

Second Quarter 2020 Earnings Presentation

July 31, 2020

Agenda



Strategic Review

Financial Review

Questions and Answers

Edward Tilly

Chairman, President and Chief Executive Officer

Brian Schell

Executive Vice President, CFO and Treasurer

Edward Tilly Brian Schell

Chris Isaacson

Executive Vice President and Chief Operating Officer

John Deters

Executive Vice President and Chief Strategy Officer

Cautionary Statements Regarding Forward-Looking Information



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

We operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible to predict all risks and uncertainties, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Some factors that could cause actual results to differ include: the impact of the novel coronavirus ("COVID-19") pandemic, including changes to trading behavior broadly in the market; 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 volumes, market data fees or a shift in the mix of products traded on our exchanges; legislative or regulatory changes; our ability to protect our systems and communication networks from security risks, cybersecurity risks, insider threats and unauthorized disclosure of confidential information; increasing competition by foreign and domestic entities; our dependence on and exposure to risk from third parties; fluctuations to currency exchange rates; our index providers' ability to maintain the quality and integrity of their indexes and to perform under our agreements; 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 attract and retain skilled management and other personnel; our ability to minimize the risks, including our credit and default risks, associated with operating a European clearinghouse; our ability to accommodate trading 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; challenges to our use of open source software code; our ability to meet our compliance and risk management methods to effectively monitor and manage our risk; our ability to manage our growth and strategic acquisitions or alliances effectively; restrictions imposed by our debt obligations; our ability to maintain an investment grade credit rating; impairment of our goodwill, long-lived assets, investments or intangible assets;

We do not undertake, and we expressly disclaim, any duty to update any forward-looking statement whether as a result of new information, future events or otherwise, except as required by law. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof.

This presentation includes market share, financials and industry data that we obtained from industry publications and surveys, reports of governmental agencies, third-parties and internal company surveys. Industry publications and surveys generally state that the information they contain has been obtained from sources believed to be reliable, but we cannot assure you that this information is accurate or complete. We have not independently verified any of the data and financials from third-party sources nor have we ascertained the underlying economic assumptions relied upon therein. Statements as to our market position are based on the most currently available market data. While we are not aware of any misstatements regarding industry data and financials presented herein, our estimates involve risks and uncertainties and are subject to change based on various factors.

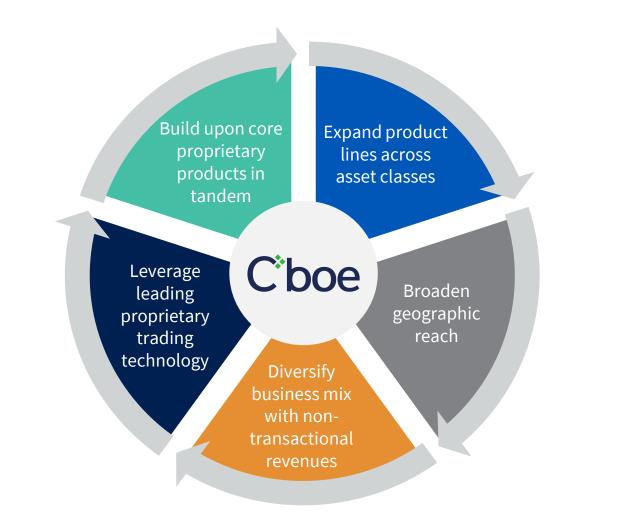




Strategic Review Edward Tilly Chairman, President and CEO





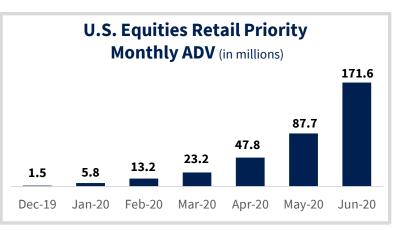




Expand product lines across asset classes U.S. Equities: Supporting Market Participants Through **Innovative Offerings** Global Market

Record 2Q trading in U.S. Equities, up 82% vs 2Q19

- Strong growth in Cboe Retail Priority; 12% of Cboe EDGX trades in June and July
- Plan to launch U.S. Periodic Auctions order book, subject to regulatory approval
- Similar to Cboe Europe offering
 - Lit order book that runs auctions • throughout the day
 - Trade large quantities of stock with lower market impact
 - Accounts for about 2% of daily order ٠ book trading in European equities





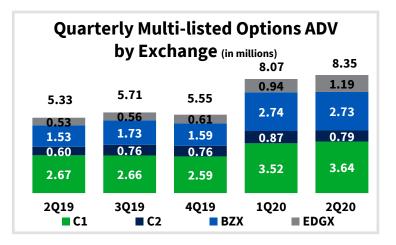
European Periodic Auctions Quarterly ADNV

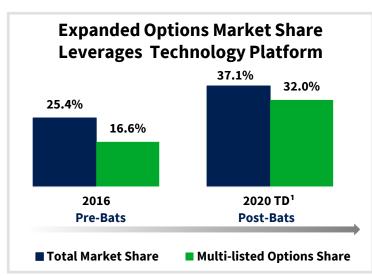


Leverage leading proprietary trading technology Leadership Position in Options; Optimizing Operating Leverage Inherent in our Business Model

ADV for multi-listed options up 57% YoY in 2Q20

- Set record for quarterly ADV in multi-listed options in 2Q20
- Offer a broad array of market models on one common technology platform
 - Incremental volume expands profit margin
 - Complements proprietary products
- Operating leverage provides:
 - Differentiated investment capacity
 - Flexibility to further capitalize on opportunities inherent in our strategic growth drivers







Broaden geographic reach Build upon core proprietary products in tandem Completed EuroCCP Acquisition; Plan to Launch Pan-European Derivatives¹



Plan to introduce a transparent, efficient, lit pan-European derivatives market designed to expand derivatives trading in Europe



- Extending European equities business into trading and clearing pan-European derivatives
- Plan to launch futures and options on six key European equity indices in first half of 2021
- Look to provide an alternative market model, enhancing the overall trading ecosystem



