

4Q18

Earnings Supplement

February 7, 2019



FORWARD-LOOKING STATEMENTS & LEGENDS

CAUTIONARY STATEMENT REGARDING FORWARD LOOKING STATEMENTS

This presentation may contain “forward-looking statements” made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Statements regarding ICE’s business that are not historical facts are forward-looking statements that involve risks, uncertainties and assumptions that are difficult to predict. Although we believe the expectations reflected in these forward-looking statements are reasonable, these statements are not guarantees of future results, performance, levels of activity or achievements, and actual results may differ materially from what is expressed or implied in any forward-looking statement. The factors that might affect our performance include, but are not limited to: conditions in global financial markets, the economy and political and social conditions; changes in domestic and foreign laws, regulations, rules or government policy with respect to financial markets, or our businesses generally, including increased regulatory scrutiny or enforcement actions and our ability to comply with these requirements; volatility in our markets; our business environment and industry trends, including our competition; the success of our clearing houses and our ability to minimize the risks associated with operating multiple clearing houses in multiple jurisdictions; the success of our exchanges and their compliance with regulatory and oversight responsibilities; the resilience of our electronic platforms and soundness of our business continuity and disaster recovery plans; continued high renewal rates of subscription-based data revenues; our ability to identify and effectively pursue acquisitions and strategic alliances and successfully integrate the companies we have acquired or acquire in the future; our ability to effectively maintain our growth; performance and reliability of our technology and the technology of our third party service providers; our ability to ensure that the technology we utilize is not vulnerable to cybersecurity risks; our ability to identify trends and adjust our business to respond to such trends; the accuracy of our estimates and expectations; our belief that cash flows from operations will be sufficient to service our current levels of debt and fund our working capital needs and capital expenditures for the foreseeable future; our ability to maintain existing customers and attract new customers and offer new products; our ability to attract and retain key talent; our ability to protect our intellectual property rights, including the costs associated with such protection, and our ability to operate our business without violating the intellectual property rights of others; potential adverse results of litigation and regulatory actions and proceedings and our ability to realize the expected benefits of our investment in Bakkt. For a discussion of such risks and uncertainties, which could cause actual results to differ from those contained in the forward-looking statements, see ICE’s Securities and Exchange Commission (SEC) filings, including, but not limited to ICE’s most recent Annual Report on Form 10-K for the year ended December 31, 2018, as filed with the SEC on February 7, 2019. These filings are available in the Investors section of our website. We caution you not to place undue reliance on these forward-looking statements. Any forward-looking statement speaks only as of the date on which such statement is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of an unanticipated event. New factors emerge from time to time, and it is not possible for management to predict all factors that may affect our business and prospects. Further, management cannot assess the impact of each factor on the 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.

GAAP AND NON-GAAP RESULTS

This presentation includes non-GAAP measures that exclude certain items we do not consider reflective of our cash operations and core business performance. We believe that the presentation of these non-GAAP measures provides investors with greater transparency and supplemental data relating to our financial condition and results of operations. These adjusted non-GAAP measures should be considered in context with our GAAP results. A reconciliation of Adjusted Net Income Attributable to ICE, Adjusted Earnings Per Share, Adjusted Operating Income, Adjusted Operating Margin and Adjusted Operating Expenses to the equivalent GAAP measure and an explanation of why we deem these non-GAAP measures meaningful appears in our Form 10-K and in the appendix to this presentation. The reconciliation of Adjusted Effective Tax Rate, Organic Data Revenue, Free Cash Flow and Adjusted Debt-to-EBITDA to the equivalent GAAP results appear in the appendix to this presentation. Our Form 10-K, earnings press release and this presentation are available in the Investors and Media section of our website at www.theice.com.

EXPLANATORY NOTES

Throughout this supplement:

- All net revenue figures represent revenues less transaction-based expenses for periods shown.
- All earnings per share figures represent diluted weighted average share count on continuing earnings.
- Net revenues in constant currency are calculated holding both the pound sterling and euro at the average exchange rate from 4Q17, 1.3279 and 1.1779, respectively.
- References to organic growth excludes businesses that have been acquired, divested or discontinued that significantly impact the comparable periods. For 4Q18 and 4Q17, \$6 million and \$21 million of data revenues were excluded from organic growth, respectively.
- References to Return on Invested Capital, or ROIC, are equal to $\text{TTM (Operating Income} \times (1 - \text{Tax Rate}) \text{) / (Avg Debt} + \text{Avg Shareholders Equity} + \text{Avg Non-Controlling Interest} - \text{Avg Cash, Cash Equiv, \& ST Investments})$. References to Weighted Average Cost of Capital, or WACC, are equal to $(\text{Cost of Equity} \times \% \text{ of Equity}) + \{(\text{Cost of Debt} \times (1 - \text{Tax Rate})) \times \% \text{ of Debt}\}$.

ICE FOURTH QUARTER 2018 EARNINGS CALL PARTICIPANTS

Management:



Jeff Sprecher
Chairman & CEO
Chairman, NYSE



Ben Jackson
President



Scott Hill
Chief Financial Officer

Investor Relations:

- Warren Gardiner, CFA
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4Q18 PERFORMANCE

in millions except per share amounts

INCOME STATEMENT HIGHLIGHTS		4Q18	4Q17	% Chg
Net Revenues		\$1,308	\$1,146	14%
Adj. Op Expenses		\$553	\$481	15%
Adj. Op Income		\$755	\$665	14%
Adj. Op Margin		58%	58%	—
Adj. Diluted EPS		\$0.94	\$0.75	25%
Adj. Effective Tax Rate		23%	30%	(7 pts)
CASH METRICS		2018	2017	% Chg
Op Cash Flow		\$2,533	\$2,085	21%
Cap Ex & Cap Software		\$280	\$357	(22)%
Free Cash Flow		\$2,286	\$1,730	32%

Record Operating Performance

Record net revenue **+14%** y/y

Record Trading & Clearing revenue <i>Energy & Ags rev +13%</i> <i>Financials rev +28%</i>	Record Data revenue +6% y/y org, CC
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Record adj. op income **+14%** y/y

