



# Fourth Quarter 2022 Earnings Presentation

February 3, 2023



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◆ **Strategic Review**

**Edward Tilly**

*Chairman and Chief Executive Officer*

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◆ **Financial Review**

**Brian Schell**

*Executive Vice President, Chief Financial Officer and Treasurer*

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◆ **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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*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 risks, cybersecurity risks, insider threats and unauthorized disclosure of confidential information; 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; fluctuations to currency exchange rates; factors that impact the quality and integrity of our indices; the impact of the novel coronavirus (“COVID-19”) pandemic; 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 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; our ability to manage our growth and strategic acquisitions or alliances effectively; 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 accuracy of our estimates and expectations; litigation risks and other liabilities; and operating a digital asset business and clearinghouse, including the expected benefits of our ErisX acquisition, subsequently rebranded to Cboe Digital, cybercrime, changes in digital asset regulation, losses due to digital asset custody, 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, 2021 and other filings made from time to time with the SEC.*

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# Strategic Review and Outlook

Edward Tilly  
Chairman and CEO

# 4Q22: Record Levels of Net Revenue and Adjusted Earnings in Fourth Quarter Cap a Record Year\*

Net revenues grew 17% YoY, a product of strong transaction and non-transaction growth

- ❖ **5% decrease in Cash and Spot Markets net revenue, 7% organic net revenue decrease<sup>1</sup>**
  - ❖ U.S. equities ADV up 2% YoY
- ❖ **13% increase in Data and Access Solutions net revenue, 10% 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
- ❖ **33% increase in Derivatives Markets organic net revenue<sup>1</sup>**
  - ❖ ADV up 55% in index options and 6% in multi-listed options



\*All comparisons are fourth quarter 2022 compared to the same period in 2021.

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

# Top Strategic Growth Priorities



	Key Trends	Market Opportunity	Sizing the Growth Potential	Cboe Progress
<b>Derivatives</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>◆ Derivatives initiatives expected to contribute 2-4% of total organic net revenue growth over the medium term<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>◆ 24x5 trading extension tripled SPX global trading hour volume in 2022 vs. 2021</li> <li>◆ Tuesday / Thursday weekly expirations produced strong results and accelerated same-day trading</li> <li>◆ Delivered 28% growth in 2022</li> </ul>
<b>Data and Access Solutions</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>◆ &gt; \$33bn annual spend on financial market data<sup>1</sup></li> <li>◆ &gt;\$4bn annual spend in indices<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>◆ Targeting organic net revenue growth of 7-10% annually over the medium term<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>◆ Delivered 10% organic net revenue growth<sup>5</sup> in 4Q22 and 12% in 2022</li> <li>◆ DnA organic net revenue growth target for 2023<sup>3</sup> is 7-10%</li> <li>◆ Continued Rollout of Cboe One</li> </ul>
<b>Cboe Digital</b>	<ul style="list-style-type: none"> <li>◆ Globalization</li> <li>◆ Access to multi-asset trading capabilities</li> <li>◆ Rise of retail</li> <li>◆ Demand for data</li> </ul>	<ul style="list-style-type: none"> <li>◆ Demand for a trusted, transparent and regulated digital asset marketplace</li> </ul>	<ul style="list-style-type: none"> <li>◆ Expecting strong market CAGR over next 3-5 years<sup>4</sup></li> </ul>	<ul style="list-style-type: none"> <li>◆ Finalized investment terms, closed syndication</li> <li>◆ Actively onboarding partners that include many of the most sophisticated and active participants in fiat and digital assets markets globally</li> <li>◆ January ADNV topping a record \$71mn</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>**

<sup>1</sup>Based on Burton-Taylor research reports

<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 guidance as of 2/4/22, all 2023 guidance as of 2/3/23

<sup>4</sup>Based on publicly available information and Cboe estimates

<sup>5</sup>See appendix for "Non-GAAP Information."

# Global Derivatives: Extending the Market Potential



Increasing access for market participants and leveraging our core products

## Any Time

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

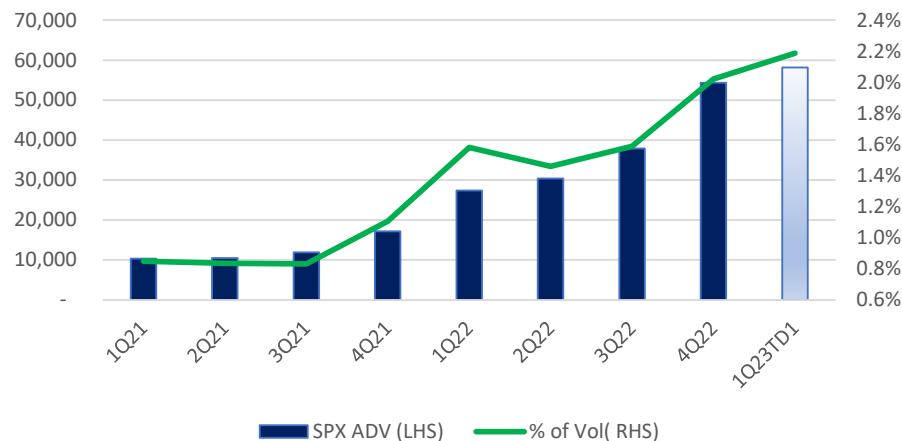
- **Returns remained positive:** Since Global Trading Hours (GTH) were expanded on 11/21/21 to nearly **24x5** for SPX and VIX options, adoption accelerated through 2022, and has continued into 2023
- **SPX GTH grew:** 24x5 SPX volumes set another record for volume traded and percentage of volume during GTH in 4Q22. Full year activity in GTH was up 3x vs. 2021 levels. Jan 2023 volumes ran 55% above 2022 levels
- **VIX GTH volumes continued to improve:** Full year 2022 activity was up 50% vs. 2021. Jan 2023 GTH volumes ran 56% above 2022 levels

## Any Day

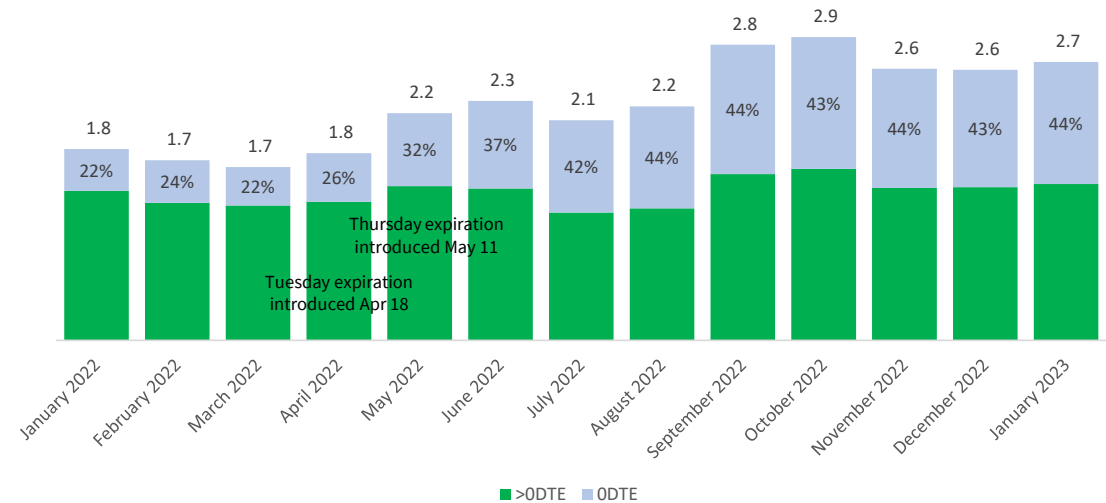
SPX Weeklys Drive Same-Day Trading Strategies

- **Tuesday / Thursday expirations added incremental volume:** With the additions of Tuesday / Thursday expirations in 2Q22, we estimate the contracts have added ~350k in incremental SPX ADV
- **Shift in trading behavior:** Tuesday / Thursday expirations, allowing for expirations every day of the week, helped increase same day trading, with the percentage of same day trading more than doubling from the end of 2021

SPX GTH Volume and % of Total Volume



SPX Volume by Expiration  
Shift to ODTE Driving Volume



In millions of contracts

<sup>1</sup> Data through 1/31/23

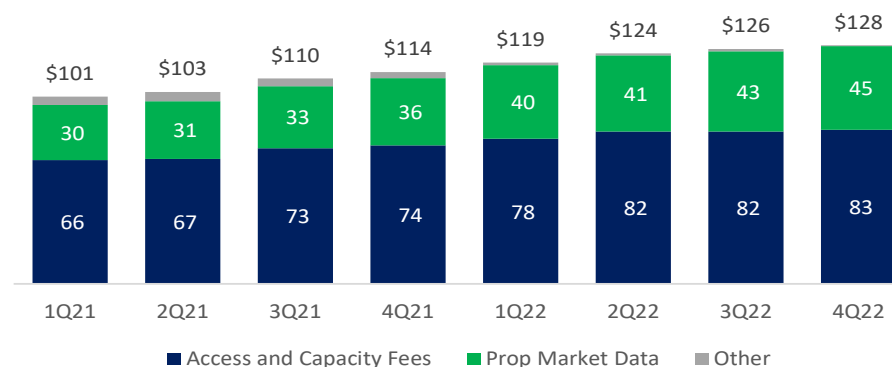
# Data and Access Solutions: Driving Durable Growth