MATCHNow to broaden Cboe's North American equities business

- Aligns with Cboe's global growth strategy
 - Expands geographic presence
 - Diversifies product capabilities
- Largest broker-neutral equities alternative trading system (ATS) in Canada
 - 7% of total Canadian market share; 65% of dark trading¹
 - High-growth, profitable business
- Closing expected in 3Q20, subject to regulatory approvals and other customary closing conditions



Diversify business mix with non-transactional revenues Completed Three Acquisitions in 2020 that Provide Incremental Recurring Revenues



Recent investments complement and strengthen our comprehensive suite of data and analyst solutions

- Providing market participants tools for better understanding risk and accessing Cboe's markets
- Acquisitions of Hanweck, FT Options and Trade Alert have been timely
 - Hanweck, real-time risk analytics on global derivatives markets
 - FT Options, portfolio management platform provider
 - Trade Alert, a real-time alerts and order flow analysis service provider
- Provide tools that draw users to our markets and drive volume as they reestablish their views on the market

Cboe Information Solutions – a broad suite of data solutions, analytics and indices

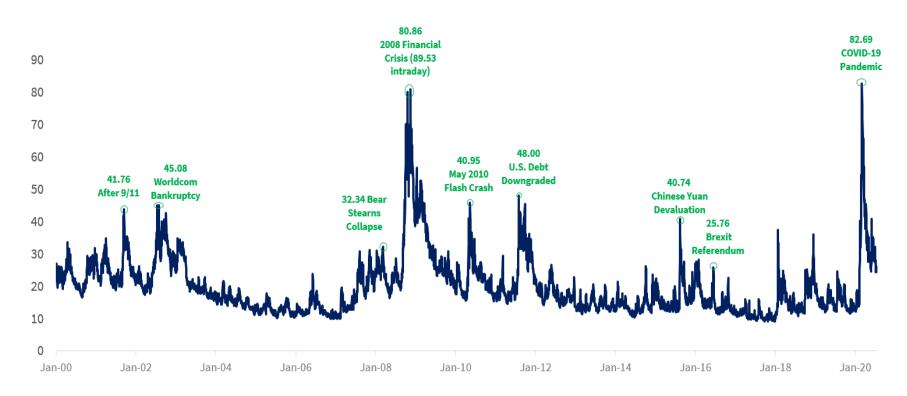
Offer Unique and Actionable Derived Data Solutions	Deliver Insightful Data & Analytics Through Seamless Channels	Provide Friction-free Access to Our Global Markets
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- Provide value-added recurring revenue stream
- Support transaction growth in our suite of proprietary products

Unprecedented Environment Limited Opportunity for Institutions to Trade Volatility or Broad-based Indexes



The VIX[®] Index is used as a barometer for market uncertainty



Daily closing values (January 3, 2000 – July 28, 2020). Source: Cboe Options Institute

- All-time intraday high of 89.53 on October 24, 2008 during the financial crisis
- All-time daily closing high of 82.69 on March 16, 2020 during the COVID-19 selloff



Focus on Growing Proprietary Products



Expanding our proprietary product offering

- Saw uptake in Cboe iBoxx iShares High Yield Corporate Bond Index Futures
- Plan to launch Mini-VIX futures August 10th, subject to regulatory review
- Extended exclusive licensing agreement with FTSE Russell through 2030
- Reopened trading floor on June 15th providing
 - Best-in-class hybrid trading
 - Unparalleled access to liquidity across
 Cboe's wide range of products

Cboe: Home to every major index provider



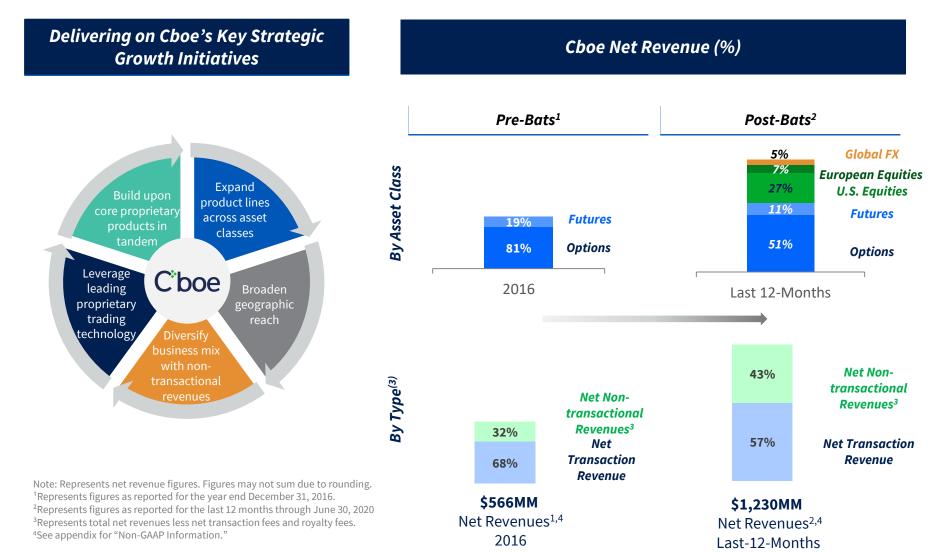


S&P Dow Jones Indices

A Division of S&P Global

Delivering on Cboe's Key Strategic Growth Initiatives









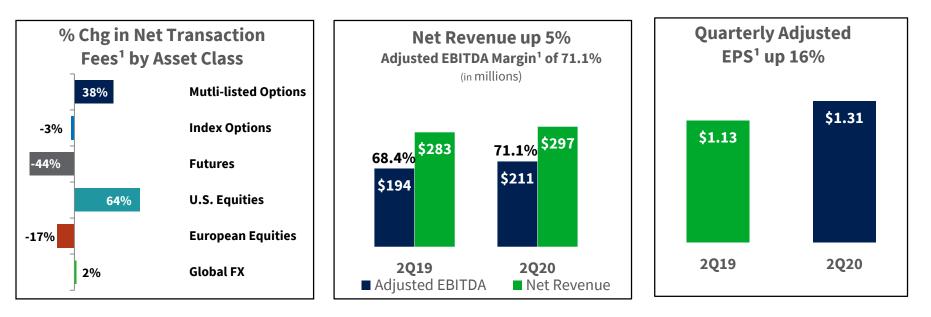
Financial Overview and Guidance Brian Schell EVP, CFO and Treasurer



