touched shares)	\$0.019	\$0.019	0%
<b>U.S. Equities Off-Exchange</b> (shares in millions)			
Off-Exchange ATS Block Market Share % <sup>3</sup>	18.4%	20.4%	-2.0pts
ADV (matched shares)	77.1	89.4	-14%
Net capture (per 100 touched shares)	\$0.141	\$0.113	24%
<b>Canadian Equities</b> (shares in millions)			
Total Market Share Percent	15.3%	14.3%	1.0pts
ADV (matched shares, in millions)	146.3	150.8	-3%
Net capture (per 10,000 touched shares, in CAD)	CAD 3.997	CAD 4.039	-1%

- ◆ Industry market data declined 10% as compared to 1Q23
- ◆ Net transaction and clearing fees were roughly flat for the quarter
- ◆ Access and capacity fees were up 5% as compared to 1Q23

<sup>1</sup>See appendix for "Non-GAAP Information."

<sup>2</sup>Includes SIP audit recoveries of \$0k in 1Q24 and \$800k in 1Q23.

<sup>3</sup>Represents market share for 1Q24 through Feb 2024.

# Europe and APAC Net Revenue up 10% for 1Q24, Driven by Non-Transaction Growth

Europe and APAC Selected Revenue Data (\$ in millions)	1Q24	1Q23	Chg
<b>Net Revenue</b>	<b>\$54.1</b>	<b>\$49.3</b>	<b>10%</b>
<b>Net transaction and clearing fees<sup>1</sup></b>	<b>\$26.3</b>	<b>\$26.2</b>	<b>0%</b>
Net transaction fees	19.5	18.9	3%
Net clearing fees	6.8	7.3	-7%
<b>Market data</b>	<b>\$9.7</b>	<b>\$8.7</b>	<b>11%</b>
<b>Access and capacity fees</b>	<b>\$10.1</b>	<b>\$8.9</b>	<b>13%</b>
<b>Other<sup>3</sup></b>	<b>\$8.0</b>	<b>\$5.5</b>	<b>45%</b>
Europe Key Operating Stats	1Q24	1Q23	Chg
<b>European Equities:</b>			
Total market share	23.7%	24.9%	-1.2pts
Market ADNV (in billions)	€ 41.8	€ 45.8	-9%
Net capture (per matched notional value, in bps)	0.249	0.215	16%
<b>Cboe Clear Europe</b>			
Trades cleared (in millions)	294.3	359.4	-18%
Fee per trade cleared	€ 0.008	€ 0.008	-3%
Net settlement volume (in millions)	2.5	2.7	-5%
Net fee per settlement	€ 1.072	€ 0.953	12%
European equities market share cleared	34.8%	34.1%	0.7pts
APAC Key Operating Stats	1Q24	1Q23	Chg
<b>Australian Equities:</b>			
Total market share	20.4%	18.5%	1.9pts
ADNV (AUD in billions)	\$0.8	\$0.8	0.0%
Net capture (per matched notional value)	0.156	0.160	-3%
<b>Japanese Equities:</b>			
Total market share	5.0%	4.8%	0.2pts
ADNV (JYP in billions)	¥315.9	¥183.3	72%
Net capture (per matched notional value)	0.227	0.243	-7%

- ◆ Market data, access fees and other were up a combined 20% in 1Q24
- ◆ Cboe Europe was the region's largest exchange by value traded during the quarter
- ◆ In 1Q24 Cboe Australia grew market share by 1.9% and Cboe Japan grew market share by 0.2%

<sup>1</sup>See appendix for "Non-GAAP Information."

<sup>2</sup>Source: big xyt.

<sup>3</sup>Primarily includes trade reporting and Cboe Clear Europe net interest income.

# Futures 1Q24 Net Revenue Down 2% Given Lower Volumes

<b>Futures Selected Revenue Data</b> (\$ in millions)	<b>1Q24</b>	<b>1Q23</b>	<b>Chg</b>
<b>Net Revenue</b>	<b>\$30.5</b>	<b>\$31.1</b>	<b>-2%</b>
<b>Net transaction and clearing fees<sup>1</sup></b>	<b>\$23.5</b>	<b>\$24.8</b>	<b>-5%</b>
<b>Access and capacity</b>	<b>\$5.7</b>	<b>\$5.3</b>	<b>8%</b>
<b>Market data</b>	<b>\$2.2</b>	<b>\$2.0</b>	<b>10%</b>
<b>Futures Key Operating Stats</b> (in thousands, except RPC)	<b>1Q24</b>	<b>1Q23</b>	<b>Chg</b>
Total ADV	220.0	231.8	-5%
Total RPC	\$1.749	\$1.725	1%

- ◆ Lower volumes drove a decrease in net transaction and clearing fees
- ◆ Access and capacity and market data saw solid year-over-year improvement during the quarter

<sup>1</sup>See appendix for “Non-GAAP Information.”

# Global FX Net 1Q24 Revenue Down 1%

<b>FX Selected Revenue Data</b> (\$ in millions)	<b>1Q24</b>	<b>1Q23</b>	<b>Chg</b>
<b>Net Revenue</b>	<b>\$18.4</b>	<b>\$18.5</b>	<b>-1%</b>
<b>Net transaction and clearing fees<sup>1</sup></b>	<b>15.2</b>	<b>15.5</b>	<b>-2%</b>
<b>Non-transaction revenue</b>	<b>3.2</b>	<b>3.0</b>	<b>7%</b>
<b>FX Key Operating Stats</b>	<b>1Q24</b>	<b>1Q23</b>	<b>Chg</b>
Market share <sup>2</sup>	20.3%	19.0%	1.3pts
Average Daily Notional Value (\$ in billions)	\$45.3	\$45.0	1%
Net capture (per one million dollars traded)	\$2.62	\$2.64	-1%

- ◆ Revenue decrease driven by slightly lower net capture rate
- ◆ Market share increased by 1.3% as compared to 1Q23

<sup>1</sup>See appendix for "Non-GAAP Information."

<sup>2</sup>Market share represents Cboe FX volume divided by the total volume of publicly reporting spot FX venues (Cboe FX, EBS, Refinitiv, and FastMatch).

