Fourth Quarter 2018



**AllianceBernstein**°

# **GLOBAL CAPITAL MARKETS OUTLOOK**

The information herein reflects prevailing market conditions and our judgments, which are subject to change, as of the date of this document. In preparing this document, we have relied upon and assumed, without independent verification, the accuracy and completeness of all information available from public sources. Opinions and estimates may be changed without notice and involve a number of assumptions that may not prove valid. There is no guarantee that any forecasts or opinions in this material will be realized. Information should not be construed as investment advice.

### The Key Takeaways

Macro	+ Investors are right to be worried about rates					
	+ They drove the majority of the beta trade through valuations, net margins and share count					
	<ul> <li>Fundamentally, the developed macro story is one of solid but moderating growth, rising core inflation and rate increases/balance-sheet reduction in the G3*</li> </ul>					
	+ By the end of 2019, developed-market growth will be lower (but solid), core inflation at threshold and rates higher across the curve					
	+ The wild card and key source of tail risk is the impact of policy/politics on the speed/level of inflation and rates					
Markets	+ From beta to alpha: the great rising tide is receding					
inditioto	+ Rising volatility, moderate returns, P/E contraction and rising dispersion drive the importance of security selection					
	+so focus on the better equity "boats"					
	+ For the rest of the cycle, equity returns will largely be about persistency and quality of growth, and strength of balance sheets					
	+ Don't fight the wrong bond battles					
	+ The last thing you should worry about as rates rise is high-grade bonds. They can't kill you; the math doesn't allow it					
	+ Even so, core fixed-income exposure can be more efficient					
	+ Globalize rates to diversify economic-cycle risk; hedge the currency risk to remove the volatility from core					
	+ When spreads are tight relative to rates, don't run from duration and overweight credit—balance them					
	+ Credit barbells are efficient structures and effective late-cycle navigators					
	<ul> <li>Our base expectation is for moderate market returns over the next five years, but with substantial tail risk</li> </ul>					
L'	+ Portfolio construction needs to account for both—critical for those near, or early into, retirement/decumulation					

As of 30 September 2018

Current analysis and forecasts do not guarantee future results. \*G3 is the US, the euro area and Japan. Source: AB

### 3Q 2018 Returns Recap: One of These Things Is Not Like the Others... Returns in US Dollars



#### As of 30 September 2018

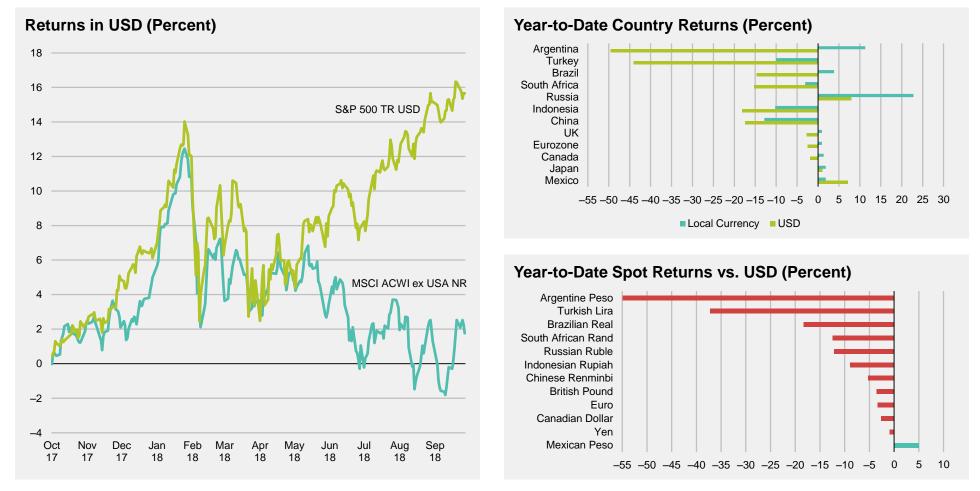
#### Past performance does not guarantee future results.

Global high yield, global corporates, and Japan and euro-area government bonds in hedged USD terms. All other non-US returns in unhedged USD terms. Emerging-market debt returns are for dollar-denominated bonds as represented by the J.P. Morgan Emerging Markets Bond Index Global. An investor cannot invest directly in an index, and its performance does not reflect the performance of any AllianceBernstein (AB) portfolio. The unmanaged index does not reflect the fees and expenses associated with the active management of a portfolio.

\*Real estate investment trusts. †Returns reflect HFRI index returns (see disclaimer pages for index definitions). Source: Bloomberg Barclays, HFR, J.P. Morgan, Morningstar, MSCI, Standard & Poor's (S&P) Dow Jones and AB



### **Divergent Returns: US and the Rest of the World**

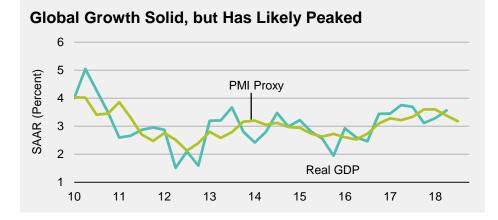


#### As of 30 September 2018

Current analysis and forecasts do not guarantee future results. An investor cannot invest directly in an index, and its performance does not reflect the performance of any AB portfolio. The unmanaged index does not reflect the fees and expenses associated with the active management of a portfolio. Source: Bloomberg and AB



### The Global Macro Pillars: Growth, Inflation and Policy



G7 CPI Inflation Advances Toward 2%\*



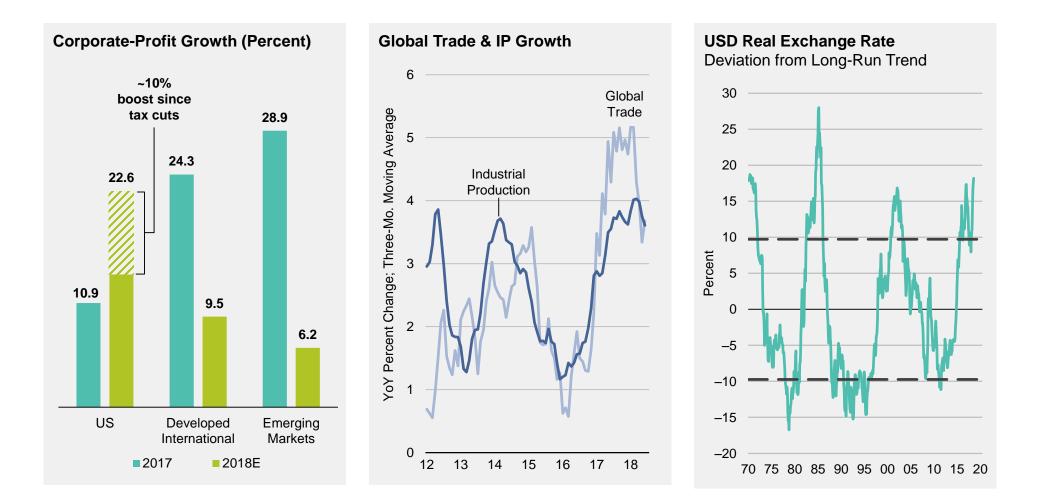
AB Global Economic Forecast: September 2018	<b>Global Economic Forecast: Septen</b>	nber 2018
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	Real Growth (%)		Inflation (%)		Official Rates (%)			ng s (%)
	18F	19F	18F	19F	18F	19F	18F	19F
Global	3.1	2.9	2.9	2.9	3.3	3.4	3.4	3.7
Industrial Countries	2.2	1.9	1.9	2.1	1.2	1.8	2.0	2.5
Emerging Countries	4.7	4.5	4.7	4.2	7.2	6.6	6.2	6.0
US	2.5	2.3	2.3	2.5	2.4	3.4	3.3	3.8
Euro Area	2.1	1.6	1.8	1.8	0.0	0.3	0.8	1.5
UK	1.4	1.5	2.6	2.1	0.8	1.3	1.8	2.3
Japan	1.3	1.1	1.0	1.3	-0.1	0.0	0.2	0.3
China	6.5	6.3	2.3	2.3	4.4	4.4	3.5	3.3
	Growth solid but moderating as inflation and rates rise							

