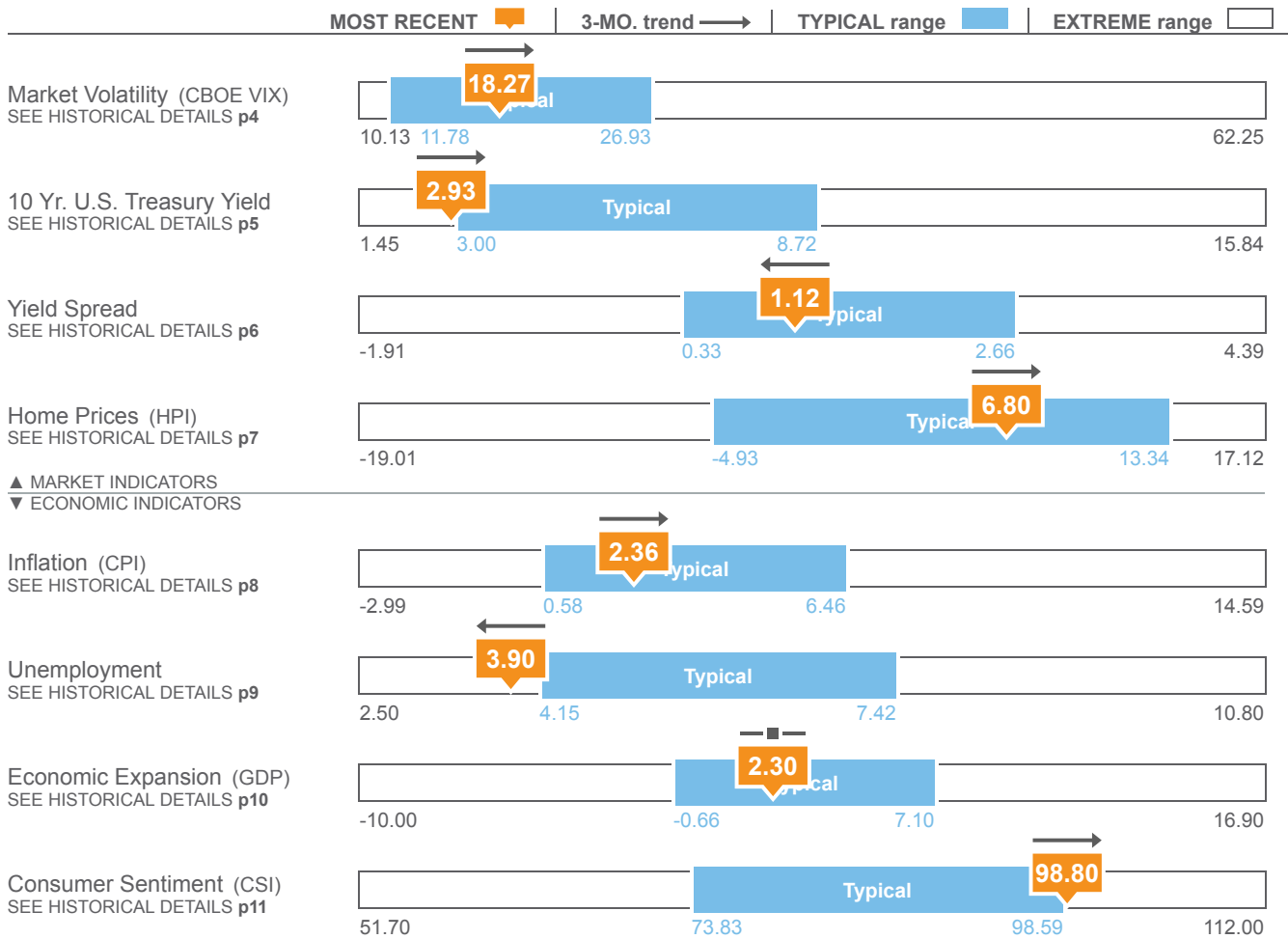


Economic indicators dashboard



This dashboard is intended as a tool to set context and perspective when evaluating the current state of the economy.

FOR EACH INDICATOR, THE HORIZONTAL BAR SHOWS FOUR THINGS.