## DnA growth has been strong:

- ◆ Averaged 17% year-over-year quarterly growth in total DnA gross revenues since 1Q21
- ◆ Continued to see strong growth trends across both proprietary market data and access and capacity fees
- ◆ Anticipate new opportunities across the data and access solutions ecosystem will help drive future growth

Data & Access Solutions Gross Revenue  
(in millions)



## Many Avenues of Potential Future 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 recently-announced partnership with Morningstar

### Packaging our Global Content

#### *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
- ❖ Plan to begin disseminating real-time cryptocurrency values sourced from the Cboe Digital Exchange spot market over the Cboe Global Indices feed effective 2/27/23

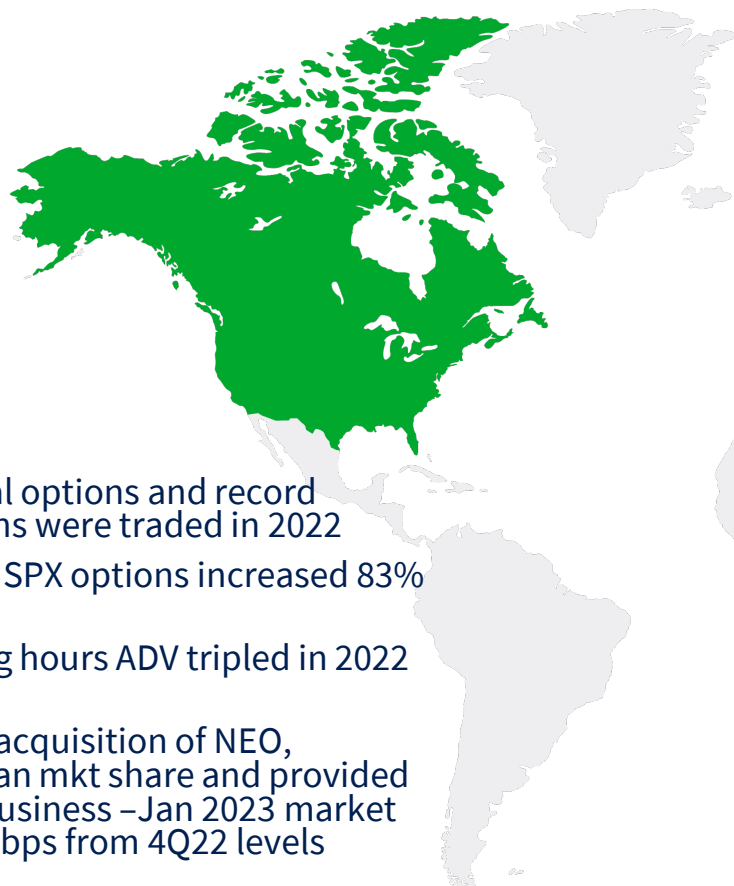
### Expanding Global Data Distribution

#### *Improving global access through technology*

- ❖ Launched Cboe Global Cloud in Nov. 2021, recently 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
- ❖ Integrations ongoing in Australia and Japan

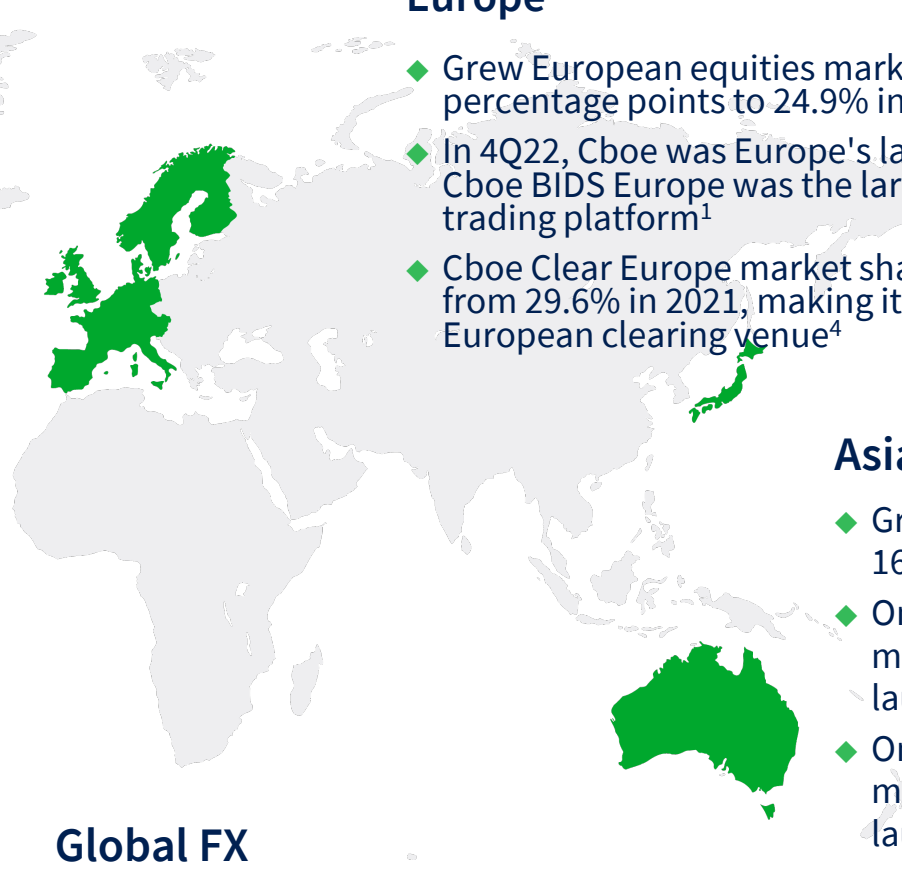


# Building an Unrivaled Global Derivatives and Securities Network



## North America

- ◆ Record 3.4bn total options and record 558mn SPX options were traded in 2022
- ◆ ADV for same day SPX options increased 83% throughout 2022
- ◆ SPX global trading hours ADV tripled in 2022 vs. 2021
- ◆ Integrating 2Q22 acquisition of NEO, bolstered Canadian mkt share and provided a global listings business – Jan 2023 market share up over 100bps from 4Q22 levels



## Europe

- ◆ Grew European equities market share by over 5 percentage points to 24.9% in 4Q22
- ◆ In 4Q22, 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>3</sup> grew to 32.7% in 2022 from 29.6% in 2021, making it the largest equities Pan-European clearing venue<sup>4</sup>



## Asia Pacific

- ◆ Grew market share in Australia from 16.1% in 4Q21 to 17.2% in 4Q22
- ◆ On track for Cboe Australia tech migration completion and BIDS launch scheduled for Feb 2023<sup>2</sup>
- ◆ On track for Cboe Japan tech migration completion and BIDS launch scheduled for 4Q23<sup>2</sup>

## Global FX

- ◆ Grew net revenues 14% y/y in 4Q22, up 18% for the full year 2022
- ◆ Expanded market share to a record 18.4% in 4Q22

## Uniform Data & Access

<sup>1</sup>Source: big xyt

<sup>2</sup>Subject to regulatory approval.

<sup>3</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>4</sup> Cboe estimate based on publicly available clearing data

