# MSCI FOURTH QUARTER AND FULL-YEAR 2017

Earnings Presentation

February 1, 2018



## FORWARD – LOOKING STATEMENTS

- This earnings presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including without limitation, our full-year 2018 guidance. These forwardlooking statements relate to future events or to future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these statements. In some cases, you can identify forward-looking statements by the use of words such as "may," "could," "expect," "intend," "plan," "seek," "anticipate," "believe," "estimate," "predict," "potential" or "continue," or the negative of these terms or other comparable terminology. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors that are, in some cases, beyond our control and that could materially affect our actual results, levels of activity, performance or achievements.
- Other factors that could materially affect actual results, levels of activity, performance or achievements can be found in MSCI's Annual Report on Form 10-K for the fiscal year ended December 31, 2016 filed with the Securities and Exchange Commission ("SEC") on February 24, 2017 and in quarterly reports on Form 10-Q and current reports on Form 8-K filed or furnished with the SEC (herein, referred to as "Public Filings"). If any of these risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, actual results may vary significantly from what MSCI projected. Any forward-looking statement in this earnings presentation reflects MSCI's current views with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to MSCI's operations, results of operations, growth strategy and liquidity. MSCI assumes no obligation to publicly update or revise these forward-looking statements for any reason, whether as a result of new information, future events, or otherwise, except as required by law.



## OTHER INFORMATION

- Percentage changes and totals in this earnings presentation may not sum due to rounding.
- Percentage changes refer to the comparable period in 2016, unless otherwise noted.
- FY 2016 and FY 2017 refer to twelve months ended December 31, 2016 and twelve months ended December 31, 2017, respectively.
- Gross sales include both recurring subscription and nonrecurring sales as reported in Table 6: Sales and Aggregate Retention Rate by Segment (unaudited) of the press release reporting MSCI's financial results for fourth quarter and full-year 2017.
- Foreign currency exchange rate fluctuations are calculated to be the difference between the current period results as reported compared to the current period results recalculated using the foreign currency exchange rates in effect for the comparable prior period. We do not provide the impact of foreign currency fluctuations on our asset-based fees tied to average AUM, of which approximately two-thirds are invested in securities denominated in currencies other than the U.S. dollar, and accordingly, any such impact is excluded from the disclosed foreign currency adjusted variances.

- On August 1, 2016, MSCI closed the sale of its Real Estate occupiers benchmarking business. Unless indicated otherwise, reported financial results and operating metrics have not been updated to exclude the results of this business.
- Based on accounting guidance, all stock-based compensation excess tax benefits and tax shortfalls are recognized in the provision for income taxes in the statement of income as discrete items, beginning in first quarter 2017 on a prospective basis. Previously, these discrete amounts were recorded in additional paid in capital on the statement of financial condition.
- Beginning in first quarter 2017, adjusted EPS does not include an adjustment for amortization expense associated with capitalized software development costs. For periods prior to first quarter 2017, the amortization associated with capitalized software development was included as an adjustment to adjusted net income and adjusted EPS as it was not material.



## FY 2017 – RECORD RESULTS<sup>1</sup>

### **Exceptional Revenue Growth**

Revenue Growth Driven by Asset-Based Fees & Index Subscription +11%

Subscription Run Rate Growth +11%

Recurring Net New Growth +37%

## Strong EPS Growth

**Adjusted EPS** 

+31%

## **Continued Operational Efficiency**

Adj. EBITDA Expenses / Operating Expenses

+6% / +5%

Adj. EBITDA Margin /
Operating Margin
Expansion

+220 bps /+300 bps

Lower Adjusted Tax Rate (ex Tax Reform impact)
(490 bps)

**Diluted EPS** 

+23%

### **Capital Optimization**

Count (5%)

**Capital Returned** 

\$258 million

**Dividend Increase** 

+36%

<sup>1</sup>Percentage and other changes refer to FY 2016 unless otherwise noted.



## CENTRAL TO THE INVESTMENT PROCESS

Provide Unique Insights
into Client Investment
Objective
Mission
Critical
Common
Tools and
Framework
Services

Deliver More
Effective Tools and
Services to Address
Client Needs







Receive Industry
Input and
Feedback

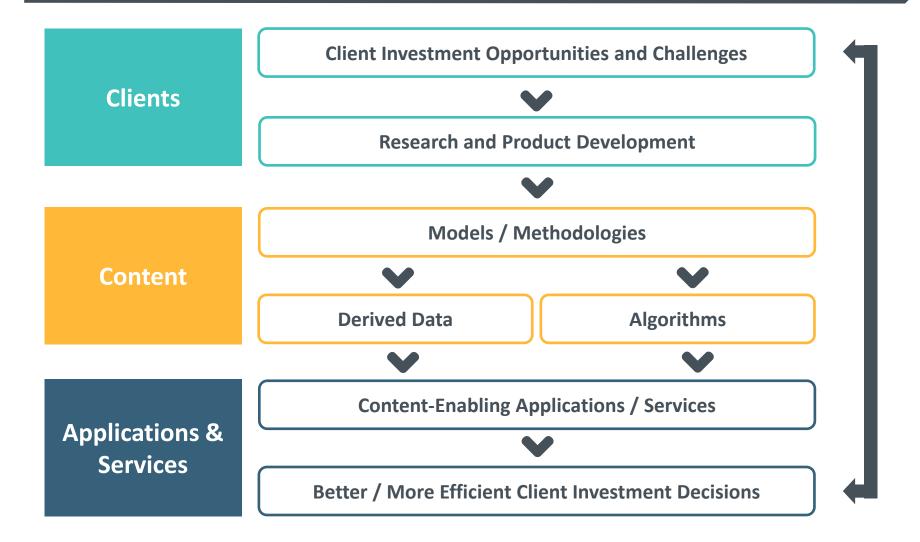
Innovation

Thought
Leadership

Develop Increasing
Role and Importance



## POWER OF INTEGRATED FRANCHISE





## INTEGRATED FRANCHISE DRIVING KEY SUCCESSES

#### **Recent Initiatives / New Offerings**

#### Recent Successes<sup>1</sup>

## Integrated Approach to Clients

- C-Level Engagement (MSCI and Client)
- Senior / Key Account Management
   Programs
- Holistic Approach to Selling