- **A BLUE COLOR BAND** represents the typical range for this indicator. +/- 1 standard deviation of the historical values for the indicator fall in this range.
- **AN ORANGE MARKER** shows the most recent value – the closer the marker is to the blue bar, the closer it is to historically typical conditions.
- A WHITE AREA** outside of the blue band which shows the range of actual conditions.
- **AN ARROW** shows the most recent three-month trend indicating if it is moving toward or away from the typical range.

Frequently asked questions

What does the dashboard tell me?

- The dashboard offers a snapshot of current U.S. economic and market conditions, based on key economic and market indicators. The dashboard contextualizes the current reading of each indicator by comparing them to their typical, historical ranges of month-end values.

Can I use the dashboard as a forecasting tool?

- No. The dashboard is not meant to serve as a direct prediction regarding the future performance of any economic or financial market. It is not intended to predict or guarantee future investment performance of any sort or serve as a market timing tool. Instead, the dashboard is intended to provide advisors with context and perspective about the current state of the economy.

What defines typical?

- The dashboard definition of "typical range" is +/- 1 standard deviation* away from the mean of all historical month-end values, or 68% of historical values.¹
- The typical ranges are based on historical month-end data. Since each data point reports data at a different time, each typical range is calculated independently using data through the end of the previous month. Revised ranges are usually published during the first quarter of the year, whenever an indicator reports data for a new year, or whenever there are revisions to historical data.

How should I interpret the chart?

- The charts show the relationship between the most recent values and their typical historical range.
- **Blue color band:** represents the typical range (one standard deviation from the mean, i.e. 68% of all historical observations) Indicates more typical behavior for that indicator. If it lies outside, that points to extreme behavior.
- **Arrow:** shows the most recent three-month trend.
- **A grey bar:** shows the full range of historical values for each indicator. The lowest recorded value is shown on the left side of the bar and the highest recorded value on the right side of the bar.
- **Orange marker:** represents the current reading.

Why are these indicators important?

- In order to monitor the current health of the economy and its trend, we believe it's important to keep an eye on both the broad economy as well as key indicators in the market.
- More information about each of these indicators is available by following the "historical details" links on the left side of the dashboard.

How often is the dashboard updated?

- The dashboard shows the most recent month end values for each indicator. It is updated periodically to capture previous month-end or quarter-end values as they become available. Additionally any revisions to the historical data will be captured with each update.
- Each indicator reports month-end data with the exception of GDP, which is reported quarterly.
- While some of the indicators may be measured daily, we choose to include only the monthly/quarterly numbers, as they are better indicators of the overall economic trend.
- With each update revisions to the historical data may occur.

How can I use the dashboard to talk to my clients?

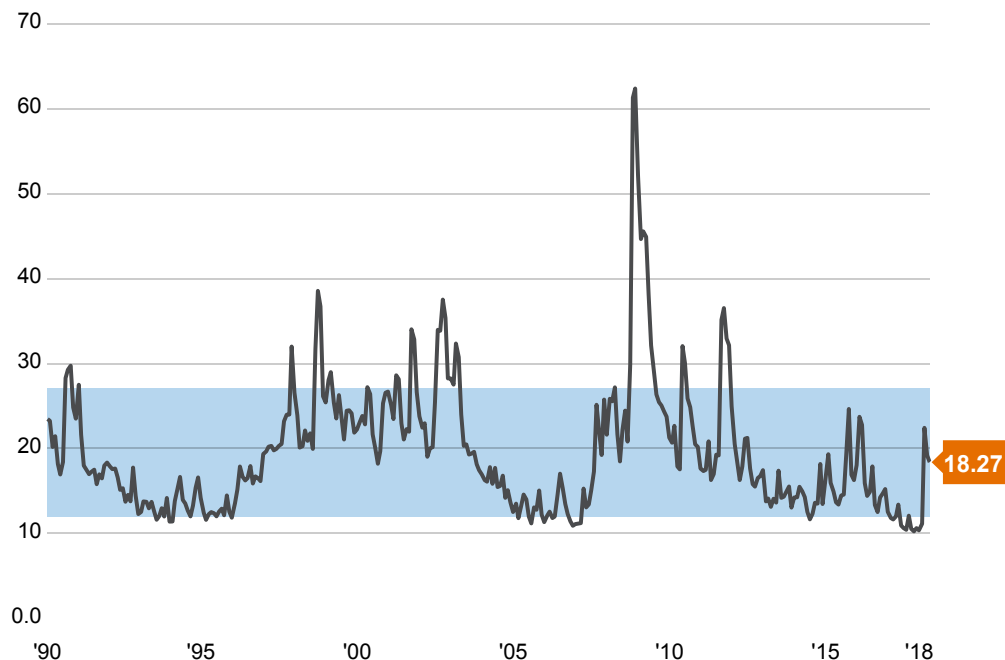
- You can use the dashboard to show your clients how the current market and economy, based on these indicators, compare to historically typical conditions and to show them which direction the market and economy seem to be moving.