# First Quarter 2024 Financial Overview

<b>Adjusted Financial Results<sup>1</sup></b> (\$ in millions, except per share)	<b>1Q24</b>	<b>1Q23</b>	<b>% Chg</b>
Net Revenue <sup>2</sup>	\$502.1	\$471.4	7%
Adjusted Operating Expenses <sup>1</sup>	\$192.9	\$186.2	4%
Adjusted Operating Income <sup>1</sup>	\$309.2	\$285.2	8%
<i>Adjusted Operating Margin<sup>1</sup></i>	61.6%	60.5%	1.1pts
Adjusted Net Income Allocated to Common Stockholders <sup>1</sup>	\$227.7	\$201.8	13%
Adjusted Diluted EPS <sup>1</sup>	\$2.15	\$1.90	13%
Adjusted EBITDA <sup>1</sup>	\$337.3	\$310.3	9%
<i>Adjusted EBITDA Margin<sup>1</sup></i>	67.2%	65.8%	1.4pts

<sup>1</sup>Adjusted to reflect the impact of certain items. See Appendix for "Non-GAAP Information."

<sup>2</sup>Net revenue represents revenue less cost of revenues.



# Net Revenue Detail

Net Revenue <sup>1</sup> (in millions)	1Q24	1Q23	% Chg
Cash and Spot Markets	\$97.3	\$97.2	--
Data and Access Solutions	137.7	127.2	8%
Derivatives Markets	267.1	247.0	8%
<b>Total</b>	<b>\$502.1</b>	<b>\$471.4</b>	<b>7%</b>

- ◆ Derivatives Markets driven by strong transaction and clearing fees
- ◆ Data and Access Solutions benefited from strong new subscription / unit growth

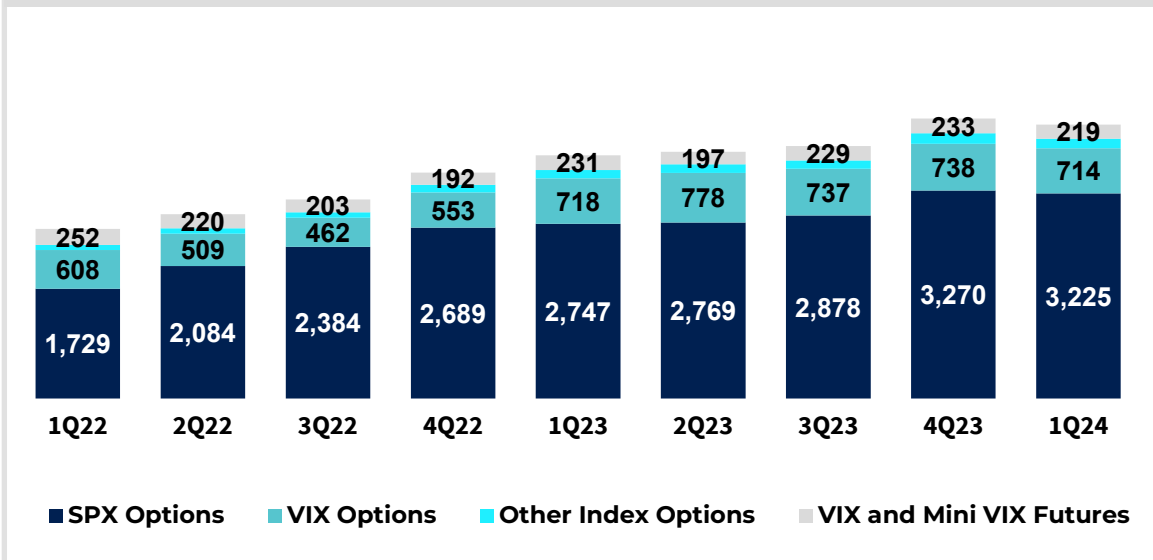
<sup>1</sup>Net revenue represents revenue less cost of revenues.

# Focused on Growing the Proprietary Index Suite

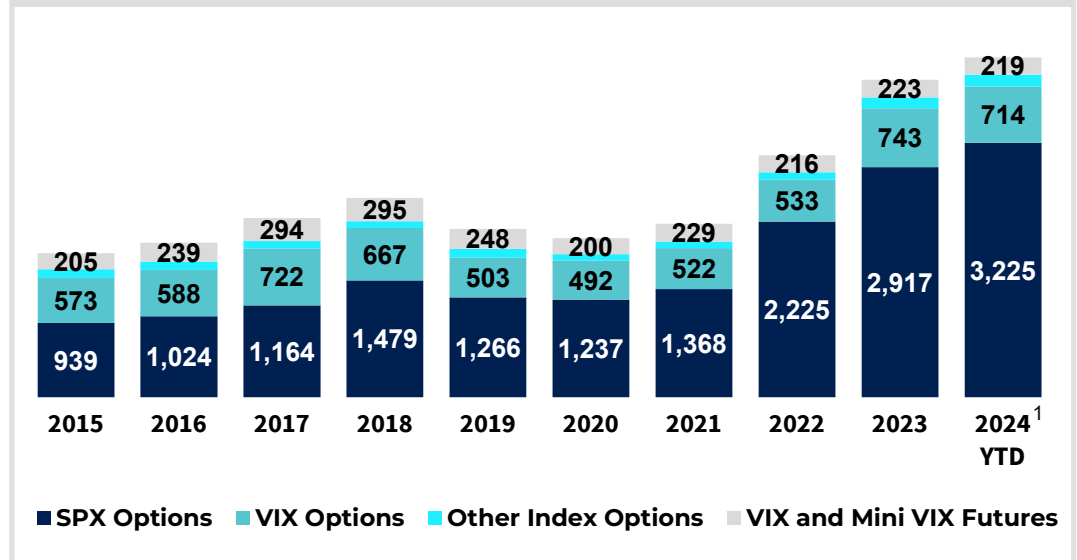
Index customers at Cboe typically use the toolkit of Cboe proprietary products interchangeably or in tandem, depending on market conditions

- ◆ Plan to further penetrate existing markets with an emphasis on education, targeting key market segments and geographies
  - ◆ Expanded global trading hours for SPX and VIX options in November 2021, XSP options in December 2022
  - ◆ Launched Tuesday-expiring SPX Weeklys April 2022, Thursday expirations in May 2022; launched Tuesday / Thursday Russell 2000 Index Options in January 2024
  - ◆ Launched options on IBHY and IBIG futures in July 2023