As of 30 September 2018. **Historical analysis and current forecasts do not guarantee future results.** Real growth aggregates represent 48-country forecasts, not all of which are shown. Long rates are 10-year yields unless otherwise indicated. \*G7 is the US, Canada, France, Germany, Italy, Japan and the UK Source: Bloomberg, Haver Analytics, IHS Markit and AB



### Not in Common: Three Key Drivers of Divergence



#### As of 30 September 2018

**Past performance does not guarantee future results.** There can be no guarantee that any estimates or forecasts will be realized. Source: Bloomberg, FactSet, Haver Analytics, IHS Markit and AB



### **Spotlight on Tariffs**

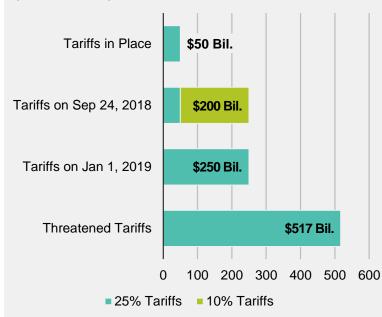
### Beyond US and China, High-Trade Countries in the Cross Fire

#### **Key Assumptions**

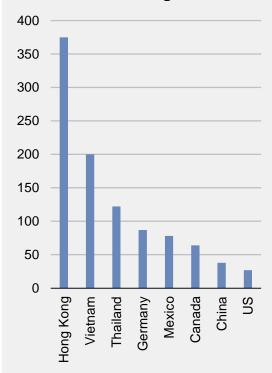
- + Rising trade tensions should not be seen as an idiosyncratic development that will quickly fade away
- We don't expect a sharp slowdown in growth, but rising uncertainty and volatility are likely to dampen growth and add to inflation
- + Even if the US and China are at the center of the storm, economies with higher trade sensitivities are likely to be more negatively affected

#### Trump Administration Is Prepared to Impose Tariffs on All Chinese Imports

Total Value of Imposed and Threatened Tariffs (USD Billions)



Trade as a Percentage of GDP



Middle display as of 30 September 2018; right display as of 31 December 2017 **Past performance does not guarantee future results.** There can be no guarantee that any estimates or forecasts will be realized. Source: Bloomberg, World Bank and AB



### **Spotlight on Currencies**

### US Dollar Has Largely Run Its Course, but Further Upside Expected

#### **FX Forecasts**

- + **USD**—biased to the upside, but valuations suggest that a sharp rise from current levels is unlikely
- + JPY—to benefit as risk-asset headwinds intensify
- + **EUR**—likely to trade toward the bottom of its 1.15–1.25 trading range in coming months; politics an important downside risk (e.g., Italy, Brexit)
- + **CNY**—already being used as a policy tool in the trade war and could fall further should tensions continue to escalate

#### **Global FX: AB and Consensus Year-End Forecasts**

	AB		Conse	ensus
	2018F	2019F	2018F	2019F
EUR/USD	1.15	1.15	1.16	1.23
USD/JPY	112	105	111	107
USD/CNY	7.00	7.20	6.85	6.70
EUR/GBP	0.92	0.89	0.89	0.89

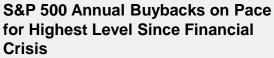
As of 30 September 2018 **Past performance does not guarantee future results.** There can be no guarantee that any estimates or forecasts will be realized. Source: Bloomberg and AB

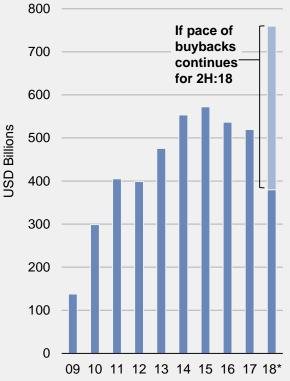
### **Spotlight on US Fiscal Policy**

**Consumer Confidence & Small** 

### Tax Cuts Boost Confidence, Consumption and Buybacks in 2018...and 2019?







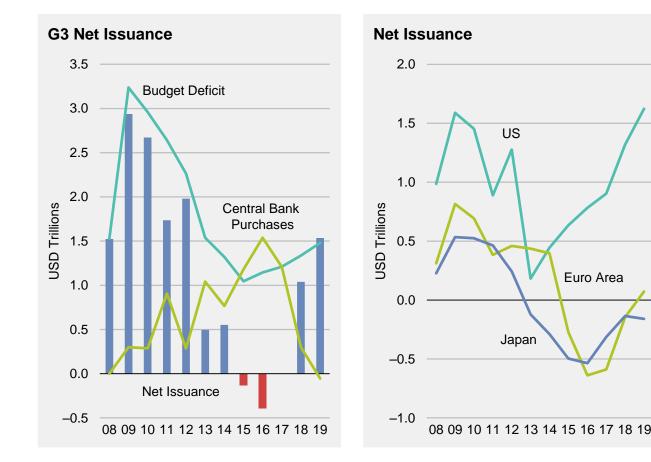
30 Earnings 25 20 15 Percent 10 5 Revenue 0 -5 -109999777 ထ aaaaaaaaaaa Ø aaa

S&P 500 YoY Growth Rates

Left display through 30 September 2018; middle and right displays as of 30 June 2018 Historical analysis and current forecasts do not guarantee future results. \*Year to date through 30 June 2018 Source: Bloomberg, S&P Dow Jones and AB

### **US Monetary Policy**

### Tightening Continues and Balance Sheet Reduction Hits Top Speed



**Fed Funds Rate Expectations** FOMC and Market Expectations\* 3.5 3.0 3.0 2.4 2.5 2.0 Eucent 1.5 2.3 1.0 0.5 0.0 15 16 17 18 19 20 Fed Funds Rate FOMC Expectations Market Expectations FOMC Long-Run Projection FOMC September 2018 Forecasts