Record adj. EPS +25% y/y

Record free cash flow **+32%** y/y

TTM ROIC 9% / WACC 6%

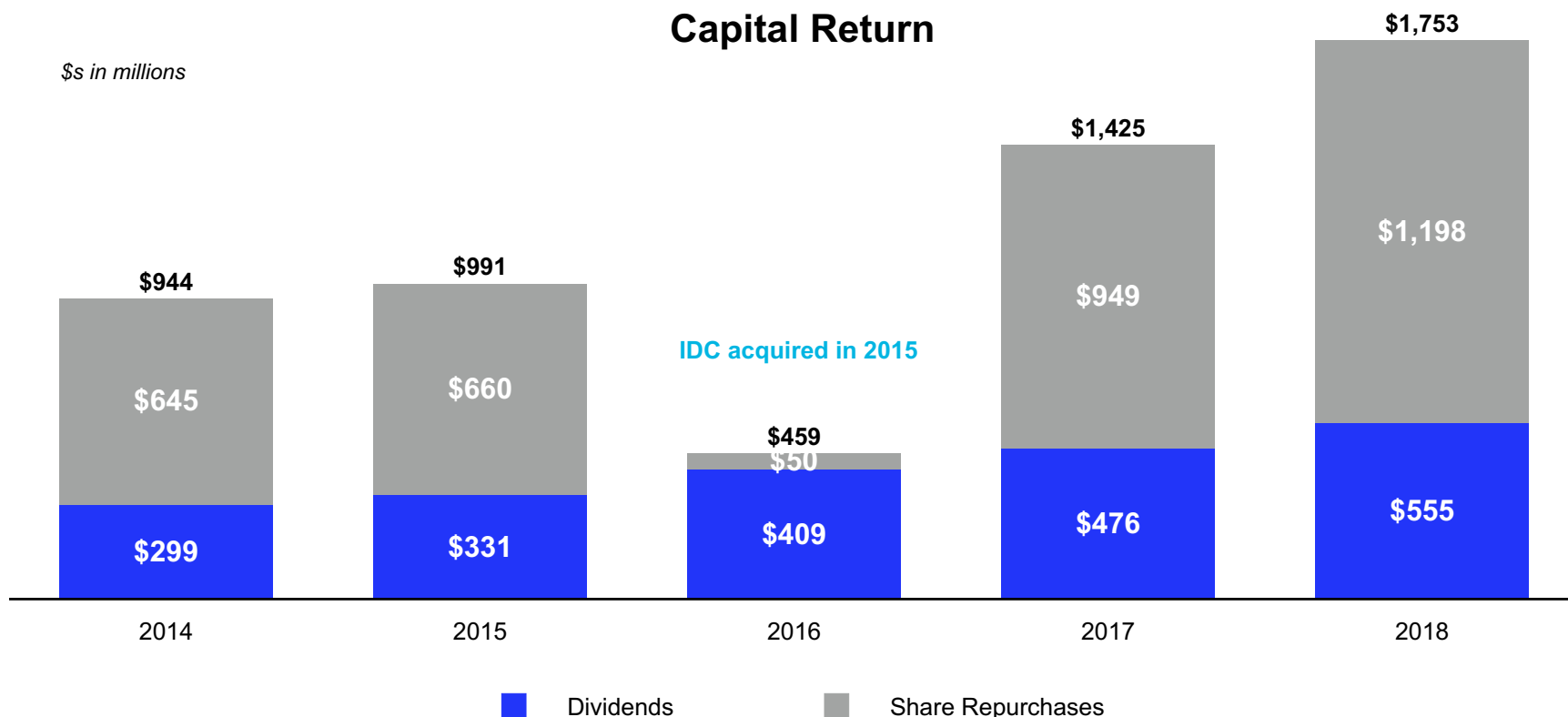
Adjusted figures represent non-GAAP measures. Please refer to slides in the appendix for reconciliations to the equivalent GAAP measures.

RECORD ANNUAL CAPITAL RETURN IN 2018

- **Nearly \$1.8B returned to shareholders in 2018, +23% y/y, more than any year in our history**
- \$1.7B in strategic initiatives, including Bakkt investment
- Leverage 2.3x debt-to-EBITDA⁽¹⁾
- **1Q19 dividend \$0.275, +15% y/y**
- **\$2.0B share repurchase program effective Jan 1, 2019; expect to deploy over ~6 quarters**

Capital Return

\$s in millions



(1) Adjusted debt-to-EBITDA reflects the ratio of adjusted debt to adjusted EBITDA for the trailing twelve months. This reflects a non-GAAP measure. Please refer to slides in the appendix for reconciliation to the equivalent GAAP measure.

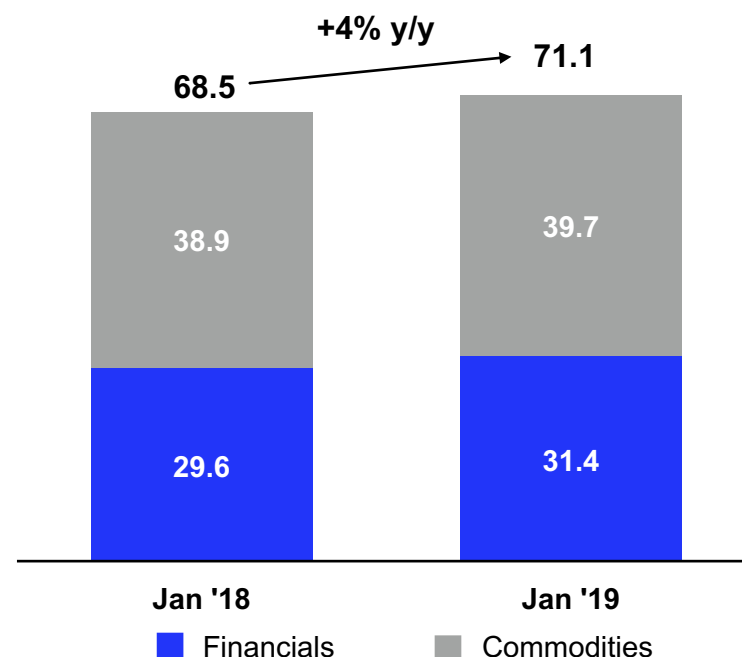
4Q18 TRADING & CLEARING PERFORMANCE

- **Record futures & options average daily volume (ADV) in 2018**
 - Annual ADV records in gasoil, TTF gas, emissions, WTI, interest rates, MSCI and ags & metals
 - 2018 record energy and ags revenue
- **4Q18 ADV +21% y/y, Open Interest (OI) +10% y/y**
- 4Q18 NYSE cash equities ADV +45% y/y; equity options ADV +44% y/y
- **Jan ADV highlights: TTF gas +103% y/y, MSCI +40% y/y, emissions +55% y/y, cash equities +19% y/y**

