



# INVESTING ON THE RIGHT SIDE OF CHANGE

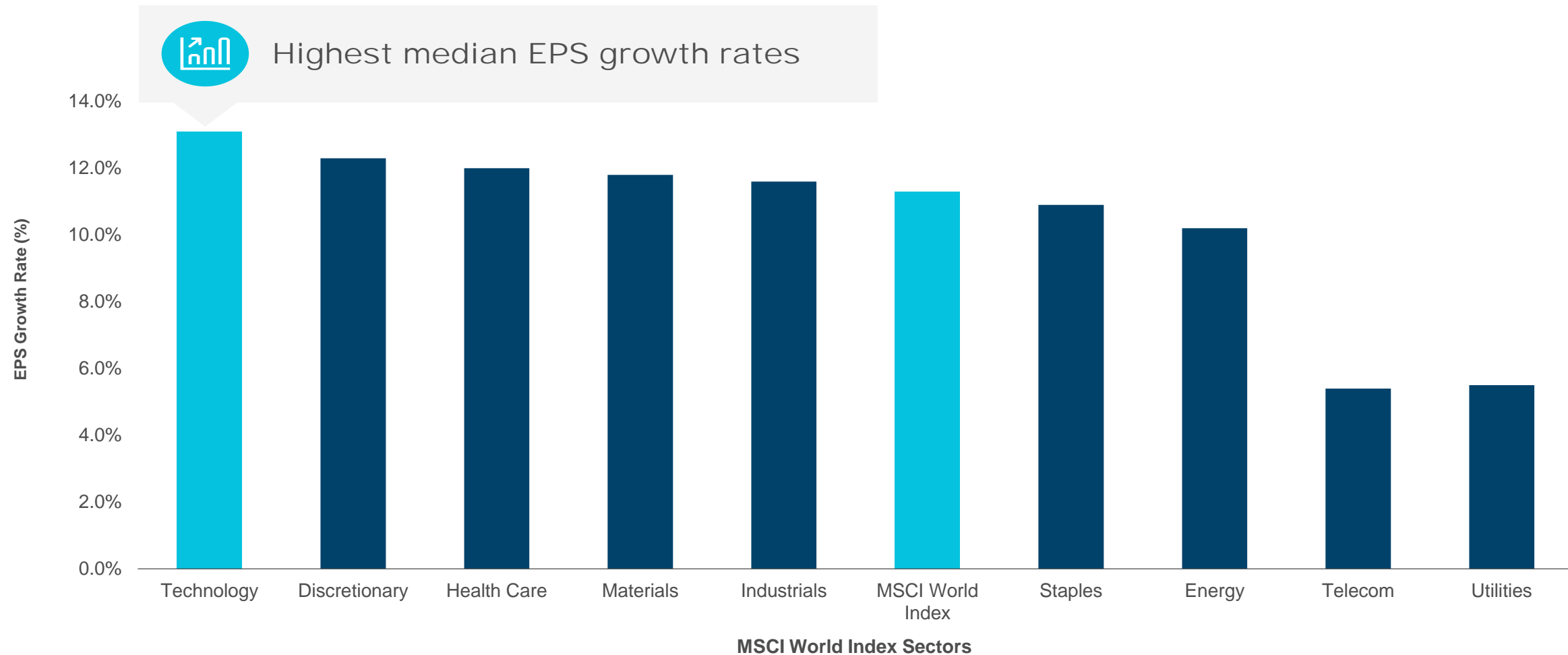
Chris Dillon, Fixed Income Portfolio Specialist  
Jennifer O'Hara Martin, Equity Portfolio Specialist  
Steven Norwitz, Investment Content Editorial

August 10, 2017

# Amid a Sluggish Global Economy, Tech Can Still Drive Its Own Profit Growth

## MSCI ACWI PROFITS

MSCI ACWI Sector Forward EPS 2-Year Compound Annual Growth Rate Median Growth Since 2002  
June 30, 2002 through 31 Dec 2016



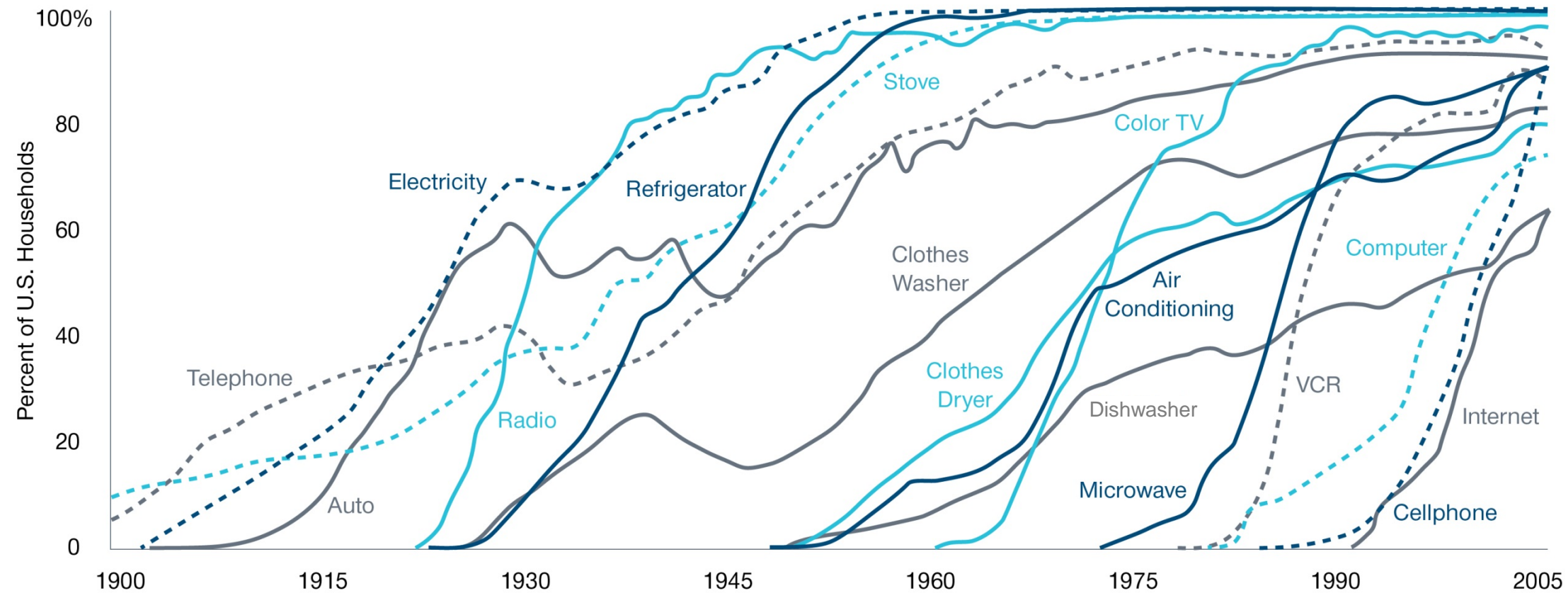
**Past performance cannot guarantee future results.**

Analysis by T. Rowe Price Associates.

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# Golden Age of Innovation and Global Adoption

## CONSUMPTION SPREADS FASTER TODAY

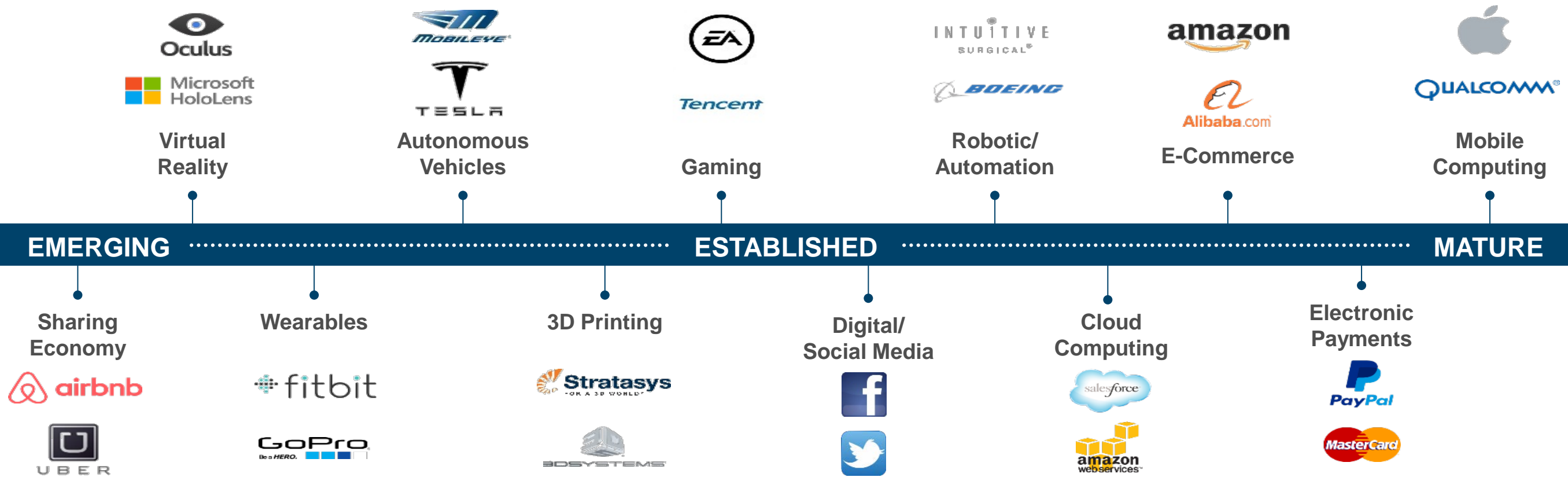


**Change is accelerating** due to tremendous amount of innovation led by technology.

Sources: Michael Felton, The New York Times, and HBR.org.

# The Impact of Innovation on Incumbents

SOME OF THE CHANGES INVESTORS BENEFITED FROM INCLUDE:



**Innovation** can disrupt an existing industry or create a new industry.

Sources: FactSet. Data analysis by T. Rowe Price as of December 31, 2016.

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# Looking for Companies on the Right Side of Change



