

# AGENDA

**♦ Strategic Review** 

## **Edward Tilly**

Chairman and Chief Executive Officer

**♦ Financial Review** 

### **Brian Schell**

Executive Vice President, Chief Financial Officer and Treasurer

Questions & Answers

# **Edward Tilly**

### **Brian Schell**

### **Chris Isaacson**

Executive Vice President, Chief Operating Officer

### **Dave Howson**

Executive Vice President, President

### **John Deters**

Executive Vice President, Chief Strategy Officer

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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, including compensation inflation; 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 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; our ability to minimize the risks, including our credit 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 abili

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# STRATEGIC REVIEW AND OUTLOOK

Edward Tilly Chairman and CEO



# 1Q23: Record Levels of Net Revenue and Adjusted Earnings to Start 2023\*

Net revenues grew 13% Y/Y, a product of strong transaction and non-transaction growth

- **29%** increase in Derivatives Markets organic net revenue<sup>1</sup>
  - ❖ ADV up 49% in index options and 1% in multi-listed options
- 9% increase in Data and Access Solutions net revenue, 6% organic net revenue growth<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
- > 12% decrease in Cash and Spot Markets net revenue, 13% organic net revenue decrease<sup>1</sup>
  - \* FX ADNV up 7% y/y and market share up 2% to a record 19%
  - ❖ Increased European cash equities market share by 3% y/y



### 1Q23 Y/Y ADV:

+59% SPX Options +195% XSP Options +18% VIX Options



Unless otherwise noted, all comparisons are First quarter 2023 compared to the same period in 2022

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

# TOP STRATEGIC GROWTH PRIORITIES

	Key Trends	Market Opportunity	Sizing the Growth Potential	Cboe Progress
Derivatives	<ul> <li>Globalization</li> <li>Access to multi-asset trading capabilities</li> <li>Rise of retail</li> <li>Demand for data</li> <li>ESG</li> </ul>	<ul> <li>Targeting &gt;150mn retail accounts with smaller &amp; more flexible products</li> <li>Pan-European equity and index options market is ~1/8 the size of U.S. market</li> <li>Expand expirations &amp; trading hours for prop products</li> </ul>	◆ Derivatives initiatives expected to contribute 2- 4% of total organic net revenue growth over the medium term³	<ul> <li>Derivatives delivered 29% y/y organic net revenue growth in 1Q23</li> <li>Record quarterly SPX ADV in 1Q23</li> <li>Record VIX and SPX global trading hour volume in 1Q23</li> <li>ODTE SPX trading made up ~43% of 1Q23 SPX activity</li> </ul>
Data and Access Solutions	<ul> <li>Globalization</li> <li>Access to multi-asset trading capabilities</li> <li>Rise of retail</li> <li>Demand for data</li> <li>ESG</li> </ul>	<ul> <li>\$36bn annual spend on financial market data¹</li> <li>\$5bn annual spend in indices¹</li> </ul>	◆ Targeting organic net revenue growth of 7-10% annually over the medium term <sup>3</sup>	<ul> <li>Delivered 9% net revenue growth and 6% organic net revenue growth<sup>5</sup> in 1Q23</li> <li>DnA organic net revenue growth target for 2023<sup>3</sup> is 7-10%, expected 2H23 acceleration</li> <li>Continued Rollout of Cboe One</li> </ul>
Cboe Digital	<ul> <li>Globalization</li> <li>Access to multi-asset trading capabilities</li> <li>Rise of retail</li> <li>Demand for data</li> </ul>	Demand for a trusted, transparent and regulated digital asset marketplace	◆ Expecting strong market CAGR over next 3-5 years⁴	<ul> <li>Continued onboarding of syndication partners</li> <li>Single day volume record (Feb 18) of \$348.4mn; Monthly record (Feb) of \$100.6mn/day; Quarterly record (1Q23) of \$82.4mn/day in spot trading</li> <li>Active in crypto regulation discussion – focused on margin futures build / approval</li> </ul>

Medium-Term Organic Total Net Revenue Growth Rate of 5-7%<sup>3</sup> Annually 2023 Targeted Organic Total Net Revenue Growth Rate of 7-9%<sup>3</sup>



### GLOBAL DERIVATIVES: EXTENDING THE MARKET POTENTIAL

Record SPX Activity Driven by Innovation - 1Q23 ADV of 2.8mn contracts, single-day record on 3/10/23 of 4.2mn contracts

### **Any Time**

Prop products available 24 hours a day, 5 days a week

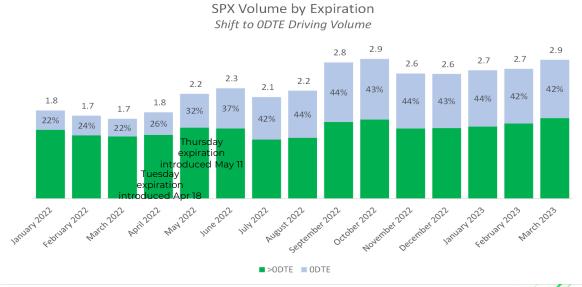
- Record SPX GTH: 24x5 SPX volumes set another record for volume traded and percentage of volume during GTH in 1Q23. SPX 1Q23 activity in GTH was up 61% vs. 2022 levels
- Record VIX GTH: Full year 2022 activity was up 50% vs. 2021. VIX 1Q23 activity in GTH was up 99% vs. 2022 levels

#### SPX GTH Volume and % of Total Volume 70,000 2.4% 60,000 2.0% 50,000 1.8% 40,000 1.6% 30,000 1.2% 20,000 1.0% 10,000 0.8% 0.6% 1Q22 2Q22 3Q22 4Q22 1Q23 SPX ADV (LHS)

### **Any Day**

SPX Weeklys Drive Same-Day Trading Strategies

- Steady ODTE activity across environments: Based on the data available, we saw a minimal correlation between the 1-Day VIX and ODTE volumes (i.e., we believe ODTE volumes are not volatility dependent)
- Increased utility of SPX complex with ODTE: Witnessed an increase in accounts trading ODTE, bank desk utilization and market maker activity
- Added incremental volume: Same-day trading averaged 43% of SPX trading in 1Q23, up from ~20% at the end of 2021





In millions of contracts

# DERIVATIVES PRODUCT INNOVATION BUILDS ON STRONG FOUNDATION



### **1-Day VIX**

- Cboe 1-Day Volatility Index (VIX1D) seeks to measure the expected volatility of the S&P 500 Index over the current trading day (i.e., single trading day volatility)
- Aggregates the weighted prices of P.M.-settled SPX (SPXW) options with one- to zero-day expirations over a wide range of strike prices
- The non-tradable 1-day volatility index is designed to provide real-time information about the expected volatility of the current trading day (today)
- On days of heightened volatility, the VIX1D Index is expected to reflect short-term impacts, whereas by its design, the VIX Index is expected to continue to reflect expected volatility 30 days out