# M&A Integration Leading to Long-Term Growth Opportunities

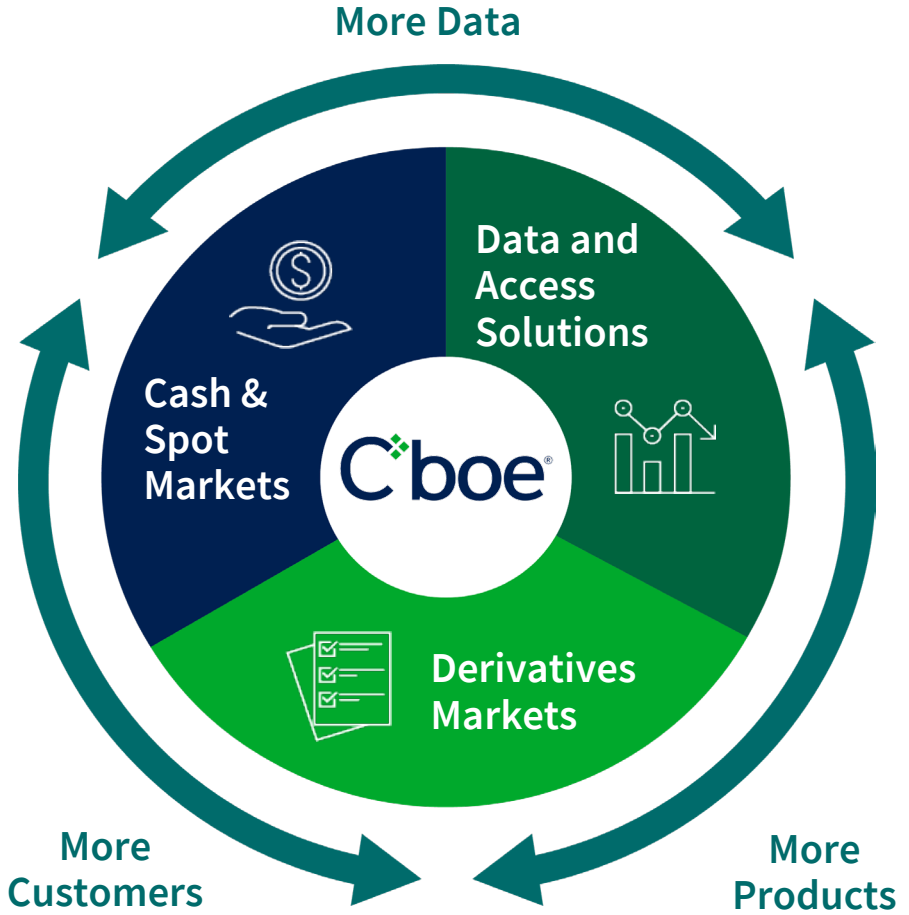
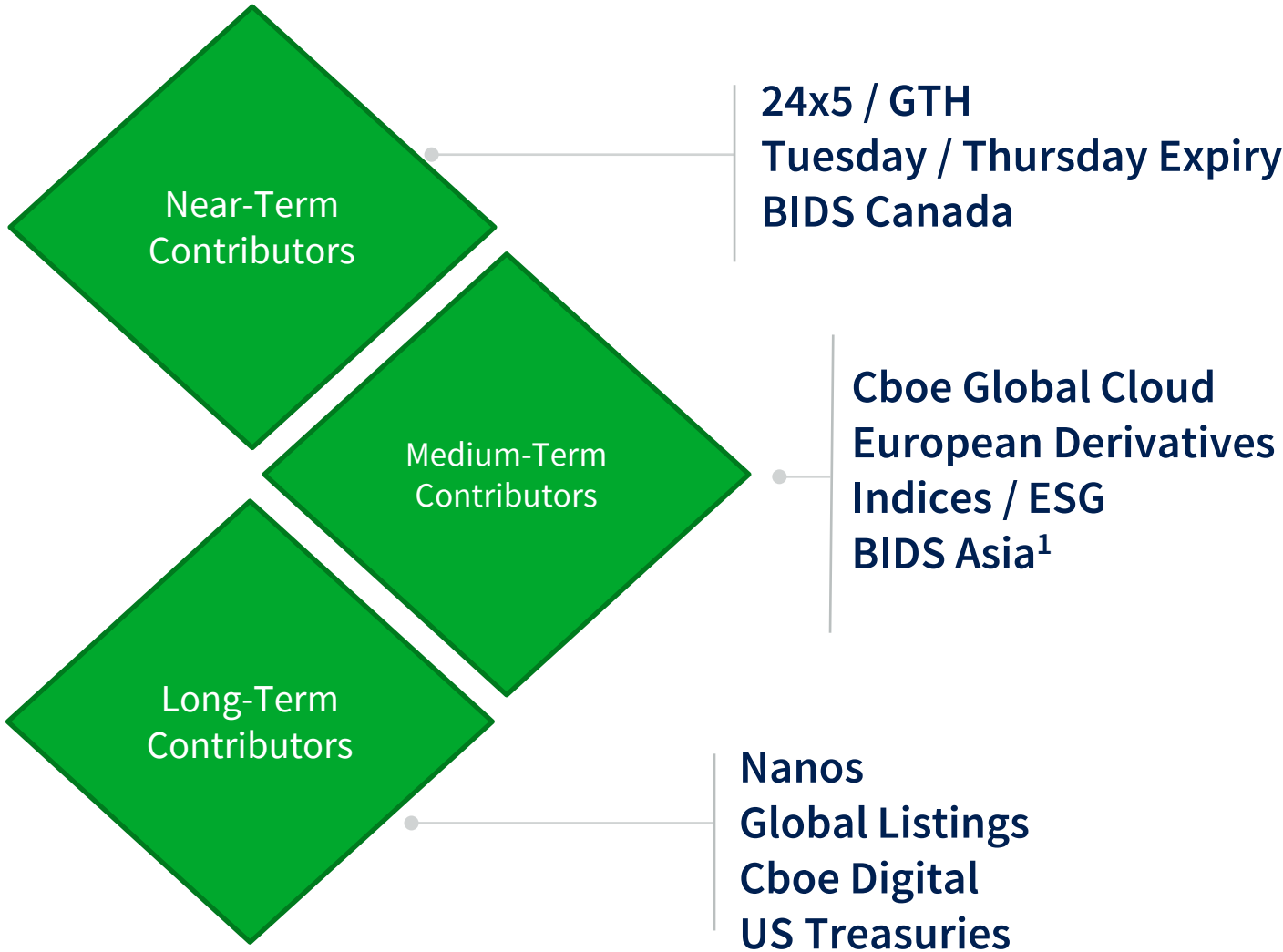


Transaction	Strategic Rationale	Integration Progress	Integration & Planned Organic Growth Focus <sup>1</sup>
<b>FT Options Hanweck Trade Alert</b>	<ul style="list-style-type: none"> <li>- Enhanced Proprietary Products</li> <li>- Foundation for risk management and analytic services</li> </ul>	<p><b>Touches:</b> <input type="checkbox"/> Cash <input checked="" type="checkbox"/> DnA <input checked="" type="checkbox"/> Derivs</p>	<ul style="list-style-type: none"> <li>- Hanweck enhanced ticker plant infrastructure supporting distribution of data to our products</li> <li>- Created Cboe Theoretical Options pricing service</li> <li>- <b>Harmonize client front-ends into cohesive offering</b></li> </ul>
<b>EuroCCP</b>	<ul style="list-style-type: none"> <li>- Asset Class Diversity</li> <li>- Clearing Capability</li> </ul>	<p><b>Touches:</b> <input checked="" type="checkbox"/> Cash <input checked="" type="checkbox"/> DnA <input checked="" type="checkbox"/> Derivs</p>	<ul style="list-style-type: none"> <li>- Reinforced clearinghouse</li> <li>- Added derivatives clearing</li> <li>- Launched Euro derivatives</li> <li>- Extended clearing network</li> <li>- <b>Expand tradable products (Volatility, Index, ETFs, retail)</b></li> </ul>
<b>MATCHNow NEO</b>	<ul style="list-style-type: none"> <li>- Geographic Diversity</li> <li>- Market data content and network</li> </ul>	<p><b>Touches:</b> <input checked="" type="checkbox"/> Cash <input checked="" type="checkbox"/> DnA <input type="checkbox"/> Derivs</p>	<ul style="list-style-type: none"> <li>- Migrated MATCHNow to Cboe technology</li> <li>- Launched Cboe BIDS Canada</li> <li>- <b>Add new order types</b></li> <li>- <b>Integrate NEO and migrate to Cboe platform</b></li> <li>- <b>Expand global listings</b></li> </ul>
<b>BIDS</b>	<ul style="list-style-type: none"> <li>- Geographic Diversity</li> <li>- Asset Class Diversity</li> <li>- Leverage Existing Network</li> </ul>	<p><b>Touches:</b> <input checked="" type="checkbox"/> Cash <input type="checkbox"/> DnA <input type="checkbox"/> Derivs</p>	<ul style="list-style-type: none"> <li>- Consistently integrated across the U.S., Europe and Canada</li> <li>- <b>Expand into Australia and Japan</b></li> </ul>
<b>Chi-X Asia Pacific</b>	<ul style="list-style-type: none"> <li>- Geographic Diversity</li> <li>- Market data content and network</li> </ul>	<p><b>Touches:</b> <input checked="" type="checkbox"/> Cash <input checked="" type="checkbox"/> DnA <input type="checkbox"/> Derivs</p>	<ul style="list-style-type: none"> <li>- <b>Migrate to Cboe technology</b></li> <li>- <b>Launch Cboe BIDS in Australia and Japan</b></li> <li>- <b>Cross-sell data and FX</b></li> <li>- <b>Enhance AUS/Global Listings</b></li> <li>- <b>Increase distribution and access of proprietary products</b></li> </ul>
<b>ErisX</b>	<ul style="list-style-type: none"> <li>- Asset Class Diversity</li> <li>- Clearing Capability</li> </ul>	<p><b>Touches:</b> <input checked="" type="checkbox"/> Cash <input checked="" type="checkbox"/> DnA <input checked="" type="checkbox"/> Derivs</p>	<ul style="list-style-type: none"> <li>- <b>Enhance flow through syndication</b></li> <li>- <b>Margined futures</b></li> </ul>



<sup>1</sup> Certain potential initiatives are subject to regulatory approval.

# Harvesting Investments Across Seasons to Drive Consistent Growth



<sup>1</sup> Subject to regulatory approvals.

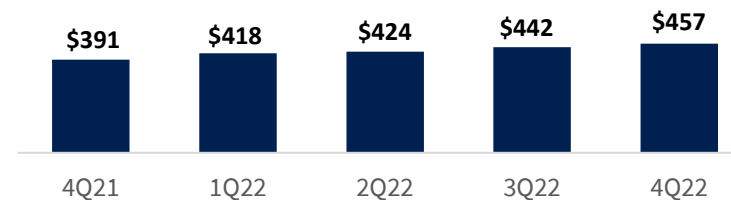
# Financial Overview and Guidance

Brian Schell  
EVP, CFO and Treasurer

# 4Q22 Financial Summary

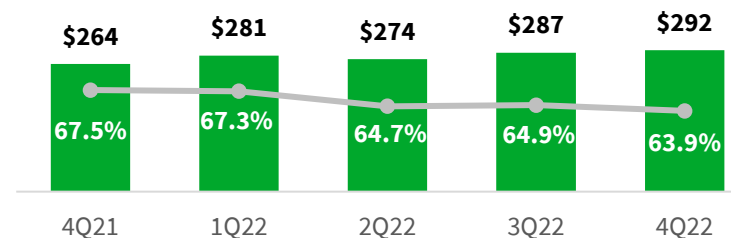
**\$457mn**  
Net Revenue  
**+17% Y/Y**

Net Revenue (in millions)