**Quarterly ADV for Index Options and VIX Futures**  
(in thousands)



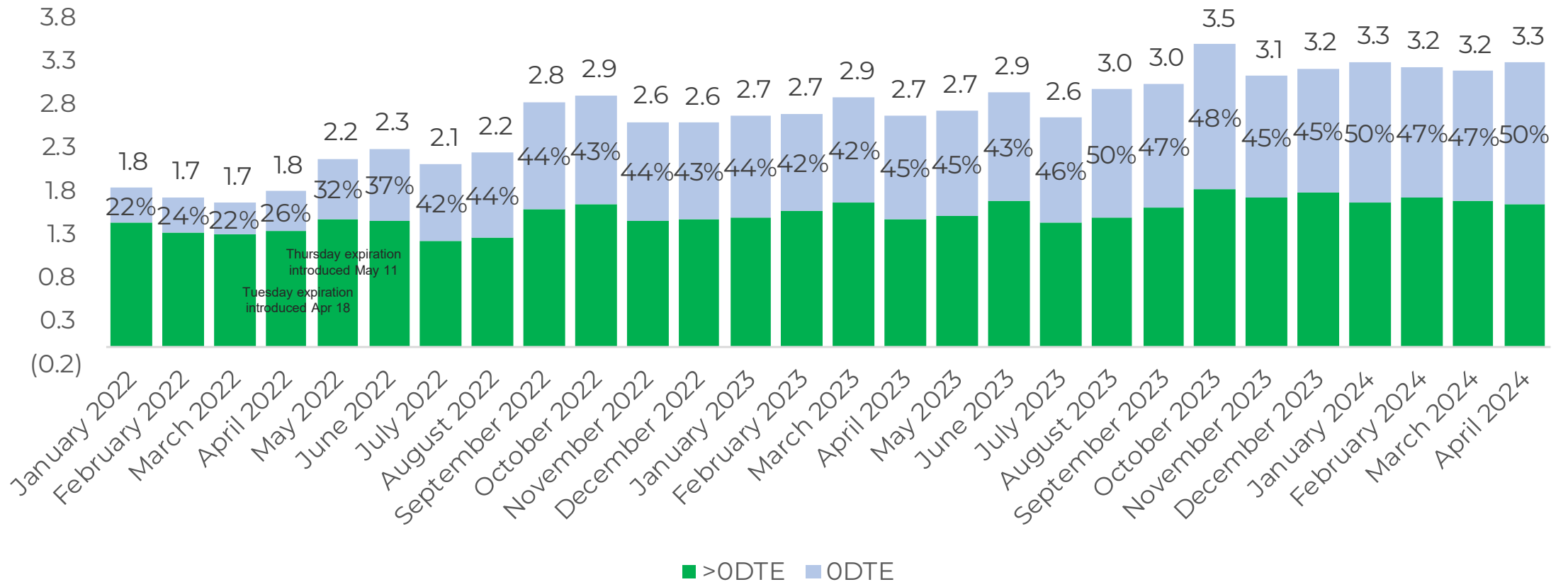
**Annual ADV for Index Options and VIX Futures**  
(in thousands)



<sup>1</sup>2024 YTD through March 2024.

# ODTE Adding Stability to SPX Volumes

## SPX Volume by Expiration



In millions of contracts

# Non-GAAP Information

# Non-GAAP Information

In addition to disclosing results determined in accordance with GAAP, Cboe Global Markets has disclosed certain non-GAAP measures of operating performance. These measures are not in accordance with, or a substitute for, GAAP, and may be different from or inconsistent with non-GAAP financial measures used by other companies. The non-GAAP measures provided in this presentation include net transaction and clearing fees, adjusted operating expenses, adjusted operating income, organic net revenue, inorganic net revenue, and adjusted operating margin, adjusted net income allocated to common stockholders and adjusted diluted earnings per share, effective tax rate on adjusted earnings, adjusted cash, net revenues in constant currency, EBITDA, EBITDA margin, adjusted EBITDA and adjusted EBITDA margin.

Management believes that the non-GAAP financial measures presented in this presentation provide additional and comparative information to assess trends in our core operations and a means to evaluate period-to-period comparisons. Non-GAAP financial measures disclosed by management are provided as additional information to investors in order to provide them with an alternative method for assessing our financial condition and operating results.

*Organic net revenue, inorganic net revenue, organic non-transaction revenue and organic net revenue guidance:* These are non-GAAP financial measures that exclude or have otherwise been adjusted for the impact of our acquisitions for the period or guidance, as applicable. Management believes the organic net revenue growth and guidance measures provide users with supplemental information regarding the company's ongoing and future potential revenue performances and trends by presenting revenue growth and guidance excluding the impact of the acquisitions. Revenues from acquisitions that have been owned for at least one year are considered organic and are no longer excluded from organic net revenue from either period for comparative purposes.

*Amortization expense of acquired intangible assets:* We amortize intangible assets acquired in connection with various acquisitions. Amortization of intangible assets is inconsistent in amount and frequency and is significantly affected by the timing and size of our acquisitions. As such, if intangible asset amortization is included in performance measures, it is more difficult to assess the day-to-day operating performance of the businesses, the relative operating performance of the businesses between periods and the earnings power of the company. Therefore, we believe performance measures excluding intangible asset amortization expense provide investors with an additional basis for comparison across accounting periods.

*Acquisition-related expenses:* From time to time, we have pursued acquisitions, which have resulted in expenses which would not otherwise have been incurred in the normal course of the company's business operations. These expenses include integration costs, as well as legal, due diligence, impairment charges, and other third-party transaction costs. The frequency and the amount of such expenses vary significantly based on the size, timing and complexity of the transaction. Accordingly, we exclude these costs for purposes of calculating non-GAAP measures which provide an additional analysis of Cboe's ongoing operating performance or comparisons in Cboe's performance between periods.