Unique and transformative invention



Total addressable market



Great business model



Visionary founder and capable CEO



Related and valuable call options

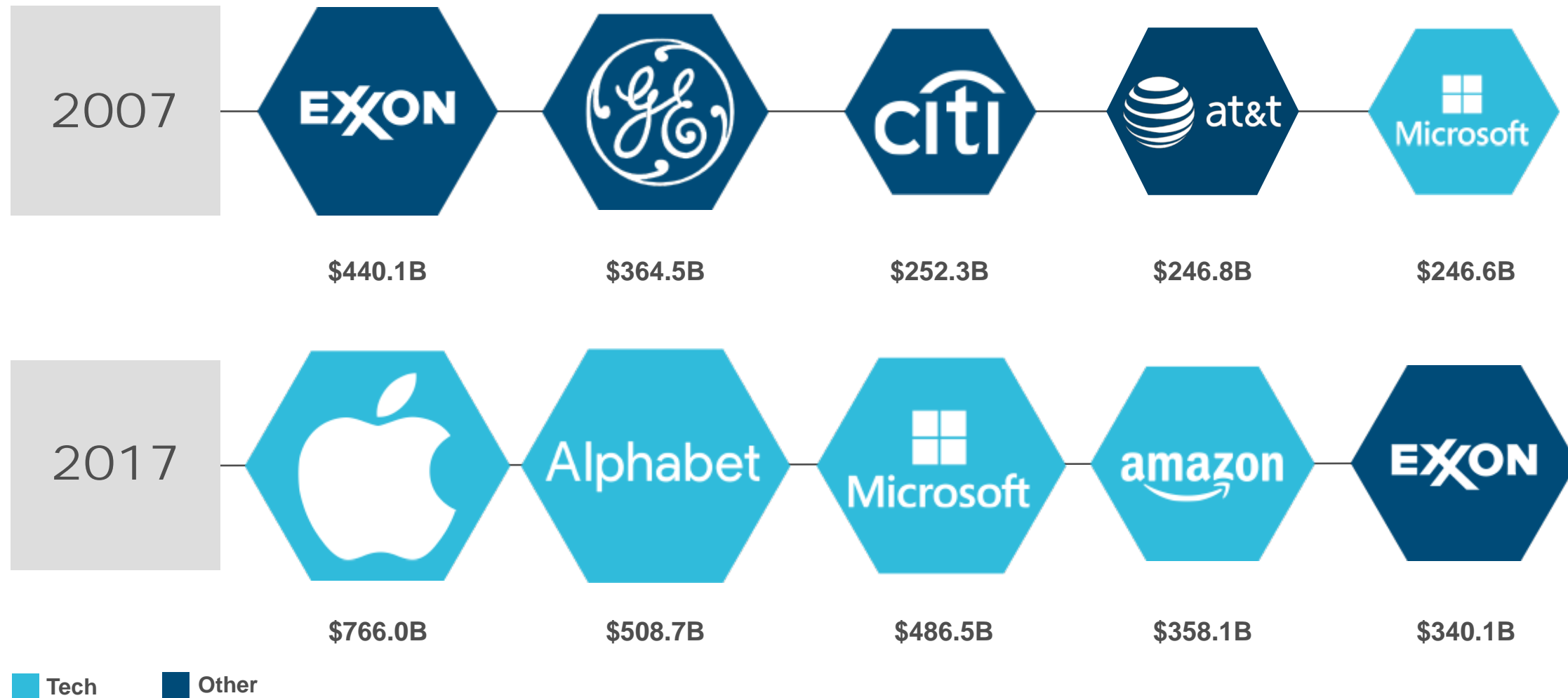


Reasonable valuation

# Technology Is the Largest Industry in the World

As of March 31, 2017

## TOP FIVE PUBLICLY TRADED COMPANIES (BY MARKET CAP)



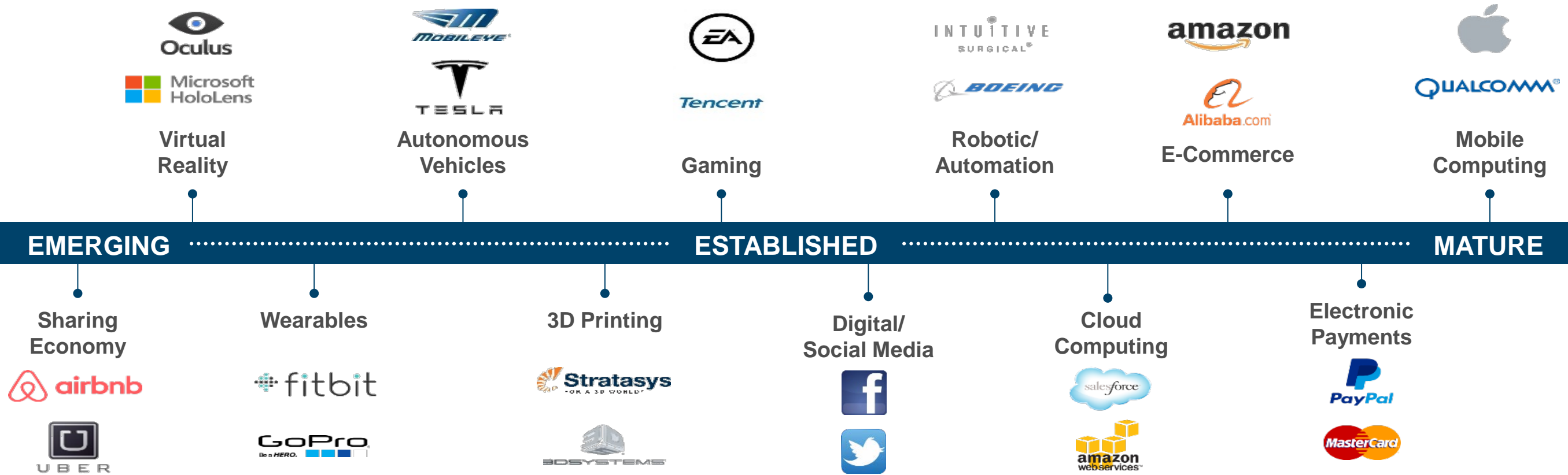
Source: FactSet.

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# DISRUPTION IN GAMING



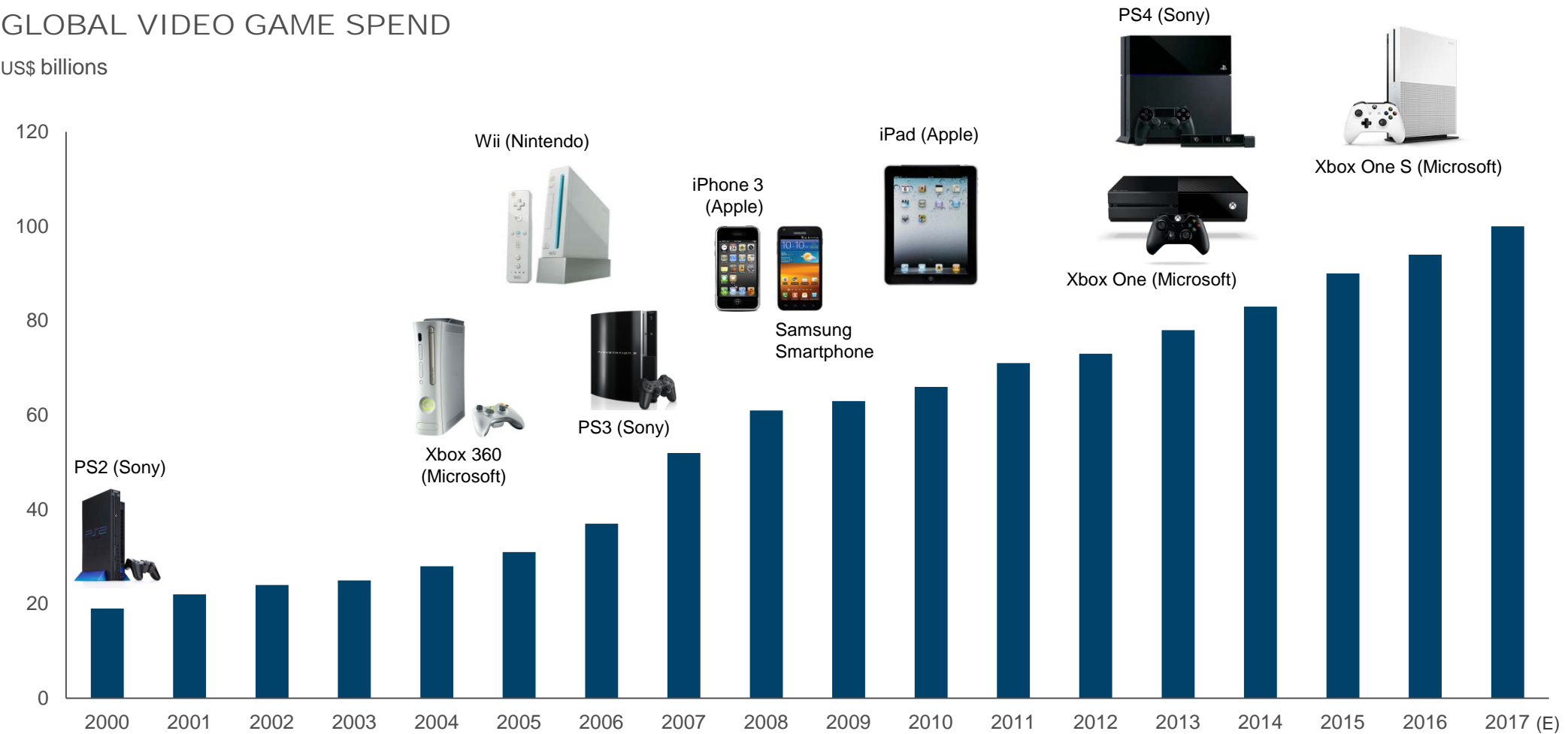


# Transformation of Gaming

As of December 31, 2016

## GLOBAL VIDEO GAME SPEND

US\$ billions



The video game industry has expanded every year, and the smartphone has been a key accelerator—**gaming is now a mainstream form of entertainment.**

Source: EA investor presentation.

# What's Next? Competitive Gaming

The graphic displays four EA Sports Madden 17 tournament banners arranged in a row against a dark blue background with a string of lights. Each banner features the EA Sports logo at the top, the Madden 17 logo in the middle, and the tournament name at the bottom. Below each banner is the text 'Finals' followed by the month and year.

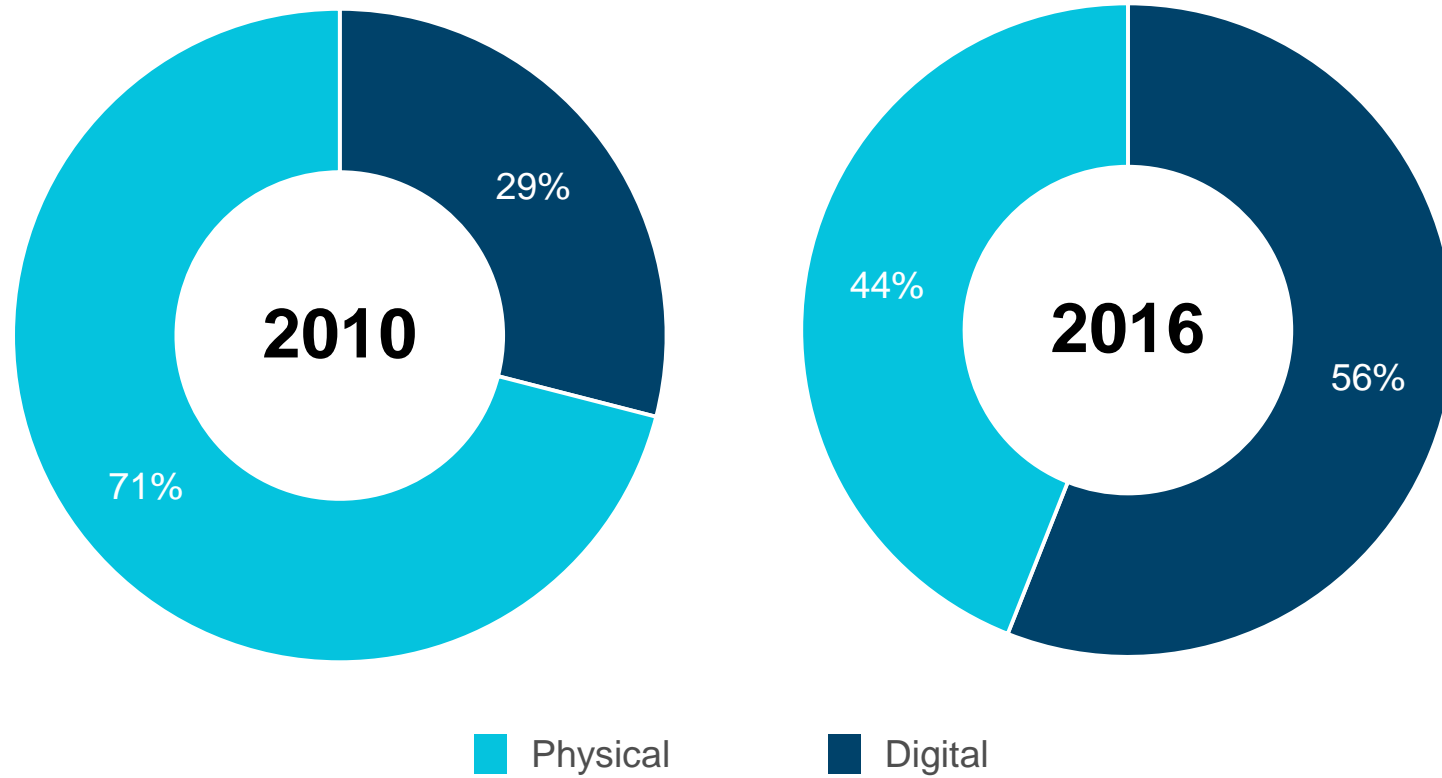
Tournament Name	Finals Date
CLASSIC EA MAJOR SERIES	Finals DEC 2016
BOWL EA MAJOR SERIES PRESENTED BY McDonald's	Finals FEB 2017
CHALLENGE EA MAJOR SERIES	Finals APR 2017
CHAMPIONSHIP EA MAJOR SERIES	Finals MAY 2017

eSports provides another avenue for EA to tap in to its ecosystem to drive value.