	18	19	20	Longer Run
Change in Real GDP	3.1	2.5	2.0	1.8
Unemployment Rate	3.7	3.5	3.5	4.5
PCE Inflation <sup>†</sup>	2.1	2.0	2.1	2.0

As of 30 September 2018. **Historical analysis and current forecasts do not guarantee future results.** Projections of change in real GDP and both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. Expectations for fed funds rate are for December 2018 and December 2019. The projections for the fed funds rate are the value of the midpoint of the projected appropriate target range for the fed funds rate or the projected appropriate target level for the fed funds rate at the end of the specific calendar year or over the longer run. Net issuance is the budget deficit less central bank purchases. \*FOMC: Federal Open Market Committee; market expectations are the fed funds rate priced into the Fed futures market as of the 26 September 2018 FOMC meeting date. †PCE: personal consumption expenditures Source: Bloomberg, Haver Analytics, US Federal Reserve and AB

#### A B

### **Putting It All Together: Baseline Forecast and Scenarios**

### A More Nuanced Outlook; Balanced Risks

	Downside 25%	Central Case 50%	Upside 25%
Growth	Sharp Deceleration	Slowdown	Reacceleration
Inflation	Subdued/Lower	Drifting Higher	Acceleration
Policy Stance	Fiscal & Monetary Easing	Gradual/Sporadic Tightening	Synchronized Tightening
Risk Assets	Negative	Headwinds to Intensify	Positive, at Least at First
Core Yields	Lower	Gradual Increase	Shift to Higher Regime
USD	Stronger USD	Rangebound vs. G10;* Stronger vs. EM	Modest USD Weakness
	Tail Risks	Base Case	Tail Risks

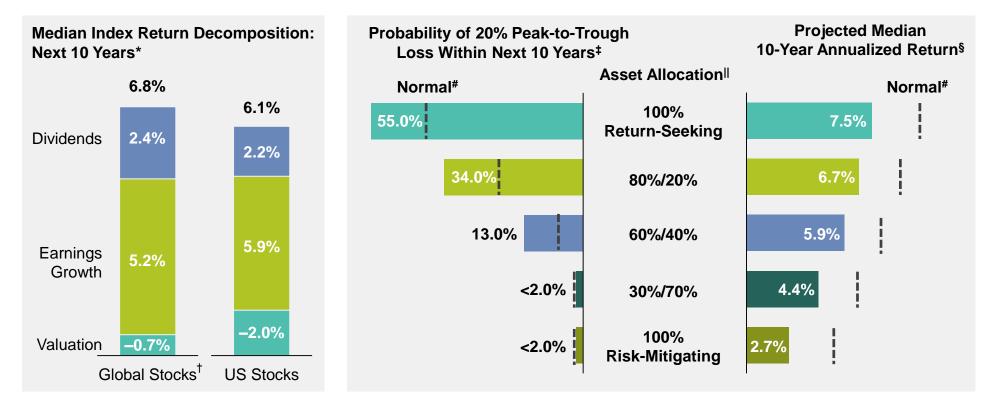
As of 30 September 2018

Current forecasts do not guarantee future results.

\*G10 is the US, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden and the UK Source: AB



### The Risk/Return Trade-Off Is More Important than Ever



Left display as of 31 December 2017; right display as of 30 June 2018. **Past performance does not guarantee future results.** There can be no guarantee that any estimates or forecasts will be realized. Based on AB's estimates of the range of returns for the applicable capital markets.

The forecasted figures in the left display utilize book-value growth and price-to-book valuations as representations of earnings growth and valuation. Data do not represent past performance and are not a promise of actual future results or a range of future results. Based on proprietary AB forecasting system. \*Represents projected median compound annual growth rates over the next 10 years. <sup>†</sup>Global stocks are modeled as 18% US diversified, 18% US value, 18% US growth, 6% US small-/mid-cap, 30% developed international, and 10% emerging markets. <sup>‡</sup>Probability of a 20% peak-to-trough decline in pretax, pre-cash-flow cumulative returns within the next 10 years. Because the AB system uses annual capital-market returns, the probability of peak-to-trough losses measured on a more frequent basis (such as daily or monthly) may be understated. The probabilities depicted above include an upward adjustment intended to account for the incidence of peak-to-trough losses that do not last an exact number of years. <sup>§</sup>Represents projected median compound annual growth rates over the next 10 years. <sup>II</sup> 100% return-seeking allocation is all stocks; 80%/20% allocation is 80% stocks/20% bonds; 60%/40% allocation is 60% stocks/40% bonds; 30%/70% allocation is 30% stocks/70% bonds; and 100% risk-mitigating allocation is all bonds. <sup>#</sup>Normal conditions reflect AB's estimates of equilibrium capital-market conditions, which are typically close to a very long-term historical average.



### **US Hot Topics: Midterm Election Scenarios and...**

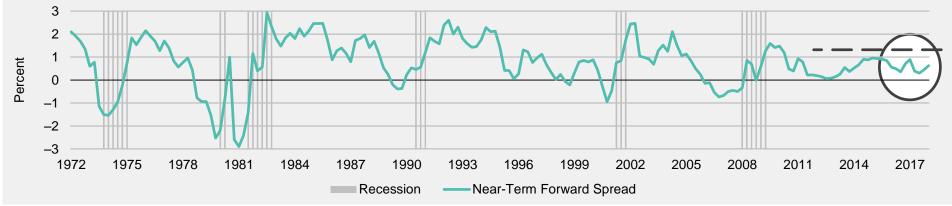
Midterm Election Probabilities							
	80	%	20%				
	25%	55%	15%	5%			
Outcome	Blue Split Wave Congress		Status Quo	Red Wave			
Fiscal Policy	Static/ Easier	Static/ Easier	Easier?	Easier			
Fiscal Priority	Infrastructure	Infrastructure	Tax Cuts	Tax Cuts			
Equity Response	Negative	Minimal	Positive	Positive			
Bond Response	Positive	Minimal	Negative	Negative			

Average S&P 500 Monthly Performance During Midterm Election Years (1950–2014) 3.5 2.5 1.5 Percent 0.5 -0.5 -1.5 -2.5 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Midterm Years + Non-Midterm Years

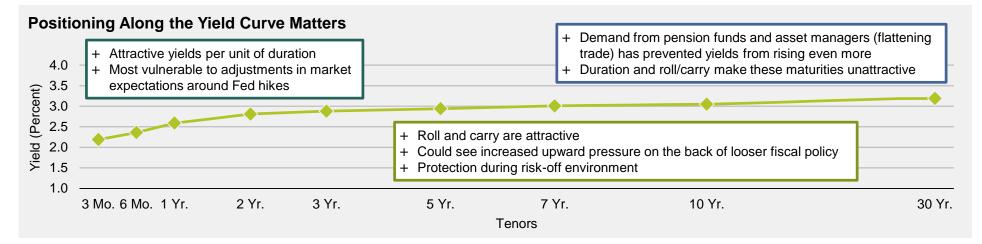
As of 30 September 2018 **Historical analysis and current forecasts do not guarantee future results.** Source: Bloomberg, Fivethirtyeight.com, S&P and AB



### ...the Shape of the Yield Curve: Should Investors Worry?



Despite Flattening Yield Curve, the Near-Term Forward Spread (the Fed's Preferred Measure) Does Not Signal Alarm



Top display through 30 June 2018; bottom display as of 30 September 2018

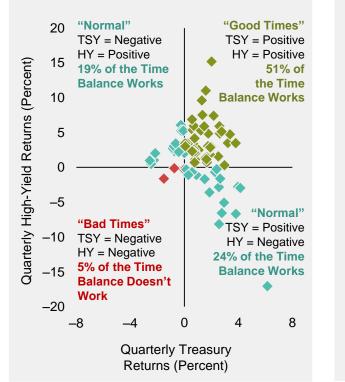
Historical analysis does not guarantee future results. The near-term forward spread is calculated as the difference between the current implied forward rate on Treasury bills six quarters from now and the current yield on a three-month Treasury bill.