- 19% YoY run rate growth from clients >\$2m
   (58% of run rate; 95.7% Retention Rate)
- Improved sales productivity (14% increase since FY 2015)<sup>2</sup>

## Integrated Content Innovation

- Analytics and ESG contributing to Index Innovation
- Broader and Deeper ESG Research
- Enhanced Fixed Income, Content and
   Private Real Estate Analytics Models

- #1 in 2017 among index providers in cash inflows to equity ETFs
- \$12m of Fixed Income total gross sales
   enabled \$46m of sales for MAC Analytics

# Integrated and Enhanced Applications & Services

- Custom Index Development / IndexMetrics
- Benchmark Aggregation and Performance
   Attribution
- Regulatory Reporting Enhancements

- 10% YoY run rate growth in Multi-Asset Class and Equity Analytics
- 13% YoY Analytics run rate growth from Asset
   Managers and Asset Owners

<sup>&</sup>lt;sup>2</sup> Sales Productivity is defined as average annual gross sales per sales representative.



<sup>&</sup>lt;sup>1</sup>All numbers refer to FY 2017; percentage and other changes refer to FY 2016.

## INTEGRATED CONTENT INNOVATION

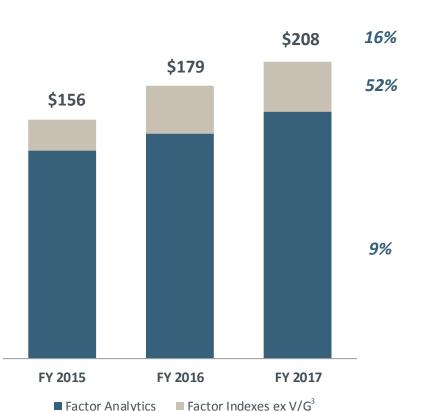
(US\$ in millions)

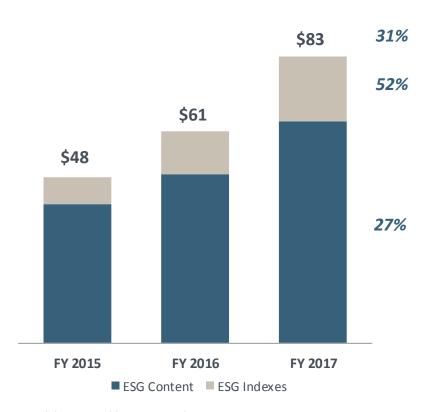
Factor Index and Analytics Run Rate Growth<sup>1</sup>

ESG Content and ESG Index Run Rate Growth<sup>2</sup>



CAGR % (FY 2015 - FY 2017)





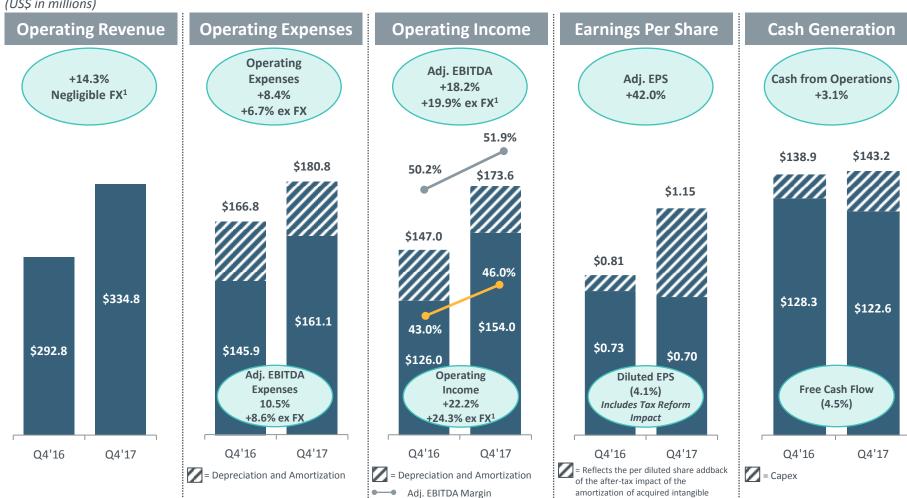
<sup>1</sup>Factor Index Run Rate includes factor related Index subscription and asset-based fees Run Rate, and Factor Analytics Run Rate includes Factor module Run rate in Analytics segment <sup>2</sup>ESG Research includes ESG segment Run Rate, and ESG Index includes ESG related Index subscription Run Rate

<sup>&</sup>lt;sup>3</sup>V/G: Traditional value and growth product Run Rate



## Q4'17 FINANCIAL SUMMARY

(US\$ in millions)



1MSCI does not provide the impact of foreign currency fluctuations on our asset-based fees tied to average AUM, of which approximately two-thirds are invested in securities denominated in currencies other than the U.S. dollar, and accordingly, the impact of any such fluctuation is excluded from the disclosed foreign currency adjusted variances.