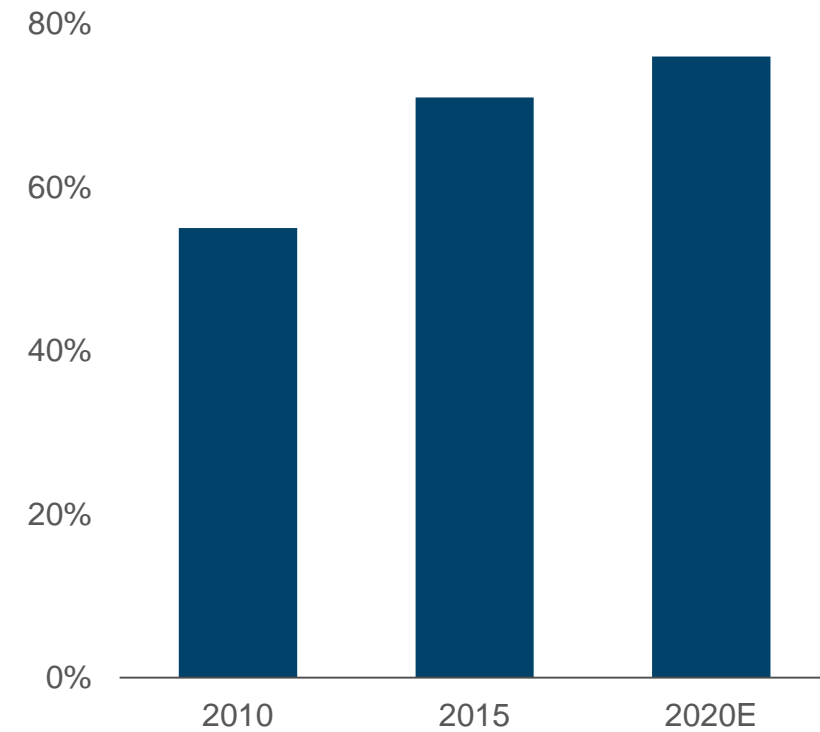
Source: EA website.

# Digital Opportunity

As of December 31, 2016



EA GROSS MARGIN



**Game monetization is no longer a one-time transaction.** The transition to digital downloads results in greater economics to game publishers.

Source: EA investor presentation. Data analysis by T. Rowe Price.

# Electronic Arts

HD



Mobile



PC Free to Play



Electronic Arts is a durable gaming company based on its broad title portfolio, licensed IP, and defensible sports titles.

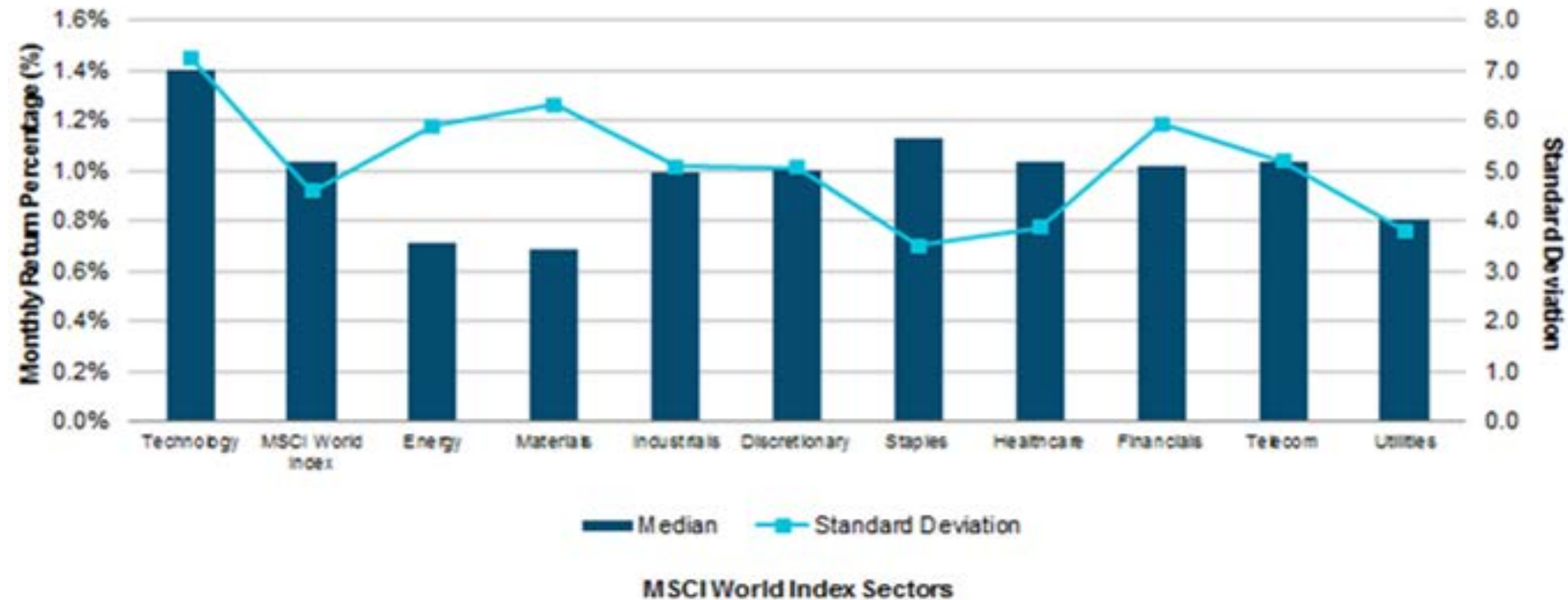
Source: EA investor presentation.

# Why Should a Portfolio Want Exposure to Technology?

January 31, 1995 through June 30, 2016

RETURNS AND VOLATILITY

Median Return Over the Past 20 Years



Over the past 20 years, technology had the **highest median returns** and **volatility**, which we believe provides opportunity for active management.

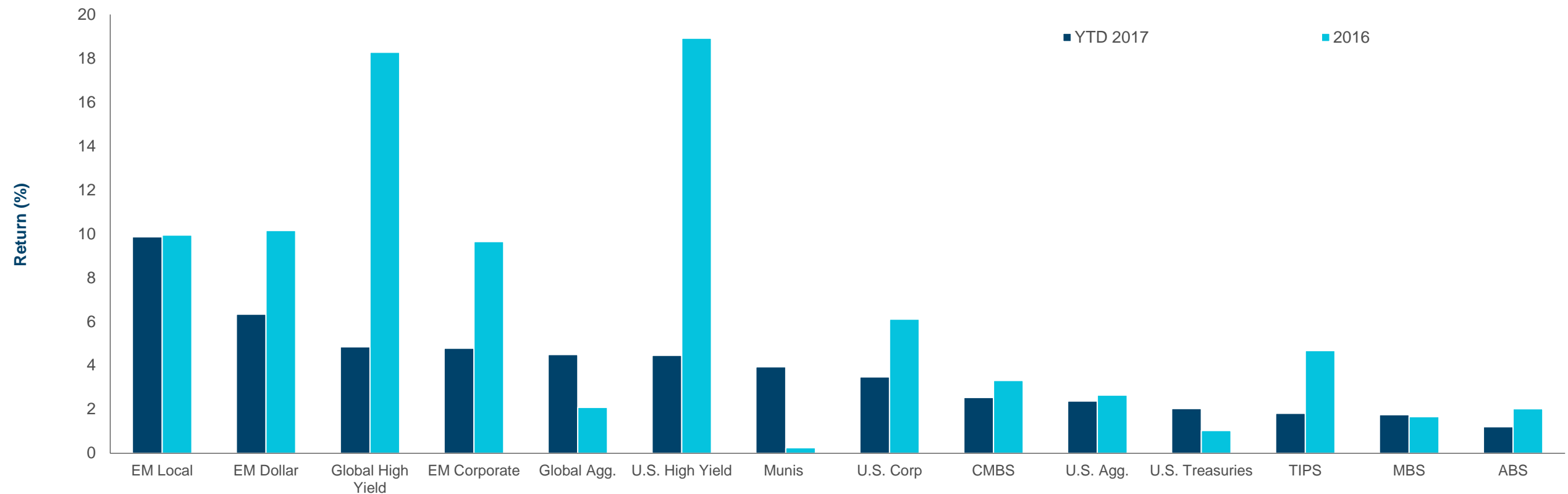
Past performance cannot guarantee future results.

Source: T. Rowe Price.

# A weaker U.S. dollar, the search for yield, and “recovery” for munis have dominated YTD global fixed income returns

As of May 31, 2017

## TOTAL RETURNS BY SECTOR



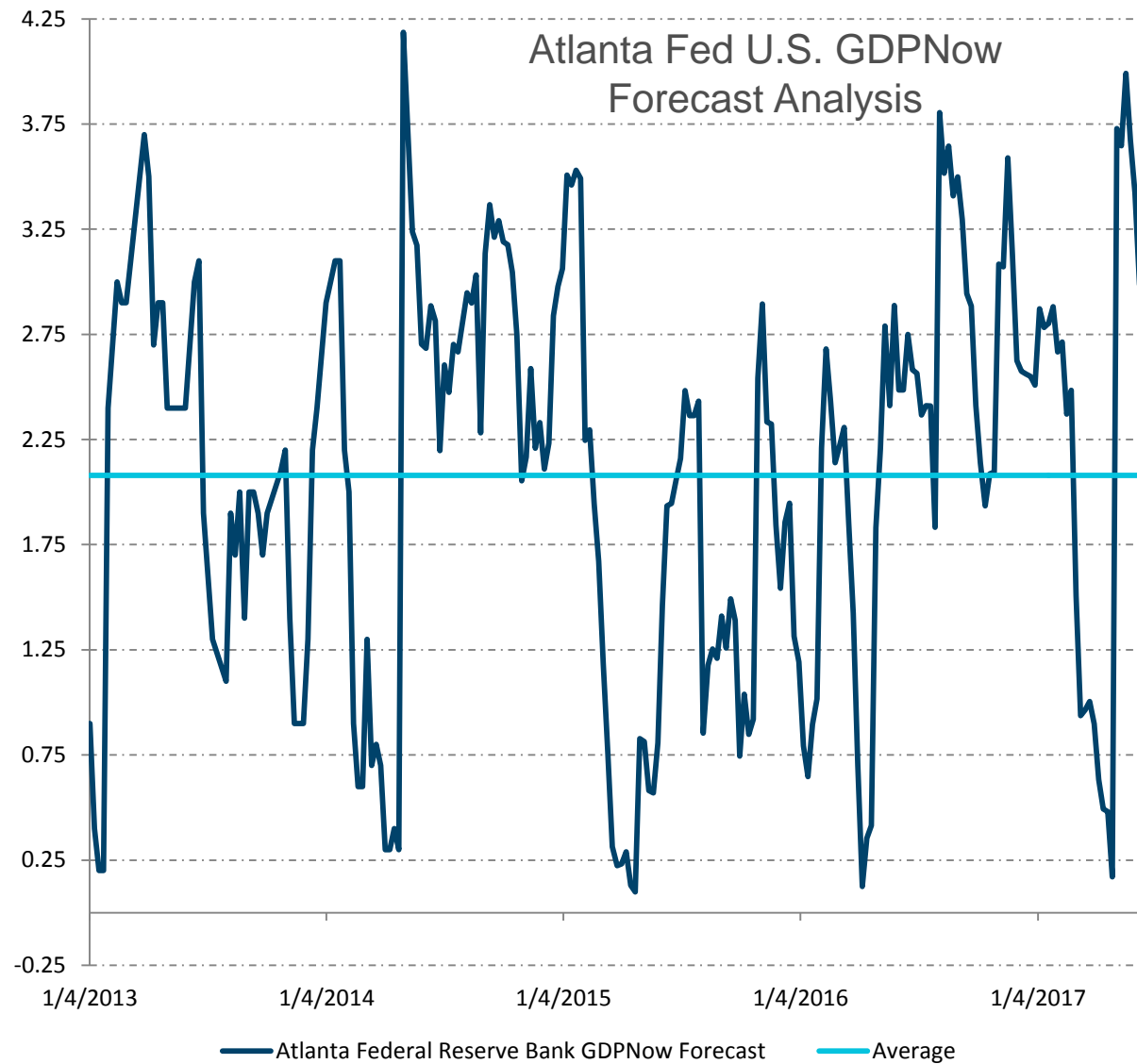
**Past performance cannot guarantee future results.**

Indexes Used: EM Local = JP Morgan Emerging Markets Bond Index Global, EM Dollar = JP Morgan EMBI Global Index, EM Corporate = JP Morgan CEMBI Broad Diversified Index, Global High Yield = Barclays Global High Yield Index, U.S. High Yield = Barclays U.S. High Yield Index, Global Agg. = Barclays Global Aggregate Bond Index, U.S. Agg. = Barclays U.S. Aggregate Bond Index, U.S. Corp = Barclays U.S. Investment Grade Corporate Bond Index, CMBS = Barclays CMBS ERISA-Eligible Index, U.S. Treasuries = Barclays U.S. Treasury, ABS = Barclays Asset Backed Securities Index, MBS = Barclays Mortgage-Backed Securities Index, Municipals = Barclays Municipal Bond Index, TIPS = U.S. Treasury TIPS (1-5 Year) Index.