Source: Bloomberg Barclays, US Federal Reserve and AB



### Near-Term Volatility Calls for Balance Between Rates and Credit Risks

# Government and Credit Bonds Rarely Underperform at the Same Time



#### Parking Your Money in Cash Hinders Return Potential

Excess Returns vs. US Aggregate over Rolling Periods

	12-M Perio (225 <sup>-</sup> Perio	ods Fotal	36-Month Periods (202 Total Periods)		
Strategy	Average % of Excess Time Return Positive		Average Excess Return	% of Time Positive	
3-Month T-Bill	-2.9%	21.0%	-3.4%	4.5%	
Credit Barbell Strategy*	1.7%	67.1%	1.5%	77.2%	

# Rising Rates Don't Have to Derail Bonds<sup>†</sup>

Expected Total Returns (Percent)

US Aggregate		Change in US High-Yield Spreads (b.p.)				
		-50	0	50	100	
ge in asury (b.p.)	100	-1.1	-1.5	-2.0	-2.4	
Change S Treasi ields (b.	50	1.4	1.0	0.5	0.1	
Ch US <sup>·</sup> Yiel	0	3.9	3.4	3.0	2.5	

US High Yield		Change in US High-Yield Spreads (b.p.)				
		-50	0	50	100	
Change in JS Treasury Yields (b.p.) 001	100	5.2	3.6	1.9	0.3	
	50	6.5	4.9	3.3	1.6	
Ch US∵ Yiel	0	7.9	6.3	4.7	3.0	

#### As of 30 September 2018

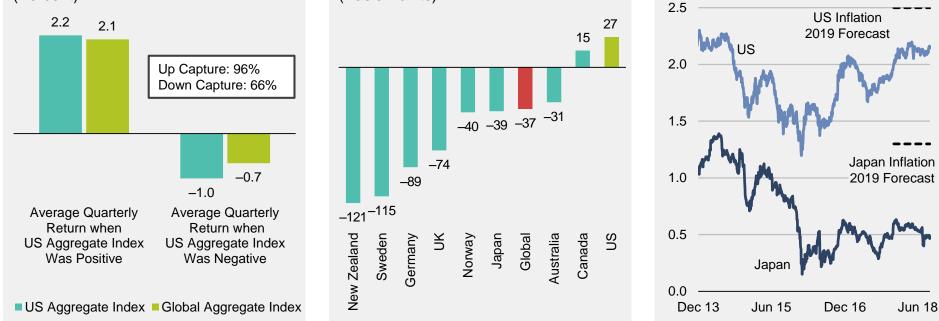
#### Historical analysis does not guarantee future results.

Treasury (TSY) is represented by Bloomberg Barclays Global Treasury, and high yield (HY) by Bloomberg Barclays Global High-Yield hedged to USD. \*Credit barbell consists of a 50/50 blend of HY and TSY. Returns in the middle display start from January 1999. †The scenario analysis assesses the potential impact of instantaneous changes in US high-yield spreads and a parallel shift in the US Treasury yield curve on the Bloomberg Barclays US Aggregate and US High-Yield indices. Expected returns incorporate the impact of roll and carry over the subsequent 12 months. An investor cannot invest directly in an index, and its performance does not reflect the performance of any AB portfolio. The unmanaged index does not reflect the fees and expenses associated with the active management of a portfolio.



### Take a World View on Interest-Rate Exposure

Global Outperforms When US Falls Up vs. Down Capture March 1990–September 2018 (Percent)\*



US Rates Above Our Fair Value

10-Year Yield Deviation from Fair Value

Estimates

(Basis Points)

#### As of 30 September 2018

#### Past performance does not guarantee future results.

\*Bar height may differ due to rounding. Global bonds hedged is represented by Bloomberg Barclays Global Aggregate hedged to USD, and US bonds by Bloomberg Barclays US Aggregate. An investor cannot invest directly in an index, and its performance does not reflect the performance of any AB portfolio. The unmanaged index does not reflect the fees and expenses associated with the active management of a portfolio.

†B/E: break-even

Source: Bloomberg Barclays and AB

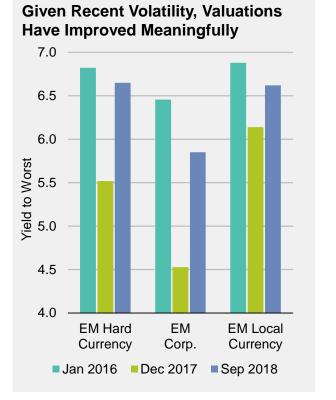


Select Opportunities Exist in Global

B/E Inflation for 10-Year Rates (Percent)<sup>†</sup>

Inflation-Linked Bonds

### Is Now the Time to Add Emerging-Market Risk? Proceed with Caution



#### EM USD Debt Can Provide Some Cushion When US Dollar Strengthens



# Near-Term EM Outlook Warrants Caution

- + Rising rates in developed markets
- + Recent US-dollar strengthening
- + Increased idiosyncratic and political risk in select countries
- + Trump's trade war

#### Some Countries in Recent Headlines:



#### As of 30 September 2018

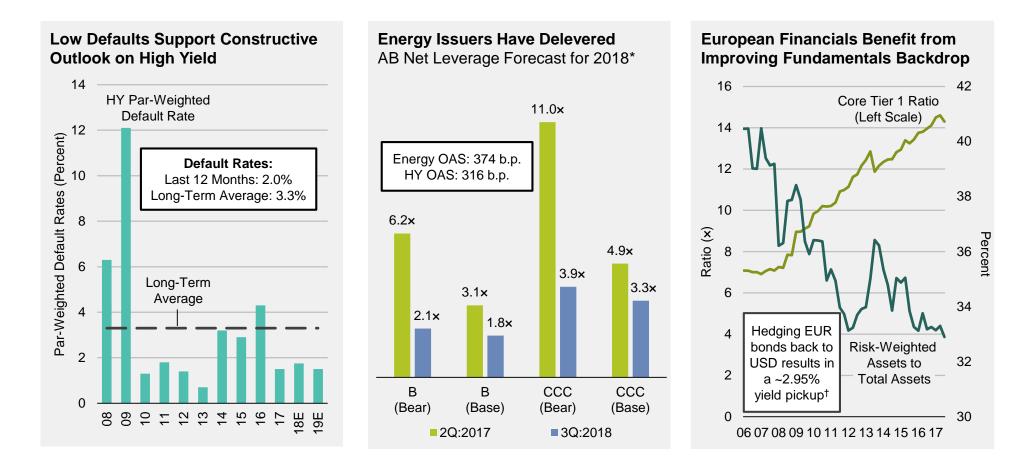
#### Historical analysis does not guarantee future results.

