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Steve Riester



Steve Riester

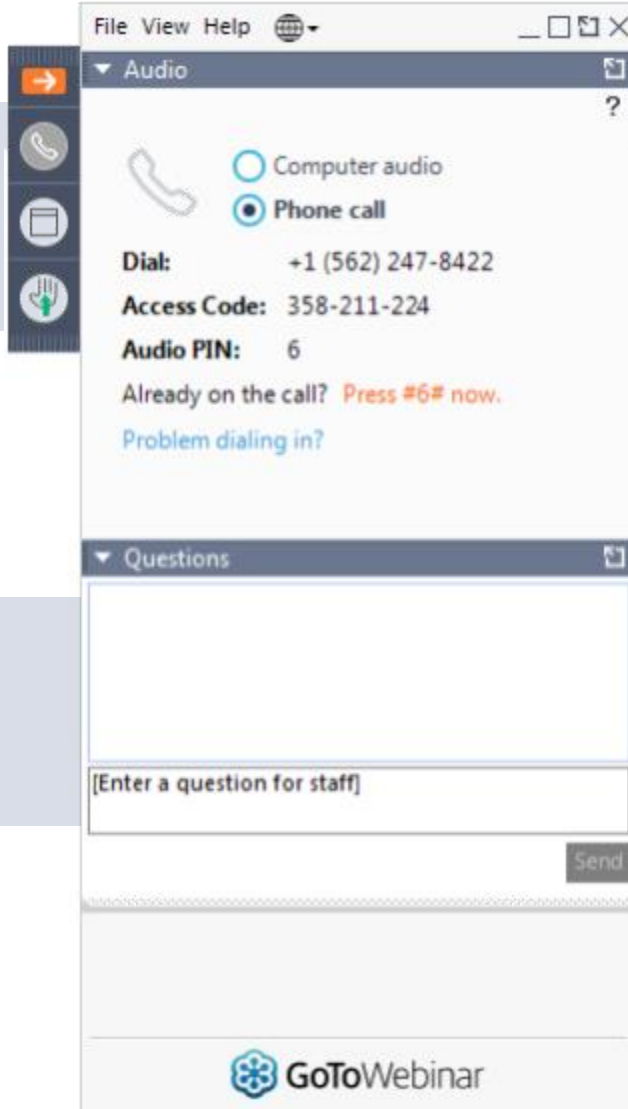
Manager, Research and Technical Assistance
Council of Development Finance Agencies
Columbus, OH

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The screenshot shows a GoToWebinar interface. At the top, there's a menu with 'File', 'View', and 'Help'. Below that, the 'Audio' settings are displayed. The 'Phone call' option is selected with a radio button, while 'Computer audio' is unselected. The dialing information is shown as: Dial: +1 (562) 247-8422, Access Code: 358-211-224, Audio PIN: 6. There's a note: 'Already on the call? Press #6# now.' and a link for 'Problem dialing in?'. Below the audio settings is a 'Questions' section with a text input field containing the placeholder '[Enter a question for staff]' and a 'Send' button. The GoToWebinar logo is at the bottom.

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Panelists



Robert Gamble, Moderator
Managing Director
Public Financial Management



Michael Todd Frazier
Managing Director
Public Financial Management



Kenneth Schiebel
Managing Director
Public Financial Management



Leonard Jones
Managing Director
Moody's Investor Services

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Robert Gamble



Robert Gamble

Managing Director
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San Francisco, CA

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Kenneth Schiebel



Kenneth Schiebel

Managing Director
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The Capital Markets Today: U.S. Economic Update

Council of Development Finance Agencies

PFM Asset Management LLC

November 28, 2018

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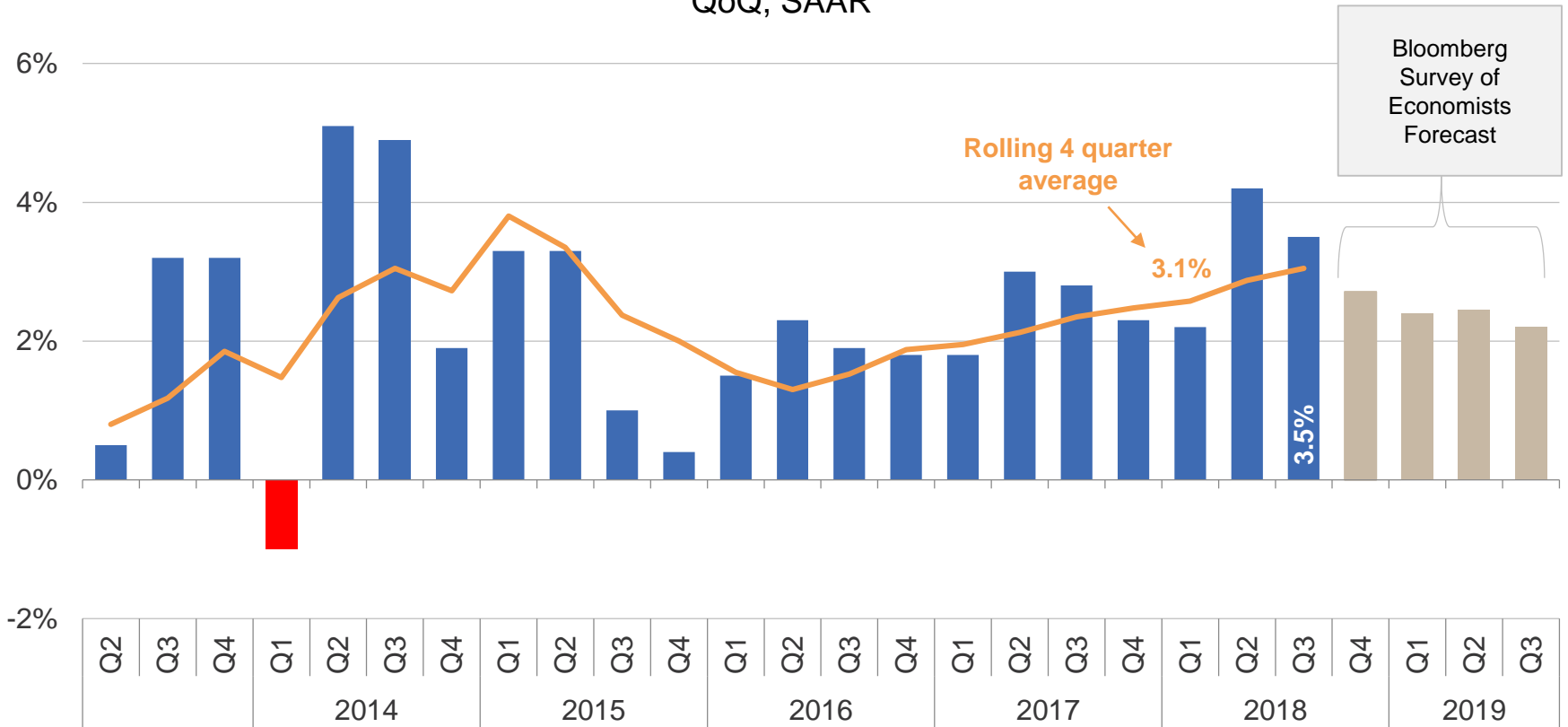
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U.S. Economic Growth Strengthened in 2018