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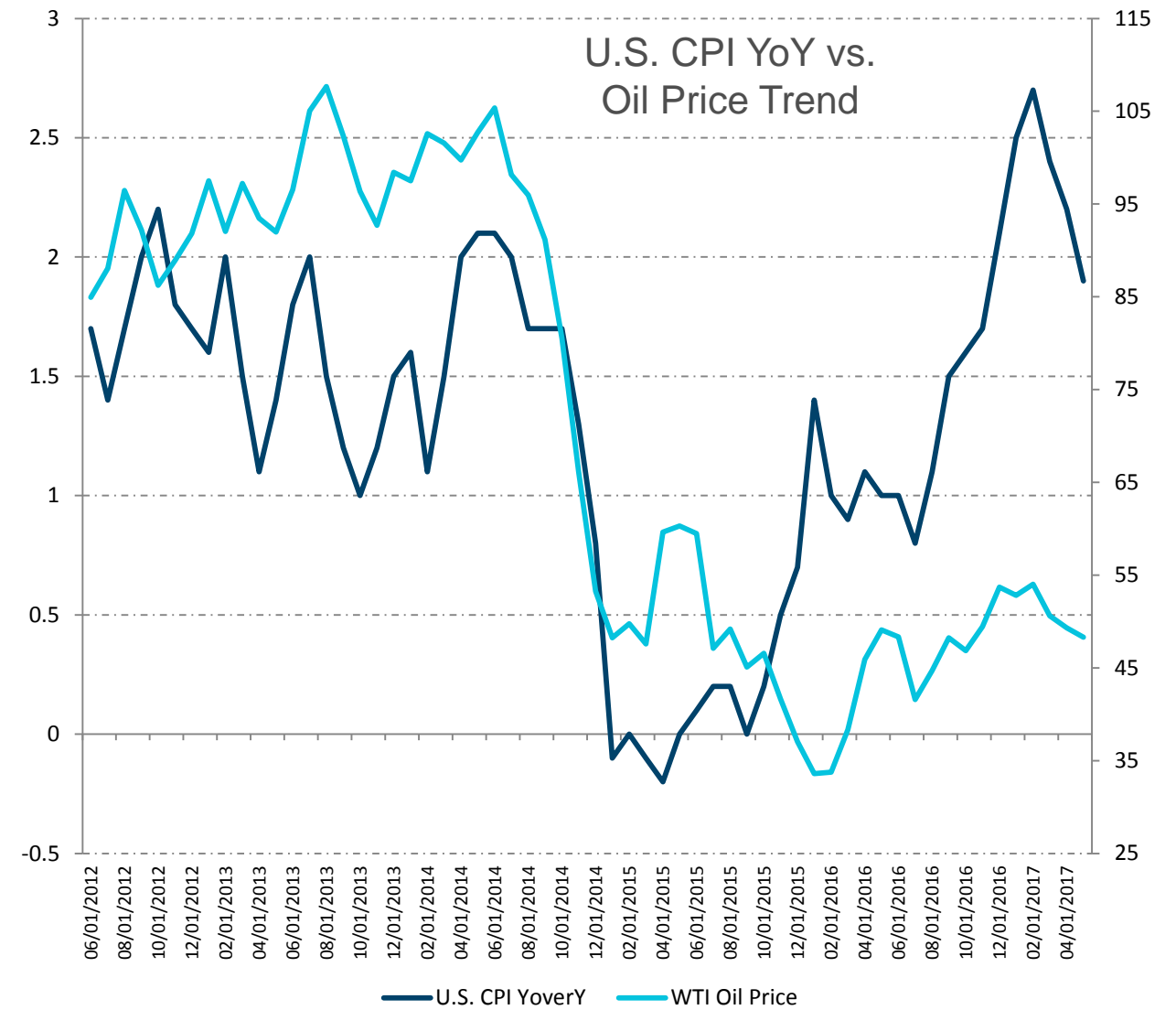
# With heavy seasonal variation, the U.S. economy is still growing at around 2%, while lower oil prices have helped drive CPI lower for now

As of June 16, 2017



Source: Bloomberg and T. Rowe Price.

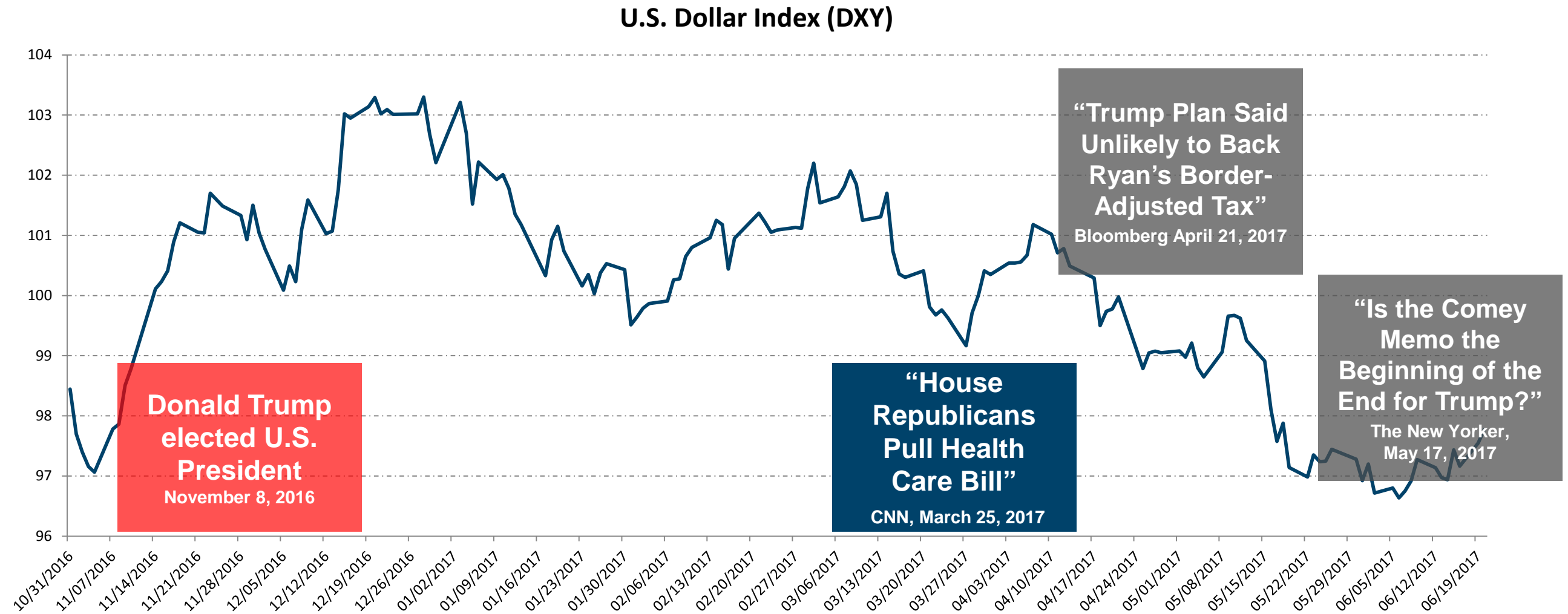
As of May 31, 2017



Source: Bloomberg and T. Rowe Price.

# Meanwhile, the “Trump Trade” has largely been reversed during 2017

As of June 20, 2017

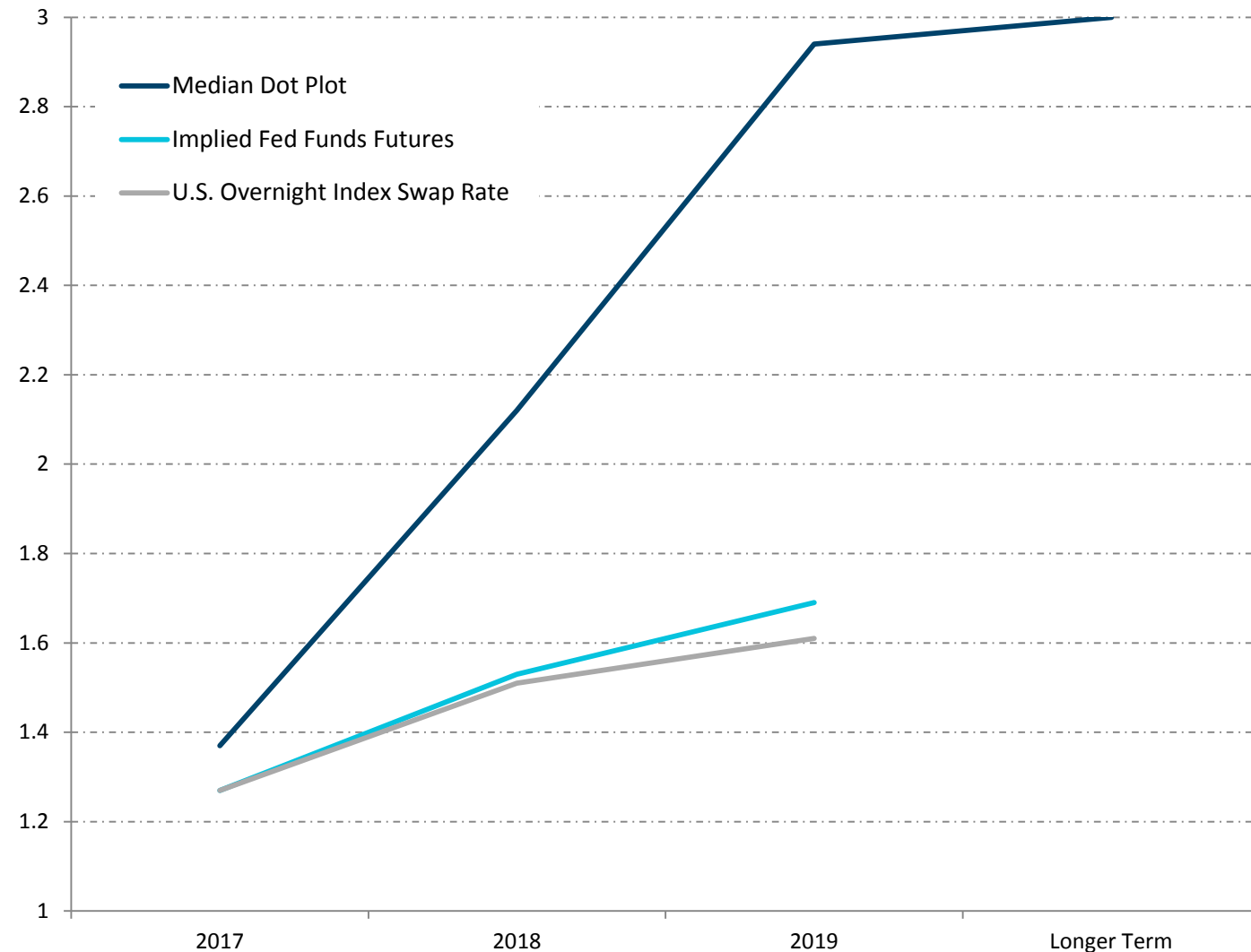


Source: Bloomberg and T. Rowe Price.



# And yet a chasm now exists between market expectations and where the Fed wants to go

As of June 14, 2017



“...the era of low interest rates in the United States and elsewhere poses financial stability risks and...central bankers must factor such concerns into their decision-making.”