Market Volatility (CBOE VIX)

MARKET INDICATOR

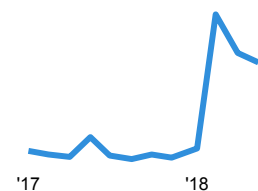
MONTHLY VALUES (%): JANUARY '90 - APRIL '18

■ CURRENT
 ■ +/- 1 STANDARD DEVIATION OF CBOE S&P 500 VOLATILITY INDEX
 FIGURES FALL INTO THIS RANGE.



Data represents historical month end values

12 MONTH TREND



M	J	J	A	S	O	N	D	J	F	M	A
MAY '17	10.82										
JUN '17	10.51										
JUL '17	10.31										
AUG '17	11.98										
SEPT '17	10.42										
OCT '17	10.13										
NOV '17	10.51										
DEC '17	10.25										
JAN '18	11.02										
FEB '18	22.31										
MAR '18	19.07										
APR '18	18.27										

What is it?

- The Chicago Board Options Exchange Volatility Index (CBOE VIX) measures annualized implied volatility conveyed by S&P 500 stock index option prices. The indicator value reflects a month end reading of the trailing daily average for the month.

Why is it important?

- Considered a key measure of market expectations of near-term volatility.

How do we interpret it?

- An increasing VIX represents an increase in investor uncertainty about the near-term direction of the market. A decreasing VIX suggests the opposite.

Typical historical range

- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **11.78% to 26.93%**.¹

10 Yr. U.S. Treasury Yield

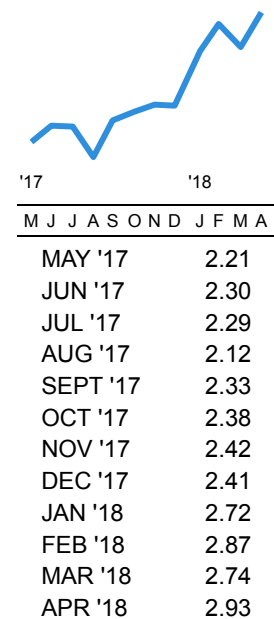
MARKET INDICATOR

MONTHLY VALUES (%): MAY '53 - APRIL '18

CURRENT +/- 1 STANDARD DEVIATION OF US GOVERNMENT 10 YEAR U.S. TREASURY YIELD FIGURES FALL INTO THIS RANGE.



12 MONTH TREND



Data represents historical month end values

What is it?

- The average interest rate on the 10 year U.S. Treasury note issued by the U.S. Government.

Why is it important?

- It is important because it is seen as a benchmark for interest rate movements and borrowing costs in the economy.

How do we interpret it?

- Rising value levels indicate increasing interest rates. Decreasing value levels indicate the opposite.