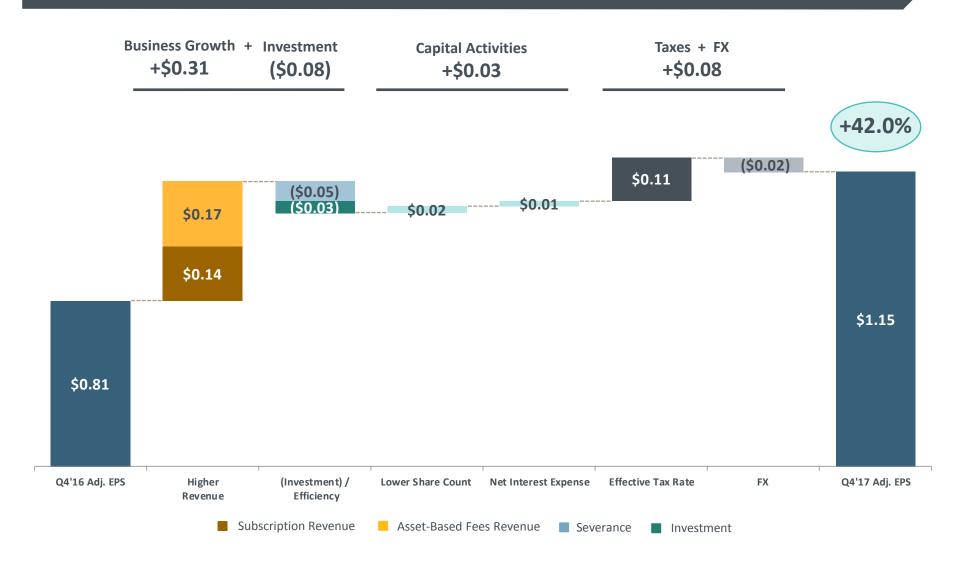
**Operating Margin** 



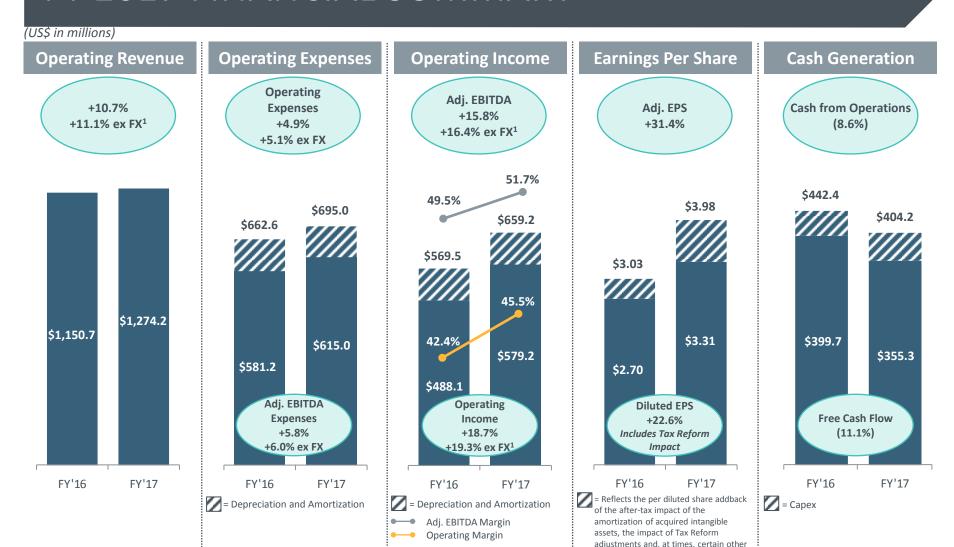
assets, the impact of Tax Reform

adjustments and, at times, certain other transactions or adjustments.

## Q4'17 VS. Q4'16 ADJUSTED EPS BRIDGE



## FY 2017 FINANCIAL SUMMARY

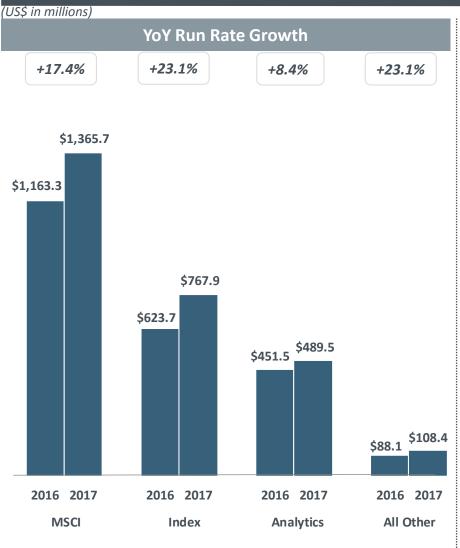


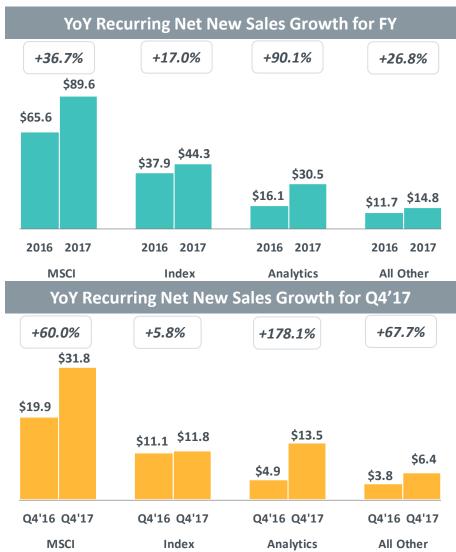
<sup>1</sup>MSCI does not provide the impact of foreign currency fluctuations on our asset-based fees tied to average AUM, of which approximately two-thirds are invested in securities denominated in currencies other than the U.S. dollar, and accordingly, the impact of any such fluctuation is excluded from the disclosed foreign currency adjusted variances.



transactions or adjustments.