### Writing XSP vs. Long SPY ETF Position

- XSP cash settlement means no disruption in long SPY position
- No early assignment with XSP
- Potential 60/40 tax treatment with XSP
- FINRA approval expected late 2Q23

### **European Single Stock Options on CEDX**

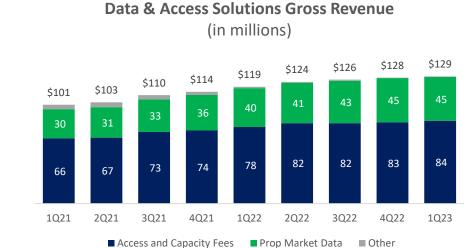
- Europe derivatives activity on CEDX more than doubled y/y in 1Q23
- March 2023 was a record month
- Single stock options on leading European companies coming in November 2023



### DATA AND ACCESS SOLUTIONS: DRIVING DURABLE GROWTH

### DnA growth trends have been strong:

- Averaged 17% year-over-year quarterly growth in total DnA gross revenues since 1Q21
- Anticipate new opportunities across the data and access solutions ecosystem will help drive future growth
  - Cboe One data feeds
  - Demand for Australian data post integration
  - Cboe Global Indices



### Many Avenues of Potential Future Growth

### Distribution as a Service

### Packaging our Global Content

### Expanding Global Data Distribution

#### 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

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

- 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
- Launched Cboe One Canada Feed on Sept 12, 2022
- Disseminating real-time cryptocurrency values sourced from the Cboe Digital Exchange spot market over the Cboe Global Indices feed

#### Improving global access through technology

- Launched Cboe Global Cloud in Nov. 2021, added European data to Cboe Global Cloud
- 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



### BUILDING AN UNRIVALED GLOBAL DERIVATIVES AND SECURITIES NETWORK



### **North America**

- Monthly high of 337mn contracts traded across Cboe's four options exchanges in March 2023
- Quarterly record for SPX ADV in 1Q23 of 2.8mn contracts
- SPX and VIX 1Q23 global trading hours ADV up 61% and 99% vs. 2022, respectively

# **Europe**

- Grew year-over-year European equities market share by three percentage points to 24.9% in 1Q23
- In 1Q23, Cboe was Europe's largest stock exchange and Cboe BIDS Europe was the largest European block trading platform<sup>1</sup>
- ◆ Cboe Clear Europe market share<sup>2</sup> grew to 34.1% in 1Q23 from 32.2% in 1Q22, making it the largest equities Pan-European clearing venue<sup>3</sup>

### **Asia Pacific**

- Completed Cboe Australia tech migration and BIDS launch in March 2023
- On track for Cboe Japan tech migration completion and BIDS launch scheduled for Nov 2023<sup>4</sup>

### **Global FX**

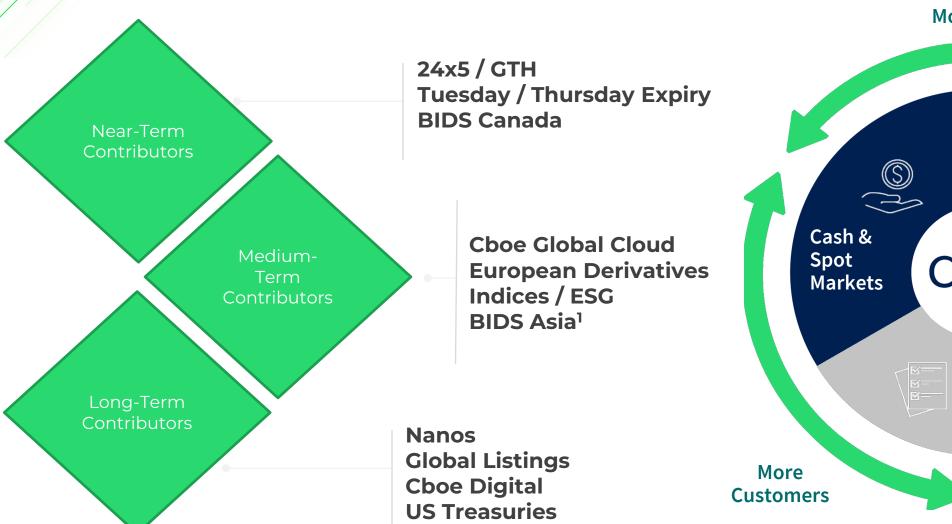
- Grew net revenues 8% y/y in 1Q23
- Expanded market share to a record 19.0% in 1Q23 from 17.3% in 1Q22

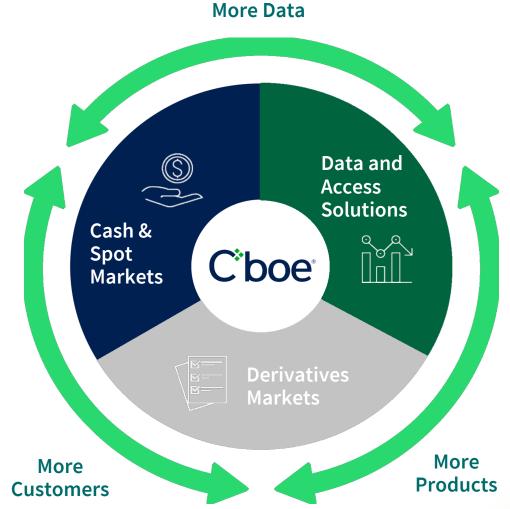
### **Uniform Data & Access**



<sup>&</sup>lt;sup>2</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

# HARVESTING INVESTMENTS ACROSS SEASONS TO DRIVE CONSISTENT GROWTH







# FINANCIAL OVERVIEW AND GUIDANCE

Brian Schell EVP, CFO and Treasurer



# 1Q23 FINANCIAL SUMMARY

**\$471mn** 

Net Revenue +13% Y/Y

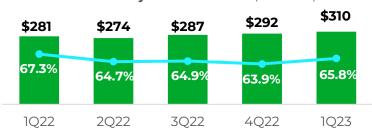




\$310mn

Adjusted EBITDA<sup>1</sup>
+10% Y/Y
(Adjusted EBITDA margin<sup>1</sup>of 65.8%)

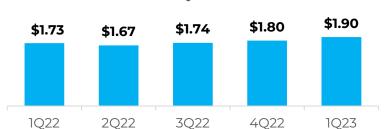
#### Adjusted EBITDA<sup>1</sup> (in millions)