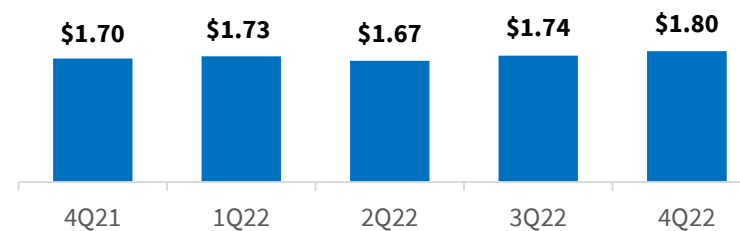
**\$292mn**  
Adjusted EBITDA<sup>1</sup>  
**+11% Y/Y**  
(Adjusted EBITDA margin<sup>1</sup> of 63.9%)

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



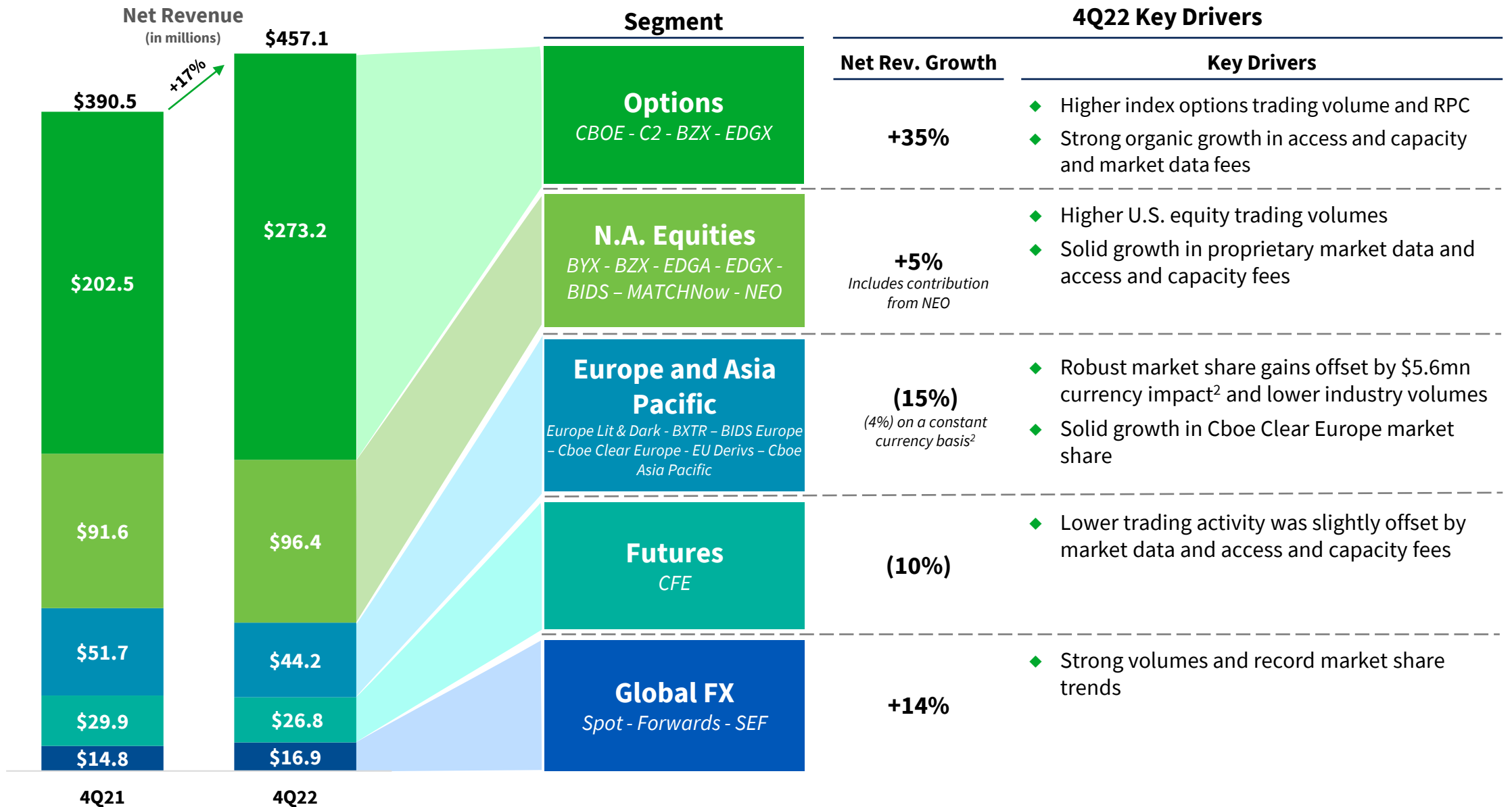
**\$1.80**  
Adjusted Diluted EPS<sup>1</sup>  
**+6% Y/Y**

Adjusted EPS<sup>1</sup>



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

# 4Q22 Net Revenue by Segment and Key Drivers<sup>1</sup>



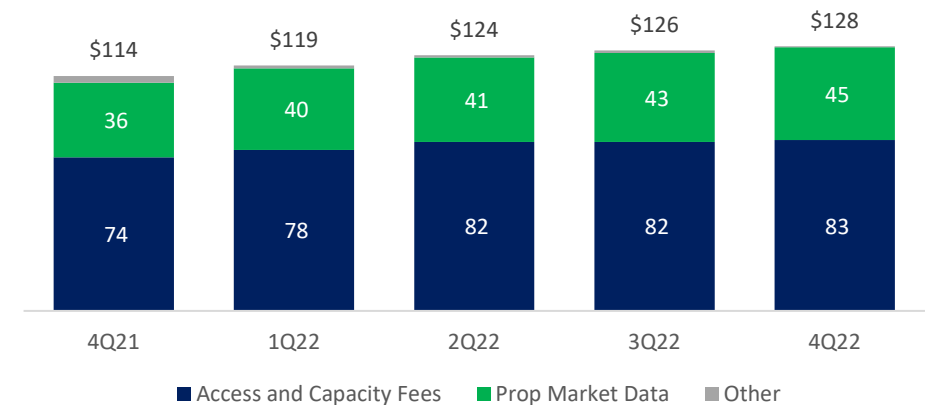
<sup>1</sup> The Digital segment is not further discussed as results were not material (negative \$0.4mn in 4Q22) given its establishment during the second quarter of 2022 as a result of the ErisX acquisition on May 2, 2022. <sup>2</sup>See appendix for "Non-GAAP Information."

# Grew Data and Access Solutions Net Revenue 13% YoY, Organic Growth of 10%<sup>1</sup>

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>

- ❖ 4Q22 Data and Access Solutions net revenue of \$126 million up 13%; organic growth of 10% YoY<sup>1</sup>
  - ◆ Organic growth excludes \$3 million of revenue from acquisitions<sup>1</sup>
  
- ❖ 2023 outlook for Data and Access Solutions organic net revenue within medium-term guided range
  - ◆ Announced 2023 annual organic net revenue growth target of 7-10%
  - ◆ Additional units or subscribers expected to remain a key driver of organic DnA revenue growth
  
- ❖ 58% of organic market data revenue growth and over 90% of organic access and capacity fee revenue growth in 4Q22 driven by additional subscriptions or incremental units

**Data & Access Solutions Gross Revenue**  
(in millions)



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

<sup>2</sup> 2022 Guidance is as of Feb 3, 2023, medium-term guidance as of Feb 4, 2022.

# 4Q22 Adjusted Operating Expenses Up 28%, Driven by Acquisitions and Compensation and Benefits



- ❖ 4Q22 expense increase driven by addition of Cboe Digital and NEO, as well as higher compensation and benefits
  - ❖ \$19 million increase in compensation-related expenses
  - ❖ \$5 million increase in travel and promotional fees
- ❖ Excluding acquisitions, adjusted operating expenses<sup>1</sup> were up \$28 million or 21%