Business Highlights – Key Performance Drivers



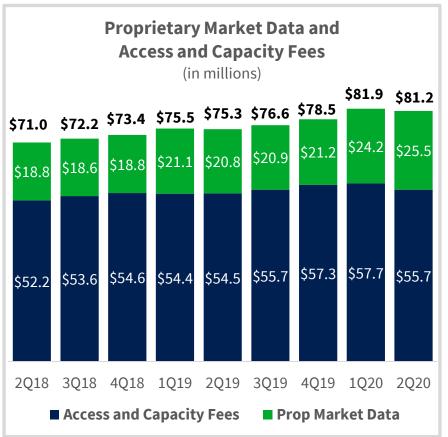
- Record trading volumes in U.S. equities and multi-listed options
- Results demonstrate the inherent benefits of our diversified business model
- Net transaction fees¹ up 2%; non-transaction net revenue up 7%
- Adjusted operating expenses¹ down 7%
- Operating scale and expense discipline with a healthy EBITDA¹ margin of over 71%





Recurring proprietary non-transaction net revenue up 8% YoY; organic growth of 10%

- Organic growth excludes \$3.5MM of market data revenue contributed from 1Q20 acquisitions as well as other items (reconciliation provided in appendix)¹
- About 83% of proprietary market data revenue growth in 2Q20 driven by additional subscriptions
- About 69% of access and capacity fees in 2Q20 were attributable to incremental units
- New fee schedules implemented in 2Q20 to address temporary floor closure resulted in lower access and capacity fees offset by higher transaction revenue and RPC in index options



Options 2Q20 Net Revenue Up 7%



- 2Q20 revenue increase primarily driven by record trading volumes in multi-listed options and higher market data revenue
- RPC increase in index options due to shift in volume mix, fee realignments and SPX options fee increase; decrease in multi-listed options reflects higher rebates

Options Selected Revenue Data (\$ in millions)	2Q20	2Q19	Chg
Net Revenue	\$150.6	\$140.8	7%
Net transaction fees ¹	\$113.8	\$109.1	4%
Index options	87.1	89.7	-3%
Multi-listed options	26.7	19.4	38%
Access and capacity	\$23.9	\$25.6	-7%
Market data	\$17.8	\$14.0	27%
Market data – proprietary	11.0	6.8	62%
Market data – industry²	6.8	7.2	-6%
Options Key Operating Stats	2Q20	2Q19	Chg
(in thousands, except RPC)	2020	2019	Cing
Total market share	36.0%	37.7%	-1.7 pts
Index options	99.4%	99.2%	0.2 pts
Multi-listed options	32.1%	30.8%	1.3 pts
Total ADV	9,944	7,261	37%
Index options	1,590	1,932	-18%
Multi-listed options	8,354	5,329	57%
Total RPC	\$0.182	\$0.238	-3%
Index options	\$0.870	\$0.736	18%
Multi-listed options	\$0.051	\$0.058	-12%

¹See appendix for "Non-GAAP Information." ²Includes \$1.0 million in audit recoveries in 2019



- Revenue decrease resulted from lower trading volume
- RPC held relatively constant

Futures Selected Revenue Data (\$ in millions)	2Q20	2Q19	Chg
Net Revenue	\$20.9	\$32.6	-36%
Net transaction fees ¹	\$15.8	\$28.3	-44%
Access and capacity	\$4.1	\$3.8	8%
Market data	\$1.7	\$1.6	6%
Futures Key Operating Stats (in thousands, except RPC)	2Q20	2Q19	Chg
Total ADV	144	257	-44%
Total RPC	\$1.743	\$1.748	-

¹See appendix for "Non-GAAP Information."

U.S. Equities 2Q20 Net Revenue Up 22%



- Revenue increase primarily due to higher net transaction fees
- Trading volumes driven by increase in retail activity and higher market share
- > Decrease in net capture primarily due to customers achieving lower pricing tiers

U.S. Equities Selected Revenue Data (\$ in millions)	2Q20	2Q19	Chg
Net Revenue	\$90.6	\$74.1	22%
Net transaction fees ¹	\$33.0	\$20.1	64%
Market data	\$35.8	\$32.8	9%
Market data - SIP ²	26.4	23.7	11%
Market data - proprietary	9.4	9.1	3%
Access and capacity fees	\$20.9	\$19.6	7%
U.S. Equities Key Operating Stats (shares in billions)	2Q20	2Q19	Chg
Total market share	16.1%	15.7%	0.4 pts
Market ADV	12.4	6.9	80%
ADV (matched shares)	2.0	1.1	82%
Net capture (per 100 touched shares)	\$0.025	\$0.028	-11%

¹See appendix for "Non-GAAP Information."