\$1.90

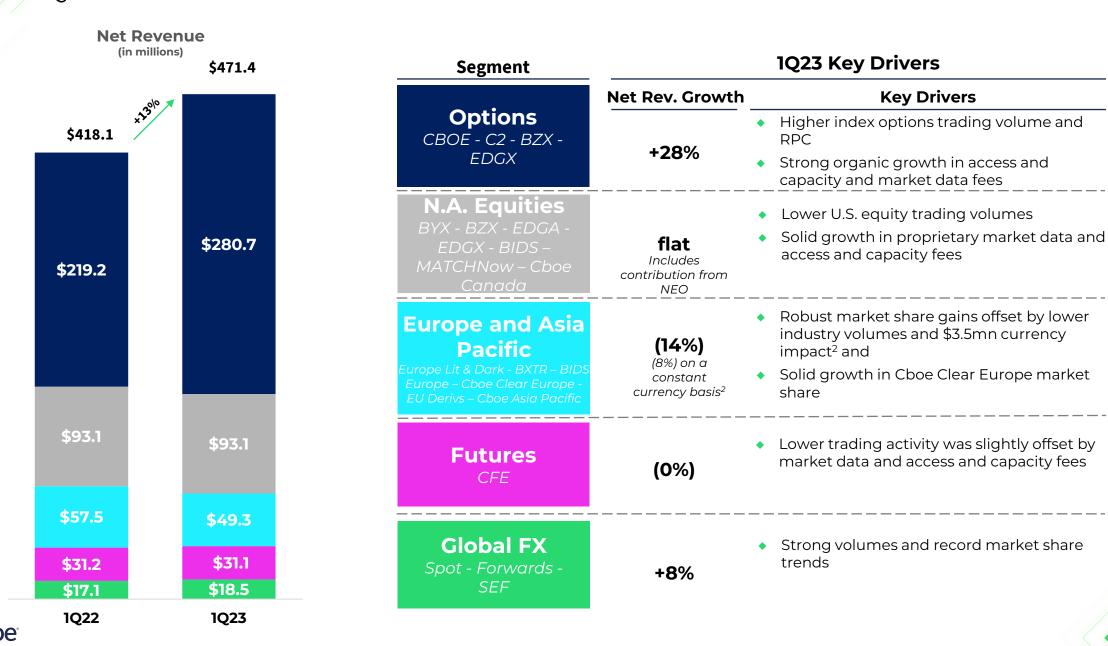
Adjusted Diluted EPS¹
+10% Y/Y







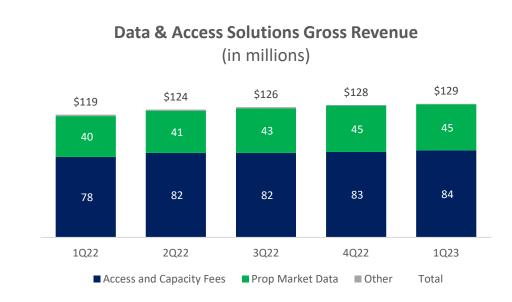
# 1Q23 NET REVENUE BY SEGMENT<sup>1</sup> AND KEY DRIVERS



# GREW DATA AND ACCESS SOLUTIONS NET REVENUE 9% YOY, ORGANIC GROWTH OF 6%1

Targeted 2023 organic net revenue growth rate for Data and Access Solutions business of 7-10%, in line with our medium-term guidance<sup>2</sup>

- 1Q23 Data and Access Solutions net revenue of \$127 million up 9%; organic growth of 6% YoY¹
  - Organic growth excludes \$3.5 million of revenue from acquisitions<sup>1</sup>
- 2023 outlook for Data and Access Solutions organic net revenue within medium-term guided range
  - Reaffirmed 2023 annual organic net revenue growth target of 7-10%
- Anticipate new opportunities across the data and access solutions ecosystem will help drive future growth
  - Cboe One data feeds
  - Demand for Australian data post integration
  - Choe Global Indices
- An estimated 70% of organic market data and access and capacity fee revenue growth in 1Q23 was driven by additional subscriptions or incremental units





# 1Q23 ADJUSTED OPERATING EXPENSES UP 28%, DRIVEN BY ACQUISITIONS AND COMPENSATION AND BENEFITS

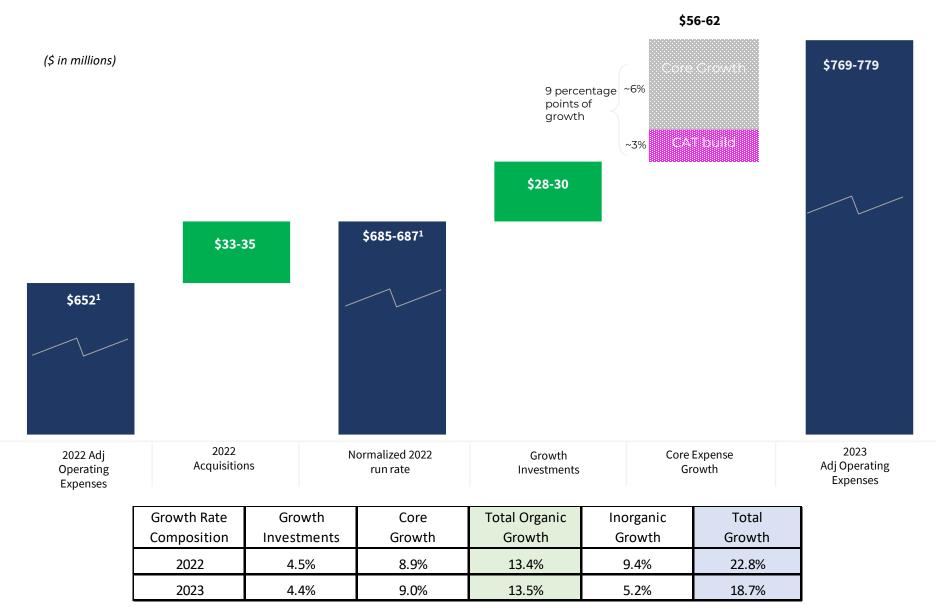
- 1Q23 expense increase driven by addition of Cboe Digital and NEO acquisition, as well as higher compensation and benefits
  - \$29 million increase in compensation-related expenses
  - \$4 million increase in professional fees and outside services
  - \* \$3 million increase in travel and promotional fees
- Excluding acquisitions, adjusted operating expenses were up \$28 million or 19%

Adjusted Operating Expenses <sup>1</sup> (in millions)	1Q23	1Q22	% Chg
Compensation and benefits	\$110.4	\$81.2	36%
Depreciation and amortization <sup>1</sup>	10.5	10.3	2%
Technology support services	22.2	19.2	16%
Professional fees and outside services	23.9	19.7	21%
Travel and promotional	6.2	2.9	114%
Facilities costs	7.6	6.5	17%
Other expenses	5.4	6.0	-10%
Total <sup>1</sup>	\$186.2	\$145.8	28%





# ADJUSTED OPERATING EXPENSE GUIDANCE FOR 20231





## **UPDATED 2023 GUIDANCE**

2023 Full-Year Guidance <sup>1, 2</sup>	2023 Guidance as of	2023 Guidance as of	2022 Actual <sup>3</sup>
(\$ in millions)	May 5, 2023	Feb. 3, 2023	
Data and Access Solutions <sup>4</sup> organic net revenue growth rate	7 to 10%	7 to 10%	12%
Net revenue growth from acquisitions held <12 months	0.5%	0.5%	2%
Total organic net revenue growth rate	7 to 9%	7 to 9%	16%
Adjusted operating expenses <sup>5</sup>	\$769 to 779	\$769 to 779	\$652
Other income (expense) benefit from minority investments	\$27 to 33	\$27 to 33	\$7
<b>Depreciation and amortization</b> (excluding amortization of acquired intangible assets)	\$48 to 52	\$48 to 52	\$43
Effective tax rate on adjusted earnings	28.5 to 30.5%	28.5 to 30.5%	28.4%
Capital expenditures	\$60 to 66	\$60 to 66	\$60

<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>&</sup>lt;sup>5</sup>Adjusted operating expenses exclude acquisition-related expenses and amortization of acquired intangible assets. The amortization of acquired intangible assets was \$124 million for 2022 and is now expected to be \$112 million for 2023. Adjustments included in the non-GAAP reconciliation.