Emerging market (EM) hard currency is represented by J.P. Morgan EMBI Global; EM corporate by J.P. Morgan CEMBI Broad Diversified; and EM local currency by J.P. Morgan GBI–EM Global Diversified. EM FX is represented by J.P. Morgan Emerging Market Currency. Yields are sourced from the index's subcomponents. An investor cannot invest directly in an index, and its performance does not reflect the performance of any AB portfolio. The unmanaged index does not reflect the fees and expenses associated with the active management of a portfolio.

Source: Bloomberg, J.P. Morgan and AB



### **Corporates Continue to Offer Select Opportunities**



Left and middle displays as of 30 September 2018; right display through 30 June 2018 (except for yield pickup, which is as of 30 September 2018) Historical analysis does not guarantee future results.

Core Tier 1 ratios provided by Morgan Stanley European credit strategy research on western European banks.

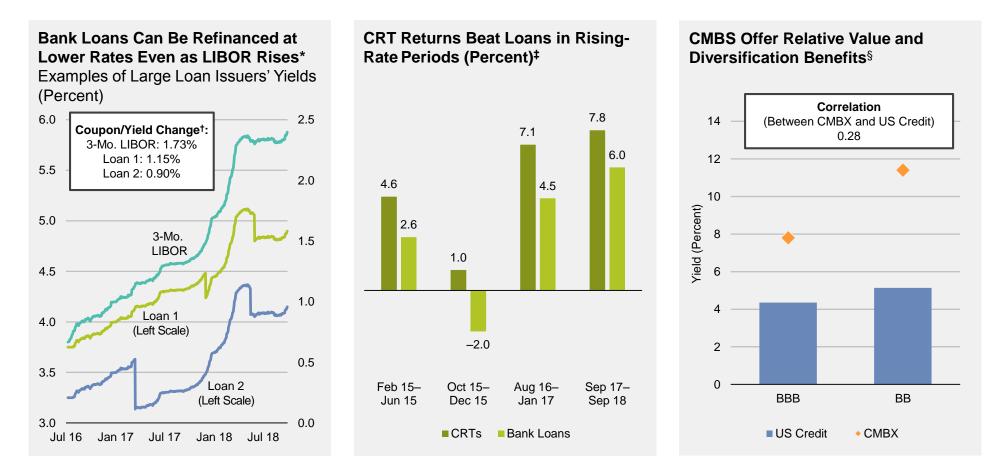
\*AB bear- and base-case 31 December 2018 forecasts for energy issuers' net leverage ratios

†Annualized hedging benefit uses one-month currency forwards.

Source: Bloomberg Barclays, J.P. Morgan, Morgan Stanley and AB

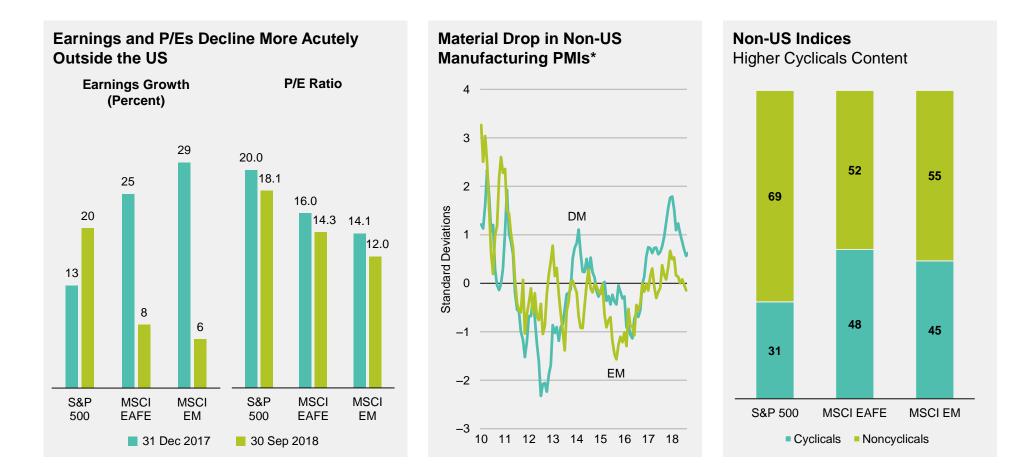


### Mortgages Offer Floating-Rate Exposure and Relative Value Opportunities



As of 30 September 2018. **Historical analysis does not guarantee future results.** \*Bank loans are represented by the Credit Suisse Leveraged Loan Index. Loan 1 is represented by TransDigm Group and Loan 2 by American Airlines. †Change is calculated since July 2016. ‡Rising-rate periods defined as time periods when the 10-Year US Treasury rate increased by 20 b.p. or more. Credit risk-transfer securities (CRT) returns are represented by Mark Fontanilla & Co. CRTx Index (Lower Mezzanine). §CMBS: commercial mortgage backed securities. CMBX yields are loss-adjusted. Correlation is the average correlation for BBB-rated CMBX and US corporates and BB-rated CMBX and US corporates. BB corporates are represented by Bloomberg Barclays US Corporate High-Yield BB and BBB Corporates by Bloomberg Barclays US Aggregate Corporate BBB. Source: Bloomberg, Bloomberg Barclays, Credit Suisse, Fannie Mae, Freddie Mac, IHS Markit, Mark Fontanilla & Co., Trepp and AB

### International vs. US: Moderating Growth and Higher Cyclicality Are Drivers



Left display as of 30 September 2018; middle display through 31 August 2018; right display as of 30 September 2018

Cyclicals includes: energy, financials, industrials and materials. Noncyclicals includes: communication services, consumer discretionary, consumer staples, healthcare, technology, real estate and utilities.

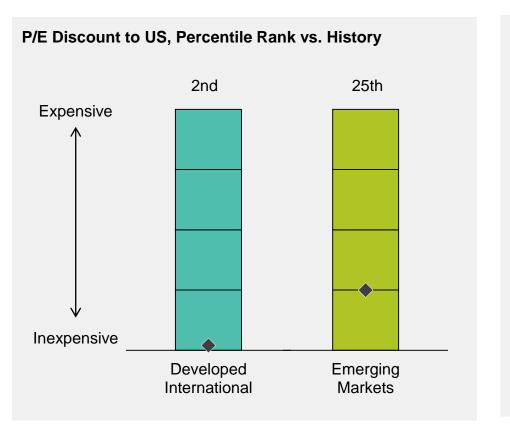
\*Standard deviations from mean, 2010 to 2018.