²Includes \$0.5 million in SIP audit recoveries for 2Q20 and \$1.3 million for 2Q19

European Equities 2Q20 Net Revenue Down 2% on Local Currency Basis



- On a local currency basis, net transaction fees decreased 13% and non-transaction revenue increased 14%
- Decrease in net transaction fees driven by lower overall industry volume and lower market share, offset somewhat by higher net capture

European Equities Selected Revenue Data (\$ in millions)	2Q20	2Q19	Chg (\$)	Chg (£)
Net Revenue	\$21.1	\$22.4	-6%	-2%
Net transaction fees ¹	\$11.0	\$13.2	-17%	-13%
Market data	\$3.2	\$3.2	-	4%
Access and capacity fees	\$4.7	\$3.9	21%	27%
Other ²	\$2.2	\$2.1	5%	6%
European Equities Key Operating Stats (shares in billions)	2Q20	2Q19	Chg	
Total market share	15.8%	20.3%	-4.5 pts	
Market ADNV	€40.1	€ 40.8	-2%	
Net capture (per matched notional value, in bps)	\$0.248	\$0.224	11%	

Global FX 2Q20 Net Revenue Up 5%



- Revenue increase reflects higher market share and net capture
- Record quarterly market share of 16.4%
- Higher net capture due to mix shift in volume by customer type

	2Q20	2Q19	Chg
FX Net Revenue (in millions)	\$13.7	\$13.1	5%
FX Key Operating Stats			
Market share ¹	16.4%	15.2%	1.2 pts
Average Daily Notional Value (\$ in billions)	\$31.8	\$32.5	-2%
Net capture (per one million dollars traded)	\$2.77	\$2.65	5%

¹Market share represents Cboe FX volume divided by the total volume of publicly reporting spot FX venues (Cboe FX, EBS, Refinitiv, and FastMatch).

2Q20 Adjusted Operating Expenses Down 7%



- Expense decline resulted from:
 - \$7 million decrease in professional fees and outside services
 - \$2 million decrease in travel and promotional expenses
 - \$3 increase in compensation and benefits, reflecting:
 - \$4 million increase in incentive-based compensation
 - \$3 million increase due to lower capitalized wages
 - \$4 million decrease in benefits

Adjusted Operating Expenses ¹ (in millions)	2Q20	2Q19	% Chg
Compensation and benefits	\$54.9	\$52.2	5%
Depreciation and amortization ¹	8.0	9.6	-17%
Technology support services	12.5	11.8	6%
Professional fees and outside services	12.3	19.2	-36%
Travel and promotional	0.9	3.0	-70%
Facilities costs	4.1	3.0	37%
Other expenses	3.1	4.3	-28%
Total ¹	\$95.8	\$103.1	-7%

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

Updated Guidance: 2020 Adjusted Operating Expenses

- C1 migration and COVID-19 environment driving lower expenses in 2020, reflecting:
 - Reduction in headcount, depreciation and amortization and other supporting services achieved as a result of final technology migration in October 2019
 - COVID-19 has impacted travel and promotional expenses, professional fees and pace of hiring
- Detailed expense bridge from 2019 to 2020 available on slide 29

2020 Full-Year Adjusted Operating Expenses Guidance ¹ (\$ in millions)	Guidanc	e Range
Guidance range at May 1, 2020	\$419	\$427
Incremental cost savings projected	(7)	(7)
Incremental expenses related to acquisition of EuroCCP, launch of European derivatives and pending acquisition of MATCHNow ²	24	24
Guidance range at July 31, 2020	\$436	\$444

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

²Subject to the satisfaction of all closing conditions.

Global Ma



2020 Full-Year Guidance ^{1, 2} (\$ in millions)	2020 Guidance as of July 31, 2020	2020 Guidance as of May 1, 2020
Adjusted operating expenses ³	\$436 to \$444	\$419 to \$427
Depreciation and amortization (excluding amortization of acquired intangible assets)	\$34 to \$38	\$34 to \$38
Effective tax rate on adjusted earnings ⁴	26.5% to 28.5%	26.5% to 28.5%
Capital expenditures	\$65 to \$70	\$65 to \$70

'See "Non-GAAP Information" in the appendix for reconciliations

²Guidance includes July 1 acquisition of EuroCCP, investment in launching pan-European trading and clearing and the pending acquisition of MATCHNow.

³Adjusted operating expenses exclude acquisition-related expenses and amortization of acquired intangible assets. The amortization of acquired intangible assets was \$139 million for 2019 and is expected to be \$120 million for 2020. Adjustments included in the non-GAAP reconciliation.

⁴Third quarter 2020 effective tax rate on adjusted earnings expected to be at the high end of guidance range.



Preserving balance sheet flexibility is a priority

- Returned capital of \$139 million through dividends and share repurchases
- Leverage ratio held constant at 1.0x from March 31, 2020
- Used cash on hand to fund acquisition completed during the quarter
- Conservative near-term cash positioning

Debt Outstanding (\$ in millions)	June 30, 2020	Mar. 31, 2020	Dec. 30, 2019	Sept. 30, 2019	June 30, 2019
3.650% Senior Notes (10Y; Due 2027)	\$650	\$650	\$650	\$650	\$650
1.950% Senior Notes (2Y; Due 2019)	-	-	-	-	-
Term Loan Facility	225	225	225	225	275
Total Debt (Gross)	\$ 875	\$ 875	\$ 875	\$ 875	\$ 925
Debt to EBITDA TTM ¹	1.0x	1.0x	1.2x	1.1x	1.2x
Adjusted Cash & Financial Investments ¹	\$176	\$137	\$208	\$151	\$136
Dividends Paid	\$39.5	\$40.0	\$40.1	\$40.4	\$34.8
Share Repurchases	\$99.8	\$119.5	\$69.5	\$52.4	-

¹See Appendix for "Non-GAAP Information."

Delivering on our Long-Term Growth Initiatives While Defining Markets Globally



Growth of Core Proprietary Products	 Diversity of our business model resulted in strong results despite muted volume in proprietary products
Strengthen Recurring Revenue Stream	 Growth in recurring non-transaction net revenue of 7% Organic growth of 10% in non-transactional proprietary market data and access and capacity fees
Scale of Business Model	 Disciplined expense management Integration progress of information solutions acquisitions Commenced integration of EuroCCP and poised for launch of Pan-European derivatives in 1H21
Capital Allocation	 Returned capital through dividends and share repurchases Focused on maintaining balance sheet flexibility Leverage ratio at 1.0x at June 30, 2020





Questions & Answers





Appendix Materials

Updated Guidance for 2020 Adjusted Operating Expenses; Cboe Detailed Bridge from 2019 to 2020 as of July 31, 2020