\$ (in millions)	4Q18	4Q17	% Chg
Revenue, net:			
Energy	\$257	\$227	13%
Ags & Metals	54	\$49	13%
Financials	\$92	\$72	28%
Cash Equities & Equity Options	93	70	35%
Fixed Income & Credit	83	32	152%
OTC & Other Transactions	13	13	—
Other Revenue	65	54	21%
Total Revenue	\$657	\$517	27%
Adj. Operating Expenses	232	174	34%
Adj. Operating Margin	65%	67%	(2 pts)

Total Futures & Options Open Interest

lots in millions



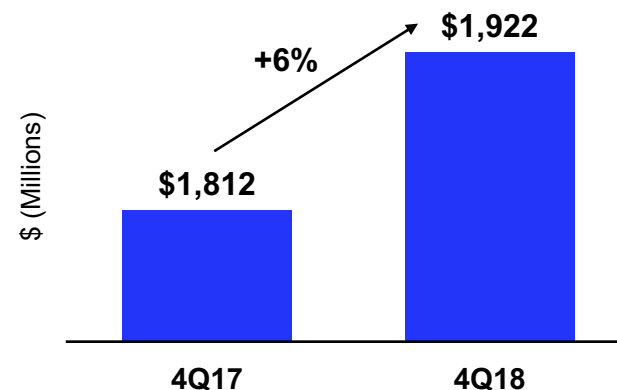
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4Q18 DATA & LISTINGS PERFORMANCE

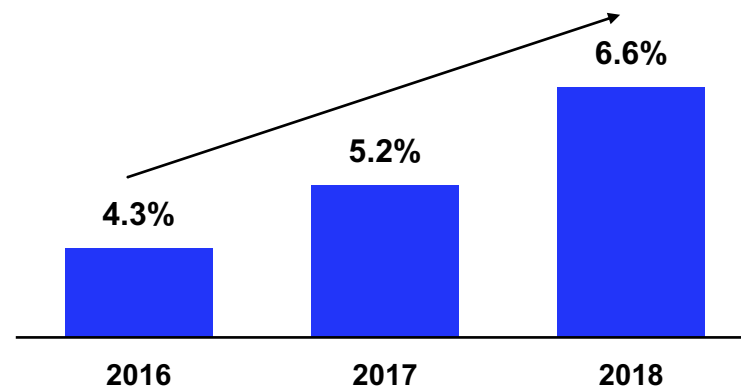
- Record data revenue +6% y/y, org CC
- FY18 revenue from ASV⁽¹⁾ products +6% y/y, org CC**
- 4Q18 Pricing & Analytics (P&A) revenue +7% y/y, org CC**

\$ (in millions)	4Q18	4Q17	% Chg	Organic CC
Revenue:				
Pricing and Analytics	264	248	6%	7%
Exchange Data and Feeds	174	160	9%	7%
Desktops and Connectivity	101	117	(13)%	1%
Data Total	539	525	3%	6%
Listings	112	104	8%	8%
Total Revenue	651	629	4%	6%
Adj. Operating Expenses	321	307	4%	
Adj. Operating Margin	51%	51%	—	

Annual Subscription Value (ASV)



P&A Org CC Revenue Growth



(1) ASV is defined as the annual value of subscriptions under contract for the succeeding 12 months. ASV does not include new sales, contract terminations or price changes that may occur during that 12 month period or certain data services that are not subscription-based.

Adjusted figures represent non-GAAP measures. Please refer to slides in the appendix for reconciliations to the equivalent GAAP measures.

RECORD 2018 PERFORMANCE & 2019 OUTLOOK

in millions except per share amounts

INCOME STATEMENT HIGHLIGHTS			
	2018	2017	% Chg
Net Revenues	\$4,979	\$4,638	(7%)
Adj. Op Expenses	\$2,071	\$1,947	6%
Adj. Op Income	\$2,908	\$2,691	8%
Adj. Op Margin	58%	58%	—
Adj. Diluted EPS	\$3.59	\$2.97	(21%)
Adj. Effective Tax Rate	23%	30%	(7 pts)
CASH METRICS			
	2018	2017	% Chg
Op Cash Flow	\$2,533	\$2,085	(21%)
Cap Ex & Cap Software	\$280	\$357	(22)%
Free Cash Flow	\$2,286	\$1,730	(32%)

Financial Guidance

- **Data revenue** \$2.19 - \$2.24B
 - *ASV \$1.922B entering 1Q19*
 - **1Q19 data revenue** \$540 - \$545M
- **Cap ex/software** \$290 - \$320M
- **Effective tax rate**⁽¹⁾ 22.5% - 24.5%

Expenses/Synergies

- **Adj. expenses \$2.15 - \$2.20B for FY19**
 - \$35 - \$40M of M&A, net of ~\$15M cost savings; \$100M+ of associated revenue
 - \$30M of remaining IDC synergies
 - \$35 - \$40M in merit pay & performance bonuses
 - \$30 - \$35M tech investments / expenses tied to revenue growth
 - \$20 - \$25M of Bakkt expense at 1Q19 run rate
- **1Q19 adj. expenses** \$535 - \$545M

(1) This represents 2019 full year guidance for both the GAAP and non-GAAP effective tax rates but note that the GAAP effective tax rate is more susceptible to diverging from this guidance based on items outside the normal course of business that are adjusted for to derive our non-GAAP results. Such items can be unknown, unpredictable or uncertain, requiring unreasonable efforts to determine with any precision and which could potentially be confusing or misleading.