Source: Bloomberg, Haver Analytics, IHS Markit, MSCI, S&P and AB

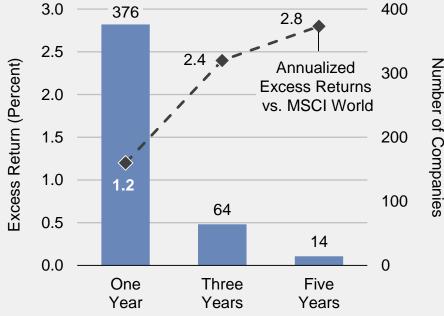


### International Valuations Attractive, but Selectivity Is Key

Companies with Sustainable Earnings Are Vital in Times of Slower Economic Growth



Key to Successful Growth Investing: Beating the Fade Companies Persisting with ≥10% Year-over-Year Earnings Growth Rates: Top 1,000 Global Companies (1979–2017)\*



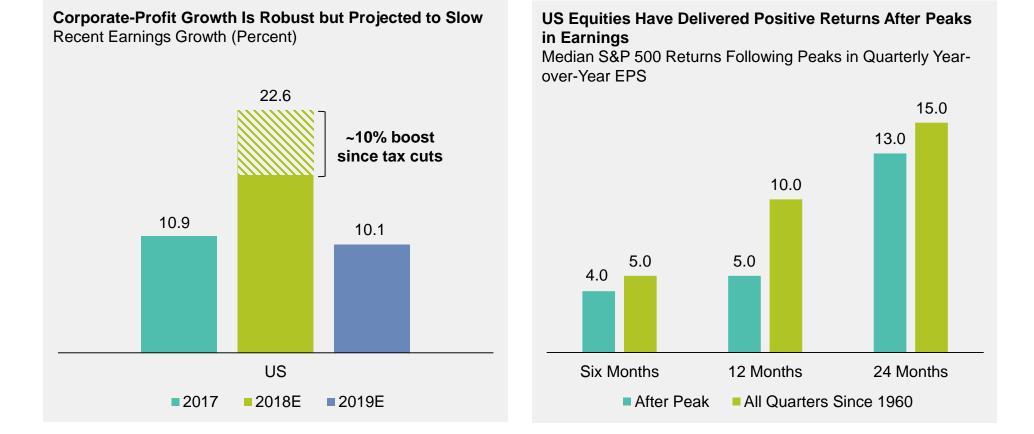
Left display as of 30 September 2018; right display as of 31 December 2017 Past performance and historical analysis do not guarantee future results.

Percentile ranking is versus its own history, since January 1988. Historical data for information only

\*Universe consists of the top 1,000 companies by market cap each year through 2017 with annual rebalancing

Source: Center for Research in Security Prices, FactSet, MSCI, S&P Compustat and AB

### **US Profits Slowing: Stock Returns Not Likely Upended**



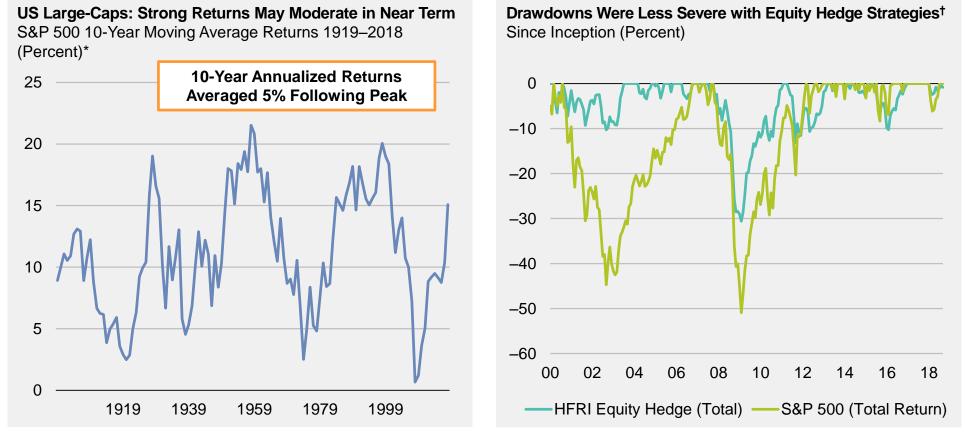
Left display as of 30 September 2018; right display as of 9 July 2018

Historical analysis and current forecasts do not guarantee future results.

Source: Bank of America Merrill Lynch, Bloomberg, CBOE, Cornerstone Macro, Federal Reserve Bank of St. Louis,, Morningstar, S&P and AB



### Heightened Tail-Risk Potential: Downside Protection May Be Appropriate



Left display through 31 August 2018; right display through 30 September 2018. **Historical analysis does not guarantee future results.** 

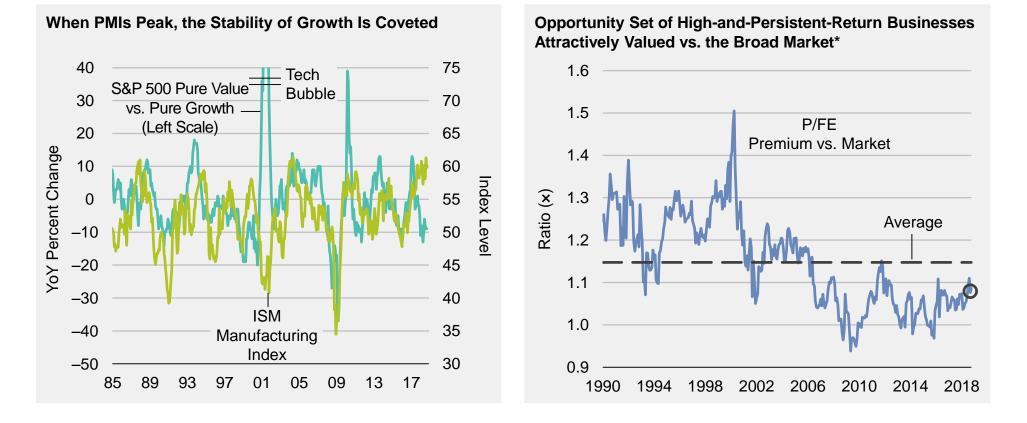
\*William N. Goetzmann, Roger G. Ibbotson and Liang Peng, "A New Historical Database for the NYSE 1815–1925: Performance and Predictability" (Yale School of Management Working Paper No. ICF — 00-13, New Haven, CT, 14 July 2000); Ibbotson Associates, "Appendix A: Monthly Returns on Basic Series (Table A-1: Large Company Stocks—Total Returns)," in *Ibbotson SBBI 2008 Classic Yearbook: Market Results for Stocks, Bonds, Bills and Inflation* 1926–2007( Chicago: Morningstar, 2008) †Drawdown is the peak-to-trough decline during a specific record period of an investment. A drawdown is usually quoted as the percentage between the peak and the trough. Source:

Hedge Fund Research, Ibbotson Associates, S&P, Yale School of Management and AB



### Growth Style Remains Relevant, but Firm-Level Characteristics Matter

Seek Companies with High and Enduring Profitability



CMO 4Q18

| 23

#### Through 30 September 2018

Historical analysis does not guarantee future results. Numbers may not sum due to rounding. Based on AB's persistent-return model.