# Non-GAAP Information

## Reconciliation of Net Transaction and Clearing Fees by Segment

For the Three Months Ended June 30 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Transaction and clearing fees	\$ 384.3	\$ 353.0	\$ 229.4	\$ 304.5	\$ 35.6	\$ 40.6	\$ 22.4	\$ 23.0	\$ 15.0	\$ 14.1	\$ (1.0)	\$ 0.1	\$ 685.7	\$ 735.3
Liquidity payments	(135.8)	(158.4)	(193.1)	(261.4)	(8.1)	(9.1)	-	-	-	-	(0.4)	(0.1)	(337.4)	(429.0)
Routing and clearing	(8.1)	(5.9)	(8.0)	(10.5)	(4.4)	(4.3)	-	-	(0.3)	(0.2)	-	-	(20.8)	(20.9)
<b>Net transaction and clearing fees</b>	<b>\$ 240.4</b>	<b>\$ 188.7</b>	<b>\$ 28.3</b>	<b>\$ 32.6</b>	<b>\$ 23.1</b>	<b>\$ 27.2</b>	<b>\$ 22.4</b>	<b>\$ 23.0</b>	<b>\$ 14.7</b>	<b>\$ 13.9</b>	<b>\$ (1.4)</b>	<b>\$ -</b>	<b>\$ 327.5</b>	<b>\$ 285.4</b>

For the Three Months Ended Sept 30 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Transaction and clearing fees	\$ 384.6	\$ 377.7	\$ 221.9	\$ 264.6	\$ 32.6	\$ 35.9	\$ 25.4	\$ 22.3	\$ 15.6	\$ 14.9	\$ (1.5)	\$ 0.1	\$ 678.6	\$ 715.5
Liquidity payments	(130.5)	(160.3)	(185.6)	(223.5)	(7.3)	(8.4)	-	-	-	-	(0.3)	(0.1)	(323.7)	(392.3)
Routing and clearing	(5.8)	(7.3)	(7.3)	(8.6)	(4.4)	(4.0)	-	-	(0.3)	(0.3)	-	-	(17.8)	(20.2)
<b>Net transaction and clearing fees</b>	<b>\$ 248.3</b>	<b>\$ 210.1</b>	<b>\$ 29.0</b>	<b>\$ 32.5</b>	<b>\$ 20.9</b>	<b>\$ 23.5</b>	<b>\$ 25.4</b>	<b>\$ 22.3</b>	<b>\$ 15.3</b>	<b>\$ 14.6</b>	<b>\$ (1.8)</b>	<b>\$ -</b>	<b>\$ 337.1</b>	<b>\$ 303.0</b>

For the Three Months Ended Dec 31 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Transaction and clearing fees	\$ 419.0	\$ 392.7	\$ 240.0	\$ 255.4	\$ 35.3	\$ 35.3	\$ 25.4	\$ 20.5	\$ 15.8	\$ 14.4	\$ (1.0)	\$ 0.1	\$ 734.5	\$ 718.4
Liquidity payments	(135.3)	(157.7)	(209.5)	(214.4)	(8.0)	(8.8)	-	-	-	-	(0.1)	(0.5)	(352.9)	(381.4)
Routing and clearing	(4.3)	(7.3)	(7.6)	(8.2)	(4.3)	(4.2)	-	-	(0.3)	(0.1)	-	-	(16.5)	(19.8)
<b>Net transaction and clearing fees</b>	<b>\$ 279.4</b>	<b>\$ 227.7</b>	<b>\$ 22.9</b>	<b>\$ 32.8</b>	<b>\$ 23.0</b>	<b>\$ 22.3</b>	<b>\$ 25.4</b>	<b>\$ 20.5</b>	<b>\$ 15.5</b>	<b>\$ 14.3</b>	<b>\$ (1.1)</b>	<b>\$ (0.4)</b>	<b>\$ 365.1</b>	<b>\$ 317.2</b>

For the Three Months Ended March 31 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023
Transaction and clearing fees	\$ 389.8	\$ 395.8	\$ 251.7	\$ 255.0	\$ 38.8	\$ 42.1	\$ 23.5	\$ 24.8	\$ 15.5	\$ 15.8	\$ (0.8)	\$ (1.0)	\$ 718.5	\$ 732.5
Liquidity payments	(115.3)	(144.2)	(215.2)	(215.9)	(8.1)	(11.3)	-	-	-	-	(0.2)	(0.4)	(338.8)	(371.8)
Routing and clearing	(4.2)	(9.7)	(7.1)	(9.4)	(4.4)	(4.6)	-	-	(0.3)	(0.3)	-	-	(16.0)	(24.0)
<b>Net transaction and clearing fees</b>	<b>\$ 270.3</b>	<b>\$ 241.9</b>	<b>\$ 29.4</b>	<b>\$ 29.7</b>	<b>\$ 26.3</b>	<b>\$ 26.2</b>	<b>\$ 23.5</b>	<b>\$ 24.8</b>	<b>\$ 15.2</b>	<b>\$ 15.5</b>	<b>\$ (1.0)</b>	<b>\$ (1.4)</b>	<b>\$ 363.7</b>	<b>\$ 336.7</b>

# Non-GAAP Information

## Reconciliation of GAAP Net Revenues to Net Revenues in Constant Currency

Net Revenue (in millions)	Three Months Ended, Mar 31, 2024
Europe and Asia Pacific net revenues	\$54.1
Constant currency adjustment	(0.7)
<b>Europe and Asia Pacific net revenues in constant currency<sup>1</sup></b>	<b>\$53.4</b>

<sup>1</sup> Net revenues in constant currency is calculated by converting the current period GAAP net revenues in local currency using the foreign currency exchange rates that were in effect during the previous comparable period.