## STRONG OPERATING PERFORMANCE







## SEGMENT RESULTS



## Q4'17 SEGMENT RESULTS

ndex

#### **Operating Revenue**

#### Adj. EBITDA

#### **Year-over-Year Commentary**

\$193.8m

+22% YoY

Negligible FX<sup>1</sup>

\$142.6m

+26% YoY

73.6% Margin

- 11.6% recurring subscription revenue growth
- 40.7% asset-based fee (ABF) revenue growth:
  - 46.1% in ETF related revenue
  - 28.3% in non-ETF passive products revenue
  - 41.4% in exchange-traded futures and options revenue

#### \$117.5m

+3% YoY

**Negligible FX** 

\$31.1m

(7%) YoY

**26.4% Margin** 

- Gaining traction with fixed income analytics
- Success through multi-product and service offerings
- Quarterly profitability impacted by certain efficiency initiatives

## \$23.5m

+22% YoY

+19% ex FX

(\$0.1m)

(113%) YoY

(0.2%) Margin

- ESG momentum continues; revenue growth 24.2%
- Real Estate revenue growth 17.3% (11.7% ex-FX)

<sup>1</sup>MSCI does not provide the impact of foreign currency fluctuations on our asset-based fees tied to average AUM, of which approximately two-thirds are invested in securities denominated in currencies other than the U.S. dollar, and accordingly, the impact of any such fluctuation is excluded from the disclosed foreign currency adjusted variances.



## INDEX SUBSCRIPTION RUN RATE GROWTH

(US\$ in millions)

Index Content <sup>1</sup>	FY'17 Run Rate (\$451)	4-year CAGR 10%	Global Demand	Key Growth Drivers
Factor & ESG	\$37 8% of Total Run Rate	+15%	<b>↑</b>	<ul> <li>Investors seeking efficient and systematic means of implementing factor and ESG strategies</li> </ul>
Custom & Specialized	\$102 23% of Total Run Rate	+13%	1	<ul> <li>Increasing usage of tailored index-based strategies</li> <li>Expanding use cases for indexes</li> </ul>
Emerging Market	\$137 30% of Total Run Rate	+9%	7	<ul> <li>New investment mandates</li> <li>Increasing need for deeper data and insights on emerging and frontier markets</li> </ul>
Developed Market	\$176 39% of Total Run Rate	+9%	7	<ul> <li>New investment mandates</li> <li>Increasing need for deeper data and insights into developed markets</li> </ul>

<sup>&</sup>lt;sup>1</sup>Factor and ESG: MSCI Factor indexes, MSCI ESG indexes, Value & Growth indexes and Thematic indexes

Emerging Markets: MSCI indexes, the majority of whose weight is comprised of securities that are in MSCI Emerging Markets countries, Frontier Market countries and Stand-alone countries indexes, excluding Factor indexes, ESG indexes, Custom indexes and Specialized packages (e.g. EM Security module, EM Sectors module, EM Usage Fees).

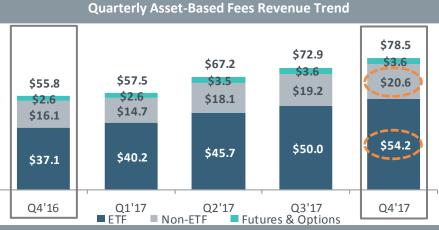


Developed Markets: MSCI indexes, the majority of whose weight is comprised of securities in MSCI Developed Markets countries, excluding Factor indexes, ESG indexes, Custom indexes and Specialized packages (e.g. DM Security module, DM Sectors module, DM Usage Fees).

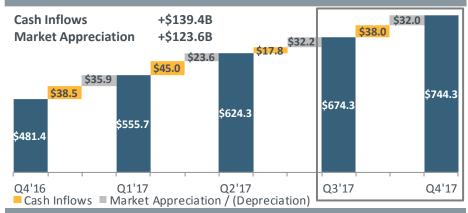
Custom and Specialized: MSCI Custom indexes and MSCI Specialized packages designed to meet unique investor requirements or indexes reflecting the performance of various investment themes (e.g. hedged and leveraged), excluding custom MSCI Factor indexes and custom MSCI ESG indexes.

## INDEX SEGMENT — ASSET-BASED FEES DETAIL

(US\$ in millions, except AUM in billions and Average BPS)



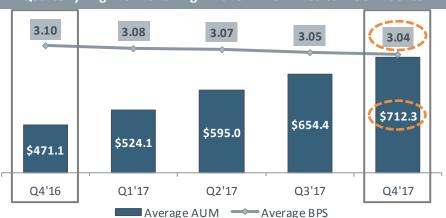
#### Quarter-End AUM & Market Movement of ETFs Linked to MSCI Indexes



#### Quarter-End AUM by Market Exposure<sup>1</sup> of ETFs Linked to MSCI Indexes



#### Quarterly Avg. AUM and Avg. BPS<sup>2</sup> of ETFs Linked to MSCI Indexes



<sup>2</sup>Average BPS based on Run Rate and period—end AUM in ETFs linked to MSCI Indexes.

Prior periods have been reclassified to conform to the current period classification.