\*High persistence: top 20% of persistent return model; low persistence: bottom 20% of persistent-return model. Price/forward earnings of highest quintile of persistent-return-model stocks relative to the Russell 1000

Source: Cornerstone Macro, Institute for Supply Management, Russell Investments, S&P and AB



### **Financial Strength: Currently Vital and Attractively Valued**

Seek Companies with Strong Balance Sheets

**US Stocks with High Debt Look Vulnerable to Rising Rates** S&P 500: Debt to Capital



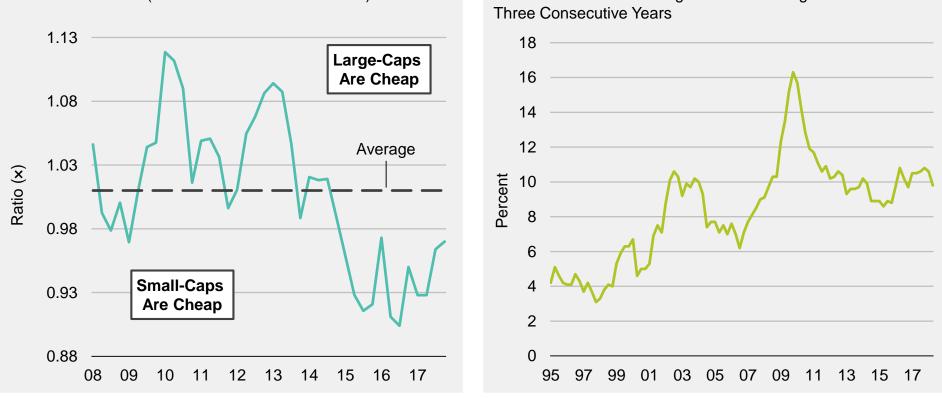
Relative P/B of Low- vs. High-Levered Stocks: Financial Strength on Sale

#### Through 30 September 2018

#### Historical analysis does not guarantee future results.

Average monthly returns of the net debt to equity factor (low leverage to high leverage) index between 1990 and 2017 when bond yields fall or rise by greater than 10 basis points or are unchanged. The US GDP cycle is based on that defined by the National Bureau of Economic Research. The display shows average quarterly returns of the low leverage to high leverage index in five cycles (early, mid, late expansion and early, late recession). The GDP cycle back-test is carried out between 1990 and 2012. Source: Bernstein Research, FactSet, Morningstar Direct, MSCI, National Bureau of Economic Research, S&P, Thomson Reuters Datastream, Thomson Reuters I/B/E/S and AB

### **Opportunities Remain in Small-Caps, but Financial Strength Matters**



"Zombie" Companies: A Material Portion of Small-Caps

Russell 2000 Firms Having Interest-Coverage Ratios <1 for

Smaller-Cap Stocks Are Less Expensive than Larger-Caps Relative Valuations (Russell 2000 vs. Russell 1000)\*

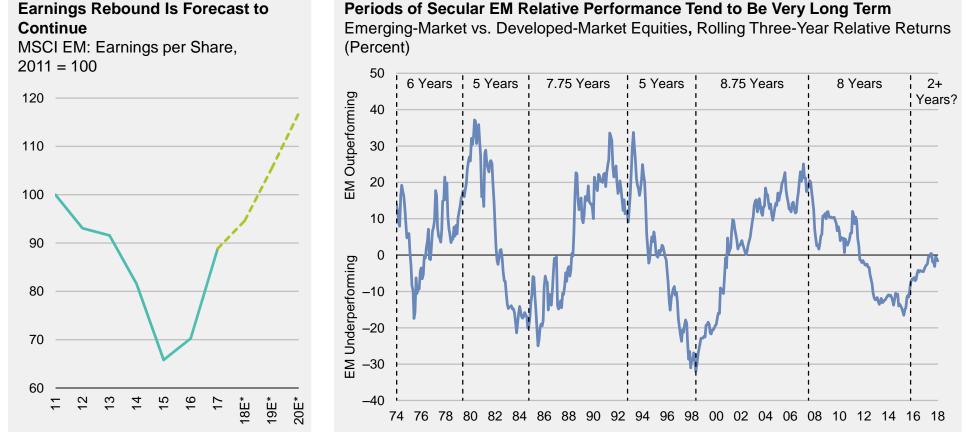
Left display through 30 September 2018; right display through 30 June 2018 Historical analysis does not guarantee future results.

\*Valuation composite is one-third price/forward earnings, one-third price/book and one-third price/sales.

Source: Bloomberg, Cornerstone Macro, FactSet, Russell Investments and AB



### Earnings Growth Remains Supportive of EM Equity Returns



#### As of 30 September 2018

#### Past performance, estimates and current analysis do not guarantee future results.

In USD. Developed-market equities represented by MSCI World. Emerging-markets equities represented by MSCI Emerging Markets from its inception in January 1988 to present. Prior to this date EM equities represented by a 50/50 blend of the MSCI Hong Kong and MSCI Singapore Indices. \*Based on consensus earnings estimates

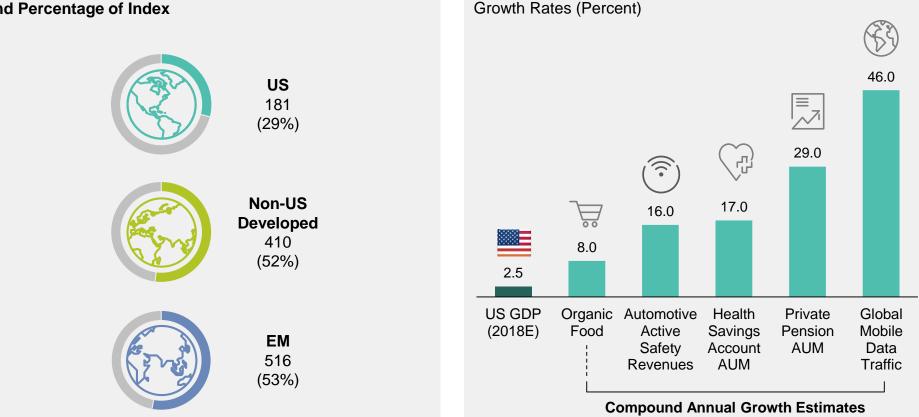
Source: MSCI and AB



### Global Equities: Cast a Wider Net—Not All Industries Influenced by GDP

Growth Isn't Always About the Economy

Number of Stocks with Earnings Yield Higher than 7%, and Percentage of Index



Left display as of 30 September 2018; right display as of 31 December 2017. **Past performance and historical analysis do not guarantee future results.** Historical data for information only. Earnings yield calculated using reciprocal of P/FE (2019). US represented by S&P 500, non-US developed by MSCI EAFE and EM by MSCI Emerging Markets. Individual stocks for which price/forward earnings (2018E) data were not available are excluded from these figures. US GDP estimate from AB economists. Organic food estimate from AB analysts, through 2023. Automotive active safety revenues estimate from Roland Berger, through 2025. Health savings account AUM from Devenir and AB, through 2025. Private pension AUM estimate from Citigroup, OECD and AB, through 2025. Mobile data traffic estimates from Cisco Systems, through 2021. Source: Center for Research in Security Prices, Cisco Systems, Citigroup, Devenir, FactSet, MSCI, OECD, Roland Berger, S&P Compustat and AB