Typical historical range

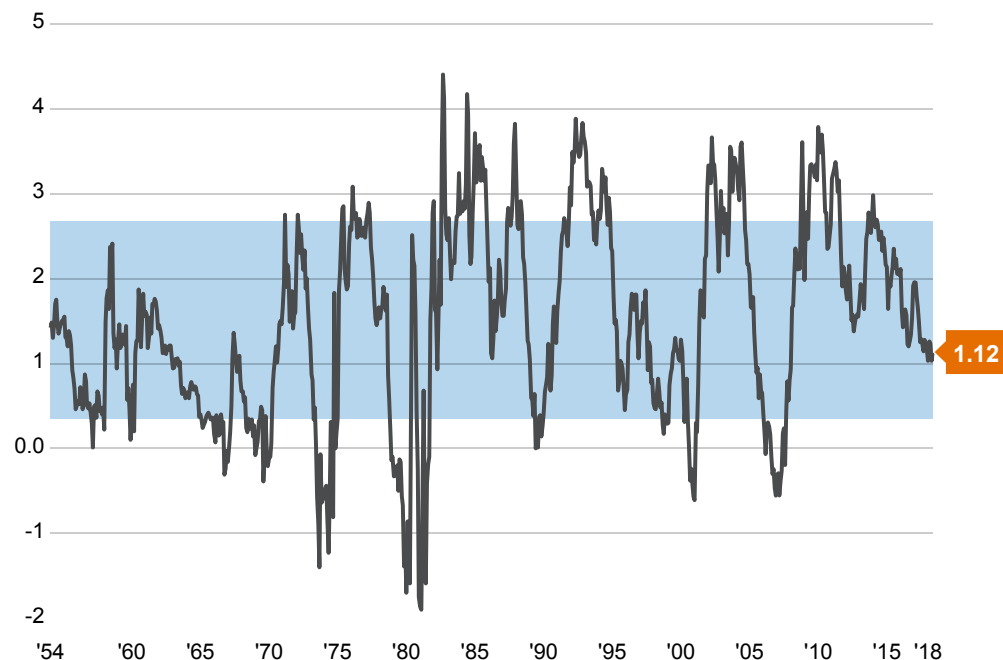
- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **3.00% to 8.72%**.¹

Yield Spread

MARKET INDICATOR

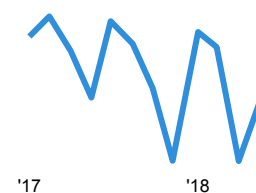
MONTHLY VALUES (%): JANUARY '54 - APRIL '18

■ CURRENT
 ■ +/- 1 STANDARD DEVIATION OF US GOVERNMENT YIELD SPREAD (10 YR. - 3 MO.) FIGURES FALL INTO THIS RANGE.



Data represents historical month end values

12 MONTH TREND



	'17	'18
	M	J
MAY '17	1.24	
JUN '17	1.28	
JUL '17	1.21	
AUG '17	1.13	
SEPT '17	1.27	
OCT '17	1.23	
NOV '17	1.15	
DEC '17	1.02	
JAN '18		1.25
FEB '18		1.22
MAR '18		1.02
APR '18		1.12

What is it?

- The spread between the yields of the 10 Year US Treasury Note and the 3 Month US Treasury Bill.

Why is it important?

- The spread measures the market's outlook for future interest rates.

How do we interpret it?

- An increase in the yield spread generally indicates that investors expect interest rates to increase. A decrease in the spread usually means the opposite.

Typical historical range

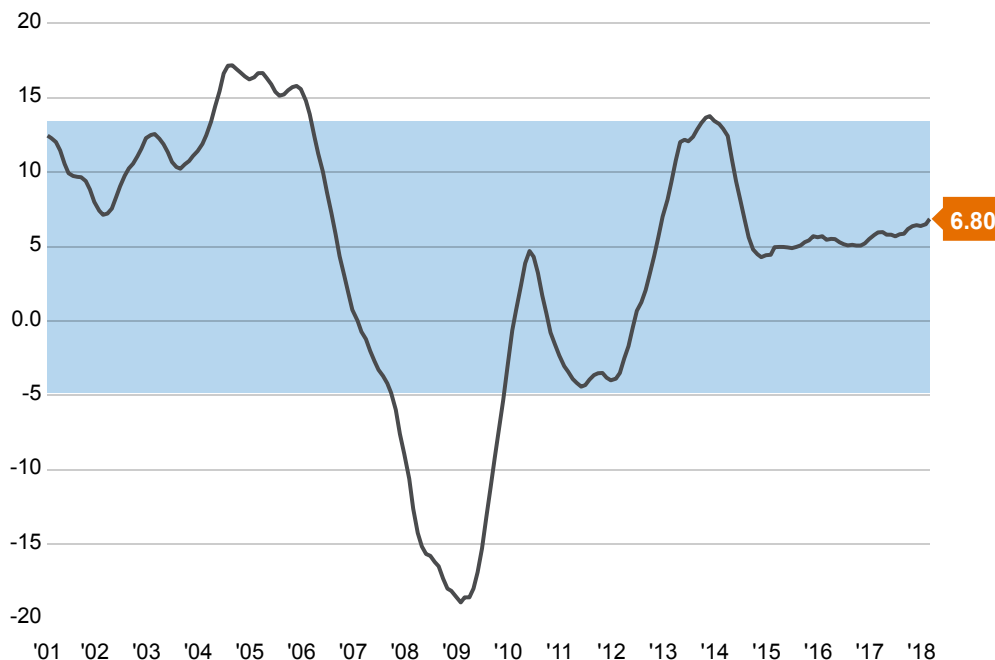
- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **0.33%** to **2.66%**.¹