Note: The AUM in ETFs numbers also include AUM in Exchange Traded Notes, the value of which is less than 1.0% of the AUM amounts presented.

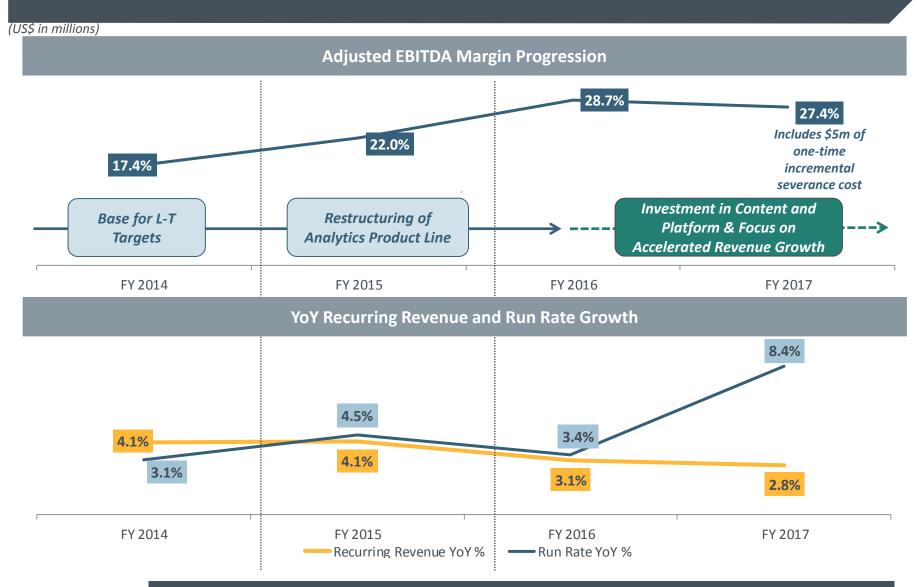


<sup>&</sup>lt;sup>1</sup>US = ETFs linked to MSCI indexes, the majority of whose weight is comprised of securities in MSCI Developed Market (DM) countries, primarily or exclusively in the US.

DM ex US = ETFs linked to MSCI indexes, the majority of whose weight is comprised of securities in MSCI DM countries other than the US.

EM = ETFs linked to MSCI indexes, the majority of whose weight is comprised of securities that are not in MSCI DM countries.

## **ANALYTICS KEY METRICS**





# CAPITAL, LIQUIDITY AND GUIDANCE



## BALANCE SHEET AND LIQUIDITY

(US\$ in millions)

#### Capital Position (As of 12/31/17)

#### **Impact of Tax Reform**

	Cash in US	\$387	
	Cash outside US	\$503	
Tota	ll Cash <sup>1</sup>	\$890	

Total Debt <sup>1</sup>	\$2,100
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Net Debt \$1,210

Total Debt / Adj. EBITDA 3.2x

Net Debt / Adj. EBITDA 1.8x

Benefits of Tax Reform

- Ability to access additional capital
  - Approximately \$350m of existing overseas cash available
  - Ongoing access to overseas profits

Approach to Return of Capital

- Leverage target remains at 3.0x-3.5x
- Disciplined return of capital remains top priority

<sup>1</sup>Excludes deferred financing fees of \$21.9m as of December 31, 2017.



## FY 2018 GUIDANCE

(US\$ in millions)

	FY 2017	FY 2018 Guidance
Operating Expenses	\$695.0	\$725 - \$750
Adjusted EBITDA Expenses	\$615.0	\$645 - \$665
Interest Expense	\$116.1	\$116
Effective Tax Rate	34.9%	21.0% - 24.0%
Net Cash Provided by Operating Activities	\$404.2	\$490 - \$540
Capex	(\$48.8)	(\$50 - \$40)
Free Cash Flow	\$355.3	\$440 - \$500
Dividend Payout	33.2%	30.0% - 40.0%