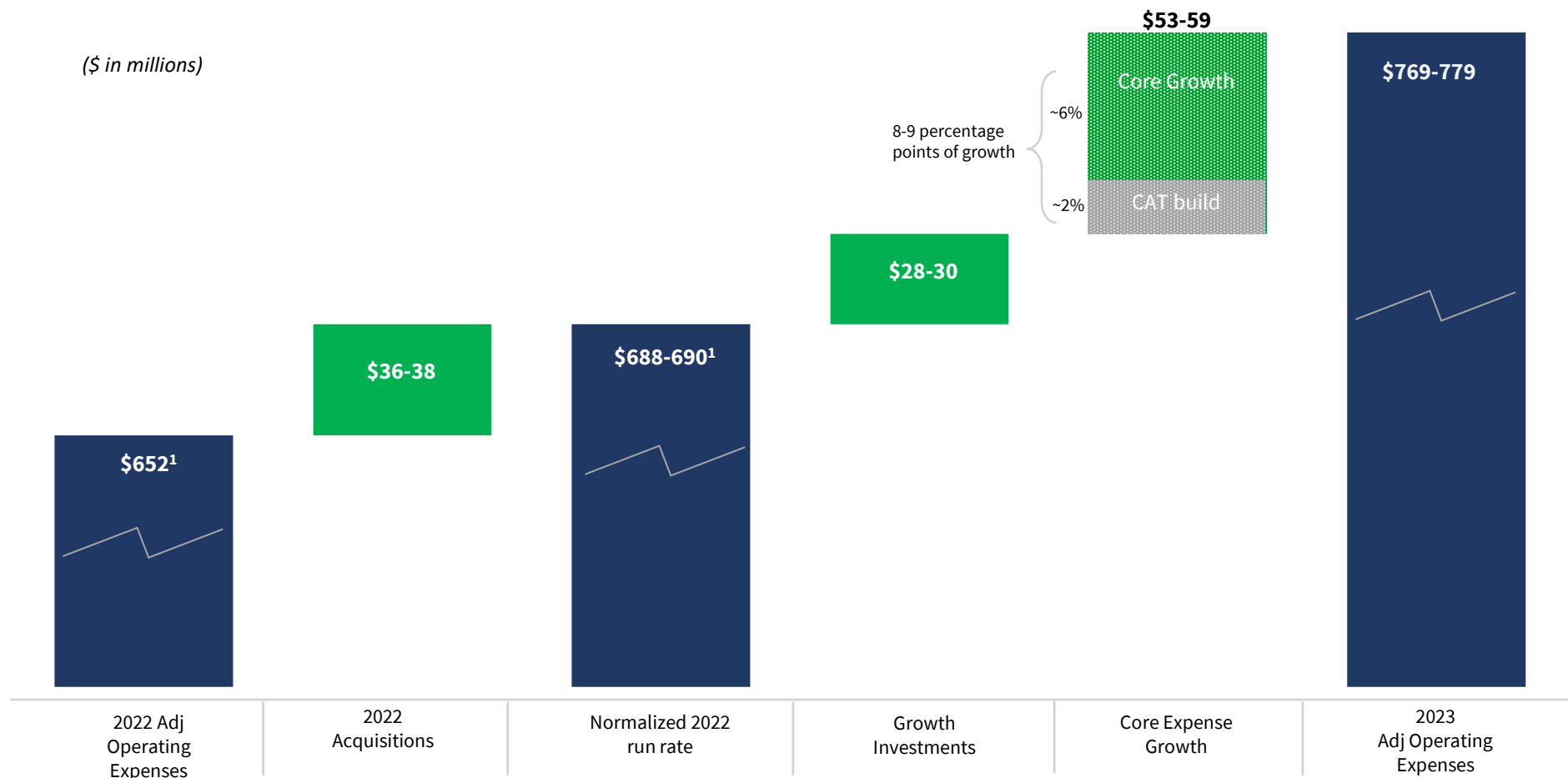
Adjusted Operating Expenses <sup>1</sup> (in millions)	4Q22	4Q21	% Chg	2022	2021	% Chg
Compensation and benefits	\$93.6	\$74.5	26%	\$363.0	\$288.5	26%
Depreciation and amortization <sup>1</sup>	11.5	10.6	8%	42.5	40.8	4%
Technology support services	21.3	16.6	28%	77.7	66.7	16%
Professional fees and outside services	24.8	21.7	14%	89.0	83.7	6%
Travel and promotional	9.2	3.9	136%	23.7	9.7	144%
Facilities costs	5.8	5.7	2%	25.1	22.2	13%
Other expenses	10.4	4.5	131%	31.2	19.1	63%
<b>Total<sup>1</sup></b>	<b>\$176.6</b>	<b>\$137.5</b>	<b>28%</b>	<b>\$652.2</b>	<b>\$530.7</b>	<b>23%</b>

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



# Adjusted Operating Expense Guidance for 2023<sup>1</sup>

(\$ in millions)



Growth Rate Composition	Growth Investments	Core Growth	Total Organic Growth	Inorganic Growth	Total Growth
2022	4.5%	8.9%	13.4%	9.4%	22.8%
2023	4.4%	8.6%	13.0%	5.7%	18.7%

<sup>1</sup>Adjusted to reflect impact of certain items. See Appendix for “Non-GAAP information”  
 Note :Table for 2023 expense growth rates is calculated with midpoints

# Updated 2023 Guidance



<b>2023 Full-Year Guidance<sup>1, 2</sup></b> (\$ in millions)	<b>2023 Guidance as of Feb. 3, 2023</b>	<b>2022 Actual<sup>3</sup></b>
<b>Data and Access Solutions<sup>4</sup> organic net revenue growth rate</b>	7 to 10%	12%
<b>Net revenue growth from acquisitions held &lt;12 months</b>	0.5%	2%
<b>Total organic net revenue growth rate</b>	7 to 9%	16%
<b>Adjusted operating expenses<sup>5</sup></b>	\$769 to 779	\$652
<b>Other income (expense) benefit from minority investments</b>	\$27 to 33	\$7
<b>Depreciation and amortization</b> (excluding amortization of acquired intangible assets)	\$48 to 52	\$43
<b>Effective tax rate on adjusted earnings</b>	28.5 to 30.5%	28.4%
<b>Capital expenditures</b>	\$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>2</sup>Guidance includes acquisitions completed through July 29, 2022, and investment in launching pan-European trading and clearing.

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

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

<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.

# 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, \$15 million in share repurchases and repaid \$120mn of debt during 4Q22; \$218mn of availability remaining under share repurchase authorizations at Dec 31, 2022

Debt Outstanding (\$ in millions)	Dec. 31, 2021	Mar. 31, 2022	June 30, 2022	Sept. 30, 2022	Dec. 31, 2022
3.650% Senior Notes (10Y; Due 2027)	\$650	\$650	\$650	\$650	\$650
3.000% Senior Notes (10Y; Due 2032)	-	300	300	300	300
1.625% Senior Notes (10Y; Due 2030)	500	500	500	500	500
Revolving Credit Agreement	-	-	-	-	-
Term Loan Facility	160	160	525	425	305
EuroCCP Credit Facility	-	-	-	-	-
<b>Total Debt (Gross)</b>	<b>\$1,310</b>	<b>\$1,610</b>	<b>\$1,975</b>	<b>\$1,875</b>	<b>\$1,755</b>
Debt to EBITDA TTM <sup>1</sup>	1.3x	1.6x	1.9x	1.7x	1.5x
Adjusted Cash & Financial Investments <sup>1</sup>	\$325	\$660	\$349	\$355	\$403
Share Repurchases	\$0.0	\$70.0	\$15.6	\$0.0	\$15.3
Dividends Paid	51.5	51.4	51.2	53.4	53.4
<b>Total Capital Returned to Shareholders</b>	<b>\$51.5</b>	<b>\$121.4</b>	<b>\$66.8</b>	<b>\$53.4</b>	<b>\$68.7</b>

<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
- ◆ 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

**Q&A**

# Appendix

# Options 4Q22 Net Revenue Up 35%, 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 24%

Options Selected Revenue Data (\$ in millions)	4Q22	4Q21	Chg	2022	2021	Chg
<b>Net Revenue</b>	<b>\$273.2</b>	<b>\$202.5</b>	<b>35%</b>	<b>\$983.2</b>	<b>\$755.0</b>	<b>30%</b>
<b>Net transaction and clearing fees<sup>1</sup></b>	<b>\$227.7</b>	<b>\$161.8</b>	<b>41%</b>	<b>\$800.5</b>	<b>\$583.6</b>	<b>37%</b>
Index options	185.4	117.2	58%	628.1	412.9	52%
Multi-listed options	42.3	44.6	-5%	172.4	170.7	1%
Access and capacity	\$39.0	\$34.0	15%	\$151.7	\$124.0	22%
<b>Market data</b>	<b>\$29.3</b>	<b>\$21.9</b>	<b>34%</b>	<b>\$108.7</b>	<b>\$84.3</b>	<b>29%</b>
Market data – proprietary	20.8	14.1	48%	75.5	53.8	40%
Market data – industry	8.5	7.8	9%	33.2	30.5	9%
Options Key Operating Stats	4Q22	4Q21	Chg	2022	2021	Chg
<b>Total market share</b>	<b>34.1%</b>	<b>31.1%</b>	<b>3.0pts</b>	<b>33.2%</b>	<b>30.8%</b>	<b>2.4pts</b>
Multi-listed options	28.5%	27.3%	1.2pts	28.2%	27.1%	1.1pts
<b>Total ADV (in thousands)</b>	<b>14,545</b>	<b>12,694</b>	<b>15%</b>	<b>13,631</b>	<b>12,054</b>	<b>13%</b>
Index options	3,359	2,167	55%	2,847	1,971	44%
Multi-listed options	11,186	10,527	6%	10,784	10,084	7%
<b>Total RPC</b>	<b>\$0.248</b>	<b>\$0.199</b>	<b>25%</b>	<b>\$0.234</b>	<b>\$0.192</b>	<b>22%</b>
Index options	\$0.876	\$0.845	4%	\$0.879	\$0.832	6%
Multi-listed options	\$0.060	\$0.066	-10%	\$0.063	\$0.067	-6%

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

# North American (N.A.) Equities 4Q22 Net Revenue Up 5%, Driven by NEO Contribution and Solid U.S. Equities Industry Volumes



- ◆ Net revenue increase reflects \$5.5 million contribution from NEO
- ◆ U.S. equities transaction and clearing fees were helped by higher year-over-year industry volumes
- ◆ Access and capacity fee growth remained strong, up 10% as compared to 4Q21