### **A Word About Risk**

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### **Index Definitions**

Following are definitions of the indices referred to in this presentation. It is important to recognize that all indices are unmanaged and do not reflect fees and expenses associated with the active management of a mutual fund portfolio. Investors cannot invest directly in an index, and its performance does not reflect the performance of any AB mutual fund.

- + Bloomberg Barclays Global Aggregate Bond Index: Measure of global investment-grade debt from 24 local-currency markets; includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed- and emerging-market issuers.
- + Bloomberg Barclays Global Aggregate Corporate Bond Index: Tracks the performance of investment-grade corporate bonds publicly issued in the global market and found in the Global Aggregate. (Represents global corporate on slide 2.)
- + Bloomberg Barclays Global High-Yield Bond Index: Provides a broad-based measure of the global high-yield fixed-income markets. It represents the union of the US High-Yield, Pan-European High Yield, US Emerging Markets High-Yield, CMBS High Yield and Pan-European Emerging Markets High-Yield indices.
- + Bloomberg Barclays Global Treasury Index: Tracks fixed-rate local currency government debt of investment grade countries. The index represents the Treasury sector of the Global Aggregate Bond Index.
- + Bloomberg Barclays Global Treasury: Euro Bond Index: Includes fixed-rate, local-currency sovereign debt that makes up the Euro Area Treasury sector of the Global Aggregate Bond Index. (Represents euro-area government bonds on slide 2.)
- + Bloomberg Barclays Global Treasury: Japan Bond Index: Includes fixed-rate, local-currency sovereign debt that makes up the Japanese Treasury sector of the Global Aggregate Bond Index. (Represents Japan government bonds on slide 2.)
- + Bloomberg Barclays US Aggregate Bond Index: A broad-based benchmark that measures the investment-grade, US dollar-denominated, fixed-rate, taxable bond market, including US Treasuries, government-related and corporate securities, mortgage-backed securities (MBS [agency fixed-rate and hybrid ARM pass-throughs]), asset-backed securities (ABS), and commercial mortgage-backed securities (CMBS).
- + Bloomberg Barclays US Corporate High-Yield Bond Index: Represents the corporate component of the Bloomberg Barclays US High-Yield Index. (Represents US high yield on slide 2.)
- + Bloomberg Barclays US Corporate Bond Index: Measures the investment-grade, fixed-rate, taxable corporate bond market and includes USD-denominated securities publicly issued by US and non-US industrial, utility and financial issuers.
- + Bloomberg Barclays US Treasury Index: Includes fixed-rate, local-currency sovereign debt that makes up the US Treasury sector of the Global Aggregate Index. (Represents US government bonds on slide 2.)



### **Index Definitions (continued)**

- + Credit Suisse Leveraged Loan Index: Tracks the investable market of the U.S. dollar denominated leveraged loan market. It consists of issues rated "5B" or lower, meaning that the highest rated issues included in this index are Moody's/S&P ratings of Baa1/BB+ or Ba1/BBB+. All loans are funded term loans with a tenor of at least one year and are made by issuers domiciled in developed countries.
- + HFRI Event Driven Index: Investment managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities. Event Driven exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.
- + HFRI Equity Hedge Index: Investment managers who maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.
- + HFRI Fund Weighted Composite Index: A global, equal-weighted index of more than 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly performance net of all fees in US dollars and have a minimum of \$50 million under management or 12-month track record of active performance.
- HFRI Macro: Investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Although some strategies employ RV techniques, Macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments, rather than realization of a valuation discrepancy between securities. In a similar way, while both Macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposes to EH, in which the fundamental characteristics on the company are the most significant are integral to investment thesis.
- + HFRI Relative Value: Investment Managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. RV position may be involved in corporate transactions also, but as opposed to ED exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.
- J.P. Morgan Corporate Emerging Markets Bond Index: A global, corporate emerging-market benchmark that tracks USD-denominated corporate bonds issued by emergingmarket entities.



### **Index Definitions (continued)**

- + J.P. Morgan Emerging Market Bond Index Global: A benchmark index for measuring the total return performance of government bonds issued by emerging-market countries that are considered sovereign (issued in something other than local currency) and that meet specific liquidity and structural requirements. In order to qualify for index membership, the debt must be more than one year to maturity, have more than \$500 million outstanding, and meet stringent trading guidelines to ensure that pricing inefficiencies don't affect the index. (Represents emerging-market debt on slide 2.)
- + J.P. Morgan Emerging Markets Currency Index: Tracks 10 EM FX spot rates versus the US dollar.
- + J.P. Morgan Government Bond-Emerging Markets Global Diversified Index: A comprehensive global emerging-market index of local government bond debt. To qualify, a country's gross national income (GNI) per capita must be below the GNI per capita level that is adjusted yearly by the growth rate of the world GNI per capita, provided by the World Bank, for three consecutive years.
- + MSCI All Country World Index: A market capitalization weighted index designed to provide a broad measure of equity-market performance throughout the world.
- + MSCI Emerging Markets Index: A free float-adjusted, market capitalization-weighted index designed to measure equity market performance in the global emerging markets. It consists of 21 emerging-market country indices. (Represents emerging markets on slide 2.)
- + MSCI Europe Index: Represents the performance of large and mid-cap equities across 15 developed countries in Europe. (Represents Europe on slide 2.)
- + **MSCI Japan Index**: Designed to measure the performance of the large and mid cap segments of the Japanese market. With 321 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Japan. (Represents Japan on slide 2).
- + MSCI World Index: A market capitalization-weighted index that measures the performance of stock markets in 24 countries. (Represents World on slide 2).
- + Russell 1000 Index: A stock market index that represents the highest-ranking 1,000 stocks in the Russell 3000 Index, representing about 90% of the total market capitalization of that index.
- + Russell 2000 Index: Measures the performance of the small-cap segment of the US equity universe. It is a subset of the Russell 3000 Index, representing approximately 8% of the total market capitalization of that index. It includes approximately 2,000 of the smallest securities based on a combination of their market cap and current index membership.
- + S&P 500 Index: Includes a representative sample of 500 leading companies in leading industries of the US economy. (Represents US on slide 2.)

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