Home Prices (HPI)

MARKET INDICATOR

MONTHLY VALUES (%): JANUARY '01 - FEBRUARY '18

■ CURRENT
 ■ +/- 1 STANDARD DEVIATION OF S&P/CASE-SHILLER COMPOSITE-20 CITY HOME PRICE INDEX YOY % CHANGE FIGURES FALL INTO THIS RANGE.



12 MONTH TREND



	'17	'18
	MA	M J J A S O N D J F
MAR '17	5.90	
APR '17	5.73	
MAY '17	5.73	
JUN '17	5.62	
JUL '17	5.76	
AUG '17	5.79	
SEPT '17	6.11	
OCT '17	6.30	
NOV '17	6.37	
DEC '17	6.31	
JAN '18	6.43	
FEB '18	6.80	

Data represents historical month end values

What is it?

- The S&P/Case-Shiller Home Price Index is a measurement of U.S. residential real estate prices, tracking changes in top 20 metropolitan regions. This indicator value represents the trailing year over year % change in the home prices index as of last month-end.

Why is it important?

- Residential real estate represents a large portion of the US economy and the Home Price index helps us monitor the value of real estate.

How do we interpret it?

- Rising value levels indicate an improving economy and increased homeowner wealth. Declines in the value usually indicate the opposite.

Typical historical range

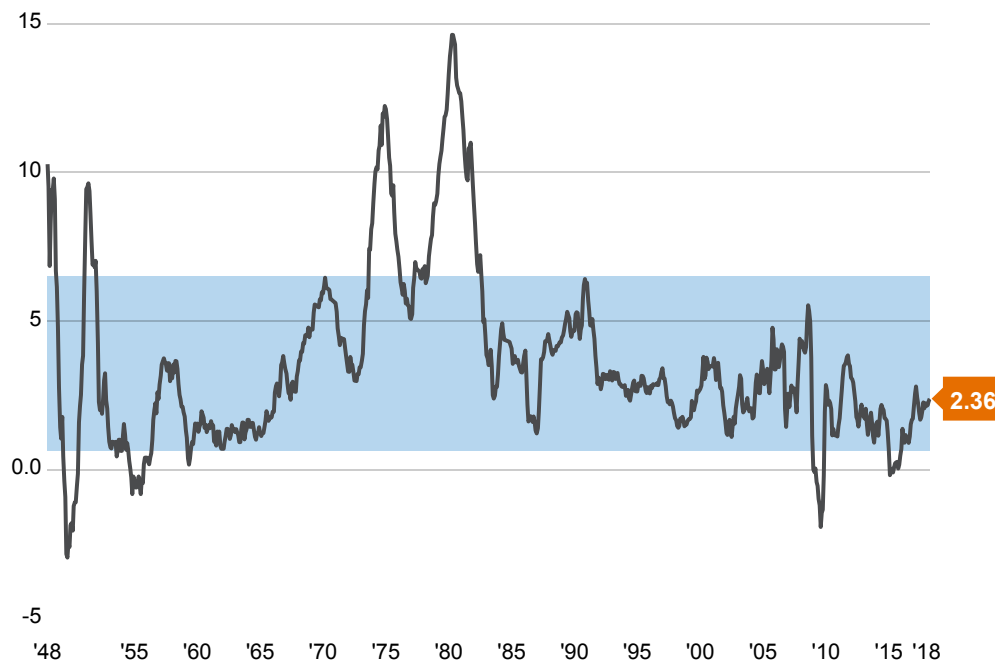
- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **-4.93% to +13.34%**.¹