<sup>&</sup>lt;sup>2</sup>Guidance includes acquisitions completed through July 29, 2022, and investment in launching pan-European trading and clearing.

<sup>&</sup>lt;sup>3</sup>See "Non-GAAP Information" in the appendix for reconciliations of 2022 actual.

<sup>&</sup>lt;sup>4</sup>Represents Access and Capacity Fees, Proprietary Market Data and revenue generated from licensing and indices related revenue reported in "Other Revenue."

# EFFICIENT ALLOCATION OF CAPITAL TO CREATE LONG-TERM SHAREHOLDER VALUE

### Preserving balance sheet flexibility remains a priority

- Capital allocation priorities include:
  - Investing in the growth of our business
  - Inorganic opportunities to facilitate growth strategy
  - Consistent dividend payments and growth
  - Opportunistic share repurchases
- Returned \$53 million in capital through dividends, \$70 million in share repurchases; \$147.9mn of availability remaining under share repurchase authorizations at March 31, 2023

Debt Outstanding (\$ in millions)	Mar. 31, 2022	June 30, 2022	Sept. 30, 2022	Dec. 31, 2022	Mar. 31 2023
3.650% Senior Notes (10Y; Due 2027)	\$650	\$650	\$650	\$650	\$650
3.000% Senior Notes (10Y; Due 2032)	300	300	300	300	300
1.625% Senior Notes (10Y; Due 2030)	500	500	500	500	500
Revolving Credit Agreement	-	-	-	-	-
Term Loan Facility	160	525	425	305	305
EuroCCP Credit Facility	-	-	-	-	-
Total Debt (Gross)	\$1,610	\$1,975	\$1,875	\$1,755	\$1,755
Debt to Adjusted EBITDA TTM <sup>1</sup>	1.6x	1.9x	1.7x	1.5x	1.5x
Adjusted Cash & Financial Investments <sup>1</sup>	\$660	\$349	\$355	\$403	\$435
Share Repurchases	\$70.0	\$15.6	\$0.0	\$15.3	\$70.0
Dividends Paid	51.4	51.2	53.4	53.4	53.3
Total Capital Returned to Shareholders	\$121.4	\$66.8	\$53.4	\$68.7	\$123.3



# 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
- Develop indices and products to meet growing ESG needs

- Integrate across ecosystem to increase efficiency and better serve customers
- Industry-leading technology
- Non-siloed integrations expand ecosystem & 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



**Q8**A



# APPENDIX

# OPTIONS 1Q23 NET REVENUE UP 28%, REFLECTING Y/Y INCREASE IN ADV AND RECURRING NON-TRANSACTION REVENUE

- Higher transaction fees from index options given stronger volumes and RPC
- Access and capacity fees plus proprietary market data were up a combined 9%

Options Selected Revenue Data (\$ in millions)	1Q23	1Q22	Chg
Net Revenue	\$280.7	\$219.2	28%
Net transaction and clearing fees <sup>1</sup>	\$241.9	\$174.0	39%
Index options	198.3	128.2	55%
Multi-listed options	43.6	45.8	-5%
Access and capacity	\$38.9	\$35.8	9%
Market data	\$28.0	\$25.9	8%
Market data – proprietary	19.5	17.7	10%
Market data – industry	8.5	8.2	4%
Options Key Operating Stats	1Q23	1Q22	Chg
Total market share	31.8%	31.5%	0.3pts
Multi-listed options	26.1%	27.4%	-1.3pts
Total ADV (in thousands)	14,657	13,392	9%
Index options	3,595	2,414	49%
Multi-listed options	11,062	10,978	1%
Total RPC	\$0.267	\$0.210	27%
Index options	\$0.889	\$0.857	4%
Multi-listed options	\$0.064	\$0.067	-5%

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



# NORTH AMERICAN (N.A.) EQUITIES 1Q23 NET REVENUE FLAT, CONTRIBUTION FROM NEO OFFSET BY N.A. EQUITIES INDUSTRY VOLUMES AND MARKET SHARE

- Net revenue reflects \$5.6 million contribution from NEO
- U.S. equities transaction and clearing fees were impacted by lower industry volumes and market share
- Access and capacity fee growth remained solid, up 9% as compared to 1Q22

N.A. Equities Selected Revenue Data (\$ in millions)	1Q23	1Q22	Chg
Net Revenue	\$93.1	\$93.1	0%
Net transaction and clearing fees <sup>1</sup>	\$29.7	\$32.0	-7%
Market data	\$31.9	\$34.2	-7%
Market data - proprietary	14.0	11.3	24%
Market data - SIP <sup>2</sup>	17.9	22.9	-22%
Access and capacity fees	\$28.4	\$26.0	9%
N.A. Equities Key Operating Stats	1Q23	1Q22	Chg
U.S. Equities Exchange (shares in billions)			
Total Market Share	12.7%	14.3%	-1.6pts
Market ADV	11.8	12.9	-9%
ADV (matched shares)	1.5	1.8	-18%
Net capture (per 100 touched shares)	\$0.019	\$0.017	13%
U.S. Equities Off-Exchange (shares in millions)			
Off-Exchange ATS Block Market Share %3	20.3%	24.4%	-4.1pts
ADV (matched shares)	89.4	108.5	-18%
Net capture (per 100 touched shares)	\$0.113	\$0.117	-3%
Canadian Equities (shares in millions) <sup>4</sup>			
Total Market Share Percent	14.7%	3.2%	11.5pts
ADV (matched shares, in millions)	150.8	41.1	267%
Net capture (per 10,000 touched shares, in CAD)	CAD 4.039	CAD 9.103	-56%

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

<sup>&</sup>lt;sup>4</sup>Represents only MATCHNow in 1Q22, NEO included with MATCHNow as of 1Q23.



<sup>&</sup>lt;sup>2</sup>Includes SIP audit recoveries of \$0.8 million in 1Q23 and \$3.3 million in 1Q22.

<sup>&</sup>lt;sup>3</sup>Represents market share for 1Q22 through Jan 2023.