# Non-GAAP Information

## Reconciliation of Net Revenue by Revenue Caption

For the Three Months Ended Mar. 31 (in millions)	Cash and Spot Markets		Data and Access Solutions		Derivatives Markets		Total	
	2024	2023	2024	2023	2024	2023	2024	2023
Transaction and clearing fees	\$ 305.2	\$ 311.9	\$ -	\$ -	\$ 413.3	\$ 420.6	\$ 718.5	\$ 732.5
Access and capacity fees	-	-	90.1	84.2	-	-	90.1	84.2
Market data fees	16.0	17.9	49.3	44.5	6.7	8.5	72.0	70.9
Regulatory fees	34.9	62.6	-	-	15.3	21.9	50.2	84.5
Other revenue	24.8	14.6	0.8	0.7	0.8	0.8	26.4	16.1
<b>Total revenues</b>	<b>380.9</b>	<b>407.0</b>	<b>140.2</b>	<b>129.4</b>	<b>436.1</b>	<b>451.8</b>	<b>957.2</b>	<b>988.2</b>
Liquidity payments	222.9	227.0	-	-	115.9	144.8	338.8	371.8
Routing and clearing fees	11.8	14.3	-	-	4.2	9.7	16.0	24.0
Section 31 fees	34.7	61.4	-	-	7.4	13.5	42.1	74.9
Royalty fees and other cost of revenues	14.2	7.1	2.5	2.2	41.5	36.8	58.2	46.1
<b>Total cost of revenues</b>	<b>283.6</b>	<b>309.8</b>	<b>2.5</b>	<b>2.2</b>	<b>169.0</b>	<b>204.8</b>	<b>455.1</b>	<b>516.8</b>
<b>Revenues less cost of revenues (net revenue)</b>	<b>97.3</b>	<b>97.2</b>	<b>137.7</b>	<b>127.2</b>	<b>267.1</b>	<b>247.0</b>	<b>502.1</b>	<b>471.4</b>
Acquisition revenue less cost of revenues (inorganic net revenue)	-	-	-	-	-	-	-	-
<b>Organic net revenue</b>	<b>97.3</b>	<b>97.2</b>	<b>137.7</b>	<b>127.2</b>	<b>267.1</b>	<b>247.0</b>	<b>502.1</b>	<b>471.4</b>



# Non-GAAP Information

## Non-GAAP Information

(in millions, except per share amounts)

	1Q23	2Q23	3Q23	4Q23	2023	1Q24
<b>Reconciliation of Net Income Allocated to Common Stockholders to Non-GAAP</b>						
Net income allocated to common stockholders	\$ 172.6	\$ 167.0	\$ 207.1	\$ 210.8	\$ 757.5	\$ 208.3
Acquisition-related expenses (1)	6.4	0.7	0.8	(0.5)	7.4	0.6
Amortization of acquired intangible assets (2)	30.9	29.3	28.2	28.2	116.6	26.2
Income from investment (3)	-	(2.1)	-	-	(2.1)	-
Gain on revaluation of Cboe Digital non-recourse notes and warrants (4)	-	-	-	-	-	(0.4)
Impairment of Investment (5)	-	-	-	1.8	1.8	-
Change in contingent consideration (6)	-	-	-	(14.4)	(14.4)	-
<b>Total Non-GAAP adjustments - pretax</b>	<b>37.3</b>	<b>27.9</b>	<b>29.0</b>	<b>15.1</b>	<b>109.3</b>	<b>26.4</b>
Income tax expense related to the items above	(9.5)	(6.8)	(6.9)	(7.4)	(30.7)	(6.9)
Tax reserves (7)	1.5	0.7	(10.2)	1.9	(6.0)	-
Deferred tax re-measurements	-	-	-	1.1	1.1	-
Valuation allowances	-	-	-	(2.7)	(2.7)	-
Net income allocated to participating securities - effect on reconciling items	(0.1)	(0.1)	(0.1)	-	(0.4)	(0.1)
<b>Adjusted net income allocated to common stockholders</b>	<b>\$ 201.8</b>	<b>\$ 188.7</b>	<b>\$ 218.9</b>	<b>\$ 218.8</b>	<b>\$ 828.1</b>	<b>\$ 227.7</b>
<b>Reconciliation of Diluted EPS to Non-GAAP</b>						
Diluted earnings per common share	\$ 1.63	\$ 1.57	\$ 1.95	\$ 1.98	\$ 7.13	\$ 1.96
Per share impact of non-GAAP adjustments noted above	0.27	0.21	0.11	0.08	0.67	0.19
<b>Adjusted diluted earnings per common share</b>	<b>\$ 1.90</b>	<b>\$ 1.78</b>	<b>\$ 2.06</b>	<b>\$ 2.06</b>	<b>\$ 7.80</b>	<b>\$ 2.15</b>
<b>Reconciliation of Operating Margin to Non-GAAP</b>						
Revenue less cost of revenue	\$ 471.4	\$ 467.1	\$ 480.5	\$ 499.0	\$ 1,918.0	\$ 502.1
Non-GAAP adjustments noted above	-	-	-	-	-	-
<b>Adjusted revenue less cost of revenue</b>	<b>\$ 471.4</b>	<b>\$ 467.1</b>	<b>\$ 480.5</b>	<b>\$ 499.0</b>	<b>\$ 1,918.0</b>	<b>\$ 502.1</b>
<b>Operating expenses (8)</b>	<b>\$ 223.5</b>	<b>\$ 222.3</b>	<b>\$ 209.3</b>	<b>\$ 205.0</b>	<b>\$ 860.1</b>	<b>\$ 219.7</b>
Non-GAAP expense adjustments noted above	37.3	30.0	29.0	13.3	109.6	26.8
<b>Adjusted operating expenses</b>	<b>\$ 186.2</b>	<b>\$ 192.3</b>	<b>\$ 180.3</b>	<b>\$ 191.7</b>	<b>\$ 750.5</b>	<b>\$ 192.9</b>
Non-GAAP expense adjustments to arrive at organic adjusted operating expenses	\$ (12.2)	\$ (5.1)	\$ -	\$ -	\$ (17.3)	\$ -
<b>Organic adjusted operating expenses</b>	<b>\$ 174.0</b>	<b>\$ 187.1</b>	<b>\$ 180.3</b>	<b>\$ 191.7</b>	<b>\$ 733.2</b>	<b>\$ 192.9</b>
Operating income	\$ 247.9	\$ 244.8	\$ 271.2	\$ 294.0	\$ 1,057.9	\$ 282.4
Non-GAAP expense adjustments noted above	37.3	30.0	29.0	13.3	109.6	26.8
<b>Adjusted operating income</b>	<b>\$ 285.2</b>	<b>\$ 274.8</b>	<b>\$ 300.2</b>	<b>\$ 307.3</b>	<b>\$ 1,167.5</b>	<b>\$ 309.2</b>
<b>Adjusted operating margin (9)</b>	<b>60.5%</b>	<b>58.8%</b>	<b>62.5%</b>	<b>61.6%</b>	<b>60.9%</b>	<b>61.6%</b>
<b>Reconciliation of Income Tax Rate to Non-GAAP</b>						
Income before income taxes	\$ 248.2	\$ 241.8	\$ 270.1	\$ 287.5	\$ 1,047.6	\$ 292.1
Non-GAAP adjustments noted above	37.3	27.9	29.0	15.1	109.3	26.4
<b>Adjusted income before income taxes</b>	<b>\$ 285.5</b>	<b>\$ 269.7</b>	<b>\$ 299.1</b>	<b>\$ 302.6</b>	<b>\$ 1,156.9</b>	<b>\$ 318.5</b>
Income tax expense	\$ 74.8	\$ 74.0	\$ 61.9	\$ 75.5	\$ 286.2	\$ 82.6
Non-GAAP adjustments noted above	8.0	6.1	17.1	7.1	38.3	6.9
<b>Adjusted income tax expense</b>	<b>\$ 82.8</b>	<b>\$ 80.1</b>	<b>\$ 79.0</b>	<b>\$ 82.6</b>	<b>\$ 324.5</b>	<b>\$ 89.5</b>
<b>Adjusted income tax rate</b>	<b>29.0%</b>	<b>29.7%</b>	<b>26.4%</b>	<b>27.3%</b>	<b>28.0%</b>	<b>28.1%</b>