Inflation (CPI)

ECONOMIC INDICATOR

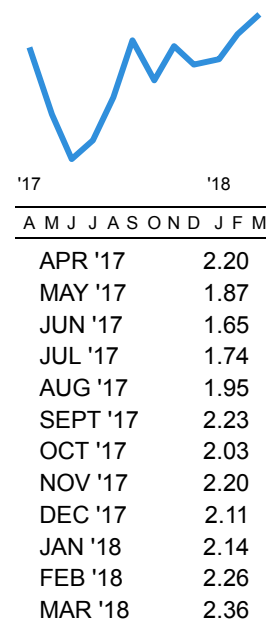
MONTHLY VALUES (%): JANUARY '48 - MARCH '18

■ CURRENT
 ■ +/- 1 STANDARD DEVIATION OF US CONSUMER PRICE INDEX YOY
 % CHANGE FIGURES FALL INTO THIS RANGE.



Data represents historical month end values

12 MONTH TREND



What is it?

- The Consumer Price Index (CPI) SA (Seasonally Adjusted) measures changes in the price level of a market basket of consumer goods and services purchased by households. This indicator value represents the trailing year over year % change in the CPI index as of last month-end.

Why is it important?

- CPI measures inflation in the US Economy which can decrease the purchasing power of a consumer and decrease the demand for goods and services.

How do we interpret it?

- Rising value levels indicate increasing inflation. Decreasing value levels indicate the opposite.

Typical historical range

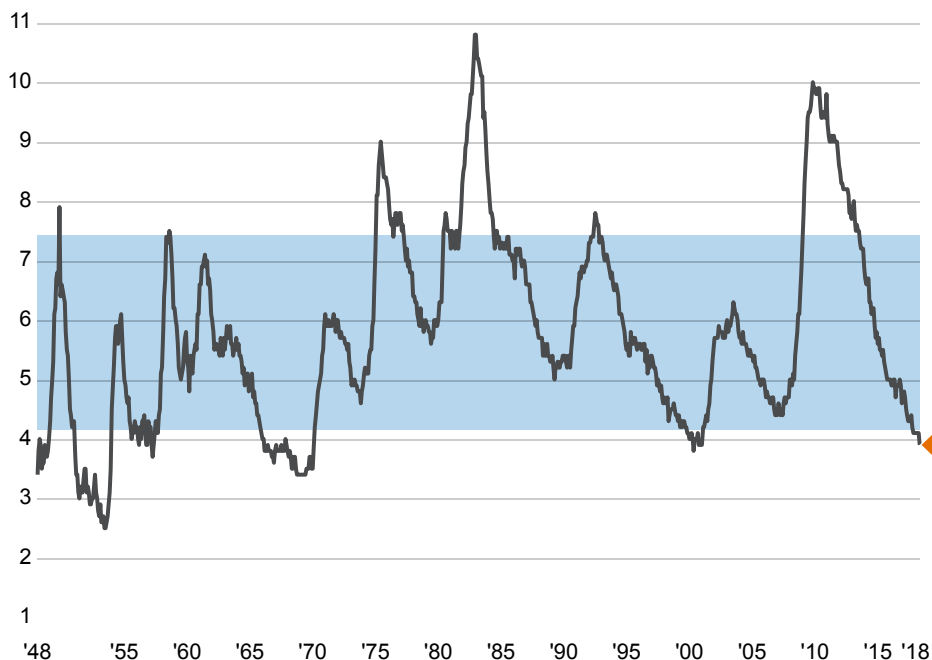
- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **0.58%** to **6.46%**.¹

Unemployment

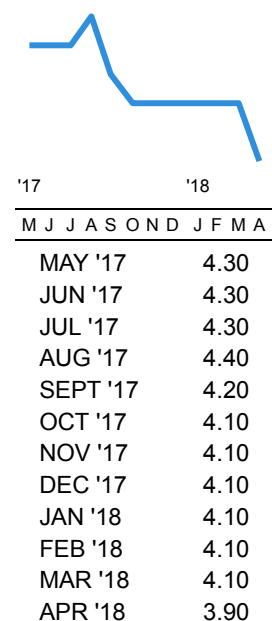
ECONOMIC INDICATOR

MONTHLY VALUES (%): JANUARY '48 - APRIL '18

■ CURRENT
 ■ +/- 1 STANDARD DEVIATION OF US UNEMPLOYMENT RATE - SEASONALLY ADJUSTED FIGURES FALL INTO THIS RANGE.