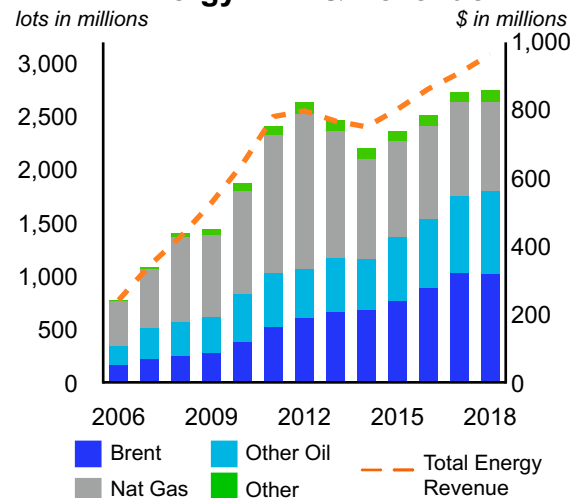
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MOST DIVERSE MARKET INFRASTRUCTURE PROVIDER

Global Benchmarks

- 2018 record Brent revenue
- Global natural gas complex
- MSCI equity indices ADV +34% on avg since 2014
- 6 global clearinghouses on common technology**

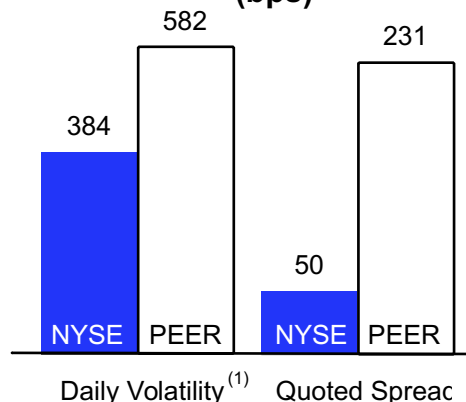
Energy ADV & Revenue



NYSE

- Unique DMM model **reduces volatility and offers tighter spreads**
- #1 U.S. exchange with \$30B IPO proceeds raised in 2018

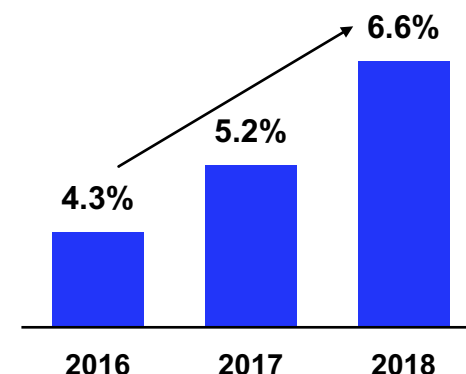
Lower Volatility & Tighter Spreads (bps)



Data

- Subscription-based, recurring revenue
- Bringing efficiencies across the workflow
- Fixed income ETF AUM tied to ICE Indices +80% y/y**

Pricing & Analytics Revenue Growth Org, CC



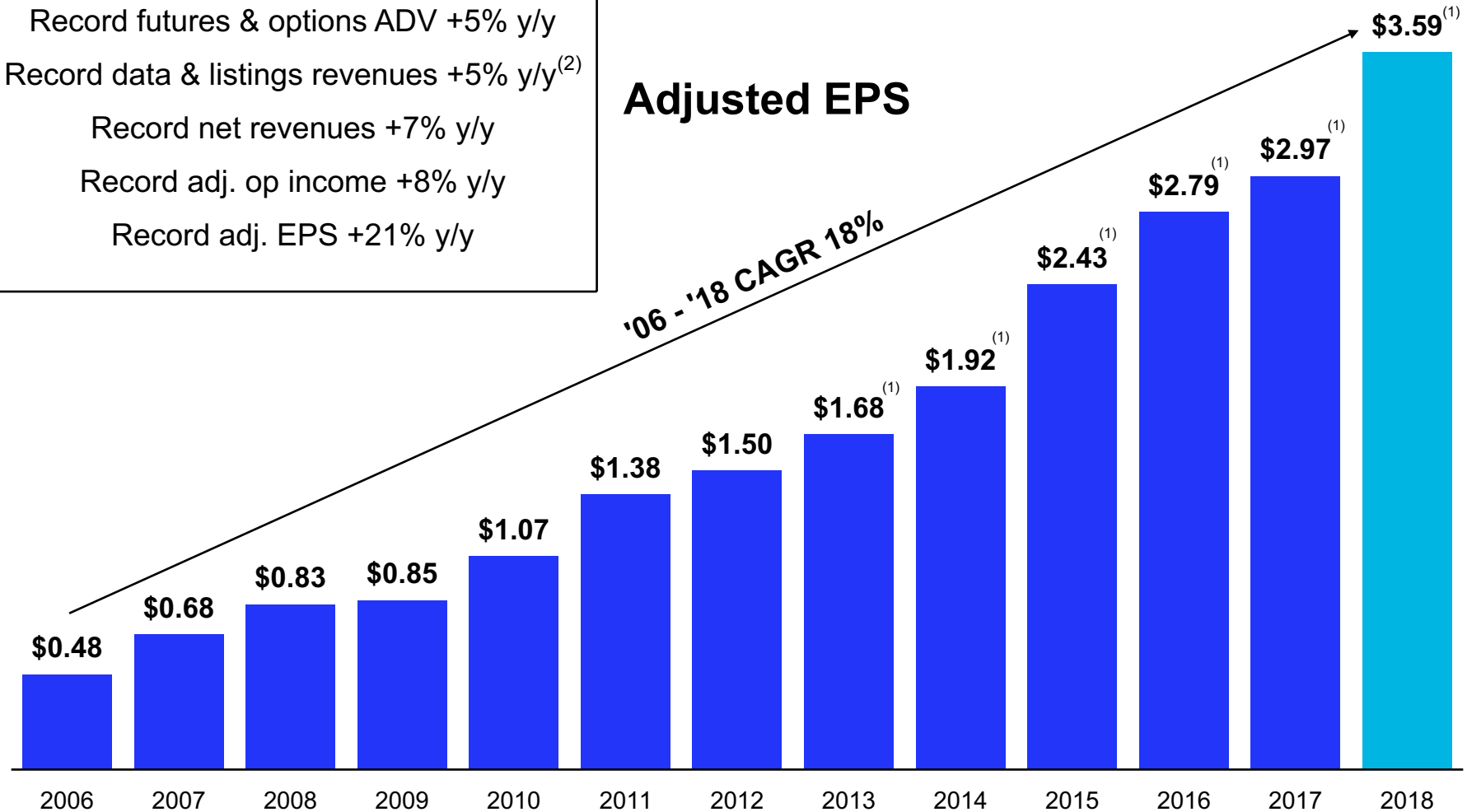
Scalable Technology & Global Distribution