(1) This amount includes ongoing acquisition related costs primarily from the Company's Cboe Digital, Cboe Canada, Cboe Japan and Cboe Australia acquisitions.

(2) This amount represents the amortization of acquired intangible assets related to the company's acquisitions.

(3) This amount represents the dividend from the Company's minority ownership of Vest Group Inc.

(4) This amount represents the gain due to the revaluation of the Cboe Digital non-recourse notes and warrants, which is included in other income (expense), net on the Condensed Consolidated Statements of Income.

(5) This amount represents the impairment of investment related to the Company's minority investments in American Financial Exchange, LLC and Effective Investing Limited.

(6) This amount represents the reduction in contingent consideration related to the acquisitions of Cboe Japan and Cboe Canada.

(7) This amount represents the tax reserves related to Section 199 matters.

(8) The company sponsors deferred compensation plans held in a trust. The expenses or income related to the deferred compensation plans are included in "Compensation and benefits" (\$1.5 million and \$3.2 million in expense for the three months ended March 31, 2024 and 2023, respectively, and are directly offset by deferred compensation income, expenses and dividends included within "Other income (expense), net" (\$1.5 million and \$3.2 million in income, expense and dividends in the three months ended March 31, 2024 and 2023, respectively, on the condensed consolidated statements of income. The deferred compensation plans' expenses are not excluded from "adjusted operating expenses" and do not have an impact on "Income before income taxes."

(9) Adjusted operating margin represents adjusted operating income divided by adjusted revenue less cost of revenue.