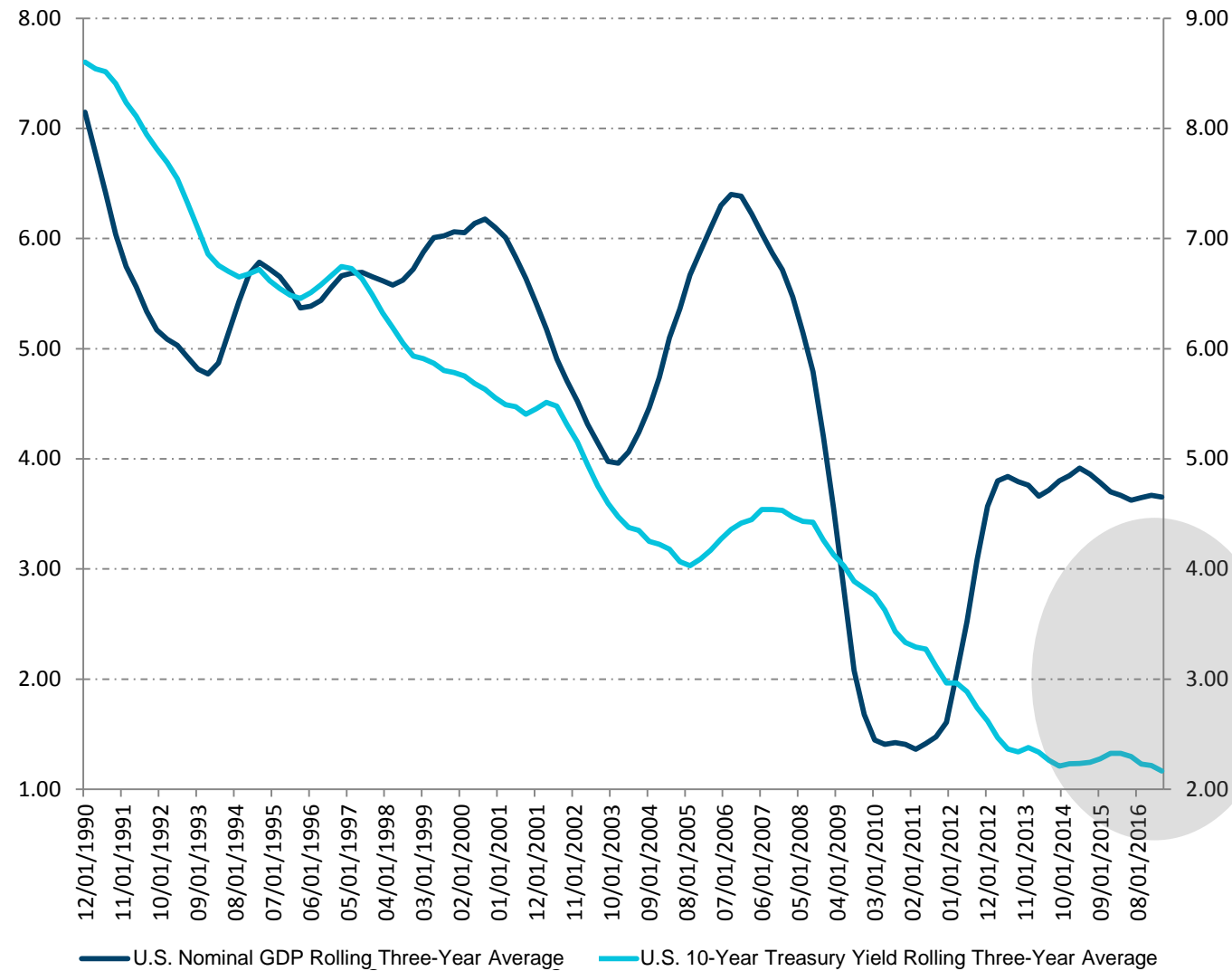
"Monetary policy is less capable of offsetting negative shocks when rates are already low."

Source: "Fed's Rosengren: Low interest rates pose financial stability risks," Reuters Business News, by Lindsay Dunsmuir, June 20, 2017.

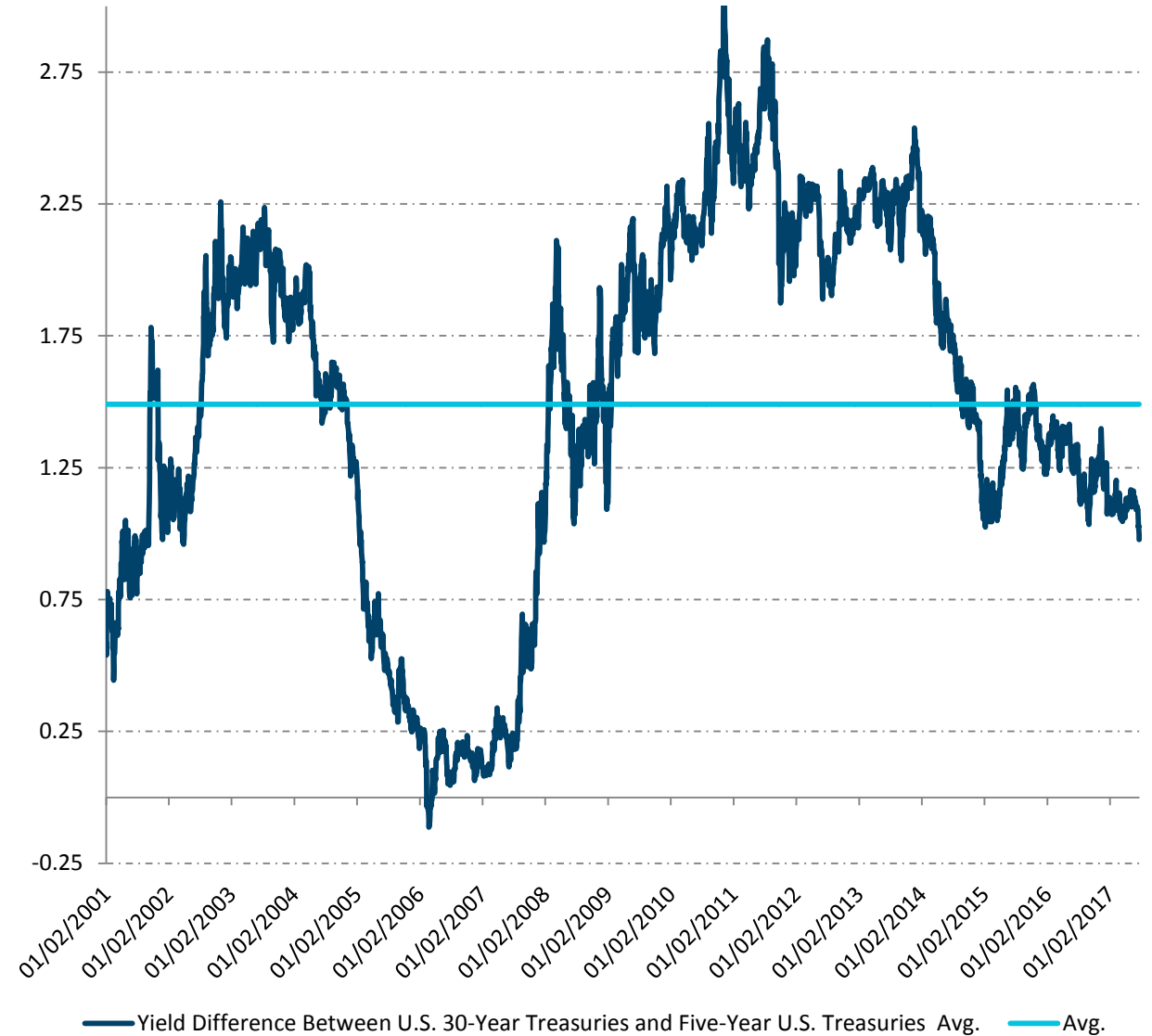
Source: Bloomberg and T. Rowe Price.

# Not surprisingly, uncertainty pervades today's U.S. rate conversation

As of June 20, 2016



*The historic relationship between U.S. nominal GDP and the U.S. 10-year Treasury yield is broken*

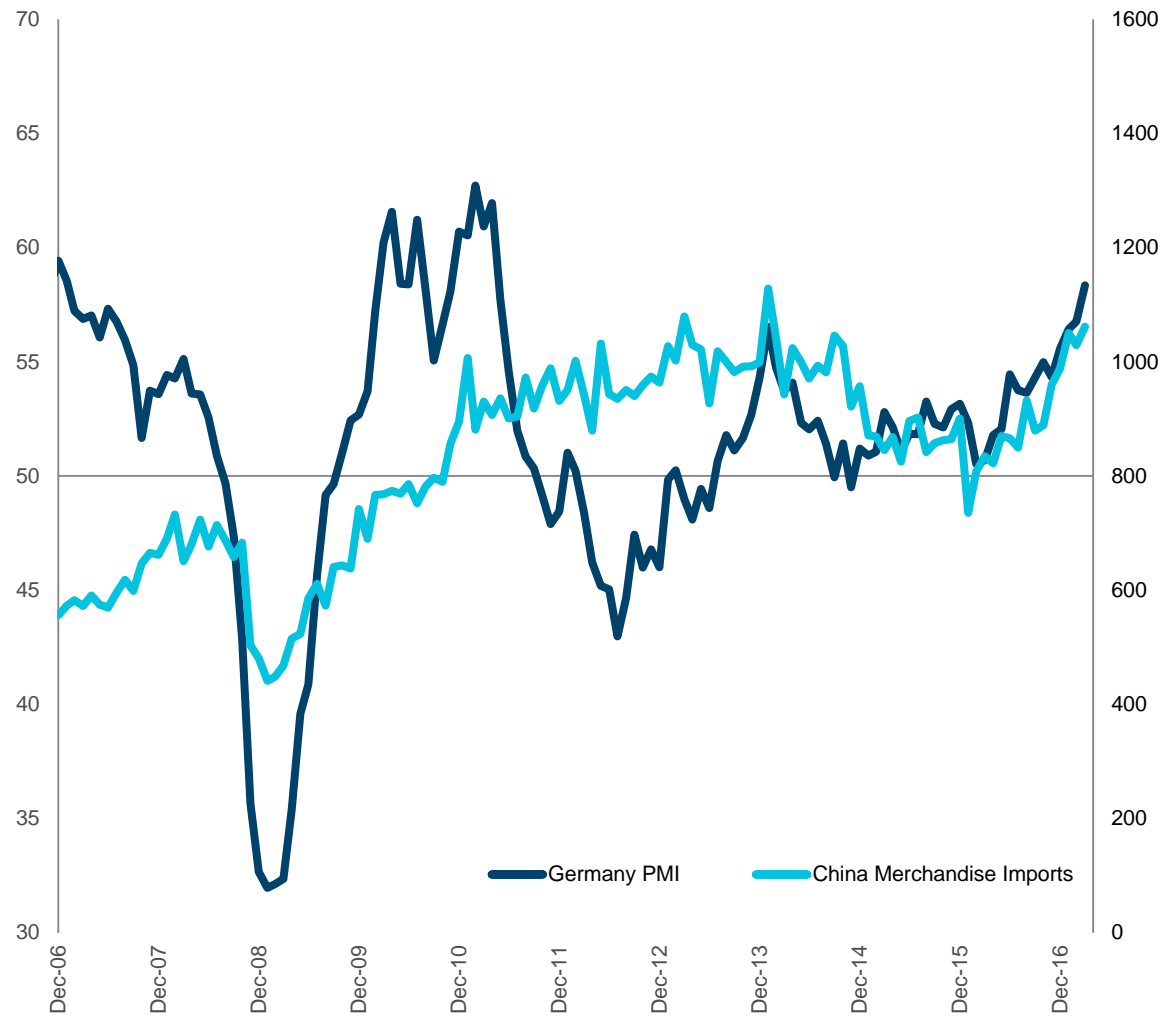


*The U.S. yield curve has been flattening since the first Fed move in December 2015*