(1) Source: NYSE Mags Time Period: 12/14/2018 - 12/24/2018. Volatility: (High-Low) / Midpoint

CONSISTENT TRACK RECORD OF GROWTH

2018 Highlights

Record futures & options ADV +5% y/y
Record data & listings revenues +5% y/y⁽²⁾
Record net revenues +7% y/y
Record adj. op income +8% y/y
Record adj. EPS +21% y/y



(1) Adjusted figures represent non-GAAP measures. Please refer to slides in the appendix for reconciliations to the equivalent GAAP measures.

(2) Growth represents organic, constant currency growth

APPENDIX

2019 GUIDANCE

Financial Guidance

- **Data revenue** \$2.19 - \$2.24B
 - *ASV \$1.922B entering 1Q19*
 - **1Q19 data revenue** \$540 - \$545M
- **Cap ex/software** \$290 - \$320M
- **Effective tax rate**⁽¹⁾ 22.5% - 24.5%
- **1Q19 interest expense** \$71M
- **Share count** 568 - 574M for 1Q19; includes January share repurchases

Capital Return

- **1Q19 dividend** \$0.275/quarter, +15% y/y
- **Existing repurchase authorization** of \$2.0 billion effective Jan 1, 2019; expect to deploy over ~6 quarters

Expenses/Synergies

- **Adj. expenses \$2.15 - \$2.20B for FY19**
 - \$35 - \$40M of M&A, net of ~\$15M cost savings; \$100M+ of associated revenue
 - \$30M of remaining IDC synergies
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DATA SERVICES SUPPLEMENTAL DATA

GAAP to Organic Data Revenue

in millions	4Q17	4Q18
Data Revenue (as reported)	\$525	\$539
Adjusted for:		
Acq., divestitures and wind down of acq. businesses ⁽¹⁾⁽²⁾	(21)	(6)
Organic Revenue	\$504	\$533
FX Impact ⁽³⁾	—	1
Organic, Constant Currency Revenue	\$504	\$534

ASV - FX Impact

in millions	4Q17	4Q18
ASV, as reported	\$1,812	\$1,922
Adjusted for:		
FX	(11)	—
ASV⁽⁴⁾	1,801	1,922

(1) Includes revenue related to the divestiture of Trayport in the fourth quarter of 2017 and revenue related to the wind down of acquired businesses. Wind down of acquired businesses includes the discontinuation of certain businesses acquired as part of larger acquisitions that are no longer strategic for the company. These include the anticipated 2018 erosion of legacy SPSE customers who can no longer use IDC & SPSE as their primary and secondary source of data and the impact of exiting certain non-strategic components of the legacy IDC 7-Ticks business.

(2) Includes revenues from ICE BofAML, ICE NGX, BondPoint, TMC and CHX.

(3) Net revenues in constant currency are calculated holding both the pound sterling and euro at the average exchange rate from the year ago period. For the three months ending December 31, 2018, 6% of our data revenues were billed in pounds sterling and 3% in euros. For the three months ending December 31, 2017, 9% of our data revenues were billed in pounds sterling and 3% in euros.

(4) ASV is defined as the annual value of subscriptions under contract for the succeeding 12 months. ASV does not include new sales, contract terminations or price changes that may occur during that 12 month period or certain data services that are not subscription-based.

DATA SERVICES SUPPLEMENTAL DATA

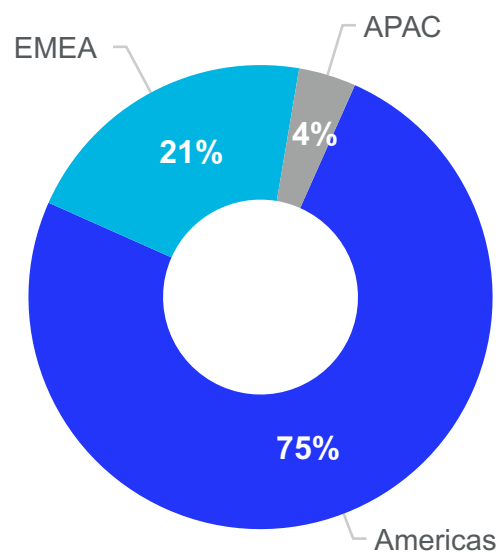
- Beginning 4Q18, we now report feeds revenue within Exchange Data and Feeds whereas we previously reported in Desktops and Connectivity.