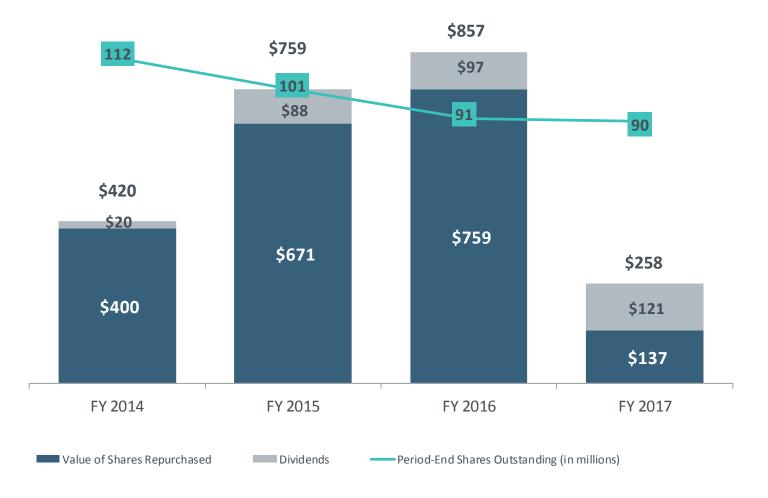


## **APPENDIX**



## STRONG TRACK RECORD OF RETURNING CAPITAL

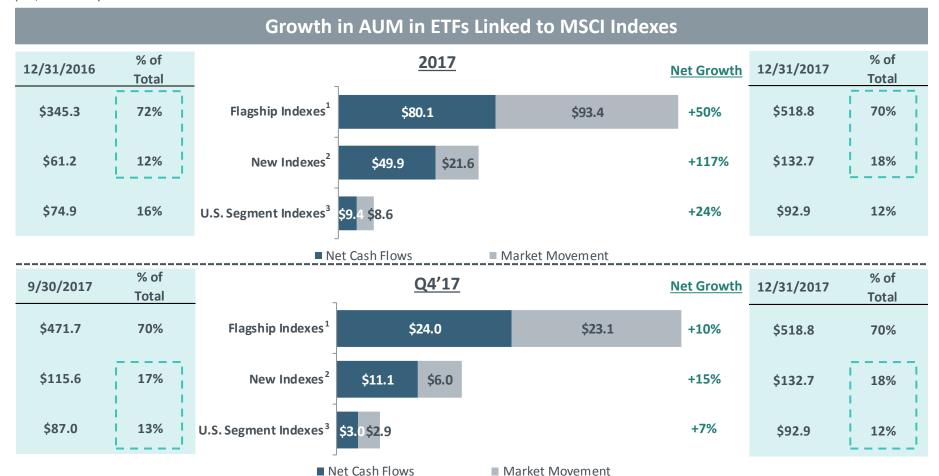
(US\$ in millions, except period-end shares)





### ETFS LINKED TO MSCI INDEXES — DIFFERENTIATED LICENSING

(US\$ in billions)



<sup>&</sup>lt;sup>1</sup>Flagship Indexes, e.g., ACWI, EM, EAFE, Japan etc.

Note: The AUM in ETFs numbers also include AUM in Exchange Traded Notes, the value of which is less than 1.0% of the AUM amounts presented.

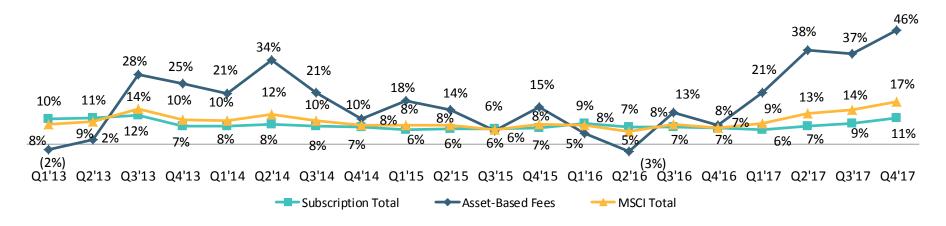


<sup>&</sup>lt;sup>2</sup>New Indexes, e.g., Developed Market IMI (all market cap sizes), US Minimum Volatility etc.

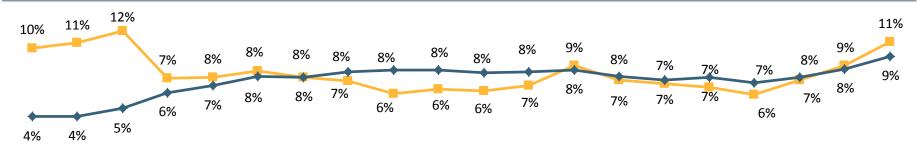
<sup>&</sup>lt;sup>3</sup>U.S. Segment Indexes, e.g., US REIT, US Sectors etc.

## Q1'13 – Q4'17 YoY RUN RATE GROWTH TREND

#### YoY Run Rate Growth as Reported



#### YoY Subscription Run Rate Growth as Reported vs. Organic Growth (excluding FX Impact and Acquisitions/Divestitures)



Q1'13 Q2'13 Q3'13 Q4'13 Q1'14 Q2'14 Q3'14 Q4'14 Q1'15 Q2'15 Q3'15 Q4'15 Q1'16 Q2'16 Q3'16 Q4'16 Q1'17 Q2'17 Q3'17 Q4'17

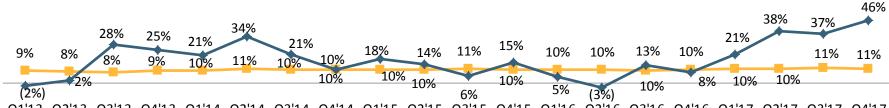
——Subscription Run Rate Growth as Reported