# Non-GAAP Information

## Non-GAAP Information

(in millions, except per share amounts)	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
<b>Reconciliation of Net Income Allocated to Common Stockholders to Non-GAAP</b>										
Net income allocated to common stockholders	\$ 136.8	\$ 105.2	\$ 120.0	\$ 165.3	\$ 527.3	\$ 109.2	\$ (184.5)	\$ 149.6	\$ 159.0	\$ 234.2
Acquisition-related expenses (1)	3.4	1.8	6.7	3.7	15.6	2.0	14.3	1.6	2.0	19.9
Investment establishment costs (2)	-	-	-	-	-	3.0	-	-	-	3.0
Gain on investments (3)	-	-	-	-	-	-	(7.5)	-	-	(7.5)
Loan Forgiveness (4)	-	-	-	-	-	-	(1.3)	-	-	(1.3)
Amortization of acquired intangible assets (5)	32.9	30.5	31.8	31.4	126.6	30.6	30.1	30.4	33.2	124.3
Goodwill impairment (6)	-	-	-	-	-	-	460.1	0.8	-	460.9
Impairment of Investment (7)	-	-	5.0	-	5.0	-	10.6	-	-	10.6
Change in contingent consideration (8)	-	-	-	(2.7)	(2.7)	-	-	-	(5.2)	(5.2)
<b>Total Non-GAAP adjustments - pretax</b>	<b>36.3</b>	<b>32.3</b>	<b>43.5</b>	<b>32.4</b>	<b>144.5</b>	<b>35.6</b>	<b>506.3</b>	<b>32.8</b>	<b>30.0</b>	<b>604.7</b>
Income tax expense related to the items above	(8.2)	(7.7)	(8.5)	(7.4)	(31.8)	(8.7)	(143.2)	2.9	5.3	(143.7)
Release of tax reserves	-	-	-	(5.4)	(5.4)	-	-	-	-	-
Deferred tax remeasurement	-	17.7	-	(3.1)	14.6	-	-	-	(2.0)	(2.0)
Tax reserves (9)	-	-	-	-	-	48.5	-	-	-	48.5
Net income allocated to participating securities - effect on reconciling items	(0.1)	(0.1)	(0.1)	(0.1)	(0.4)	(0.3)	(1.3)	(0.1)	(0.1)	(1.8)
<b>Adjusted net income allocated to common stockholders</b>	<b>\$ 164.8</b>	<b>\$ 147.4</b>	<b>\$ 154.9</b>	<b>\$ 181.7</b>	<b>\$ 648.8</b>	<b>\$ 184.3</b>	<b>\$ 177.3</b>	<b>\$ 185.2</b>	<b>\$ 192.2</b>	<b>\$ 739.8</b>
<b>Reconciliation of Diluted EPS to Non-GAAP</b>										
Diluted earnings per common share	\$ 1.27	\$ 0.98	\$ 1.12	\$ 1.54	\$ 4.92	\$ 1.02	\$ (1.74)	\$ 1.41	\$ 1.49	\$ 2.19
Per share impact of non-GAAP adjustments noted above	0.26	0.40	0.33	0.16	1.13	0.71	3.41	0.33	0.31	4.74
<b>Adjusted diluted earnings per common share</b>	<b>\$ 1.53</b>	<b>\$ 1.38</b>	<b>\$ 1.45</b>	<b>\$ 1.70</b>	<b>\$ 6.05</b>	<b>\$ 1.73</b>	<b>\$ 1.67</b>	<b>\$ 1.74</b>	<b>\$ 1.80</b>	<b>\$ 6.93</b>
<b>Reconciliation of Operating Margin to Non-GAAP</b>										
Revenue less cost of revenue	\$ 365.5	\$ 350.6	\$ 369.5	\$ 390.5	\$ 1,476.1	\$ 418.1	\$ 424.1	\$ 442.4	\$ 457.1	\$ 1,741.7
Non-GAAP adjustments noted above	-	-	-	-	-	-	-	-	-	-
<b>Adjusted revenue less cost of revenue</b>	<b>\$ 365.5</b>	<b>\$ 350.6</b>	<b>\$ 369.5</b>	<b>\$ 390.5</b>	<b>\$ 1,476.1</b>	<b>\$ 418.1</b>	<b>\$ 424.1</b>	<b>\$ 442.4</b>	<b>\$ 457.1</b>	<b>\$ 1,741.7</b>
<b>Operating expenses (10)</b>	<b>\$ 160.9</b>	<b>\$ 160.6</b>	<b>\$ 178.8</b>	<b>\$ 169.9</b>	<b>\$ 670.2</b>	<b>\$ 178.4</b>	<b>\$ 661.5</b>	<b>\$ 205.6</b>	<b>\$ 206.6</b>	<b>\$ 1,252.1</b>
Non-GAAP expense adjustments noted above	(36.3)	(32.3)	(38.5)	(32.4)	(139.5)	(32.6)	504.5	32.8	30.0	599.9
<b>Adjusted operating expenses</b>	<b>\$ 124.6</b>	<b>\$ 128.3</b>	<b>\$ 140.3</b>	<b>\$ 137.5</b>	<b>\$ 530.7</b>	<b>\$ 145.8</b>	<b>\$ 157.0</b>	<b>\$ 172.8</b>	<b>\$ 176.6</b>	<b>\$ 652.2</b>
Non-GAAP expense adjustments to arrive at organic adjusted operating expenses	(18.4)	(17.0)	(12.6)	(10.7)	(58.7)	(6.4)	(13.7)	(7.6)	(10.8)	(38.5)
<b>Organic adjusted operating expenses</b>	<b>\$ 106.2</b>	<b>\$ 111.3</b>	<b>\$ 127.7</b>	<b>\$ 126.8</b>	<b>\$ 472.0</b>	<b>\$ 139.4</b>	<b>\$ 143.3</b>	<b>\$ 165.2</b>	<b>\$ 165.8</b>	<b>\$ 613.7</b>
Operating income	\$ 204.6	\$ 190.0	\$ 190.7	\$ 220.6	\$ 805.9	\$ 239.7	\$ (237.4)	\$ 236.8	\$ 250.5	\$ 489.6
Non-GAAP expense adjustments noted above	36.3	32.3	38.5	32.4	139.5	32.6	504.5	32.8	30.0	599.9
<b>Adjusted operating income</b>	<b>\$ 240.9</b>	<b>\$ 222.3</b>	<b>\$ 229.2</b>	<b>\$ 253.0</b>	<b>\$ 945.4</b>	<b>\$ 272.3</b>	<b>\$ 267.1</b>	<b>\$ 269.6</b>	<b>\$ 280.5</b>	<b>\$ 1,089.5</b>
<b>Adjusted operating margin (11)</b>	<b>65.9%</b>	<b>63.4%</b>	<b>62.0%</b>	<b>64.8%</b>	<b>64.0%</b>	<b>65.1%</b>	<b>63.0%</b>	<b>60.9%</b>	<b>61.4%</b>	<b>62.6%</b>
<b>Reconciliation of Income Tax Rate to Non-GAAP</b>										
Income before income taxes	\$ 192.9	\$ 179.2	\$ 173.8	\$ 210.2	\$ 756.1	\$ 224.9	\$ (256.8)	\$ 229.0	\$ 235.8	\$ 432.9
Non-GAAP adjustments noted above	36.3	32.3	43.5	32.4	144.5	35.6	506.3	32.8	30.0	604.7
<b>Adjusted income before income taxes</b>	<b>\$ 229.2</b>	<b>\$ 211.5</b>	<b>\$ 217.3</b>	<b>\$ 242.6</b>	<b>\$ 900.6</b>	<b>\$ 260.5</b>	<b>\$ 249.5</b>	<b>\$ 261.8</b>	<b>\$ 265.8</b>	<b>\$ 1,037.6</b>
Income tax expense	\$ 55.7	\$ 73.7	\$ 53.4	\$ 44.3	\$ 227.1	\$ 115.3	\$ (72.3)	\$ 78.8	\$ 76.1	\$ 197.9
Non-GAAP adjustments noted above	8.2	(10.0)	8.5	15.9	22.6	(39.8)	143.2	(2.9)	(3.3)	97.2
<b>Adjusted income tax expense</b>	<b>\$ 63.9</b>	<b>\$ 63.7</b>	<b>\$ 61.9</b>	<b>\$ 60.2</b>	<b>\$ 249.7</b>	<b>\$ 75.5</b>	<b>\$ 70.9</b>	<b>\$ 75.9</b>	<b>\$ 72.8</b>	<b>\$ 295.1</b>
<b>Adjusted income tax rate</b>	<b>27.9%</b>	<b>30.1%</b>	<b>28.5%</b>	<b>24.8%</b>	<b>27.7%</b>	<b>29.0%</b>	<b>28.4%</b>	<b>29.0%</b>	<b>27.4%</b>	<b>28.4%</b>

(1) This amount includes professional fees (which includes fees associated with the valuation of the Cboe Digital goodwill impairment) and outside services.

(2) This amount represents the investment establishment costs related to the company's investment in 7RIDGE Investments 3 LP, which acquired Trading Technologies, Inc.

(3) This amount represents the gain on the Company's investment in Eris Innovations Holdings, LLC in connection with the full acquisition of Cboe Digital (formerly ErisX).

(4) This amount represents the forgiveness of a PPP ("Paycheck Protection Program") loan previously held by Cboe Digital.

(5) This amount represents the amortization of acquired intangible assets related to the company's acquisitions.

(6) This amount represents the impairment of Cboe Digital goodwill

(7) This amount represents the impairment of investment related to the Company's investments in American Financial Exchange, LLC in 2022 and Curve Global in 2021

(8) This amount represents the change in contingent consideration related to the adjustment recorded to MATCHNow's contingent consideration.

(9) This amount represents the tax reserves related to Section 199 matters.