# EUROPE AND APAC NET REVENUE DOWN 14% FOR 1Q23, DRIVEN BY LOWER INDUSTRY VOLUMES AND CURRENCY HEADWINDS

- Net revenue decrease reflects \$3.5 million impact from stronger USD in 1Q23 vs. 1Q22<sup>1</sup>
- Cboe Europe's overall equities market share was 24.9% in 1Q23 versus 21.8% in 1Q22
- In 1Q23, Cboe was Europe's largest stock exchange and Cboe BIDS Europe was the largest block trading platform<sup>2</sup>

Europe and APAC Selected Revenue Data (\$ in millions)	1Q23	1Q22	Chg
Net Revenue	\$49.3	\$57.5	-14%
Net transaction and clearing fees <sup>1</sup>	\$26.2	\$33.6	-22%
Net transaction fees	18.9	23.7	
Net clearing fees	7.3	9.9	-26%
Market data	\$8.7	\$8.3	5%
Access and capacity fees	\$8.9	\$9.3	-4%
Other <sup>3</sup>	\$5.5	\$6.3	-13%
Europe Key Operating Stats	1Q23	1Q22	Chg
European Equities:			
Total market share	24.9%	21.8%	3.1pts
Market ADNV (in billions)	€ 45.8	€ 58.7	-22%
Net capture (per matched notional value, in bps)	0.215	0.233	-8%
Choe Clear Europe			
Trades cleared (in millions)	359.4	456.5	-21%
Fee per trade cleared	€ 0.008	€ 0.009	-13%
Net settlement volume (in millions)	2.7	2.8	-5%
Net fee per settlement	€ 0.953	€ 0.924	3%
European equities market share cleared	34.1%	32.2%	1.9pts
APAC Key Operating Stats	1Q23	1Q22	Chg
Australian Equities:			
Total market share	18.5%	15.8%	2.7pts
Market ADNV (AUD in billions)	\$0.8	\$0.9	-14%
Net capture (per matched notional value)	0.160	0.173	-8%
Japanese Equities:			
Total market share	4.8%	3.8%	1.0pts
Market ADNV (JYP in billions)	¥183.3	¥161.8	13%
Net capture (per matched notional value)	0.243	0.228	7%



# FUTURES 1Q23 NET REVENUE FLAT, VOLUME DECLINES OFFSET BY ACCESS AND CAPACITY FEES

- Flat revenue performance as compared to 1Q22
- Lower volumes drove a decline in net transaction and clearing fees
- Access and capacity saw strong year-over-year improvement during the quarter

Futures Selected Revenue Data (\$ in millions)	1Q23	1Q22	Chg
Net Revenue	\$31.1	\$31.2	0%
Net transaction and clearing fees <sup>1</sup>	\$24.8	\$25.8	-4%
Access and capacity	\$5.3	\$4.5	18%
Market data	\$2.0	\$2.0	0%
Futures Key Operating Stats (in thousands, except RPC)	1Q23	1Q22	Chg
Total ADV	231.8	253.7	-9%
Total RPC	\$1.725	\$1.637	5%



# GLOBAL FX NET 1Q23 REVENUE UP 8%

- Revenue increase driven by higher volumes and continued market share gains
- Market share hit a record at 19.0% for the quarter

FX Selected Revenue Data (\$ in millions)	1Q23	1Q22	Chg
Net Revenue	\$18.5	\$17.1	8%
Net Nevenue	710.5	<b>717.1</b>	670
Net transaction and clearing fees <sup>1</sup>	15.5	14.4	8%
Non-transaction revenue	3.0	2.7	11%
FX Key Operating Stats	1Q23	1Q22	Chg
FX Key Operating Stats  Market share <sup>2</sup>	<b>1Q23</b> 19.0%	1 <b>Q22</b> 17.3%	Chg 1.7pts



<sup>&</sup>lt;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 2023 FINANCIAL OVERVIEW

Adjusted Financial Results <sup>1</sup>	<b>1Q23</b>	1Q22	% Chg
(\$ in millions, except per share)	1925	1422	/o Clig
Net Revenue <sup>2</sup>	\$471.4	\$418.1	13%
Adjusted Operating Expenses <sup>1</sup>	\$186.2	\$145.8	28%
Adjusted Operating Income <sup>1</sup>	\$285.2	\$272.3	5%
Adjusted Operating Margin <sup>1</sup>	60.5%	65.1%	-4.6pts
Adjusted Net Income Allocated to Common Stockholders <sup>1</sup>	\$201.8	\$184.3	9%
Adjusted Diluted EPS <sup>1</sup>	\$1.90	\$1.73	10%
Adjusted EBITDA <sup>1</sup>	\$310.3	\$281.2	10%
Adjusted EBITDA Margin <sup>1</sup>	65.8%	67.3%	-1.5pts



 $<sup>^1\!\</sup>mbox{Adjusted}$  to reflect the impact of certain items. See Appendix for "Non-GAAP Information."

# NET REVENUE DETAIL

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

Net Revenue <sup>1</sup> (in millions)	1Q23	1Q22	% Chg
Cash and Spot Markets	\$97.2	\$110.3	-12%
Data and Access Solutions	127.2	116.5	9%
Derivatives Markets	247.0	191.3	29%
Total	\$471.4	\$418.1	13%



## **EXPENSE BRIDGE SUMMARY**

### Prioritizing investments to:

- Broaden geographic footprint (Cboe APAC, Euro derivs)
- Leverage core capabilities (24x5, BIDS and Nanos) and
- Expanding our access (Derivatives, Cloud)

Adjusted Operating Expenses Bridge for 2021 to 2022 (\$ in millions)							
2021 Adjusted Operating Expenses <sup>1</sup>	\$	531	Act	tual	Contribution to y/y growth		
2021 Acquisitions				26	4.9%		
Core				37	7.0%		
Revenue Investments				24	4.5%		
Infrastructure Investments				10	1.9%		
ErisX and Neo				24	4.5%		
				121	22.8%		
Total				652			

Adjusted Operating Expenses Bridge for 2022 to 2023 (\$ in millions)														
Contribution to														
2022 Adjusted Operating Expenses <sup>1</sup>	\$	652	*Guidan	ce Range	y/y growth									
2022 Acquisitions			33	35	5.2%									
Core <sup>2</sup>			56	62	9.0%									
Growth Investments			28	30	4.4%									
			117	127	18.7%									
2023 Guidance as of May 5, 2023			769	779										



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

<sup>&</sup>lt;sup>2</sup> Core includes CAT charges and Infrastructure Investments

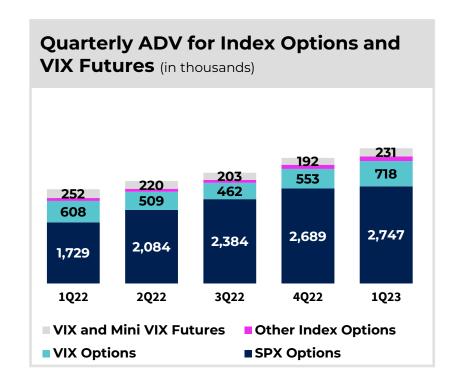
<sup>\*</sup>Totals may not foot due to rounding