12 MONTH TREND



Data represents historical month end values

What is it?

- The Bureau of Labor Statistics measures employment and unemployment of all persons over the age of 15 using two different labor force surveys conducted by the United States Census Bureau (within the United States Department of Commerce) and the Bureau of Labor Statistics (within the United States Department of Labor) that gather employment statistics monthly. **The data reported here is seasonally adjusted (SA) to account for seasonal gains in employment leading up to Christmas.**

Why is it important?

- Employment reflects the health of the businesses in the economy. Businesses in a strong economy hire to meet demand for their goods or services which rise with improved economic conditions.

How do we interpret it?

- Rising value levels indicate increasing unemployment. Decreasing value levels indicate the opposite.

Typical historical range

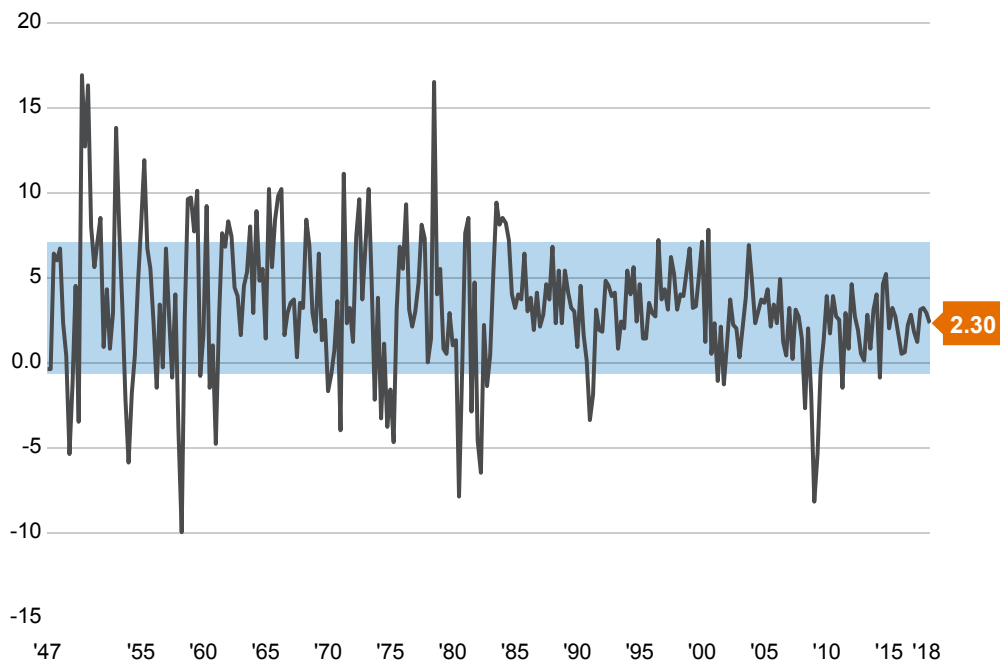
- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **4.15% to 7.42%**.¹

Economic Expansion (GDP)

ECONOMIC INDICATOR

QUARTERLY VALUES (%): JUNE '47 - MARCH '18

■ CURRENT
 ■ +/- 1 STANDARD DEVIATION OF GDP US CHAINED 2009 DOLLARS QUARTER OVER QUARTER % CHANGE FIGURES FALL INTO THIS RANGE.



QUARTERLY TREND

'17			
Q2	Q3	Q4	Q1
Q2 '17			3.10
Q3 '17			3.20
Q4 '17			2.90
Q1 '18			2.30

Data represents historical month end values

What is it?

- Gross Domestic Product (GDP) seasonally adjusted measures the total market value of the United States' output of goods and services during a specific time period. It is measured on a quarterly basis. This indicator value represents the trailing quarter over quarter % change as of last month-end.

Why is it important?

- GDP is considered a measure of a country's economic health.

How do we interpret it?

- Rising indicator levels indicate increasing GDP. Decreasing indicator levels indicate the opposite.