(10) The company sponsors deferred compensation plans held in a trust. The expenses or income related to the deferred compensation plans are included in "Compensation and benefits" (\$2.0 million and \$1.8 million in expense for the three months ended December 31, 2022 and 2021, respectively, and \$0.5 million and \$3.5 million in expense for the twelve months ended December, 2022 and 2021, respectively), and are directly offset by deferred compensation income, expenses and dividends included within "Other income, net" (\$2.0 million and \$1.8 million in income, expense and dividends in the three months ended December 31, 2022 and 2021, respectively, and \$0.5 million and \$3.5 million in income, expense and dividends in the twelve months ended December, 2022 and 2021, respectively), on the condensed consolidated statements of income. The deferred compensation plans' expenses are not excluded from "adjusted operating expenses" and do not have an impact on "Income before income taxes."

(11) Adjusted operating margin represents adjusted operating income divided by adjusted revenue less cost of revenue.

Note: 2022 Net Income allocated to common shareholders and non-GAAP EPS may not sum due to ASC 260 treatment of 2Q22 loss.

# Non-GAAP Information

## **EBITDA Reconciliations**

EBITDA (earnings before interest, income taxes, depreciation and amortization) and Adjusted EBITDA are widely used non-GAAP financial measures of operating performance. EBITDA margin represents EBITDA divided by revenues less cost of revenues (net revenue). It is presented as supplemental information that the company believes is useful to investors to evaluate its results because it excludes certain items that are not directly related to the company's core operating performance. EBITDA is calculated by adding back to net income interest expense, income tax expense, depreciation and amortization. Adjusted EBITDA is calculated by adding back to EBITDA acquisition-related expenses, impairment of investment, income from investment, and gain on revaluation of Cboe Digital non-recourse notes and warrants. EBITDA and Adjusted EBITDA should not be considered as substitutes either for net income, as an indicator of the company's operating performance, or for cash flow, as a measure of the company's liquidity. In addition, because EBITDA and Adjusted EBITDA may not be calculated identically by all companies, the presentation here may not be comparable to other similarly titled measures of other companies. Adjusted EBITDA margin represents Adjusted EBITDA divided by net revenue.

### **Reconciliation of Net Income Allocated to Common Stockholders to EBITDA and Adjusted EBITDA**

**(in millions, except per share amounts)**

	<b>1Q23</b>	<b>2Q23</b>	<b>3Q23</b>	<b>4Q23</b>	<b>2023</b>	<b>1Q24</b>
<b>Net income allocated to common stockholders</b>	\$ 172.6	\$ 167.0	\$ 207.1	\$ 210.8	\$ 757.5	\$ 208.3
Interest expense, net	15.1	13.9	11.9	9.5	50.4	8.9
Income tax provision	74.8	74.0	61.9	75.5	286.2	82.6
Depreciation and amortization	41.4	39.8	38.8	38.0	158.0	37.3
<b>EBITDA</b>	<b>\$ 303.9</b>	<b>\$ 294.7</b>	<b>\$ 319.7</b>	<b>\$ 333.8</b>	<b>\$ 1,252.1</b>	<b>\$ 337.1</b>
<b>EBITDA Margin</b>	<b>64.5%</b>	<b>63.1%</b>	<b>66.5%</b>	<b>66.9%</b>	<b>65.3%</b>	<b>67.1%</b>
<b>Non-GAAP adjustments not included in above line items</b>						
Acquisition-related expenses	6.4	0.7	0.8	(0.5)	7.4	0.6
Change in contingent consideration	-	-	-	(14.4)	(14.4)	-
Gain on revaluation of Cboe Digital non-recourse notes and warrants	-	-	-	-	-	(0.4)
Income from investment	-	(2.1)	-	-	(2.1)	-
Impairment of investment	-	-	-	1.8	1.8	-
<b>Adjusted EBITDA</b>	<b>\$ 310.3</b>	<b>\$ 293.3</b>	<b>\$ 320.5</b>	<b>\$ 320.7</b>	<b>\$ 1,244.8</b>	<b>\$ 337.3</b>
<b>Adjusted EBITDA Margin</b>	<b>65.8%</b>	<b>62.8%</b>	<b>66.7%</b>	<b>64.3%</b>	<b>64.9%</b>	<b>67.2%</b>

# Non-GAAP Information

## Adjusted Debt to EBITDA - Trailing Twelve Months<sup>1</sup>

(in millions)	2Q23	3Q23	4Q23	1Q24	LTM
Net income allocated to common stockholders	\$ 167.0	\$ 207.1	\$ 210.8	\$ 208.3	\$ 793.2
Interest expense, net	13.9	11.9	9.5	8.9	\$ 44.2
Income tax provision	74.0	61.9	75.5	82.6	\$ 294.0
Depreciation and amortization	39.8	38.8	38.0	37.3	153.9
<b>EBITDA</b>	<b>\$ 294.7</b>	<b>\$ 319.7</b>	<b>\$ 333.8</b>	<b>\$ 337.1</b>	<b>\$ 1,285.3</b>
Non-GAAP adjustments not included in above line items:					
Acquisition-related expenses	0.7	0.8	(0.5)	0.6	1.6
Change in contingent consideration	-	-	(14.4)	-	(14.4)
Gain on revaluation of Cboe Digital non-recourse notes and warrants	-	-	-	(0.4)	(0.4)
Income from investment	(2.1)	-	-	-	(2.1)
Impairment from investment	-	-	1.8	-	1.8
<b>Adjusted EBITDA</b>	<b>\$ 293.3</b>	<b>\$ 320.5</b>	<b>\$ 320.7</b>	<b>\$ 337.3</b>	<b>\$ 1,271.8</b>
Debt at end of period					\$ 1,450.0
<b>Debt to EBITDA</b>					<b>1.1x</b>

<sup>1</sup>A full reconciliation of our non-GAAP to our GAAP results are available in this section.

## Adjusted Cash

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

Adjusted Cash (in millions)	As of 3/31/23	As of 6/30/23	As of 9/30/23	As of 12/31/23	As of 3/31/24
Cash and cash equivalents	\$ 435.6	\$ 413.6	\$ 403.1	\$ 543.2	\$ 536.3
Financial investments	80.2	103.7	34.0	57.5	58.8
Less deferred compensation plan	(30.7)	(32.7)	(33.5)	(36.7)	(35.2)
Less cash collected for Section 31 fees	(50.0)	(81.6)	-	(30.5)	(23.1)
<b>Adjusted Cash</b>	<b>\$ 435.1</b>	<b>\$ 403.0</b>	<b>\$ 403.6</b>	<b>\$ 533.5</b>	<b>\$ 536.8</b>

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