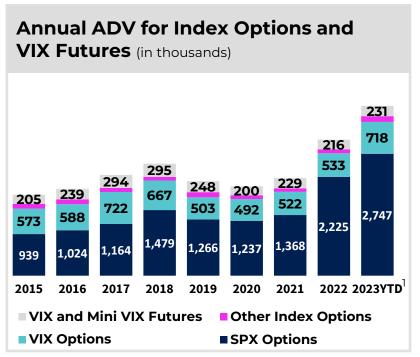
<sup>%</sup> PT Contribution to y/y growth assumes midpoint for 2023

# FOCUSED ON GROWING THE PROPRIETARY INDEX SUITE

# Index customers at Cboe typically use SPX and VIX options and futures 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
  - Launched Nanos by Cboe in March 2022
  - Launched Tuesday-expiring SPX Weeklys April 18, 2022, Thursday expirations on May 11, 2022
  - Expanded global trading hours for XSP options in December 2022







## CBOE'S COMMITMENT TO ESG INITIATIVES







- Committing to Net Zero: Cboe is committing to reaching net zero emissions across our operations and material scope 3 emissions by 2050. Cboe recently became a member of the Glasgow Financial Alliance for Net Zero (GFANZ) as well as the Net Zero Financial Service Providers Alliance (NZFSPA) subgroup
- Reducing our impact: Implemented business recycling, repurposing, and waste mgmt. reduction programs and provide pre-tax public transportation and bike sharing passes
- ESG Exchange Traded Products: Trade ESGthemed ETPs (as defined by issuers) on the BZX Equities Exchange and list options on the S&P 500 ESG Index
- Report Enhancements: In 2022, conducted an ESG materiality assessment and engaged with third-party consultant on climate scenario analysis

- Cboe Empowers: Community engagement program that provides mentorship, scholarships and guidance to under-resourced students throughout their educational journey. In April, provided five full-ride scholarships to Black and Latinx high school students from the South and West sides of Chicago to attend the school of their choice. Program expanded to Kansas City area in 2023
- Diversity: Cboe sees diversity as an integral part of every step in human capital management. As a result, we have recently outlined several social impact goals for the coming years
- Charity: Cboe made \$6.5mn in charitable contributions through a variety of giving programs in 2022

- Independent Board: 12 of the 13 Directors are independent
- Accountability: Pay for performance philosophy, with a strong emphasis on strategy and risk oversight
- Fresh perspectives: 9 years average tenure of Board
- Diverse Board: 43% of Directors represent gender and ethnic diversity: 21% of Directors women and 21% African American/Asian-American\*



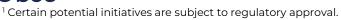
<sup>\*</sup> May not foot due to rounding.

# M&A INTEGRATION TRANSLATING TO LONG-TERM GROWTH **OPPORTUNITIES**

#### **Transaction Integration Progress Strategic Rationale Enhanced Proprietary Products FT Options** Foundation for risk Hanweck management and analytic **Touches:** ☐ Cash ✓ DnA ✓ Derivs **Trade Alert** services **Asset Class Diversity** Clearing Capability **EuroCCP** √ Cash ✓ DnA ✓ Derivs Geographic Diversity Market data content and MATCHNow network **NEO Touches:** ✓ Cash ✓ DnA ☐ Derivs Geographic Diversity **Asset Class Diversity** BIDS Leverage Existing Network **Touches:** ✓ Cash ☐ DnA ☐ Derivs Geographic Diversity - Market data content and network Chi-X Asia Pacific **Touches:** ✓ Cash ✓ DnA ☐ Derivs Asset Class Diversity Clearing Capability **ErisX Touches:** ✓ Cash ✓ DnA ✓ Derivs

### Integration & Planned Organic Growth Focus<sup>1</sup>

- Hanweck enhanced ticker plant infrastructure supporting distribution of data to our products
- Created Cboe Theoretical Options pricing service
- Harmonize client front-ends into cohesive offering
- Reinforced clearinghouse
- Added derivatives clearing
- Launched Euro derivatives
- Extended clearing network
- Expand tradable products (Volatility, Index, ETFs, retail)
- Migrated MATCHNow to Choe technology
- Launched Cboe BIDS Canada
- Add new order types
- Integrate NEO and migrate to Cboe platform
- Expand global listings
- Consistently integrated across the U.S., Europe and Canada
- Expanded into Australia
- Expand into Japan
- Migrated to Cboe tech and launched BIDS in Australia
- Migrate to Cboe tech and launch BIDS in Japan
- Cross-sell data and FX
- Enhance AUS/Global Listings
- Increase distribution and access of proprietary products
- Enhance flow through syndication
- Margined futures





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 press release include net transaction and clearing fees, adjusted operating expenses, adjusted operating income, organic net revenue, inorganic net revenue, net revenues on a constant currency basis, and adjusted earnings, net revenues on a constant currency basis, adjusted cash, EBITDA, EBITDA margin, adjusted EBITDA and adjusted EBITDA margin.

Management believes that the non-GAAP financial measures presented in this press release 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.

The tables below show the reconciliation of each financial measure from GAAP to non-GAAP. The non-GAAP financial measures exclude the impact of those items detailed below and are referred to as adjusted financial measures.



### Reconciliation of Net Transaction and Clearing Fees by Segment

For the Three Months Ended	Opt	ions	N.A. Ed	quities	Europe and	Asia Pacific	Fut	ures	Glob	al FX	Dig	ital	То	tal
June 30 (in millions)	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Transaction and clearing fees	\$ 353.0	\$ 283.2	\$ 304.5	\$ 268.0	\$ 40.6	\$ 33.3	\$ 23.0	\$ 22.2	\$ 14.1	\$ 11.5	\$ 0.1	\$ -	\$ 735.3	\$ 618.2
Liquidity payments	(158.4)	(144.1)	(261.4)	(228.4)	(9.1)	(5.4)	-	-	-	-	(0.1)	-	(429.0)	(377.9)
Routing and clearing	(5.9)	(5.0)	(10.5)	(10.0)	(4.3)	(4.9)	-	-	(0.2)	-	-	-	(20.9)	(19.9)
Net transaction and clearing														
fees	\$ 188.7	\$ 134.1	\$ 32.6	\$ 29.6	\$ 27.2	\$ 23.0	\$ 23.0	\$ 22.2	\$ 13.9	\$ 11.5	\$ -	\$ -	\$ 285.4	\$ 220.4