Typical historical range

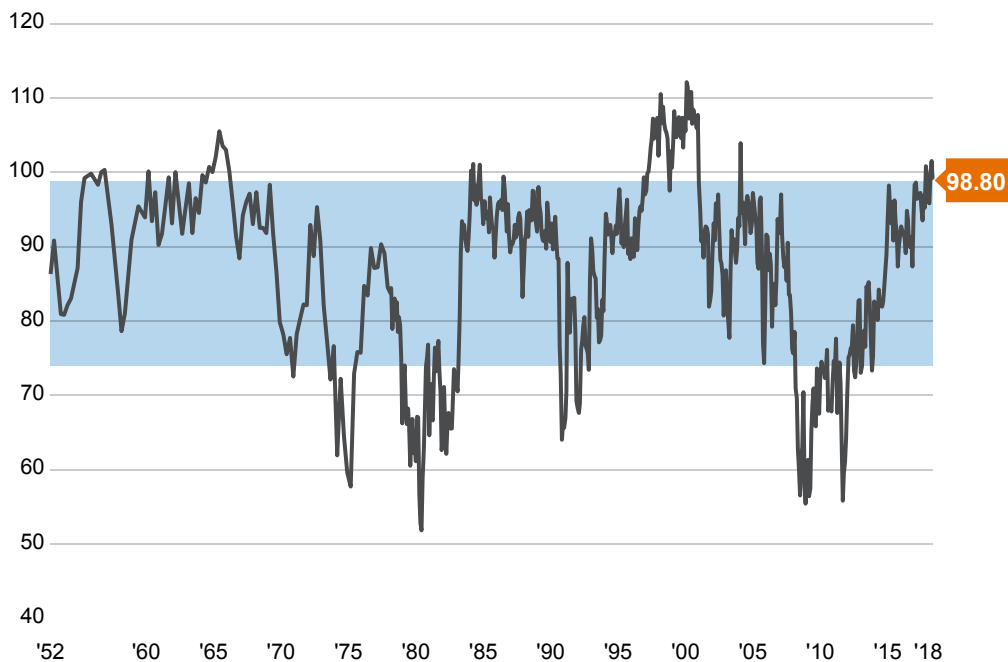
- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **-0.66% to +7.10%**.¹

Consumer Sentiment (CSI)

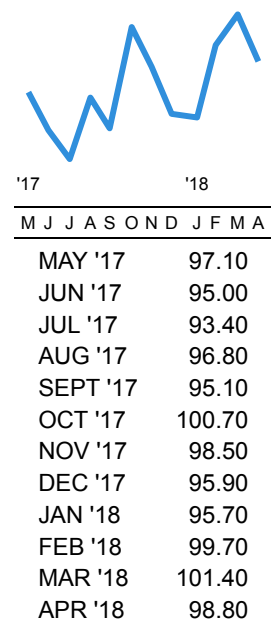
ECONOMIC INDICATOR

MONTHLY VALUES (%): NOVEMBER '52 - APRIL '18

■ CURRENT
 ■ +/- 1 STANDARD DEVIATION OF UNIVERSITY OF MICHIGAN SURVEY OF CONSUMER SENTIMENT FIGURES FALL INTO THIS RANGE.



12 MONTH TREND



Data represents historical month end values

What is it?

- The University of Michigan Survey of Consumer Sentiment Index is an economic indicator which measures the degree of optimism that consumers feel about the overall state of the economy and their personal financial situation.

Why is it important?

- How confident people feel about stability of their incomes affect their economic decisions, such as spending activity, and therefore serves as one of the key indicators for the overall shape of the economy.

How do we interpret it?

- Rising value levels indicate improving consumer confidence. Decreasing value levels indicate the opposite.

Typical historical range

- As of December 2017, +/- 1 standard deviation* of historical month-end values have ranged from **73.83% to 98.59%**.¹

* Standard Deviation is a statistical measure that reflects the degree to which an individual value in distribution tends to vary from the mean of the distribution. Standard Deviation is a useful tool in measuring the historical typical range as 1 Standard Deviation includes approximately 68% of the historical values in a normal distribution. Using this measurement allows us to exclude the more extreme values which would not be as probable to see from the indicator.

¹ Note that this a new typical range methodology. Prior to June 2014 it was shown as 90% of the historical values.

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