Adjusted Operating Expenses Bridge from 20 2020 Guidance Increased by \$17 million to \$4			millio	n¹		
(\$ in millions)						
		Gu	idanc	e Ra	nge	
2019 Adjusted Operating Expenses ¹	\$389	as o	of July	31,	2020	
Core growth of 4-5% assumed Feb. 7, 2020		\$	16	\$	20	
Reduction in expense guidance			(23)		(23)	
Core growth of -2 to -1% assumed as of July 3	31		(7)		(3)	
Realized synergies projected			(18)		(18)	
Growth net of synergies			(25)		(21)	
Full year of Brexit readiness costs			3		3	
2019 non-recurring items			6		6	c
Software development expensed vs capitalized			7		8	Unchanged
Real estate overlap			7		8	ang
Incentive compensation			10		11	ed
Acquisition of Hanweck and FT Options			15		16	
Acquisition of EuroCCP and derivatives launch			24		24	New
Total		\$	47	\$	55	
2020 Guidance as of July 31, 2020		\$	436	\$	444	

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



Adjusted Financial Results ¹ (\$ in millions, except per share)	2Q20	2Q19	% Chg
Net Revenue ²	\$296.9	\$283.2	5%
Adjusted Operating Expenses ¹	95.8	103.1	-7%
Adjusted Operating Income ¹	201.1	\$180.1	12%
Adjusted Operating Margin ¹	67.7%	63.6%	4.1 pts
Adjusted Net Income Allocated to Common Stockholders ¹	\$143.3	\$125.7	14%
Adjusted Diluted EPS ¹	\$ 1.31	\$ 1.13	16%
Adjusted EBITDA ¹	\$211.0	\$193.6	9%
Adjusted EBITDA Margin ¹	71.1%	68.4%	2.7 pts

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

²Net revenue referenced in this presentation represents revenue less cost of revenue.



2Q20 net transaction fees up 2%; non-transaction net revenue up 7%

Net Revenue (in millions)	2Q20	2Q19	% Chg
Net transaction fees	\$185.0	\$181.9	2%
Access and capacity fees	55.7	54.5	2%
Market data fees	58.7	51.8	13%
Regulatory fees	9.7	9.4	3%
Royalty fees	(19.4)	(21.9)	-11%
Other revenue	7.2	7.5	-4%
Total	\$296.9	\$283.2	5%

Supplemental Segment Information



2Q20 Supplemental Net Revenue by Segment (in millions)	Options	U.S. Equities	Futures	European Equities	Global FX	Total ¹
Net transaction fees ²	\$113.8	\$33.0	\$15.8	\$11.0	\$11.4	\$185.0
Proprietary net transaction fees included above	\$87.1		\$15.8			\$164.9
Access and capacity fees	\$23.9	\$20.9	\$4.1	\$4.7	\$2.1	\$55.7
Market data fees	\$17.8	\$35.8 ³	\$1.7	\$3.2	\$0.2	\$58.7
Proprietary market data fees included above	\$11.1	\$9.4	\$1.7	\$3.2	\$0.1	\$25.5
2Q19 Supplemental Net Revenue by Segment (in millions)	Options	U.S. Equities	Futures	European Equities	Global FX	Total ¹
Net transaction fees ²	\$109.1	\$20.1	\$28.3	\$13.2	\$11.2	\$181.9
Proprietary net transaction fees included above	\$89.7		\$28.3			\$107.1
Access and capacity fees	\$25.6	\$19.6	\$3.8	\$3.9	\$1.6	\$54.5
Market data food	¢14.0	¢22.03	¢1.C	ć	ćo o	ĊE1 0

 Market data fees
 \$14.0
 \$32.8³
 \$1.6
 \$3.2
 \$0.2
 \$51.8

 Proprietary market data fees included above
 \$6.8
 \$9.1⁴
 \$1.6
 \$3.2
 \$0.1
 \$20.8

¹Totals may not foot due to rounding.

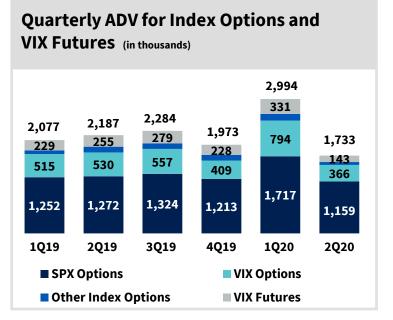
²A full reconciliation of our non-GAAP results to our GAAP results is included in the following tables. See "Non-GAAP Information" in the accompanying financial tables. ³Includes SIP audit recoveries of \$0.5 million for 2Q20 and \$1.3 million for 2Q19.

⁴Includes OPRA audit recoveries of \$1.0 million for 2Q19.

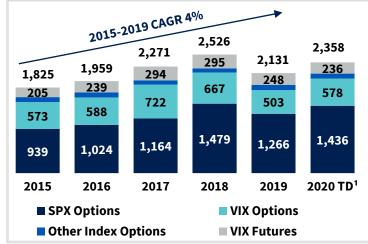


Index customers at Cboe typically use SPX and VIX options and futures interchangeably or in tandem, depending on market conditions

- Plan to further penetrate existing markets with an emphasis on education, targeting key market segments and geographies
- Product innovation and collaboration with strategic partners enhances growth prospects