For the Three Months Ended	Options N.A. Equities			quities	Europe and	l Asia Pacific	Fut	ures	Globa	al FX	Dig	ital	Total	
Sept 30 (in millions)	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Transaction and clearing fees	\$ 377.7	\$ 308.4	\$ 264.6	\$ 253.2	\$ 35.9	\$ 36.2	\$ 22.3	\$ 23.2	\$ 14.9	\$ 11.9	\$ 0.1	\$ -	\$ 715.5	\$ 632.9
Liquidity payments	(160.3)	(152.7)	(223.5)	(216.9)	(8.4)	(5.7)	-	-	-	-	(0.1)	-	(392.3)	(375.3)
Routing and clearing	(7.3)	(5.2)	(8.6)	(9.0)	(4.0)	(4.7)	-	-	(0.3)	(0.1)	-	-	(20.2)	(19.0)
Net transaction and clearing														
fees	\$ 210.1	\$ 150.5	\$ 32.5	\$ 27.3	\$ 23.5	\$ 25.8	\$ 22.3	\$ 23.2	\$ 14.6	\$ 11.8	\$ -	\$ -	\$ 303.0	\$ 238.6

For the Three Months Ended	Opt	ions	N.A. Ed	quities	Europe and	Asia Pacific	Futi	ures	Glob	al FX	Dig	ital	Total	
Dec 31 (in millions)	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Transaction and clearing fees	\$ 392.7	\$ 330.9	\$ 255.4	\$ 270.1	\$ 35.3	\$ 41.1	\$ 20.5	\$ 24.2	\$ 14.4	\$ 12.5	\$ 0.1	\$ -	\$ 718.4	\$ 678.8
Liquidity payments	(157.7)	(162.2)	(214.4)	(226.3)	(8.8)	(7.2)	-	-	-	-	(0.5)	-	(381.4)	(395.7)
Routing and clearing	(7.3)	(6.9)	(8.2)	(9.8)	(4.2)	(4.9)	-	-	(0.1)	(0.2)	-	-	(19.8)	(21.8)
Net transaction and clearing														
fees	\$ 227.7	\$ 161.8	\$ 32.8	\$ 34.0	\$ 22.3	\$ 29.0	\$ 20.5	\$ 24.2	\$ 14.3	\$ 12.3	\$ (0.4)	\$ -	\$ 317.2	\$ 261.3

For the Three Months Ended	Opt	ions	N.A. Ed	quities	Europe and	l Asia Pacific	Fut	ures	Glob	al FX	Dig	ital	То	tal
March 31 (in millions)	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Transaction and clearing fees	\$ 395.8	\$ 348.3	\$ 255.0	\$ 330.8	\$ 42.1	\$ 50.1	\$ 24.8	\$ 25.8	\$ 15.8	\$ 14.6	\$ (1.0)	\$ -	\$ 732.5	\$ 769.6
Liquidity payments	(144.2)	(167.6)	(215.9)	(288.3)	(11.3)	(11.6)	-	-	-	-	(0.4)	-	(371.8)	(467.5)
Routing and clearing	(9.7)	(6.7)	(9.4)	(10.5)	(4.6)	(4.9)	-	-	(0.3)	(0.2)	-	-	(24.0)	(22.3)
Net transaction and clearing														
fees	\$ 241.9	\$ 174.0	\$ 29.7	\$ 32.0	\$ 26.2	\$ 33.6	\$ 24.8	\$ 25.8	\$ 15.5	\$ 14.4	\$ (1.4)	\$ -	\$ 336.7	\$ 279.8



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

Net Revenue (in millions)	Three Months Ended, March 31, 2023
Europe and Asia Pacific net revenues	\$49.3
Constant currency adjustment	3.5
Europe and Asia Pacific net revenue in constant currency	\$52.8



Reconciliation of Net Revenue by Revenue Caption -

	Cash	and	Data	and	Deriv	atives		
For the Three Months Ended	Spot N	1arkets	Access S	olutions	Mar	kets	То	tal
March 31 (in millions)	2023	2022	2023	2022	2023	2022	2023	2022
Transaction and clearing fees	\$ 311.9	\$ 395.5	\$ -	\$ -	\$ 420.6	\$ 374.1	\$ 732.5	\$ 769.6
Access and capacity fees	-	-	84.2	77.9	1	1	84.2	77.9
Market data fees	17.9	22.9	44.5	39.6	8.5	8.2	70.9	70.7
Regulatory fees	62.6	31.9	-	-	21.9	10.7	84.5	42.6
Other revenue	14.6	11.6	0.7	1.4	0.8	0.7	16.1	13.7
Total revenues	407.0	461.9	129.4	118.9	451.8	393.7	988.2	974.5
Liquidity payments	227.0	299.6	-	-	144.8	167.9	371.8	467.5
Routing and clearing fees	14.3	15.6	-	-	9.7	6.7	24.0	22.3
Section 31 fees	61.4	31.8	-	-	13.5	3.9	74.9	35.7
Royalty fees and other cost of					25.0	22.0	16.1	22.2
revenues	7.1	4.6	2.2	2.4	36.8	23.9	46.1	30.9
Total cost of revenues	309.8	351.6	2.2	2.4	204.8	202.4	516.8	556.4
Revenues less cost of revenues								
(net revenue)	97.2	110.3	127.2	116.5	247.0	191.3	471.4	418.1
Acquisition revenue less cost of	(0.0)		(2.5)				(4.4)	
revenues (inorganic net revenue)  Organic net revenue	(0.9) <b>96.3</b>	110.3	(3.5) <b>123.7</b>	116.5	247.0	191.3	(4.4) <b>467.0</b>	418.1