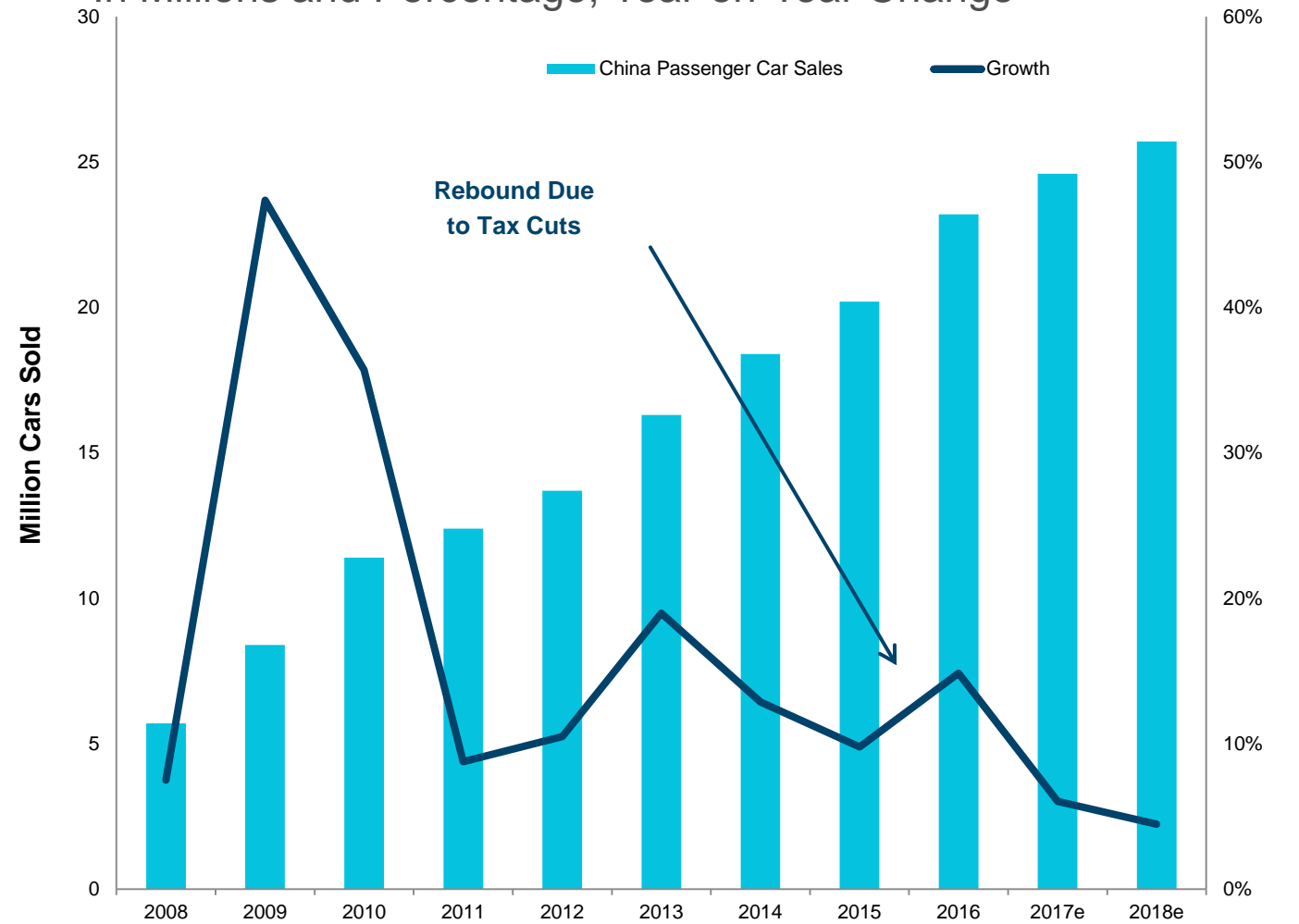
# Less political uncertainty and a strengthening economy favors Europe

As of April 30, 2017

## GERMAN MANUFACTURING PMI VS. CHINA IMPORTS



## CHINA CAR SALES In Millions and Percentage, Year-on-Year Change



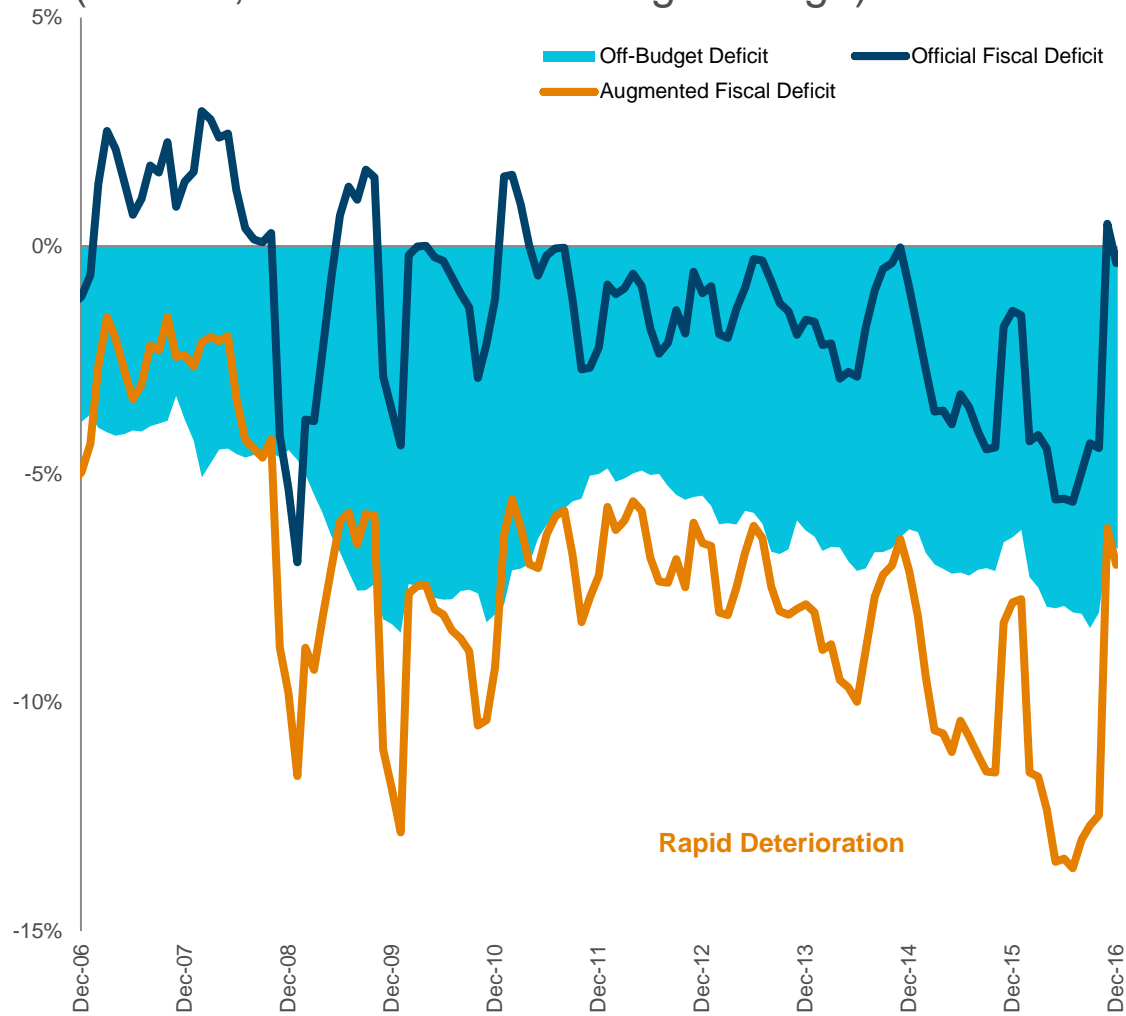
Past performance is not a reliable indicator of future performance.

Sources: Haver Analytics, Eurostat, and T. Rowe Price.

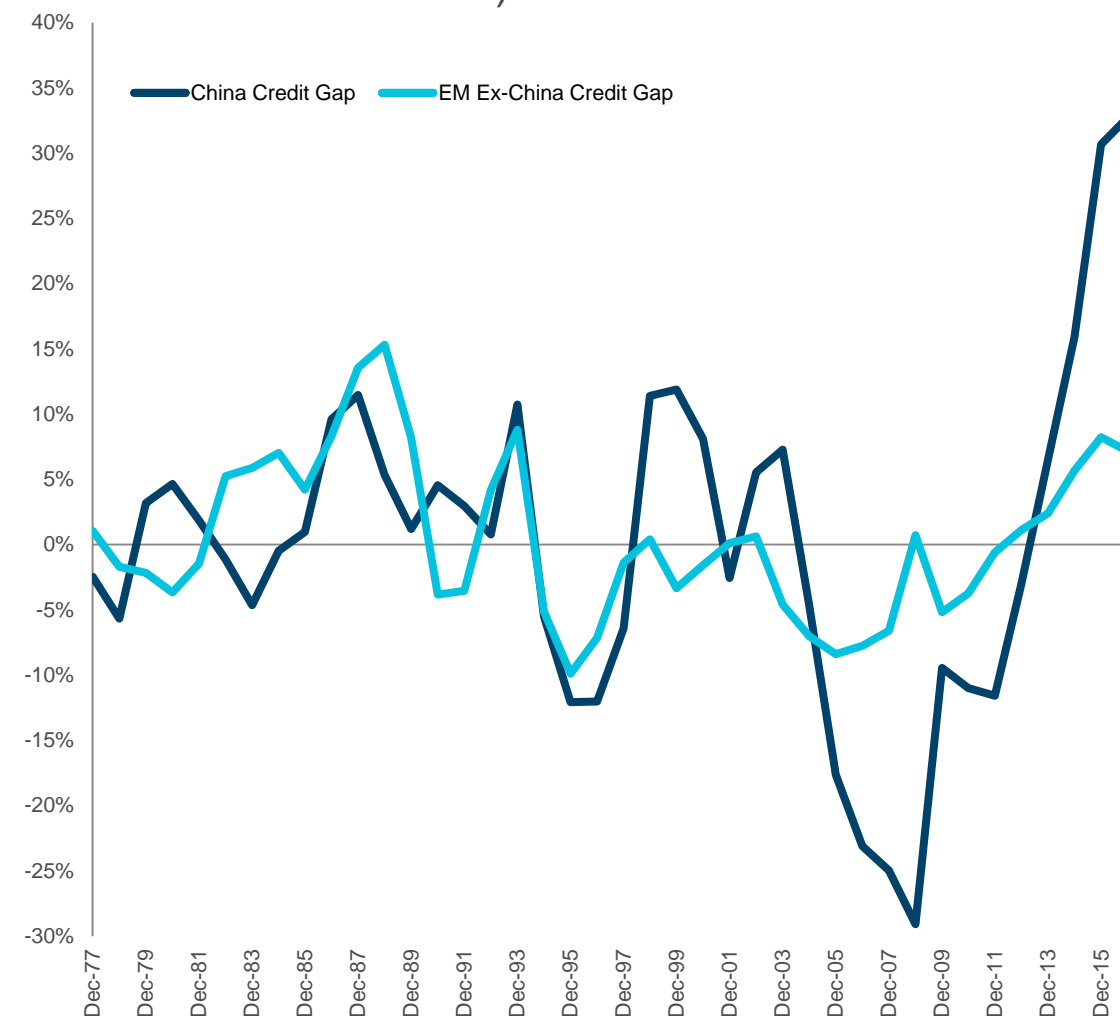
# And if all "roads" lead to China, "drivers" have reason to slow down