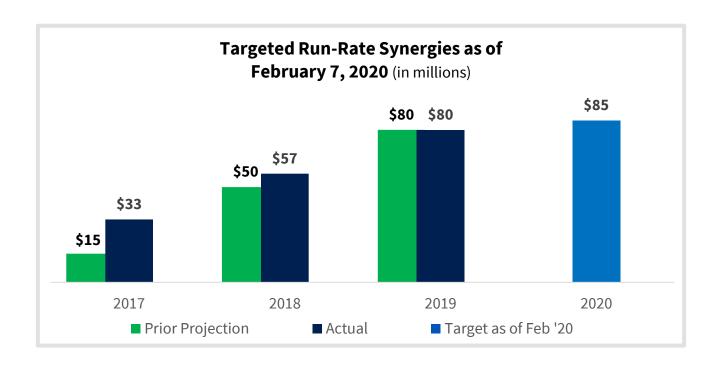




Maintaining Synergy Targets

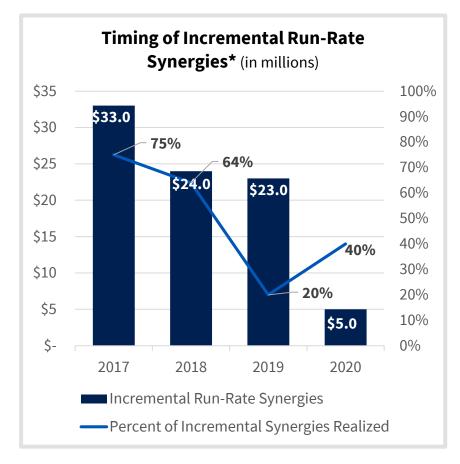


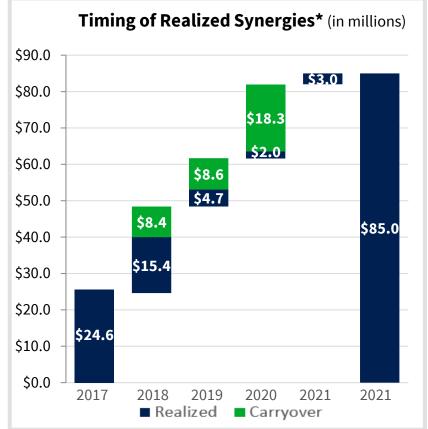
- Maintaining 2019 run-rate synergy target of \$80 million and 2020 target of \$85 million
- Remaining synergies of \$5 million in 2020 will be reflected in a reduction in cost of revenues versus expenses





2019 realized synergies lower due to timing of C1 migration in October 2019







(in millions)	Targeted Run- Rate Synergies	Increase in Run- Rate Each Year	% of Incremental Run-Rate Synergies Realized/Targeted	Actual/Targeted Realized Synergies	Carryover from Prior Year Run-Rate	Total Synergies Realized/Targeted by Year	Cumulative Synergies Realized/Targeted
2017 Actual	\$33.0	\$33.0	75%	\$24.6	\$0.0	\$24.6	\$24.6
2018 Actual	\$57.0	24.0	64%	15.4	8.4	23.8	\$48.4
2019 Actual	\$80.0	23.0	20%	4.7	8.6	13.3	\$61.7
2020 Target*	\$85.0	5.0	40%	2.0	18.3	20.3	\$82.0
2021 Target*					3.0	3.0	\$85.0
Total		\$85.0		\$46.7	\$38.3	\$85.0	

*Reflects target as of February 7, 2020



Investing in long-term growth

Expect EPS impact for 2020 and 2021 to be at higher end of range, primarily due to higher than originally projected facility fees for EuroCCP backup credit facility

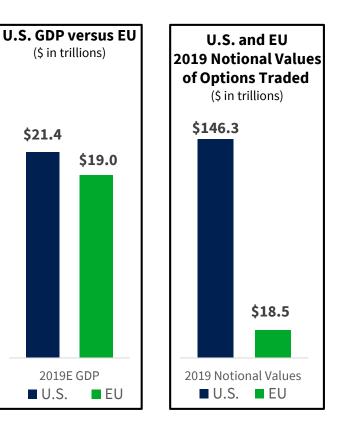
Projected EPS Impact As of July 31, 2020	2020		2021
EuroCCP ¹ and buildout of pan- European derivatives trading and clearing ²	(\$0.08) to (\$	0.10) (\$0.08	3) to (\$0.10)
EuroCCP Data			
(€ in millions)			
	2019 ³	2018 ⁴	
EuroCCP Results	Unaudited	Actual	Chg
Revenue	€ 23.8	€21.2	12%
Expenses	€ 20.0	€ 19.5	3%
			124%

¹EuroCCP acquisition closed July 1, 2020

²Derivatives subject to regulatory approval

³Preliminary and subject to change

⁴EuroCCP 2018 Annual Report





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 fees, adjusted operating expenses, adjusted operating income, adjusted operating margin, adjusted net income allocated to common stockholders and adjusted diluted earnings per share, adjusted tax rate, adjusted cash and financial investments, 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 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.

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 small bolt-on acquisitions and in 2017 completed a larger transformative acquisition, 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 Fees by Segment