——Organic Subscription Run Rate Growth ex FX



## Q1'13 – Q4'17 YoY SEGMENT RUN RATE GROWTH TREND



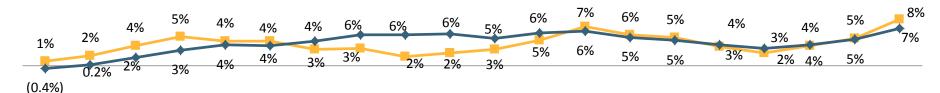


Q1'13 Q2'13 Q3'13 Q4'13 Q1'14 Q2'14 Q3'14 Q4'14 Q1'15 Q2'15 Q3'15 Q4'15 Q1'16 Q2'16 Q3'16 Q4'16 Q1'17 Q2'17 Q3'17 Q4'17

Subscription Run Rate Growth as Reported

ABF Run Rate Growth as Reported

#### Analytics

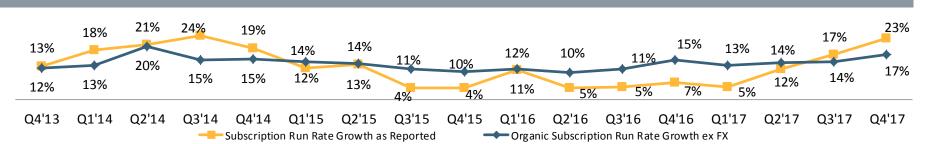


Q1'13 Q2'13 Q3'13 Q4'13 Q1'14 Q2'14 Q3'14 Q4'14 Q1'15 Q2'15 Q3'15 Q4'15 Q1'16 Q2'16 Q3'16 Q4'16 Q1'17 Q2'17 Q3'17 Q4'17

——Subscription Run Rate Growth as Reported

——Organic Subscription Run Rate Growth ex FX

#### **All Other**





## RECONCILIATION OF ADJUSTED EBITDA TO NET INCOME

		1	hree	Year Ended						
		Dec. 31,	Dec. 31,		Sep. 30,		Dec. 31,		Dec. 31,	
In thousands		2017		2016	2017		2017		2016	
Index adjusted EBITDA	\$	142,631	\$	113,161	\$	134,299	\$	522,043	\$	431,478
Analytics adjusted EBITDA		31,060		33,344		33,013		125,349		128,507
All Other adjusted EBITDA	(58)			452		1,290		11,783		9,472
Consolidated adjusted EBITDA		173,633		146,957		168,602		659,175		569,457
Amortization of intangible assets		11,560		11,498		10,614		44,547		47,033
Depreciation and amortization of property,										
equipment and leasehold improvements		8,118		9,447		9,325		35,440		34,320
<b>Operating income</b>		153,955		126,012		148,663		579,188		488,104
Other expense (income), net		26,995		28,917		27,860		112,289		102,166
Provision for income taxes		62,358		28,845		35,650		162,927		125,083
Net income	\$	64,602	\$	68,250	\$	85,153	\$	303,972	\$	260,855



## RECONCILIATION OF ADJUSTED NET INCOME AND ADJUSTED EPS TO NET INCOME AND EPS

		1	hree I	Year Ended						
	Dec. 31,		Dec. 31,		Sep. 30,		Dec. 31, 2017		Dec. 31,	
In thousands, except per share data		2017		2016		2017				2016
Net income	\$	64,602	\$	68,250	\$	85,153	\$	303,972	\$	260,855
Plus: Amortization of acquired intangible assets		9,238		11,498		9,270		39,157		47,033
Less: Gain on sale of investment		_		_		_		(771)		_
Plus: Tax Reform adjustments		34,500		_		_		34,500		_
Less: Income tax effect		(1,922)		(3,403)		(2,732)		(10,772)		(15,243)
Adjusted net income	\$	106,418	\$	76,345	\$	91,691	\$	366,086	\$	292,645
Diluted EPS	\$	0.70	\$	0.73	\$	0.93	\$	3.31	\$	2.70
Plus: Amortization of acquired intangible assets		0.10		0.12		0.10		0.43		0.49
Less: Gain on sale of investment		_		_		_		(0.01)		_
Plus: Tax Reform adjustments		0.37		_		_		0.38		_
Less: Income tax effect		(0.02)		(0.04)		(0.03)		(0.13)		(0.16)
Adjusted EPS	\$	1.15	\$	0.81	\$	1.00	\$	3.98	\$	3.03



## RECONCILIATION OF ADJUSTED EBITDA EXPENSES TO OPERATING EXPENSES

		Three Months Ended						Year	Ended	Full-Year	
		Dec. 31,		Dec. 31,		Sep. 30,		Dec. 31,		Dec. 31,	2018
In thousands		2017		2016		2017		2017		2016	Outlook
Index adjusted EBITDA expenses	\$	51,143	\$	45,909	\$	50,295	\$	196,916	\$	182,073	
Analytics adjusted EBITDA expenses		86,450		81,062		81,959		332,920		319,846	
All Other adjusted EBITDA expenses		23,553		18,884		21,241		85,161		79,293	
Consolidated adjusted EBITDA expenses		161,146		145,855		153,495		614,997		581,212	\$645,000 - \$665,000
Amortization of intangible assets		11,560	·	11,498		10,614		44,547		47,033	
Depreciation and amortization of property,											82,000
equipment and leasehold improvements		8,118		9,447		9,325		35,440		34,320	
Total operating expenses	\$	180,824	\$	166,800	\$	173,434	\$	694,984	\$	662,565	\$725,000 - \$750,000



## RECONCILIATION OF FREE CASH FLOW TO NET CASH PROVIDED BY OPERATING ACTIVITIES

		Т	Months Ende	d			Year I	Ended	Full-Year		
In thousands		Dec. 31, 2017		Dec. 31, 2016		Sep. 30, 2017		Dec. 31, 2017		Dec. 31,	2018
										2016	Outlook
Net cash provided by operating activities	\$	143,158	\$	138,853	\$	101,773	\$	404,163	\$	442,363	\$490,000 - \$540,000
Capital expenditures		(15,736)		(8,140)		(6,390)		(33,177)		(32,284)	
Capitalized software development costs		(4,863)		(2,395)		(5,164)		(15,640)		(10,344)	
Capex		(20,599)		(10,535)		(11,554)		(48,817)		(42,628)	(50,000 - 40,000)
Free cash flow	\$	122,559	\$	128,318	\$	90,219	\$	355,346	\$	399,735	\$440,000 - \$500,000



## RECONCILIATION OF EFFECTIVE TAX RATE TO ADJUSTED TAX RATE

	Th	ree Months Ended		Year Ended			
	Dec. 31,	Dec. 31,	Sep. 30,	Dec. 31,	Dec. 31,		
	2017	2016	2017	2017	2016		
Effective tax rate	49.12%	29.71%	29.51%	34.90%	32.41%		
Less: Tax Reform impact on effective tax rate	27.17%	-%	-%	7.39%	-%		
Adjusted tax rate	21.95%	29.71%	29.51%	27.51%	32.41%		