As of April 30, 2017

## CHINA FISCAL DEFICITS (% GDP, Three-Month Moving Average)



## CREDIT GAP (Total Credit to GDP Ratio)



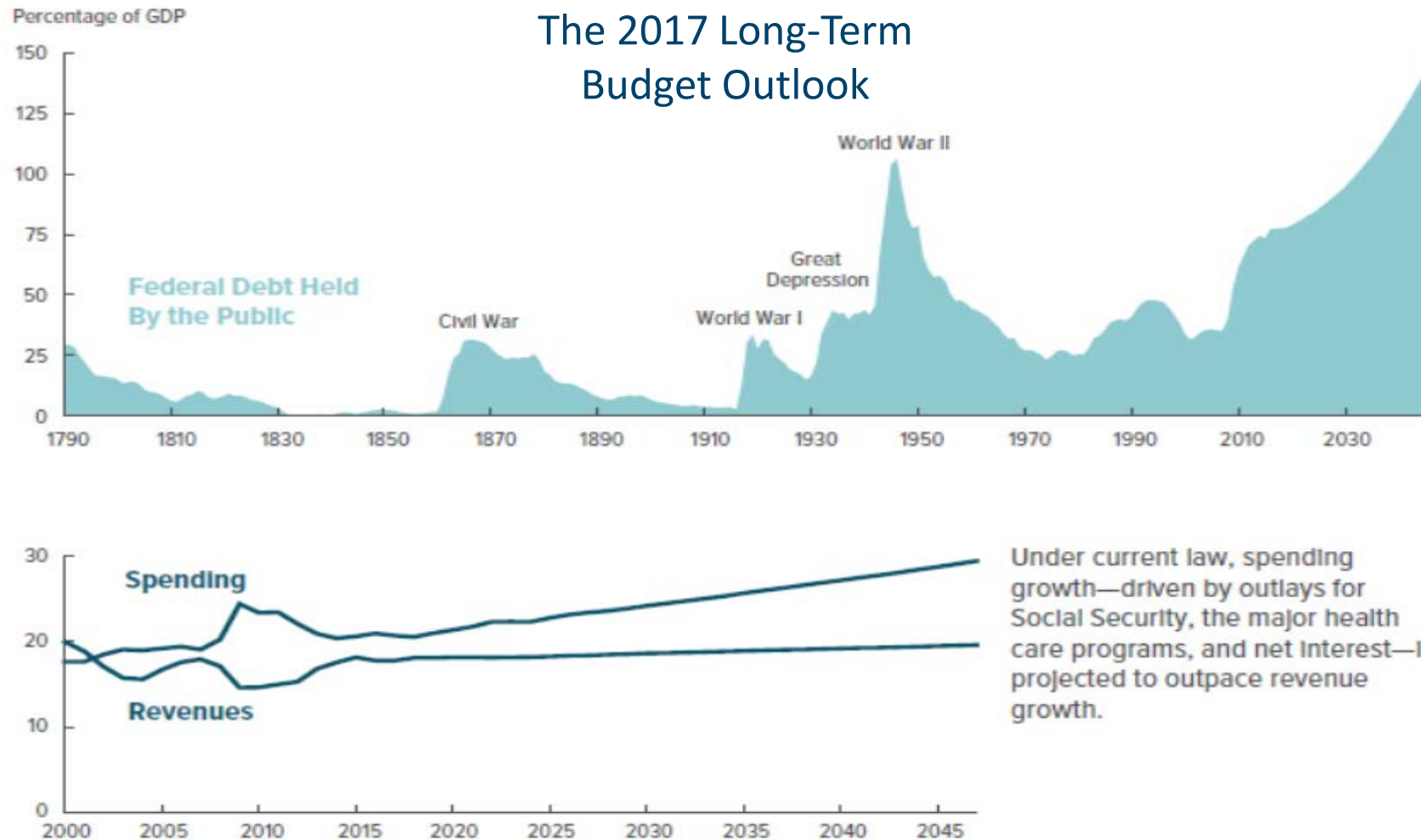
Augmented fiscal deficit includes local government deficits

**Past performance is not a reliable indicator of future performance.**

Sources: Goldman Sachs and T. Rowe Price.

# While a 60/40 balanced construct has worked great since 1990, prospectively, the “40” may need help

As of March 31, 2017



Source: The Congressional Budget Office (CBO).

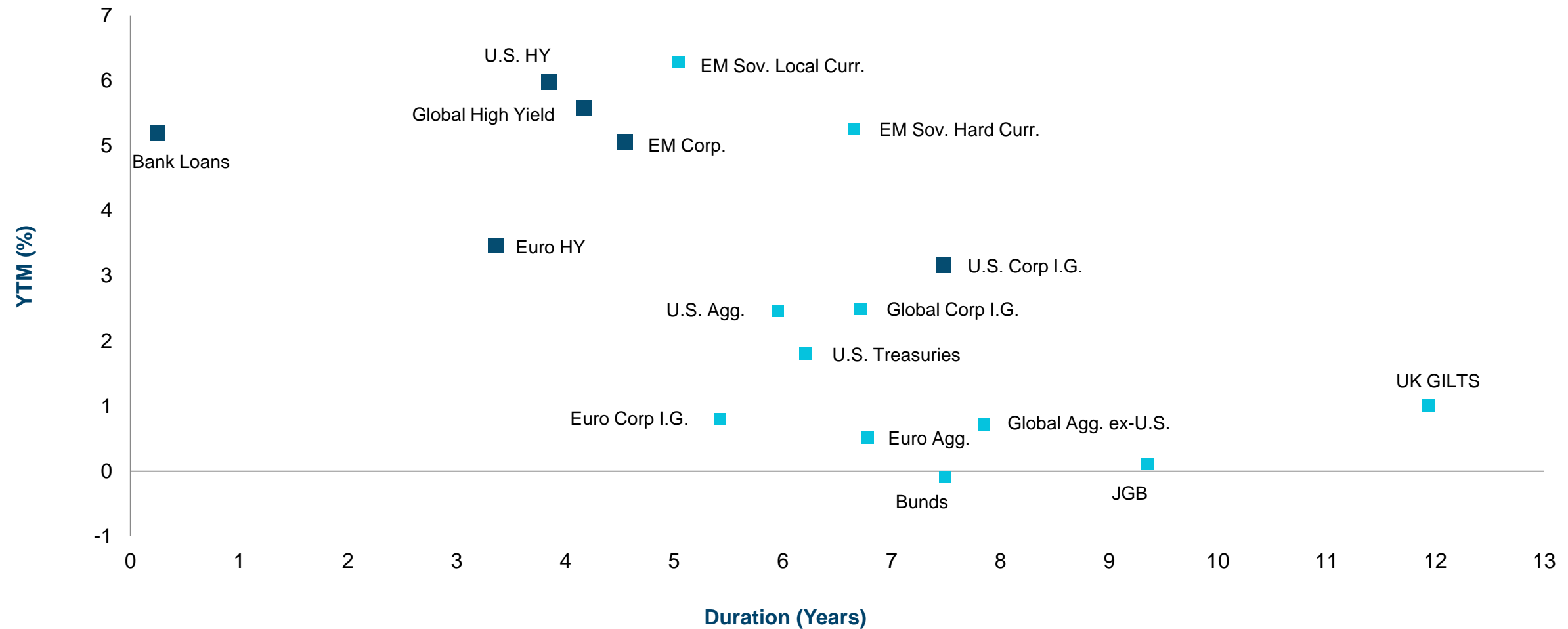
“Asked on Thursday whether the United States needed to pay its debts in full, or whether he could negotiate a partial repayment, Mr. Trump told the cable network CNBC, “I would borrow, knowing that if the economy crashed, you could make a deal.”

“Such remarks by a major presidential candidate have no modern precedent. The United States government is able to borrow money at very low interest rates because Treasury securities are regarded as a safe investment, and any cracks in investor confidence have a long history of costing American taxpayers a lot of money.”

Source: The New York Times, May 6, 2016

# Active management that casts a wider net warrants consideration

As of May 31, 2017

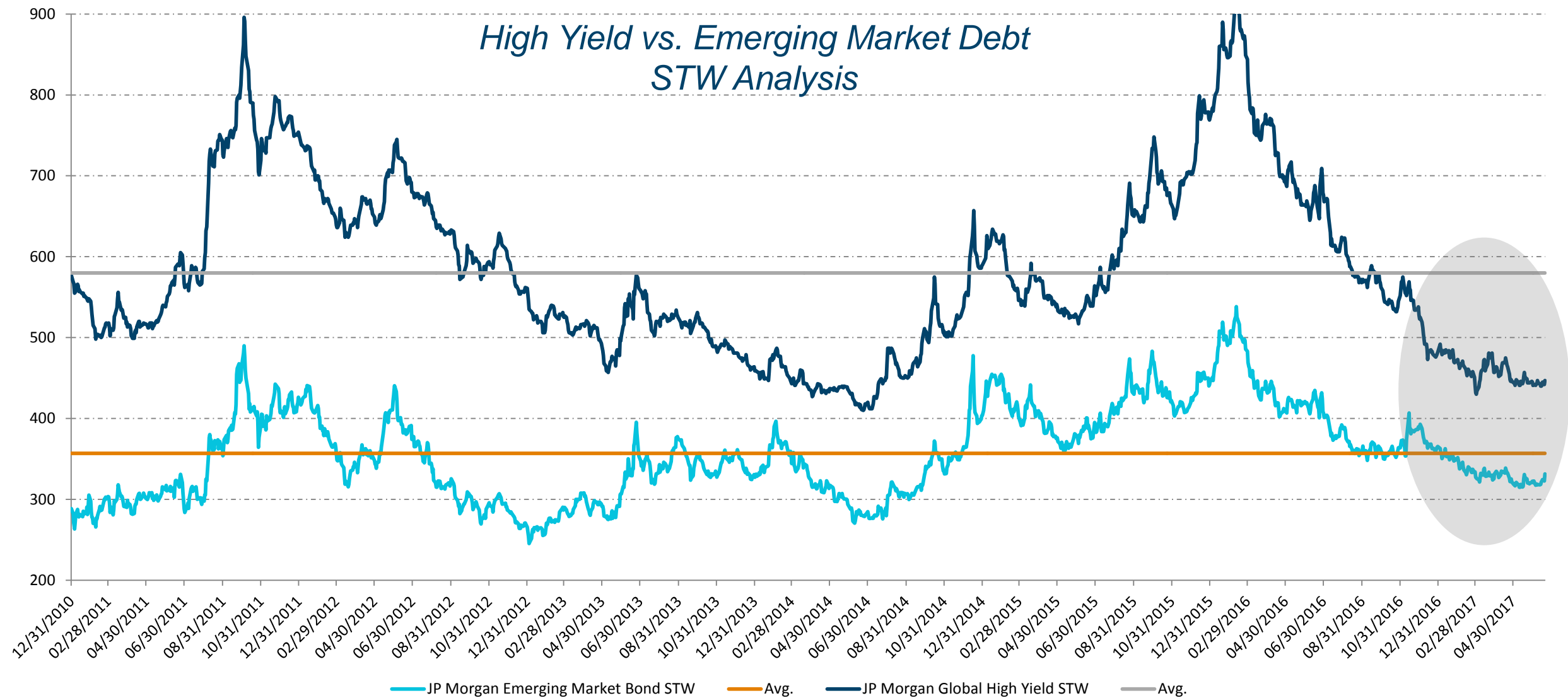


**Past performance cannot guarantee future results.**

Sources: U.S. Treasuries: Barclays U.S. Treasury Index; U.S. Aggregate: Barclays U.S. Aggregate; U.S. Corporates: Barclays U.S. Corp IG Index; U.S. High Yield: Barclays U.S. High Yield; EM Sovereign Hard Currency: JPM Emerging Market Global Diversified Bond Index; EM Corporates: JPM CEMBI Broad Diversified; EM Sovereign Local Currency: JPM; GBI EM GD Index; Global Bonds: Barclays Global Aggregate Index; International Bonds: Barclays Global Aggregate ex-U.S. Index; Euro Corporates: Barclays Euro Agg: Corporates Index; Euro HY: Barclays Pan-European High Yield; Euro Agg: Barclays Capital Euro Agg; JGB: Barclays Asian Pacific Japan; Bunds: Barclays Global Treasury Germany; UK Gilts: Barclays Global Treasury UK; Global High Yield: Barclays Global High Yield; Bank Loans: S&P/LSTA Performing Loan Index.

# Spread sector valuations are stretched, active management prospectively matters

As of June 20, 2017

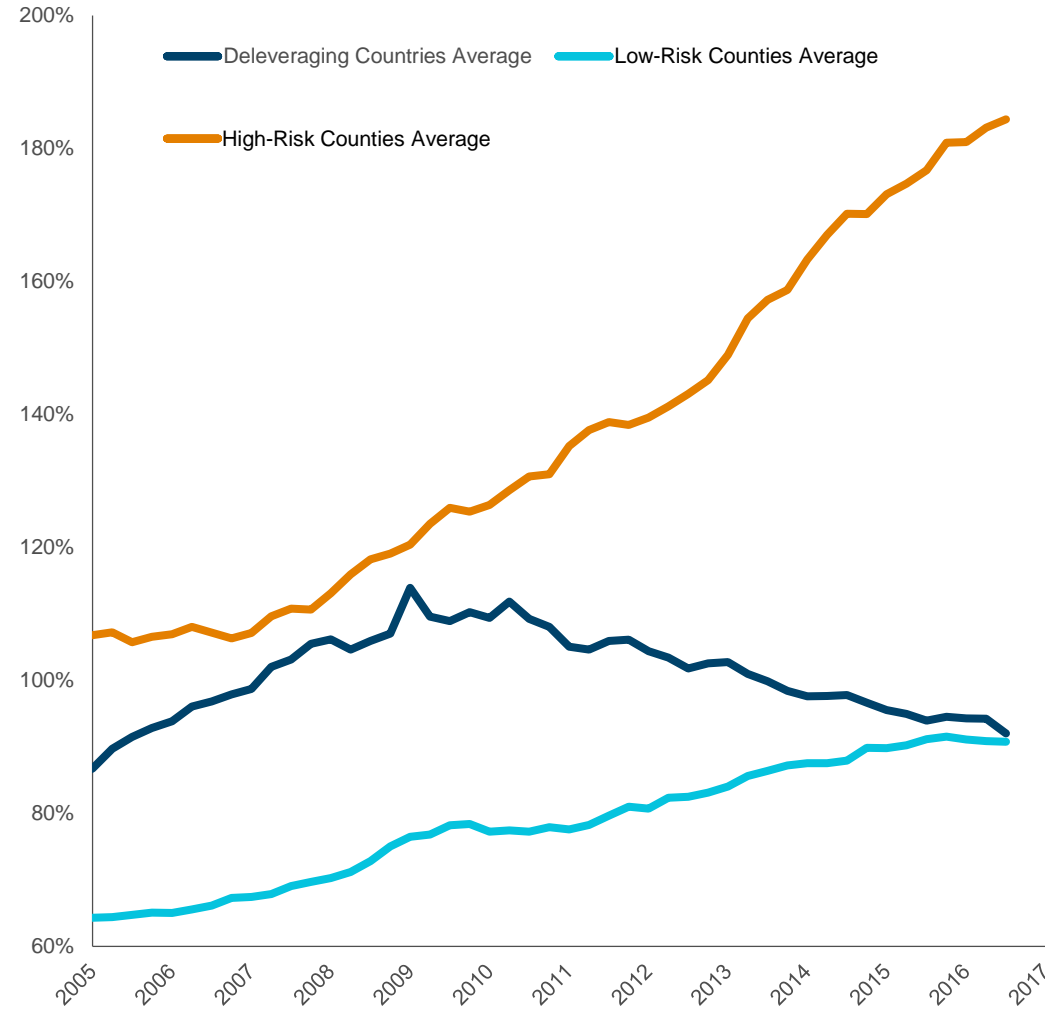


Source: Bloomberg and T. Rowe Price.