<b>N.A. Equities Selected Revenue Data</b> (\$ in millions)	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
<b>Net Revenue</b>	<b>\$96.4</b>	<b>\$91.6</b>	<b>5%</b>	<b>\$378.9</b>	<b>\$362.5</b>	<b>5%</b>
Net transaction and clearing fees <sup>1</sup>	\$32.8	\$34.0	-4%	\$129.9	\$124.9	4%
<b>Market data</b>	<b>\$31.8</b>	<b>\$30.5</b>	<b>4%</b>	<b>\$131.2</b>	<b>\$134.6</b>	<b>-3%</b>
Market data - proprietary	13.6	10.8	27%	51.0	43.0	18%
Market data - SIP <sup>2</sup>	18.2	19.7	-8%	80.2	91.6	-12%
Access and capacity fees	\$28.2	\$25.6	10%	\$109.3	\$98.0	12%
<b>N.A. Equities Key Operating Stats</b>	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
<b>U.S. Equities Exchange</b> (shares in billions)						
Total Market Share	13.1%	13.3%	-0.2pts	13.6%	14.2%	-0.6pts
Market ADV	11.2	10.8	4%	11.9	11.4	4%
ADV (matched shares)	1.5	1.4	2%	1.6	1.6	0%
Net capture (per 100 touched shares)	\$0.024	\$0.025	-2%	\$0.021	\$0.020	7%
<b>U.S. Equities Off-Exchange</b> (shares in millions)						
Off-Exchange ATS Block Market Share % <sup>3</sup>	21.5%	22.5%	-1.0pts	22.8%	22.2%	0.6pts
ADV (matched shares)	80.8	84.2	-4%	90.4	83.0	9%
Net capture (per 100 touched shares)	\$0.113	\$0.115	-2%	\$0.113	\$0.120	-6%
<b>Canadian Equities</b> (shares in millions) <sup>4</sup>						
Total Market Share Percent	13.6%	3.3%	10.3pts	8.3%	3.3%	5.0pts
ADV (matched shares, in millions)	139.0	41.3	236%	91.8	49.4	86%
Net capture (per 10,000 touched shares, in CAD)	CAD 3.901	CAD 8.475	-54%	CAD 4.966	CAD 7.822	-37%

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

<sup>2</sup>Includes SIP audit recoveries of \$0.4 million in 4Q22 and \$0.1 million in 4Q21.

<sup>3</sup>Represents market share for 4Q22 through October 2022.

<sup>4</sup>Represents only MATCHNow in 4Q21, NEO included with MATCHNow as of 4Q22.



# Europe and APAC Net Revenue down 15% for 4Q22, Driven by Currency Headwinds



- ◆ Net revenue decrease reflects \$5.6 million impact from stronger USD in 4Q22 vs. 4Q21<sup>1</sup>
- ◆ Cboe Europe's overall equities market share was 24.9% in 4Q22 versus 19.8% in 4Q21
- ◆ In 4Q22, 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)	4Q22	4Q21	Chg	2022	2021	Chg (\$)
<b>Net Revenue</b>	<b>\$44.2</b>	<b>\$51.7</b>	<b>-15%</b>	<b>\$196.1</b>	<b>\$183.9</b>	<b>7%</b>
<b>Net transaction and clearing fees<sup>1</sup></b>	<b>\$22.3</b>	<b>\$29.0</b>	<b>-23%</b>	<b>\$106.6</b>	<b>\$102.9</b>	<b>4%</b>
Net transaction fees	15.8	19.3	-18%	75.4	67.6	12%
Net clearing fees	6.5	9.7	-33%	31.2	35.3	-12%
Market data	\$8.3	\$9.2	-10%	\$33.1	\$25.6	29%
Access and capacity fees	\$7.9	\$7.5	5%	\$34.0	\$31.2	9%
Other <sup>3</sup>	\$5.7	\$6.0	-5%	\$22.4	\$24.2	-7%
<b>Europe Key Operating Stats</b>	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
<b>European Equities:</b>						
Total market share	24.9%	19.8%	5.1pts	23.5%	18.1%	5.4pts
Market ADNV (in billions)	€ 40.1	€ 44.0	-9%	€ 46.2	€ 42.6	8%
Net capture (per matched notional value, in bps)	0.224	0.256	-13%	0.231	0.267	-14%
<b>Cboe Clear Europe</b>						
Trades cleared (in millions)	340.9	345.1	-1%	1,493.3	1,244.2	20%
Fee per trade cleared	€ 0.008	€ 0.011	-27%	€ 0.009	€ 0.011	-17%
Net settlement volume (in millions)	2.5	2.7	-7%	10.3	9.9	4%
Net fee per settlement	€ 0.886	€ 0.860	3%	€ 0.881	€ 0.871	1%
European equities market share cleared	33.7%	31.1%	2.6pts	32.7%	29.6%	3.1pts
<b>APAC Key Operating Stats</b>	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
<b>Australian Equities:</b>						
Total market share	17.2%	16.1%	1.1pts	16.6%	15.9%	0.7pts
Market ADNV (AUD in billions)	\$0.7	\$0.8	-6%	\$0.8	\$0.8	2%
Net capture (per matched notional value)	0.142	0.171	-17%	0.164	0.172	-5%
<b>Japanese Equities:</b>						
Total market share	2.9%	2.9%	0.0pts	3.6%	2.7%	0.9pts
Market ADNV (JYP in billions)	¥114.1	¥111.4	2%	¥142.9	¥100.1	43%
Net capture (per matched notional value)	0.265	0.358	-26%	0.252	0.361	-30%

<sup>1</sup>See appendix for "Non-GAAP Information."<sup>2</sup>Source: big xyt <sup>3</sup>Primarily includes trade reporting and EuroCCP net interest income

# Futures 4Q22 Net Revenue Down 10%, Reflecting Volume Declines



- ◆ Revenue decrease driven by lower transaction revenues as compared to 4Q21
- ◆ Market data and Access and capacity saw modest year-over-year improvement during the quarter

<b>Futures Selected Revenue Data</b> (\$ in millions)	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
<b>Net Revenue</b>	<b>\$26.8</b>	<b>\$29.9</b>	<b>-10%</b>	<b>\$116.0</b>	<b>\$116.8</b>	<b>-1%</b>
Net transaction and clearing fees <sup>1</sup>	\$20.5	\$24.2	-15%	\$91.6	\$95.2	-4%
Access and capacity	\$5.2	\$5.1	2%	\$19.9	\$18.7	6%
Market data	\$2.0	\$1.6	25%	\$8.0	\$6.6	21%
<b>Futures Key Operating Stats</b> (in thousands, except RPC)	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
Total ADV	193	230	-16%	218	230	-5%
Total RPC	\$1.689	\$1.651	2%	\$1.674	\$1.641	2%

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

# Global FX Net 4Q22 Revenue Up 14%

- ◆ Revenue increase driven by higher volumes and continued market share gains
- ◆ Market share hit a record at 18.4% for the quarter

<b>FX Selected Revenue Data</b> (\$ in millions)	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
<b>Net Revenue</b>	<b>\$16.9</b>	<b>\$14.8</b>	<b>14%</b>	<b>\$67.9</b>	<b>\$57.6</b>	<b>18%</b>
Net transaction and clearing fees <sup>1</sup>	14.3	12.3	16%	57.2	48.0	19%
Non-transaction revenue	2.6	2.5	4%	10.7	9.6	11%
<b>FX Key Operating Stats</b>	<b>4Q22</b>	<b>4Q21</b>	<b>Chg</b>	<b>2022</b>	<b>2021</b>	<b>Chg</b>
Market share <sup>2</sup>	18.4%	16.8%	1.6pts	17.6%	16.6%	1.0pts
Average Daily Notional Value (\$ in billions)	\$40.8	\$33.7	21%	\$40.9	\$33.9	21%
Net capture (per one million dollars traded)	\$2.69	\$2.77	-3%	\$2.69	\$2.73	-1%

<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).

# Fourth Quarter Financial Overview



<b>Adjusted Financial Results<sup>1</sup></b> (\$ in millions, except per share)	<b>4Q22</b>	<b>4Q21</b>	<b>% Chg</b>	<b>2022</b>	<b>2021</b>	<b>% Chg</b>
Net Revenue <sup>2</sup>	\$457.1	\$390.5	17%	\$1,741.7	\$1,476.1	18%
Adjusted Operating Expenses <sup>1</sup>	\$176.6	\$137.5	28%	652.2	530.7	23%
Adjusted Operating Income <sup>1</sup>	\$280.5	\$253.0	11%	\$1,089.5	\$945.4	15%
<i>Adjusted Operating Margin<sup>1</sup></i>	61.4%	64.8%	-3.4pts	62.6%	64.0%	-1.5pts
Adjusted Net Income Allocated to Common Stockholders <sup>1</sup>	\$192.2	\$181.7	6%	\$739.8	\$648.8	14%
Adjusted Diluted EPS <sup>1</sup>	\$1.80	\$1.70	6%	\$ 6.93	\$ 6.05	15%
Adjusted EBITDA <sup>1</sup>	\$292.3	\$263.7	11%	\$1,135.6	\$987.1	15%
<i>Adjusted EBITDA Margin<sup>1</sup></i>	63.9%	67.5%	-3.6pts	65.2%	66.9%	-1.7pts

<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

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

<b>Net Revenue<sup>1</sup></b> (in millions)	<b>4Q22</b>	<b>4Q21</b>	<b>% Chg</b>	<b>2022</b>	<b>2021</b>	<b>% Chg</b>
Cash and Spot Markets	\$97.1	\$102.7	-5%	\$406.7	\$395.9	3%
Data and Access Solutions	125.8	111.5	13%	487.8	419.3	16%
Derivatives Markets	234.2	176.3	33%	847.2	660.9	28%
<b>Total</b>	<b>\$457.1</b>	<b>\$390.5</b>	<b>17%</b>	<b>\$1,741.7</b>	<b>\$1,476.1</b>	<b>18%</b>

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

# 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)

		Actual		Contribution to y/y growth
<b>2021 Adjusted Operating Expenses<sup>1</sup></b>	<b>\$ 531</b>			
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%
			<b>121</b>	<b>22.8%</b>
<b>Total</b>			<b>652</b>	<b>--</b>