## USE OF NON-GAAP FINANCIAL MEASURES

- MSCI has presented supplemental non-GAAP financial measures as part
  of this earnings presentation. Reconciliations are provided in slides 2630 above that reconcile each non-GAAP financial measure with the
  most comparable GAAP measure. The non-GAAP financial measures
  presented in this earnings presentation should not be considered as
  alternative measures for the most directly comparable GAAP financial
  measures. The non-GAAP financial measures presented in this earnings
  presentation are used by management to monitor the financial
  performance of the business, inform business decision-making and
  forecast future results.
- "Adjusted EBITDA" is defined as net income before provision for income taxes, other expense (income), net, depreciation and amortization of property, equipment and leasehold improvements, amortization of intangible assets and, at times, certain other transactions or adjustments.
- "Adjusted EBITDA expenses" is defined as operating expenses less depreciation and amortization of property, equipment and leasehold improvements and amortization of intangible assets.
- "Adjusted net income" and "adjusted EPS" are defined as net income
  and diluted EPS, respectively, before the after-tax impact of the
  amortization of acquired intangible assets, the impact of Tax Reform
  adjustments and, at times, certain other transactions or adjustments.
  For periods prior to first quarter 2017, the amortization associated with
  capitalized software development costs was included as an adjustment
  to adjusted net income and adjusted EPS as it was not material.
- "Adjusted tax rate" is defined as the effective tax rate excluding the impact of Tax Reform.
- "Capex" is defined as capital expenditures plus capitalized software development costs.
- "Free cash flow" is defined as net cash provided by operating activities, less Capex.

- From time to time, we may present normalized cash flows that take into account the timing of cash collections and other payments, if material or helpful.
- We believe adjusted EBITDA and adjusted EBITDA expenses are meaningful measures of the operating performance of MSCI because they adjust for significant one-time, unusual or non-recurring items as well as eliminate the accounting effects of capital spending and acquisitions that do not directly affect what management considers to be our core operating performance in the period.
- We believe adjusted net income and adjusted EPS are meaningful measures of the performance of MSCI because they adjust for the after-tax impact of significant one-time, unusual or non-recurring items as well as eliminate the accounting effects of acquisitions that do not directly affect what management considers to be our core performance in the period.
- We believe that free cash flow is useful to investors because it relates
  the operating cash flow of MSCI to the capital that is spent to continue
  and improve business operations, such as investment in MSCI's existing
  products. Further, free cash flow indicates our ability to strengthen
  MSCI's balance sheet, repay our debt obligations, pay cash dividends
  and repurchase shares of our common stock.
- We believe that adjusted tax rate is useful to investors because it increases the comparability of period-to-period results by adjusting for the estimated net impact of Tax Reform.
- We believe that the non-GAAP financial measures presented in this earnings presentation facilitate meaningful period-to-period comparisons and provide a baseline for the evaluation of future results.
- Adjusted EBITDA expenses, adjusted EBITDA, adjusted net income, adjusted EPS, adjusted tax rate, Capex and free cash flow are not defined in the same manner by all companies and may not be comparable to similarly-titled non-GAAP financial measures of other companies.



## **USE OF OPERATING METRICS**

- MSCI has presented supplemental key operating metrics as part of this earnings presentation, including Run Rate, subscription sales and cancellations, non-recurring sales and Aggregate Retention Rate.
- The Aggregate Retention Rate for a period is calculated by annualizing the cancellations for which we have received a notice of termination or for which we believe there is an intention not to renew during the period, and we believe that such notice or intention evidences the client's final decision to terminate or not renew the applicable agreement, even though such notice is not effective until a later date. This annualized cancellation figure is then divided by the subscription Run Rate at the beginning of the year to calculate a cancellation rate. This cancellation rate is then subtracted from 100% to derive the annualized Aggregate Retention Rate for the period. The Aggregate Retention Rate is computed on a product-by-product basis. Therefore, if a client reduces the number of products to which it subscribes or switches between our products, we treat it as a cancellation. In addition, we treat any reduction in fees resulting from renegotiated contracts as a cancellation in the calculation to the extent of the reduction.
- Run Rate estimates at a particular point in time the annualized value of the recurring revenues under our client license agreements ("Client Contracts") for the next 12 months, assuming all Client Contracts that come up for renewal are renewed and assuming then-current currency exchange rates, subject to the adjustments and exclusions described elsewhere in our Public

- Filings. For any Client Contract where fees are linked to an investment product's assets or trading volume, the Run Rate calculation reflects, for ETFs, the market value on the last trading day of the period, for futures and options, the most recent quarterly volumes, and for other non-ETF products, the most recent client reported assets. Run Rate does not include fees associated with "one-time" and other non-recurring transactions. In addition, we add to Run Rate the annualized fee value of recurring new sales, whether to existing or new clients, when we execute Client Contracts, even though the license start date may not be effective until a later date. We remove from Run Rate the annualized fee value associated with products or services under any Client Contract with respect to which we have received a notice of termination or non-renewal during the period and determined that such notice evidences the client's final decision to terminate or not renew the applicable products or services, even though such notice is not effective until a later date.
- Organic subscription Run Rate or revenue growth is defined as the
  period over period Run Rate or revenue growth, excluding the
  impact of changes in foreign currency and the first year impact of
  any acquisitions. It is also adjusted for divestitures. Changes in
  foreign currency are calculated by applying the end of period
  currency exchange rate from the comparable prior period to
  current period foreign currency denominated Run Rate or
  revenue.



# MSCI