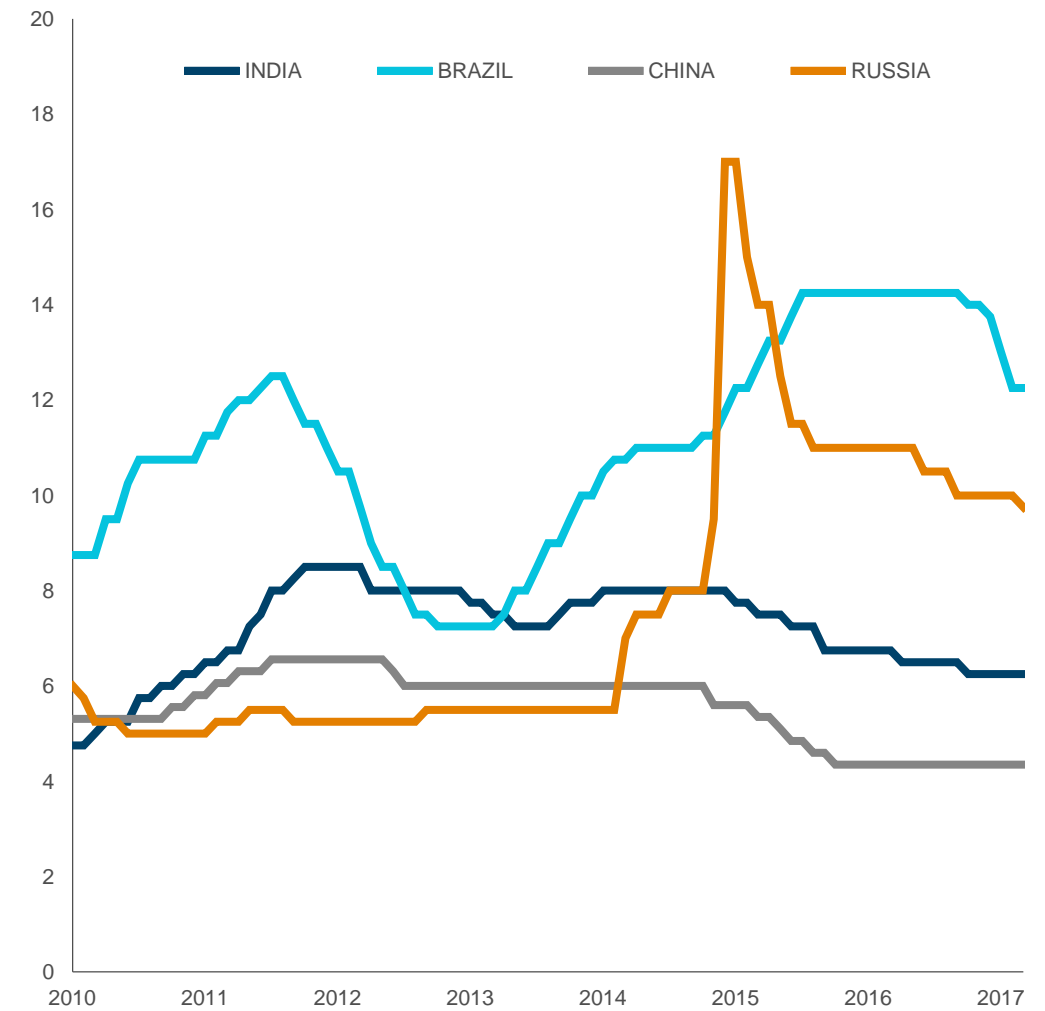
# Active management prospectively matters across global fixed income

As of April 30, 2017

## PRIVATE DOMESTIC CREDIT GROWTH % of GDP



## EMERGING MARKET CENTRAL BANK RATES

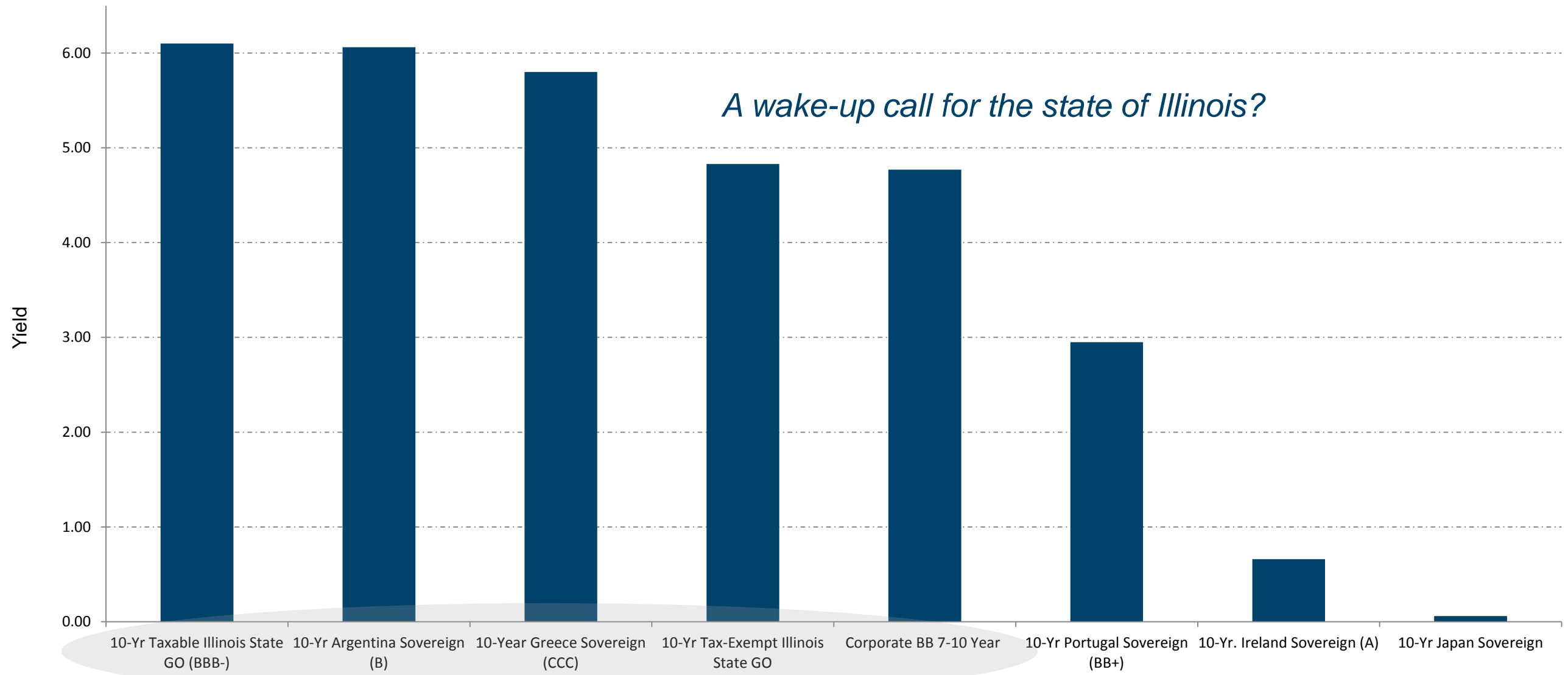


**Past performance is not a reliable indicator of future performance.**  
Sources: Haver Analytics and T. Rowe Price.



# An interesting time for assessing global relative value

As of June 12, 2017

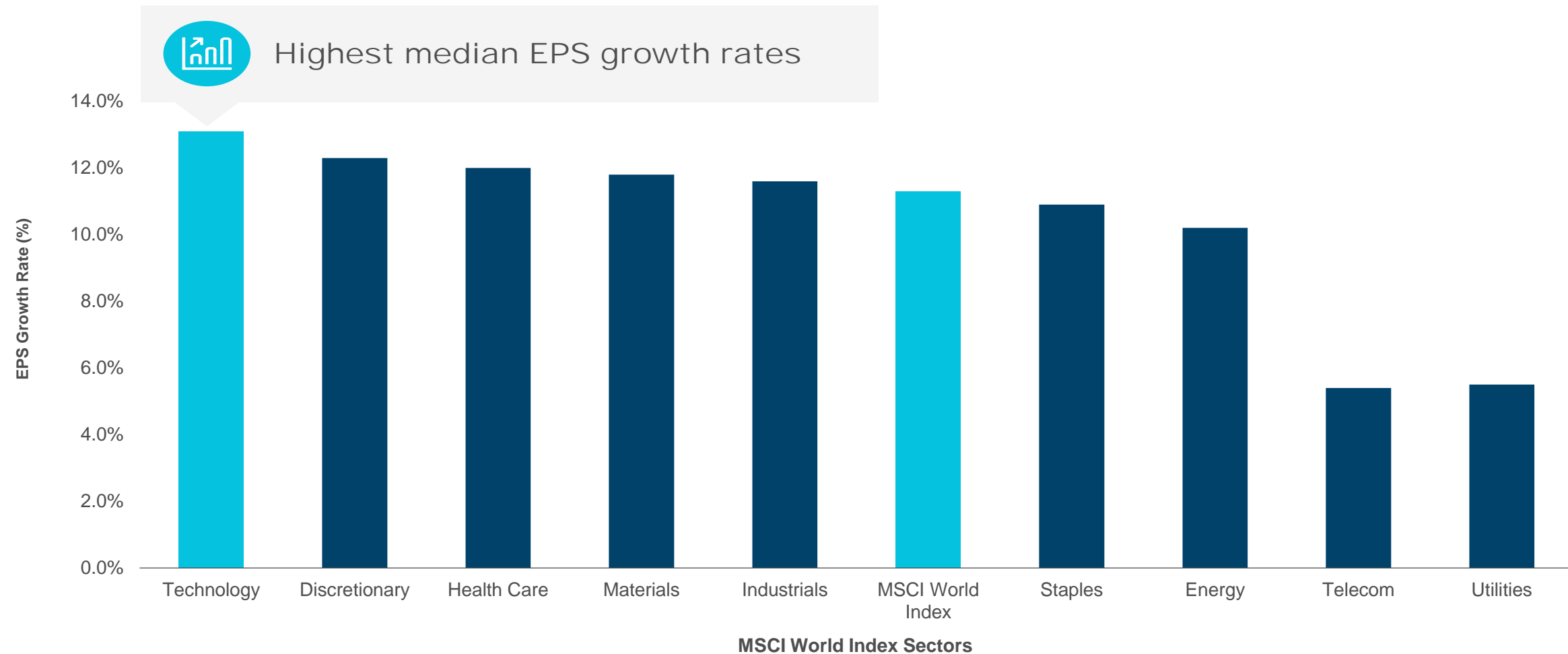


Source: JP Morgan.

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MSCI ACWI Sector Forward EPS 2-Year Compound Annual Growth Rate Median Growth Since 2002  
June 30, 2002 through 31 Dec 2016



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