For the Three Months Ended	Opt	ions	U.	.S. Eq	quitie	es		Futu	ures		E	uropean	Eq	uities		Glob	al F	x	Tot	al	
March 31 (in millions)	2020	2019	202	20	20)19	2	020	2	019	2	2020	2	2019	2	020	2	019	2020	2	2019
Transaction fees	\$ 284.2	\$ 173.8	\$ 30	04.0	\$:	198.9	\$	35.9	\$	24.6	\$	22.3	\$	21.1	\$	15.1	\$	12.0	\$ 661.5	\$	430.4
Liquidity payments	(124.3)	(65.5)	(26	61.4)	(1	170.7)		-		-		(6.7)		(7.5)		-		-	(392.4)		(243.7)
Routing and clearing	(4.5)	(3.5)	(1	11.5)		(5.7)		-		-		-		-		-		-	(16.0)		(9.2)
Net transaction fees	\$ 155.4	\$ 104.8	\$3	31.1	\$	22.5	\$	35.9	\$	24.6	\$	15.6	\$	13.6	\$	15.1	\$	12.0	\$ 253.1	\$	177.5
For the Three Months Ended	Opt	ions	U.	U.S. Equities		es		Futu	ures		E	uropean	Eq	uities		Glob	al F	x	Tot	al	
June 30 (in millions)	2020	2019	202	20	20)19	2	020	2	019	2	2020	2	2019	2	020	2	019	2020	2	2019
Transaction fees	\$ 250.8	\$ 185.9	\$ 32	25.1	\$:	182.0	\$	15.8	\$	28.3	\$	15.2	\$	19.5	\$	11.4	\$	11.2	\$ 618.3	\$	426.9
Liquidity payments	(132.0)	(73.3)	(27	79.4)	(1	156.2)		-		-		(4.2)		(6.3)		-		-	(415.6)		(235.8)
Routing and clearing	(5.0)	(3.5)	(1	12.7)		(5.7)		-		-		-		-		-		-	(17.7)		(9.2)
Net transaction fees	\$ 113.8	\$ 109.1	\$3	3.0	\$	20.1	\$	15.8	\$	28.3	\$	11.0	\$	13.2	\$	11.4	\$	11.2	\$ 185.0	\$	181.9
For the Three Months Ended	Opt	Options		.S. Eq	Equities Futures European Equities		Glob	al F	X	Tot	al										
September 30 (in millions)	2020	2019	202	20	20)19	2	020	2	019	2	2020	2	2019	2	020	2	019	2020	2	2019
Transaction fees		\$ 207.1			\$:	199.4			\$	31.2			\$	16.9			\$	11.2		\$	465.8
Liquidity payments		(86.9)			(1	177.6)				-				(5.2)				-			(269.7)
Routing and clearing		(3.5)				(5.8)				-				_				-			(9.3)
		(3:3)				(5.0)								-							186.8
Net transaction fees		\$ 116.7			\$	(5.6) 16.0			\$	31.2			\$	11.7			\$	11.2		\$	100.0
Net transaction fees For the Three Months Ended	Opt		U.	.S. Ec	\$ quitie	16.0		Futi	•		E	uropean	-			Glob			Tot		100.0
	Opt 2020	\$ 116.7	U. 202		quitie	16.0	2	Fut: 020	ures			uropean 2020	Eq		2	Glob 020	al F		To: 2020	tal	2019
For the Three Months Ended	· ·	\$ 116.7 ions			quitie 20	16.0 es	2		ures				Eq	uities	2		al F	X	-	tal	
For the Three Months Ended December 31 (in millions)	· ·	\$ 116.7 ions 2019			quitie 20 \$	16.0 es 019	2		ures 2	.019			Eq	uities 2019	2		al FX 2	X 2019	-	tal	2019
For the Three Months Ended December 31 (in millions) Transaction fees	· ·	\$ 116.7 ions 2019 \$ 177.2			quitie 20 \$	16.0 es 019 164.3	2		ures 2	.019			Eq	uities 2019 15.6	2		al FX 2	X 2019	-	tal	2 019 394.2

Non-GAAP Information														
(in millions, except per share amounts)	1	Q19	2Q	219	ЗQ	19	4	Q19		2019	1	.Q20	2	Q20
Reconciliation of Net Income Allocated to Common Stockholders to Non-GAAP														
Net income allocated to common stockholders	\$	94.6	\$	87.6	\$ 1	05.5	\$	86.1	\$	372.7	\$	157.0	\$	113.3
Acquisition-related expenses (1)		2.3		20.8		16.7		8.7		48.5		0.8		9.4
Amortization of acquired intangible assets (2)		37.6		34.1		33.4		33.4		138.5		32.5		30.0
Provision for notes receivable (3)		-		-		-		23.4		23.4		-		-
Total Non-GAAP operating expense adjustments		39.9		54.9		50.1		65.5		210.4		33.3		39.4
Change in redemption value of noncontrolling interest		0.2		0.2		0.1		-		0.5		-		-
Total Non-GAAP adjustments - pretax		40.1		55.1		50.2		65.5		210.9		33.3		39.4
Income tax expense related to the items above		(10.0)	(13.2)	(11.0)		(16.5)		(50.7)		(7.6)		(9.3
Impairment charges attributed to noncontrolling interest		-		(3.6)				-		(3.6)		-		
Net income allocated to participating securities - effect on reconciling items		(0.2)		(0.2)		(0.1)		(0.2)		(0.7)		(0.4)		(0.1
Adjusted net income allocated to common stockholders	\$.	124.5	\$ 1	25.7	\$ 1	44.6	\$	134.9	\$	528.6	\$	182.3	\$	143.3
Reconciliation of Diluted EPS to Non-GAAP														
Diluted earnings per common share	\$	0.85	\$	0.78	\$	0.94	\$	0.77	\$	3.34	\$	1.42	\$	1.03
Per share impact of non-GAAP adjustments noted above		0.26		0.35		0.35		0.44		1.39		0.23		0.28
Adjusted diluted earnings per common share	\$	1.11	\$	1.13	\$	1.29	\$	1.21	\$	4.73	\$	1.65	\$	1.31
Reconciliation of Operating Margin to Non-GAAP														
Revenue less cost of revenue	\$	280.5	\$2	83.2	\$2	94.0	\$	280.3	\$	1,136.9	\$	358.3	\$	296.9
Non-GAAP adjustments noted above		-		-		-		-		-		-		-
Adjusted revenue less cost of revenue	\$ 3	280.5	\$ 2	83.2	\$ 2	94.0	\$	280.3	\$	1,136.9	\$	358.3	\$	296.9
Operating expenses (4)	Ś	134.0	\$1	58.0	\$ 1	46.6	Ś	161.1	Ś	599.7	Ś	131.9	Ś	135.2
Non-GAAP expense adjustments noted above	Ŷ	(39.9)	•	54.9)		50.1)	Ŷ	(65.5)	Ŷ	(210.4)	Ŷ	(33.3)	Ŷ	39.4
Adjusted operating expenses	\$	94.1					Ś	95.6	Ś		\$	98.6	\$	95.8
Operating income		146.5		25.2		47.4		119.2		537.2		226.4		161.7
Non-GAAP expense adjustments noted above	•	39.9		54.9		50.1	•	65.5	•	210.4		33.3	•	39.4
Adjusted operating income	\$	186.4	\$1	80.1	\$1	97.5	\$	184.7	\$	747.6	\$	259.7	\$	201.1
Adjusted operating margin (5)		66.5%	6	3.6%	. 6	7.2%		65.9%		65.8%		72.5%		67.7%
Reconciliation of Income Tax Rate to Non-GAAP														
Income before income taxes	Ś	127.8	Ś 1	19.6	\$ 1	40.9	Ś	114.2	Ś	501.4	Ś	217.5	Ś	156.6
Non-GAAP adjustments noted above	Ŷ	40.1	•	55.1		50.2	Ŷ	65.5	Ŷ	210.9	Ŷ	33.3	Ŷ	39.4
Adjusted income before income taxes	\$	167.9		74.7		91.1	\$	179.7	\$	712.3	\$	250.8	\$	196.0
Income tax (benefit) expense	Ś	32.6	Ś	35.1	\$	35.0	\$	27.9	Ś	130.6	Ś	60.1	Ś	43.0
Non-GAAP adjustments noted above	Ş	10.0	•	13.2	•	11.0	Ļ	16.5	Ļ	50.7	ڊ	7.6	Ļ	43.0 9.3
Adjusted income tax (benefit) expense	¢	42.6		48.3		46.0	Ś	44.4	\$	181.3	Ś	67.7	Ś	52.3
Adjusted income tax (benefit) expense Adjusted income tax rate	Ş	42.0 25.4%	•	7.7%	•	40.0 4.1%		24.7%		25.5%	Ļ	27.0%		26.7%