Pro Forma Data Revenue

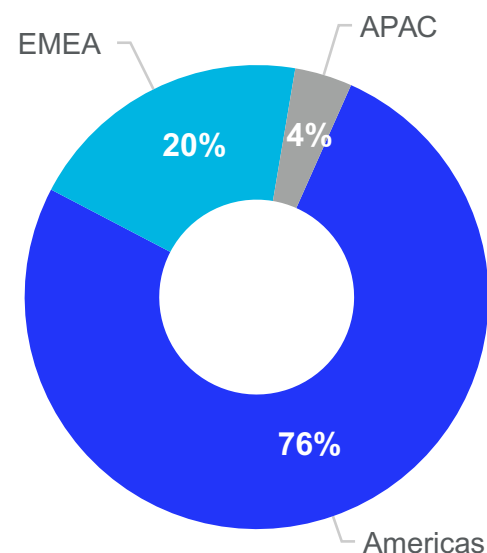
in millions	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18	4Q18
Revenue:								
Pricing and Analytics	\$238	\$242	\$242	\$248	\$254	\$262	\$263	\$264
Exchange Data and Feeds	155	161	156	160	164	164	168	174
Desktops and Connectivity	127	118	120	117	102	100	99	101
Total Data Revenue	\$520	\$521	\$518	\$525	\$520	\$526	\$530	\$539

DATA SERVICES SUPPLEMENTAL DATA

4Q18 Organic, CC Data Revenue



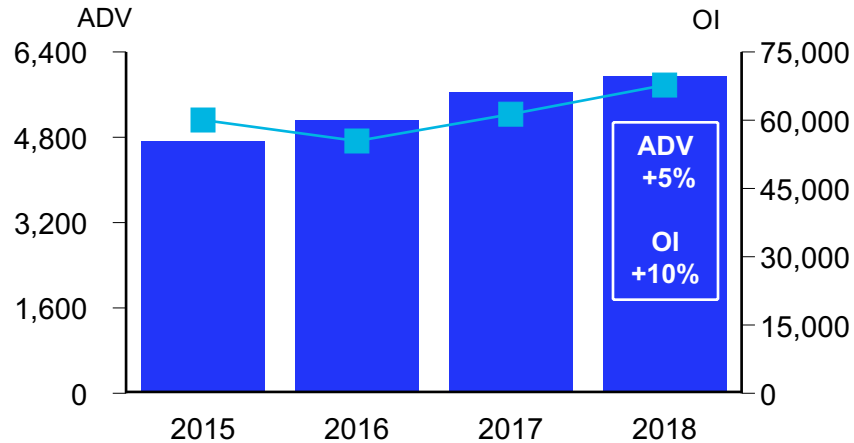
2018 Organic, CC Data Revenue



STRONG ANNUAL FUTURES GROWTH TRENDS

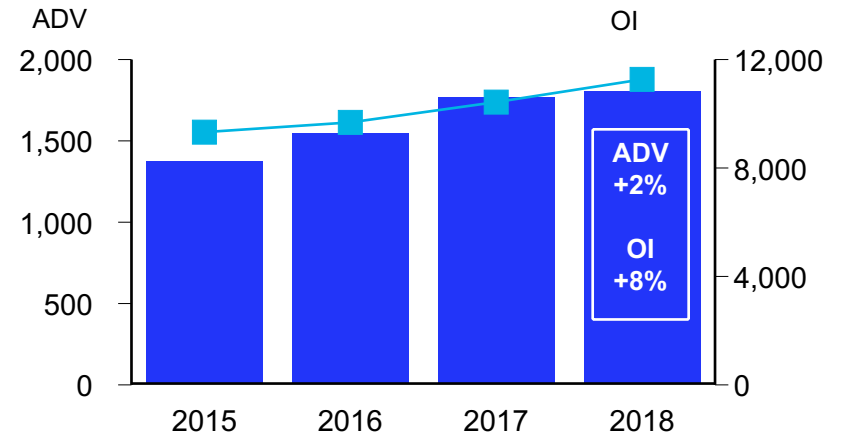
lots in thousands

ICE Futures Total ADV & OI



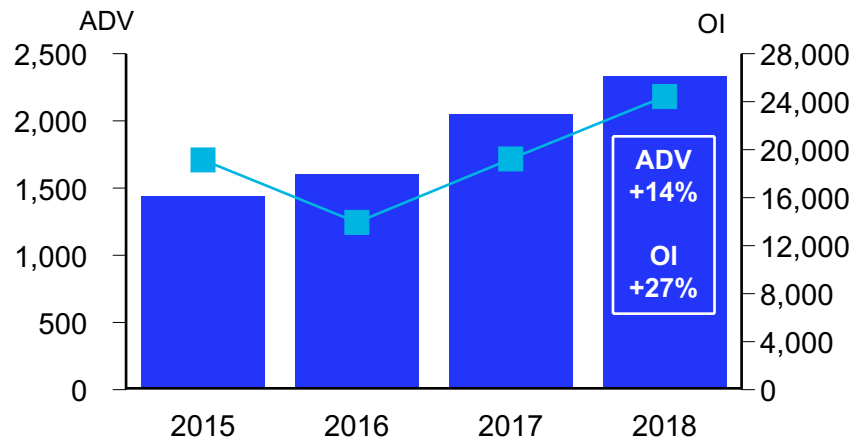
■ Total ADV — Total OI

Global Oil ADV & OI



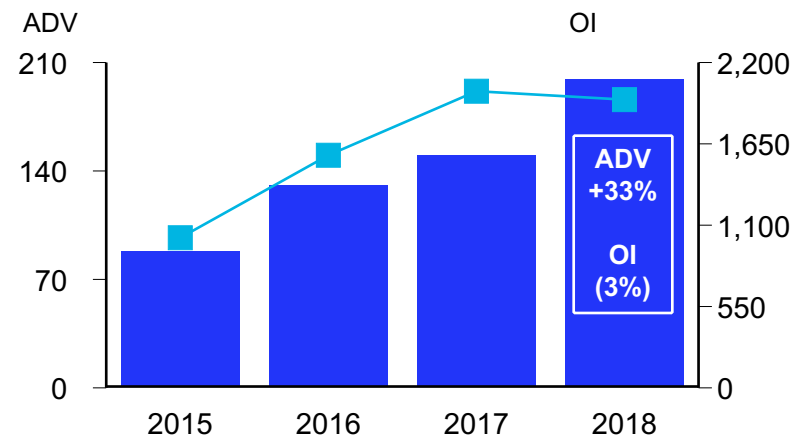
■ Oil ADV — Oil OI

EU & UK Interest Rates ADV & OI



■ Interest Rates ADV — Interest Rates OI

MSCI ADV & OI



■ MSCI ADV — MSCI OI

GAAP RESULTS

INCOME STATEMENT HIGHLIGHTS in millions except per share amounts	GAAP 4Q18	GAAP 4Q17	% Chg	GAAP 2018	GAAP 2017	% Chg
Net revenues	\$1,308	\$1,146	14%	\$4,979	\$4,638	7%
Operating Expenses	\$632	\$554	14%	\$2,396	\$2,259	6%
Operating Income	\$676	\$592	14%	\$2,583	\$2,379	9%
Operating Margin	52%	52%	—	52%	51%	+1 pt
Net Income attributable to ICE	\$611	\$1,233	(50)%	\$1,988	\$2,526	(21)%
Diluted EPS	\$1.07	\$2.09	(49)%	\$3.43	\$4.25	(19)%