#### Non-GAAP Information

(in millions, except per share amounts)	1Q22	2Q22	3Q22	4Q22	2022	1Q23
Reconciliation of Net Income Allocated to Common Stockholders to Non-GAAP						•
Net income allocated to common stockholders	\$ 109.	2 \$ (184.5)	\$ 149.6	\$ 159.0	\$ 234.2	\$ 172.6
Acquisition-related expenses (1)	2.0	14.3	1.6	2.0	19.9	6.4
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)	30.0		30.4	33.2	124.3	30.9
Goodwill impairment (6)		460.1	0.8	_	460.9	-
Total Non-GAAP adjustments	35.0	495.7	32.8	35.2	599.3	37.3
Impairment of Investment (7)	-	10.6	-	_	10.6	-
Change in contingent consideration (8)	-	_	-	(5.2)	(5.2)	-
Total Non-GAAP adjustments - pretax	35.0	5 506.3	32.8	30.0	604.7	37.3
Income tax expense related to the items above	(8.	7) (143.2)	2.9	5.3	(143.7)	(9.5)
Deferred tax remeasurement	`-		-	(2.0)		` - '
Tax reserves (9)	48.	5 -	-	-	48.5	1.5
Net income allocated to participating securities - effect on reconciling items	(0.3	3) (1.3)	(0.1)	(0.1)		(0.1)
Adjusted net income allocated to common stockholders	\$ 184.		\$ 185.2	• •		\$ 201.8
•	,			•	,	
Reconciliation of Diluted EPS to Non-GAAP						
Diluted earnings per common share	\$ 1.0			\$ 1.49	\$ 2.19	\$ 1.63
Per share impact of non-GAAP adjustments noted above	0.7		0.33	0.31	4.74	0.27
Adjusted diluted earnings per common share	\$ 1.7	3 \$ 1.67	\$ 1.74	\$ 1.80	\$ 6.93	\$ 1.90
Reconciliation of Operating Margin to Non-GAAP						
Revenue less cost of revenue	\$ 418.	1 \$ 424.1	\$ 442.4	\$ 457.1	\$ 1,741.7	\$ 471.4
Non-GAAP adjustments noted above	-	-	-	-	-	-
Adjusted revenue less cost of revenue	\$ 418.	1 \$ 424.1	\$ 442.4	\$ 457.1	\$ 1,741.7	\$ 471.4
Operating expenses (10)	\$ 178.4	4 \$ 661.5	\$ 205.6	\$ 206.6	\$ 1,252.1	\$ 223.5
Non-GAAP expense adjustments noted above	32.0		32.8	30.0	599.9	37.3
Adjusted operating expenses	\$ 145.		\$ 172.8	\$ 176.6	\$ 652.2	\$ 186.2
Non-GAAP expense adjustments to arrive at organic adjusted operating expenses	\$ (6.4	4) \$ (13.7)	\$ (7.6)	\$ (10.8)	\$ (38.5)	\$ (12.2)
Organic adjusted operating expenses	\$ 139.	4 \$ 143.3	\$ 165.2	\$ 165.8	\$ 613.7	\$ 174.0
Operating income	\$ 239.	7 \$ (237.4)	\$ 236.8	\$ 250.5	\$ 489.6	\$ 247.9
Non-GAAP expense adjustments noted above	32.0		32.8	30.0	599.9	37.3
Adjusted operating income	\$ 272.				\$ 1,089.5	\$ 285.2
Adjusted operating microme Adjusted operating margin (11)	65.1					60.5%
	05.1	70 03.070	00.570	01.470	02.070	00.570
Reconciliation of Income Tax Rate to Non-GAAP						
Income before income taxes	\$ 224.9			\$ 235.8	\$ 432.9	\$ 248.2
Non-GAAP adjustments noted above	35.0		32.8	30.0	604.7	37.3
Adjusted income before income taxes	\$ 260.	5 \$ 249.5	\$ 261.8	\$ 265.8	\$ 1,037.6	\$ 285.5
Income tax expense	\$ 115.	3 \$ (72.3)	\$ 78.8	\$ 76.1	\$ 197.9	\$ 74.8
Non-GAAP adjustments noted above	(39.	3) 143.2	(2.9)	(3.3)	97.2	8.0
Adjusted income tax expense	\$ 75.	5 \$ 70.9	\$ 75.9	\$ 72.8	\$ 295.1	\$ 82.8
Adjusted income tax rate	29.0	% 28.4%	29.0%	27.4%	28.4%	29.0%

- (1) This amount includes ongoing acquisition related costs primarily from the Company's Choe Digital and Choe Canada acquisitions.
- (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" (\$3.2 million and \$0.6 million in expense for the three months ended March 31, 2023 and 2022, respectively, and \$0.5 million in expense for the twelve months ended December 2022), and are directly offset by deferred compensation income, expenses and dividends included within "Other income, net" (\$3.2 million and \$0.6 million in income, expense and dividends in the three months ended March 31, 2023 and 2022, respectively, and \$0.5 million in income, expense and dividends in the twelve months ended December 2022), 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.

#### **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, change in contingent consideration, gain on investment, loan forgiveness, investment establishment costs, goodwill impairment, and impairment of investment. 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.

(in millions, except per share amounts)	1Q22	2Q22	3Q22	4Q22	2022	1Q23
Net income allocated to common stockholders	\$ 109.2	\$ (184.5)	\$ 149.6	\$ 159.0	\$ 234.1	\$ 172.6
Interest expense	10.8	14.6	15.3	15.7	56.4	15.1
Income tax provision	115.3	(72.3)	78.8	76.1	197.9	74.8
Depreciation and amortization	 40.9	40.2	41.0	44.7	166.8	 41.4
EBITDA	\$ 276.2	\$ (202.0)	\$ 284.7	\$ 295.5	\$ 655.2	\$ 303.9
EBITDA Margin	66.1%	-47.6%	64.4%	64.6%	37.6%	64.5%
Non-GAAP adjustments not included in above line items						
Acquisition-related expenses	2.0	14.3	1.6	2.0	19.9	6.4
Change in contingent consideration	-	-	-	(5.2)	(5.2)	-
Gain on investment		(7.5)	-	-	(7.5)	-
Loan forgiveness		(1.3)	-	-	(1.3)	-
Goodwill impairment		460.1	8.0	-	460.9	-
Investment establishment costs	3.0	-	-	-	3.0	-
Impairment of investment	-	10.6	-	-	10.6	 
Adjusted EBITDA	\$ 281.2	\$ 274.2	\$ 287.1	\$ 292.3	\$ 1,135.6	\$ 310.3
Adjusted EBITDA Margin	 67.3%	64.7%	64.9%	63.9%	65.2%	 65.8%



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

Adjusted Debt to Ebilba Training Twelve Months						
(in millions)		2Q22	3Q22	4Q22	1Q23	LTM
Net income allocated to common stockholders	\$	(184.5)	\$ 149.6	\$ 159.0	\$ 172.6	296.5
Interest expense, net		14.6	15.3	15.7	15.1	60.7
Income tax provision		(72.3)	78.8	76.1	74.8	157.4
Depreciation and amortization		40.2	41.0	44.7	41.4	167.3
EBITDA	\$	(202.0)	\$ 284.7	\$ 295.5	\$ 303.9	\$ 681.9
Non-GAAP adjustments not included in above line item	ıs:					
Acquisition-related expenses		14.3	1.6	2.0	6.4	24.3
Gain on investment		(7.5)	=	-	-	(7.5)
Loan forgiveness		(1.3)	=	-	-	(1.3)
Change in contingent consideration		-	-	(5.2)	-	(5.2)
Goodwill impairment		460.1	0.8	-	=	460.9
Impairment of investment		10.6	=	-	=	10.6
Adjusted EBITDA	\$	274.2	\$ 287.1	\$ 292.3	\$ 310.3	\$ 1,163.9
Debt at end of period						\$ 1,755.0
Debt to EBITDA						1.5x

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

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

### **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 /31/22	As of '30/22	As of '30/22	As of /31/22	As of /31/23
Cash and cash equivalents	\$	659.4	\$ 373.3	\$ 353.3	\$ 432.7	\$ 435.6
Financial investments		48.7	68.5	27.4	91.7	80.2
Less deferred compensation plan assets		(27.4)	(25.5)	(25.4)	(27.5)	(30.7)
Less cash collected for Section 31 fees		(20.7)	(67.2)	-	(93.7)	(50.0)
Adjusted Cash	\$	660.0	\$ 349.1	\$ 355.3	\$ 403.2	\$ 435.1



# THANKYOU