## Adjusted Operating Expenses Bridge for 2022 to 2023

(\$ in millions)

		*Guidance Range		Contribution to y/y growth
<b>2022 Adjusted Operating Expenses<sup>1</sup></b>	<b>\$ 652</b>			
2022 Acquisitions		36	38	5.7%
Core <sup>2</sup>		53	59	8.6%
Growth Investments		28	30	4.4%
		<b>117</b>	<b>127</b>	<b>18.7%</b>
<b>2023 Guidance as of February 3, 2023</b>		<b>769</b>	<b>779</b>	

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

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

\*Totals may not foot due to rounding

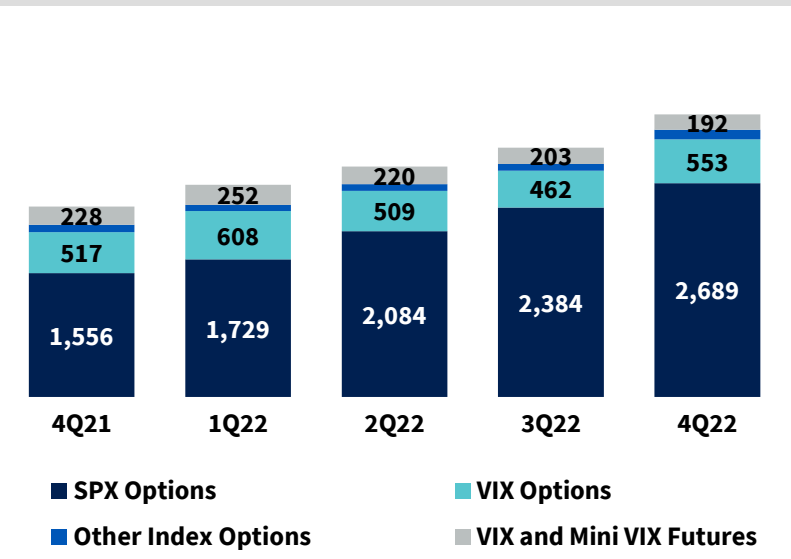
% PT Contribution to y/y growth assumes midpoint for 2023

# Focused on Growing the Proprietary Index Suite

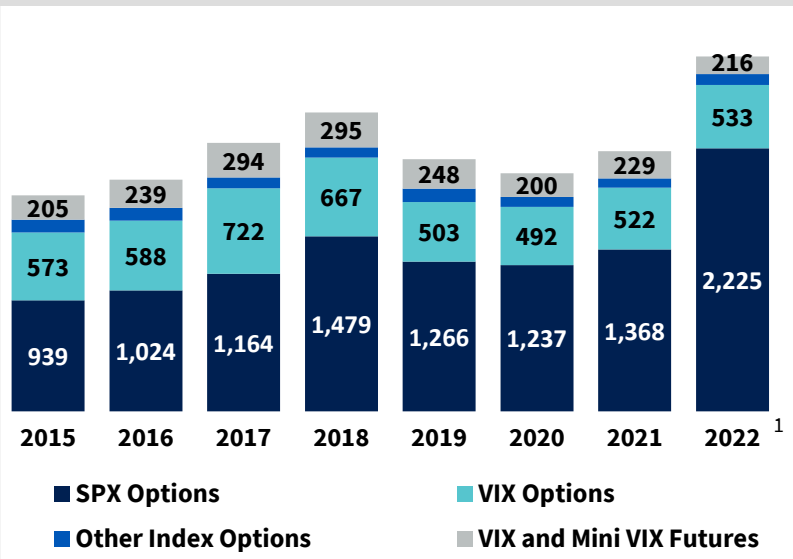
Index customers at Cboe typically use SPX and VIX options and futures interchangeably or in tandem, depending on market conditions

- ◆ 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

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



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



# Cboe's Commitment to ESG Initiatives



## Environmental

- ◆ **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 ESG-themed 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



## Social

- ◆ **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 being 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 over \$3.7mn in charitable contributions through a variety of giving programs in 2021



## Governance

- ◆ **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\*

\* May not foot due to rounding.



# 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, adjusted operating margin, adjusted net income allocated to common stockholders and adjusted diluted earnings per share, adjusted income before income taxes, adjusted revenue less cost of revenue, effective tax rate on adjusted earnings, net revenue 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 presentation, including adjusted operating income, organic net revenue and adjusted operating expenses, 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 adjusted operating expenses 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, net revenue on a constant currency basis 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 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.**

# Non-GAAP Information



## Reconciliation of Net Transaction and Clearing Fees by Segment

For the Three Months Ended March 31 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Total	
	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Transaction and clearing fees	\$ 348.3	\$ 308.7	\$ 330.8	\$ 381.8	\$ 50.1	\$ 34.7	\$ 25.8	\$ 25.6	\$ 14.6	\$ 12.4	\$ 769.6	\$ 763.2
Liquidity payments	(167.6)	(166.0)	(288.3)	(330.5)	(11.6)	(5.3)	-	-	-	-	(467.5)	(501.8)
Routing and clearing	(6.7)	(5.5)	(10.5)	(17.3)	(4.9)	(4.3)	-	-	(0.2)	-	(22.3)	(27.1)
<b>Net transaction and clearing fees</b>	<b>\$ 174.0</b>	<b>\$ 137.2</b>	<b>\$ 32.0</b>	<b>\$ 34.0</b>	<b>\$ 33.6</b>	<b>\$ 25.1</b>	<b>\$ 25.8</b>	<b>\$ 25.6</b>	<b>\$ 14.4</b>	<b>\$ 12.4</b>	<b>\$ 279.8</b>	<b>\$ 234.3</b>

For the Three Months Ended June 30 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	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)
<b>Net transaction and clearing fees</b>	<b>\$ 188.7</b>	<b>\$ 134.1</b>	<b>\$ 32.6</b>	<b>\$ 29.6</b>	<b>\$ 27.2</b>	<b>\$ 23.0</b>	<b>\$ 23.0</b>	<b>\$ 22.2</b>	<b>\$ 13.9</b>	<b>\$ 11.5</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 285.4</b>	<b>\$ 220.4</b>

For the Three Months Ended Sept 30 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	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)
<b>Net transaction and clearing fees</b>	<b>\$ 210.1</b>	<b>\$ 150.5</b>	<b>\$ 32.5</b>	<b>\$ 27.3</b>	<b>\$ 23.5</b>	<b>\$ 25.8</b>	<b>\$ 22.3</b>	<b>\$ 23.2</b>	<b>\$ 14.6</b>	<b>\$ 11.8</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 303.0</b>	<b>\$ 238.6</b>

For the Three Months Ended Dec 31 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	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)
<b>Net transaction and clearing fees</b>	<b>\$ 227.7</b>	<b>\$ 161.8</b>	<b>\$ 32.8</b>	<b>\$ 34.0</b>	<b>\$ 22.3</b>	<b>\$ 29.0</b>	<b>\$ 20.5</b>	<b>\$ 24.2</b>	<b>\$ 14.3</b>	<b>\$ 12.3</b>	<b>\$ (0.4)</b>	<b>\$ -</b>	<b>\$ 317.2</b>	<b>\$ 261.3</b>

For the Twelve Months Ended December 31 (in millions)	Options		N.A. Equities		Europe and Asia Pacific		Futures		Global FX		Digital		Total	
	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Transaction fees	\$ 1,471.7	\$ 1,231.2	\$ 1,155.3	\$ 1,173.1	\$ 161.9	\$ 145.3	\$ 91.6	\$ 95.2	\$ 58.0	\$ 48.3	\$ 0.3	\$ -	\$ 2,938.8	\$ 2,693.1
Liquidity payments	(644.0)	(625.0)	(987.6)	(1,002.1)	(37.9)	(23.6)	-	-	-	-	(0.7)	-	(1,670.2)	(1,650.7)
Routing and clearing	(27.2)	(22.6)	(37.8)	(46.1)	(17.4)	(18.8)	-	-	(0.8)	(0.3)	-	-	(83.2)	(87.8)
<b>Net transaction and clearing fees</b>	<b>\$ 800.5</b>	<b>\$ 583.6</b>	<b>\$ 129.9</b>	<b>\$ 124.9</b>	<b>\$ 106.6</b>	<b>\$ 102.9</b>	<b>\$ 91.6</b>	<b>\$ 95.2</b>	<b>\$ 57.2</b>	<b>\$ 48.0</b>	<b>\$ (0.4)</b>	<b>\$ -</b>	<b>\$ 1,185.4</b>	<b>\$ 954.6</b>

# Non-GAAP Information



## Reconciliation of GAAP Net Revenues to Net Revenues in Constant Currency - December 31, 2022

Net Revenue (in millions)	Three Months Ended, December 31, 2022	Twelve Months Ended, December 31, 2022
Europe and Asia Pacific net revenues	\$44.2	\$196.1
Constant currency adjustment	5.6	21.3
<b>Europe and Asia Pacific net revenue in constant currency</b>	<b>\$49.8</b>	<b>\$217.4</b>