ICE SUMMARY BALANCE SHEET

in millions

BALANCE SHEET	12/31/2018	12/31/2017	CHANGE
Assets			
Unrestricted Cash	\$724	\$535	\$189
Other Current Assets	65,968	53,027	12,941
Current Assets	66,692	53,562	13,130
PPE (net)	1,241	1,246	(5)
Other Non-Current Assets	24,858	23,456	1,402
Total Assets	\$ 92,791	\$ 78,264	\$14,527
Liabilities & Equity			
Short-Term Debt	\$ 951	\$ 1,833	\$(882)
Other Current Liabilities	65,157	52,342	12,815
Long-Term Debt	6,490	4,267	2,223
Other Long-Term Liabilities	2,891	2,837	54
Total Liabilities	75,489	61,279	14,210
Redeemable Noncontrolling Int	71	—	71
Total Equity	17,231	16,985	246
Total Liabilities & Equity	\$ 92,791	\$ 78,264	\$14,527

- \$724M unrestricted cash
 - \$183M related to Bakkt
- Total debt of \$7.4B; Adj. Debt-to-EBITDA⁽¹⁾ of 2.3x
- \$280M 2018 capex / software
- ROIC of 8.8%; WACC 5.8%

(1) Adjusted debt-to-EBITDA reflects the ratio of adjusted debt to adjusted EBITDA for the trailing twelve months. This reflects a non-GAAP measure. Please refer to slides in the appendix for reconciliation to the equivalent GAAP measure.

ADJUSTED NET INCOME FROM CONTINUING OPS AND EPS FROM CONTINUING OPS

	3 Months Ended 12/31/2018	3 Months Ended 12/31/2017	12 Months Ended 12/31/2018	12 Months Ended 12/31/2017
Net income attributable to ICE	\$ 611	\$ 1,233	\$ 1,988	\$ 2,526
Add: Interactive Data transaction and integration costs and acquisition-related success fees	1	8	30	31
Add: Amortization of acquisition-related intangibles	78	65	287	261
Less: Gain on acquisition of MERS	(110)	—	(110)	—
Add: Accruals relating to investigation and inquiries	—	—	—	14
Add: Impairment on divestiture of NYSE Governance Services	—	—	—	6
Add: Impairment of exchange registration intangible assets on closure of ICE Futures Canada and ICE Clear Canada	—	—	4	—
Add: Employee severance costs related to ICE Futures Canada and ICE Clear Canada operations	—	—	4	—
Add/ (Less): Gain on divestiture of Trayport, net	—	(110)	1	(110)
Less: Cetip investment gain, net	—	—	—	(167)
Add/ (Less): Income tax effect for the above items	(35)	11	(98)	(43)
Add/ (Less): Deferred tax adjustments from U.S. tax rate reduction	1	(764)	(11)	(764)
Add/ (Less): Deferred tax adjustments on acquisition-related intangibles	(10)	(2)	(5)	10
Less: Other tax adjustments	—	—	(13)	—
Adjusted net income attributable to ICE	<u>\$ 536</u>	<u>\$ 441</u>	<u>\$ 2,077</u>	<u>\$ 1,764</u>
Diluted earnings per share attributable to ICE	<u>\$ 1.07</u>	<u>\$ 2.09</u>	<u>\$ 3.43</u>	<u>\$ 4.25</u>
Adjusted diluted earnings per share attributable to ICE	<u>\$ 0.94</u>	<u>\$ 0.75</u>	<u>\$ 3.59</u>	<u>\$ 2.97</u>
Diluted weighted average common shares outstanding	<u>573</u>	<u>589</u>	<u>579</u>	<u>594</u>

ADJUSTED NET INCOME FROM CONTINUING OPS AND EPS FROM CONTINUING OPS

in millions except per share amounts	12 Months Ended 12/31/16	12 Months Ended 12/31/15	12 Months Ended 12/31/14	12 Months Ended 12/31/13
Net income attributable to ICE	\$1,429	\$1,274	\$981	\$254
Add: Interactive Data and NYSE transaction and integration costs and acquisition-related success fees	46	83	124	140
Add: Employee severance costs related to Creditex U.K. brokerage operations	4	—	—	—
Add: Creditex customer relationship intangible asset impairment	33	—	—	—
Add: Litigation settlements and accruals, net of insurance proceeds	—	15	—	—
Add: Amortization of acquisition-related intangibles	302	140	131	56
Add: Cetip impairment loss	—	—	—	190
Add: Duplicate rent expense and lease termination costs	—	—	—	7
Add: Early payoff of outstanding debt	—	—	—	51
Add: Pre-acquisition interest expense on debt issued for Interactive Data acquisition	—	5	—	—
Less: Income from OCC equity investment	—	—	(26)	—
Less: Net gain of sale of 6% remaining ownership in Euronext	—	—	(4)	—
Less: Income tax effect for the above items	(143)	(83)	(89)	(85)
Less: Deferred tax adjustment on acquisition-related intangibles	(22)	(82)	(14)	—
Add: Other tax adjustments	23	7	12	—
Add/(Less): Income (loss) from discontinued operations, net of tax	—	—	(11)	50
Adjusted net income attributable to ICE	<u>\$1,672</u>	<u>\$1,359</u>	<u>\$1,104</u>	<u>\$663</u>
Diluted EPS	<u>\$ 2.39</u>	<u>\$ 2.28</u>	<u>\$ 1.69</u>	<u>\$ 0.77</u>
Adjusted Diluted EPS	<u>\$2.79</u>	<u>\$2.43</u>	<u>\$1.92</u>	<u>\$1.68</u>
Diluted weighted average common shares outstanding	<u>599</u>	<u>559</u>	<u>573</u>	<u>396</u>