(1) This amount includes professional fees and outside services, severance, facilities expenses, impairment charges and other costs related to the company's acquisitions.

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

(3) This amount represents the provision for notes receivable, recorded in other expenses on the consolidated statements of income, associated with the funding for the development of the consolidated audit trail ("CAT"). (4) The company sponsors deferred compensation plans held in a rabbi trust. The expenses or income related to the deferred compensation plans are included in "Compensation and benefits" (\$2.2 million and \$3.7 million in expense for the three months ended June 30, 2020 and 2019, respectively, and \$0.1 million and 3.7 million in income, expenses and dividends in the three months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30, 2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30.2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30.2020 and 2019, respectively, and \$0.1 million and \$3.7 million in the six months ended June 30.2020 and 2019, respectively, on the condensed consolidated statements of income. The deferred compensation plans' expenses are not adjusted out of "adjusted operating expenses" and do not have an impact on "Income before income taxes."

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

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 net income interest expense, income tax expense, depreciation and amortization. Adjusted EBITDA is calculated by adding back to EBITDA acquisition-related expenses and impairment charges attributed to noncontrolling interest. 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)	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20
Net income allocated to common stockholders	\$ 94.6	\$ 87.6	\$ 105.5	\$ 86.1	\$ 372.7	\$ 157.0	\$ 113.3
Interest expense	9.9	10.0	8.2	7.8	35.9	7.3	7.3
Income tax provision	32.6	35.1	35.0	27.9	130.6	60.1	43.0
Depreciation and amortization	47.2	43.7	42.9	42.8	176.6	40.5	38.0
EBITDA	\$ 184.3	\$ 176.4	\$ 191.6	\$ 164.6	\$ 715.8	\$ 264.9	\$ 201.6
EBITDA Margin	65.7%	62.3%	65.2%	58.7%	63.0%	73.9%	67.9%
Non-GAAP adjustments not included in above line items							
Acquisition-related expenses	2.3	20.8	16.7	8.7	\$ 48.5	0.8	9.4
Impairment charges attributed to noncontrolling interest	-	(3.6)	-	-	(3.6)	-	-
Provision for notes receivable	-	-	-	23.4	23.4	-	-
Adjusted EBITDA	\$ 186.6	\$ 193.6	\$ 208.3	\$ 196.7	\$ 784.1	\$ 265.7	\$ 211.0
Adjusted EBITDA Margin	 66.5%	68.4%	70.9%	70.2%	69.0%	 74.2%	71.1%

(in millions)	3	3Q19		4Q19		1 Q 20	2Q20		LTM
Net income allocated to common stockholders	\$	105.5	\$	86.1	\$	157.0	\$	113.3	\$ 461.9
Interest expense, net		8.2		7.8		7.3		7.3	\$ 30.6
Income tax provision		35.0		27.9		60.1		43.0	\$ 166.0
Depreciation and amortization		42.9		42.8		40.5		38.0	\$ 164.2
EBITDA	\$	191.6	\$	164.6	\$	264.9	\$	201.6	\$ 822.7
Non-GAAP adjustments not included in above line items:									
Acquisition-related expenses		16.7		8.7		0.8		9.4	\$ 35.6
Provision for notes receivable				23.4		-		-	\$ 23.4
Adjusted EBITDA	\$	208.3	\$	196.7	\$	265.7	\$	211.0	\$ 881.7
Debt at end of period									\$ 875.0
Debt to EBITDA									1.0x

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

Adjusted Cash

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

Adjusted Cash (in millions)	_	As of 31/19	As of 30/19	s of 30/19	As of /31/19	_	As of 31/20	As of 30/20
Cash and cash equivalents	\$	346.2	\$ 161.3	\$ 150.0	\$ 229.3	\$	165.2	\$ 210.1
Financial investments		30.2	82.9	21.4	71.0		43.6	176.5
Less deferred compensation plan assets		-	(20.3)	(20.9)	(23.4)		(18.4)	(20.9)
Less cash collected for Section 31 fees		(28.6)	(88.0)	-	(69.0)		(53.1)	(189.4)
Adjusted Cash	\$	347.8	\$ 135.9	\$ 150.5	\$ 207.9	\$	137.3	\$ 176.3

l C	Reconciliation of Organic Growth for Recurring Proprietary Non- transaction Net Revenue												
(in millions)	2Q20	2Q19	% Chg										
Access and capacity fees	\$55.7	\$54.5											
Proprietary market data	25.5	20.8											
Total reported	\$81.2	\$75.3	8%										
Less: acquisitions	(3.5)												
Less: impact of reporting changes		(1.4)											
Less: fee realignments due to floor closing		(3.5)											
Organic growth	\$77.7	\$70.4	10%										

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Cboe Global Markets 400 South LaSalle Street Chicago, IL 60605 www.cboe.com