# Non-GAAP Information



## Reconciliation of Net Revenue by Revenue Caption –

For the Three Months Ended Dec. 31 (in millions)	Cash and Spot Markets		Data and Access Solutions		Derivatives Markets		Total	
	2022	2021	2022	2021	2022	2021	2022	2021
Transaction and clearing fees	\$ 305.3	\$ 323.7	\$ -	\$ -	\$ 413.1	\$ 355.1	\$ 718.4	\$ 678.8
Access and capacity fees	-	-	82.7	74.4	-	-	82.7	74.4
Market data fees	18.2	19.7	45.0	36.0	8.5	7.8	71.7	63.5
Regulatory fees	89.2	27.8	-	-	31.2	7.5	120.4	35.3
Other revenue	10.3	10.4	0.4	3.4	0.8	0.6	11.5	14.4
<b>Total revenues</b>	<b>423.0</b>	<b>381.6</b>	<b>128.1</b>	<b>113.8</b>	<b>453.6</b>	<b>371.0</b>	<b>1,004.7</b>	<b>866.4</b>
Liquidity payments	223.1	233.3	-	-	158.3	162.4	381.4	395.7
Routing and clearing fees	12.5	14.9	-	-	7.3	6.9	19.8	21.8
Section 31 fees	86.9	27.0	-	-	22.2	4.0	109.1	31.0
Royalty fees and other cost of revenues	3.4	3.7	2.3	2.3	31.6	21.4	37.3	27.4
Other cost of revenues	-	-	-	-	-	-	-	-
<b>Total cost of revenues</b>	<b>325.9</b>	<b>278.9</b>	<b>2.3</b>	<b>2.3</b>	<b>219.4</b>	<b>194.7</b>	<b>547.6</b>	<b>475.9</b>
<b>Revenues less cost of revenues (net revenue)</b>	<b>97.1</b>	<b>102.7</b>	<b>125.8</b>	<b>111.5</b>	<b>234.2</b>	<b>176.3</b>	<b>457.1</b>	<b>390.5</b>
Acquisition revenue less cost of revenues (inorganic net revenue)	(1.8)	-	(3.3)	-	-	-	(5.1)	-
<b>Organic net revenue</b>	<b>95.3</b>	<b>102.7</b>	<b>122.5</b>	<b>111.5</b>	<b>234.2</b>	<b>176.3</b>	<b>452.0</b>	<b>390.5</b>

## Reconciliation of Net Revenue by Revenue Caption –

For the Twelve Months Ended Dec. 31 (in millions)	Cash and Spot Markets		Data and Access Solutions		Derivatives Markets		Total	
	2022	2021	2022	2021	2022	2021	2022	2021
Transaction and clearing fees	\$ 1,375.5	\$ 1,366.5	\$ -	\$ -	\$ 1,563.3	\$ 1,326.6	\$ 2,938.8	\$ 2,693.1
Access and capacity fees	-	-	324.2	280.7	-	-	324.2	280.7
Market data fees	80.3	91.6	168.7	130.0	33.2	30.5	282.2	252.1
Regulatory fees	280.2	161.6	-	-	84.5	46.7	364.7	208.3
Other revenue	41.6	40.8	4.1	17.0	2.9	2.8	48.6	60.6
<b>Total revenues</b>	<b>1,777.6</b>	<b>1,660.5</b>	<b>497.0</b>	<b>427.7</b>	<b>1,683.9</b>	<b>1,406.6</b>	<b>3,958.5</b>	<b>3,494.8</b>
Liquidity payments	1,024.0	1,025.4	-	-	646.2	625.3	1,670.2	1,650.7
Routing and clearing fees	56.0	65.2	-	-	27.2	22.6	83.2	87.8
Section 31 fees	276.8	159.7	-	-	53.0	19.9	329.8	179.6
Royalty fees and other cost of revenues	14.1	14.3	9.2	8.4	110.3	77.9	133.6	100.6
<b>Total cost of revenues</b>	<b>1,370.9</b>	<b>1,264.6</b>	<b>9.2</b>	<b>8.4</b>	<b>836.7</b>	<b>745.7</b>	<b>2,216.8</b>	<b>2,018.7</b>
<b>Revenues less cost of revenues (net revenue)</b>	<b>406.7</b>	<b>395.9</b>	<b>487.8</b>	<b>419.3</b>	<b>847.2</b>	<b>660.9</b>	<b>1,741.7</b>	<b>1,476.1</b>
Acquisition revenue less cost of revenues (inorganic net revenue)	(9.5)	-	(19.2)	-	-	-	(28.7)	-
<b>Organic net revenue</b>	<b>397.2</b>	<b>395.9</b>	<b>468.6</b>	<b>419.3</b>	<b>847.2</b>	<b>660.9</b>	<b>1,713.0</b>	<b>1,476.1</b>

(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, 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.

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

<b>(in millions, except per share amounts)</b>	<b>1Q21</b>	<b>2Q21</b>	<b>3Q21</b>	<b>4Q21</b>	<b>2021</b>	<b>1Q22</b>	<b>2Q22</b>	<b>3Q22</b>	<b>4Q22</b>	<b>2022</b>
<b>Net income allocated to common stockholders</b>	\$ 136.8	\$ 105.2	\$ 120.0	\$ 165.3	\$ 527.3	\$ 109.2	\$ (184.5)	\$ 149.6	\$ 159.0	\$ 234.1
Interest expense	12.3	12.3	11.7	11.1	47.4	10.8	14.6	15.3	15.7	56.4
Income tax provision	55.7	73.7	53.4	44.3	227.1	115.3	(72.3)	78.8	76.1	197.9
Depreciation and amortization	42.0	40.6	42.8	42.0	167.4	40.9	40.2	41.0	44.7	166.8
<b>EBITDA</b>	<b>\$ 246.8</b>	<b>\$ 231.8</b>	<b>\$ 227.9</b>	<b>\$ 262.7</b>	<b>\$ 969.2</b>	<b>\$ 276.2</b>	<b>\$ (202.0)</b>	<b>\$ 284.7</b>	<b>\$ 295.5</b>	<b>\$ 655.2</b>
<b>EBITDA Margin</b>	<b>67.5%</b>	<b>66.1%</b>	<b>61.7%</b>	<b>67.3%</b>	<b>65.7%</b>	<b>66.1%</b>	<b>-47.6%</b>	<b>64.4%</b>	<b>64.6%</b>	<b>37.6%</b>
<b>Non-GAAP adjustments not included in above line items</b>										
Acquisition-related expenses	3.4	1.8	6.7	3.7	15.6	2.0	14.3	1.6	2.0	19.9
Change in contingent consideration	-	-	-	(2.7)	(2.7)	-	-	-	(5.2)	(5.2)
Gain on investment							(7.5)	-	-	(7.5)
Loan forgiveness							(1.3)	-	-	(1.3)
Goodwill impairment							460.1	0.8	-	460.9
Investment establishment costs						3.0	-	-	-	3.0
Impairment of investment	-	-	5.0	-	5.0	-	10.6	-	-	10.6
<b>Adjusted EBITDA</b>	<b>\$ 250.2</b>	<b>\$ 233.6</b>	<b>\$ 239.6</b>	<b>\$ 263.7</b>	<b>\$ 987.1</b>	<b>\$ 281.2</b>	<b>\$ 274.2</b>	<b>\$ 287.1</b>	<b>\$ 292.3</b>	<b>\$ 1,135.6</b>
<b>Adjusted EBITDA Margin</b>	<b>68.5%</b>	<b>66.6%</b>	<b>64.8%</b>	<b>67.5%</b>	<b>66.9%</b>	<b>67.3%</b>	<b>64.7%</b>	<b>64.9%</b>	<b>63.9%</b>	<b>65.2%</b>

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

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

(in millions)	1Q22	2Q22	3Q22	4Q22	LTM
Net income allocated to common stockholders	\$ 109.2	\$ (184.5)	\$ 149.6	\$ 159.0	\$ 234.1
Interest expense, net	10.8	14.6	15.3	15.7	56.4
Income tax provision	115.3	(72.3)	78.8	76.1	197.9
Depreciation and amortization	40.9	40.2	41.0	44.7	166.8
<b>EBITDA</b>	<b>\$ 276.2</b>	<b>\$ (202.0)</b>	<b>\$ 284.7</b>	<b>\$ 295.5</b>	<b>\$ 655.2</b>
Non-GAAP adjustments not included in above line items:					
Acquisition-related expenses	2.0	14.3	1.6	2.0	19.9
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
Investment establishment costs	3.0	-	-	-	3.0
Impairment of investment	-	10.6	-	-	10.6
<b>Adjusted EBITDA</b>	<b>\$ 281.2</b>	<b>\$ 274.2</b>	<b>\$ 287.1</b>	<b>\$ 292.3</b>	<b>\$ 1,135.6</b>
Debt at end of period					\$ 1,755.0
<b>Debt to EBITDA</b>					<b>1.5x</b>

<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	As of	As of	As of	As of	As of	As of	
	3/31/21	6/30/21	9/30/21	12/31/21	3/31/22	6/30/22	9/30/22	12/31/22
Cash and cash equivalents	\$ 263.3	\$ 450.9	\$ 392.4	\$ 341.9	\$ 659.4	\$ 373.3	\$ 353.3	\$ 432.7
Financial investments	95.5	118.7	26.7	37.1	48.7	68.5	27.4	91.7
Less deferred compensation plan assets	(24.0)	(25.6)	(26.2)	(28.0)	(27.4)	(25.5)	(25.4)	(27.5)
Less cash collected for Section 31 fees	(70.9)	(101.4)	-	(25.9)	(20.7)	(67.2)	-	(93.7)
<b>Adjusted Cash</b>	<b>\$ 263.9</b>	<b>\$ 442.6</b>	<b>\$ 392.9</b>	<b>\$ 325.1</b>	<b>\$ 660.0</b>	<b>\$ 349.1</b>	<b>\$ 355.3</b>	<b>\$ 403.2</b>





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