ADJUSTED OPERATING INCOME, OPERATING MARGIN & OPERATING EXPENSE RECONCILIATION

	Trading and Clearing Segment		Data and Listings Segment		Consolidated	
	3 Months Ended December 31,		3 Months Ended December 31,		3 Months Ended December 31,	
	2018	2017	2018	2017	2018	2017
Total revenues, less transaction-based expenses	\$657	\$517	\$651	\$629	\$1,308	\$1,146
Total operating expenses	\$256	\$186	\$376	\$368	\$632	\$554
Less: Interactive Data transaction and integration costs and acquisition-related success fees	1	—	—	8	1	8
Less: Amortization of acquisition-related intangibles	23	12	55	53	78	65
Adjusted total operating expenses	\$232	\$174	\$321	\$307	\$553	\$481
Operating income	\$401	\$331	\$275	\$261	\$676	\$592
Adjusted operating income	\$425	\$343	\$330	\$322	\$755	\$665
Operating margin	61%	64%	42%	41%	52%	52%
Adjusted operating margin	65%	67%	51%	51%	58%	58%

ADJUSTED OPERATING INCOME, OPERATING MARGIN & OPERATING EXPENSE RECONCILIATION

	Trading and Clearing Segment		Data and Listings Segment		Consolidated	
	12 Months Ended December 31,		12 Months Ended December 31,		12 Months Ended December 31,	
	2018	2017	2018	2017	2018	2017
Total revenues, less transaction-based expenses	\$2,420	\$2,128	\$2,559	\$2,510	\$4,979	\$4,638
Total operating expenses	\$911	\$781	\$1,485	\$1,478	\$2,396	\$2,259
Less: Interactive Data transaction and integration costs and acquisition-related success fees	6	—	24	31	30	31
Less: Amortization of acquisition-related intangibles	73	53	214	208	287	261
Less: Accruals relating to investigations and inquiries	—	14	—	—	—	14
Less: Impairment on divestiture of NYSE Governance Services	—	—	—	6	—	6
Less: Impairment of exchange registration intangible assets on closure of ICE Futures Canada and ICE Clear Canada	4	—	—	—	4	—
Less: Employee severance costs related to ICE Futures Canada and ICE Clear Canada operations	4	—	—	—	4	—
Adjusted total operating expenses	\$824	\$714	\$1,247	\$1,233	\$2,071	\$1,947
Operating income	\$1,509	\$1,347	\$1,074	\$1,032	\$2,583	\$2,379
Adjusted operating income	\$1,596	\$1,414	\$1,312	\$1,277	\$2,908	\$2,691
Operating margin	62%	63%	42%	41%	52%	51%
Adjusted operating margin	66%	66%	51%	51%	58%	58%

ADJUSTED EBITDA RECONCILIATION

in millions	12 Months Ended 12/31/18
Adjusted net income	\$2,077
Add: Interest expense	244
Add: Adjusted income tax expense ⁽¹⁾	627
Add: Adjusted depreciation and amortization ⁽¹⁾	295
Adjusted EBITDA from Continuing Ops	\$3,243
 Adjusted EBITDA - CHX & TMC (pre acquisition)⁽²⁾	 \$7
Combined Adjusted EBITDA	\$3,250
 Debt, as reported	 7,441
Add: Balance of unamortized premiums/discounts and debt issuance costs, net	62
Principal amount of debt outstanding (Adjusted Debt)	\$7,503
Adjusted Debt-to-EBITDA leverage ratio	2.3x

(1) Excludes adjustments already included in Non-GAAP financial measures

(2) Represents pro forma EBITDA for the preacquisition periods: CHX (1/1/18-7/19/18) and TMC (1/1/18-7/24/18).

ADJUSTED EFFECTIVE TAX RATE RECONCILIATION

in millions	3 Months Ended 12/31/2018	3 Months Ended 12/31/2017	12 Months Ended 12/31/2018	12 Months Ended 12/31/2017
Income before income tax expense (benefit)	\$738	\$671	\$2,520	\$2,526
Less: Income tax expense (benefit)	119	(568)	500	(28)
Effective tax rate	16%	(85)%	20%	(1)%
Income before income tax expense (benefit)	\$738	\$671	\$2,520	\$2,526
Add: Interactive Data transaction and integration costs and acquisition-related success fees	1	8	30	31
Add: Amortization of acquisition-related intangibles	78	65	287	261
Less: Gain on acquisition of MERS	(110)	—	(110)	—
Add: Accruals related to ongoing investigations and inquiries	—	—	—	14
Add: Impairment on divestiture of NYSE Governance Services	—	—	—	6
Add: Impairment of exchange registration intangible assets on closure of ICE Futures Canada and ICE Clear Canada	—	—	4	—
Add: Employee severance costs related to ICE Futures Canada and ICE Clear Canada operations	—	—	4	—
Add/ (Less): Gain on divestiture of Trayport, net	—	(110)	1	(110)
Less: Cetip investment gain, net	—	—	—	(167)
Adjusted Income before income taxes	\$707	\$634	\$2,736	\$2,561
Income tax expense (benefit)	\$119	\$(568)	\$500	\$(28)
Add/ (Less): Income tax effect for the above items	35	(11)	98	43
Add/ (Less): Deferred tax adjustment on U.S. tax reform	(1)	764	11	764
Add/ (Less): Deferred tax adjustments on acquisition related intangibles	10	2	5	(10)
Add: Other tax adjustments	—	—	13	—
Adjusted income tax expense	\$163	\$187	\$627	\$769
Adjusted effective tax rate	23%	30 %	23%	30 %

FREE CASH FLOW CALCULATION

in millions	12 Months Ended 12/31/2018	12 Months Ended 12/31/2017
Cash flow from operations	\$2,533	\$2,085
Less: Capital expenditures and capitalized software development costs	(280)	(357)
Add: Section 31 fees, net	33	2
Free cash flow	\$2,286	\$1,730