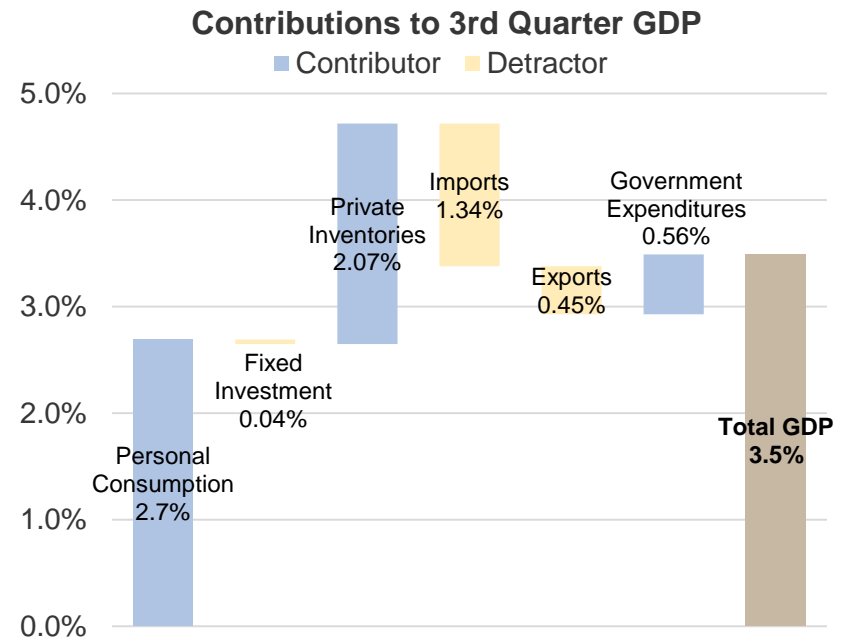
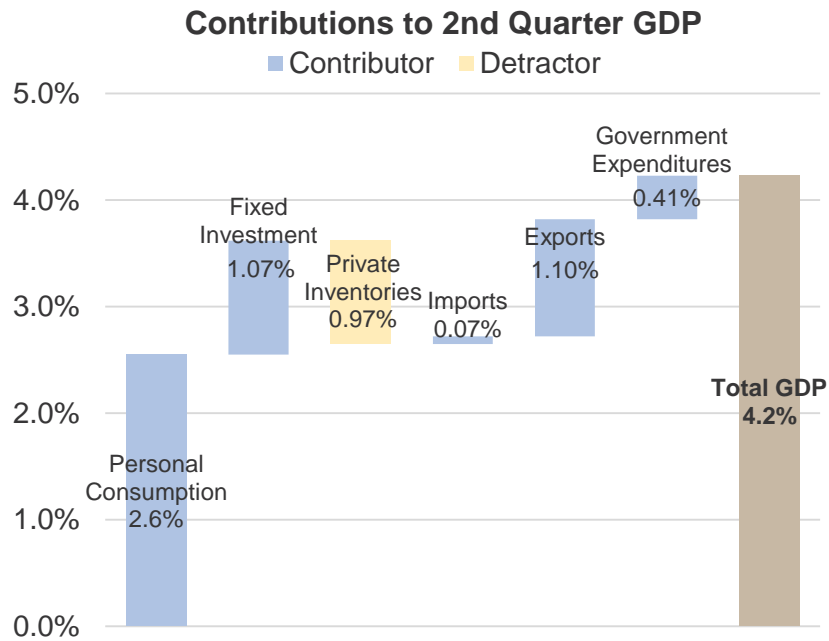
U.S. Real GDP
QoQ, SAAR



Source: Bloomberg, as of Q3 2018, first growth estimate. SAAR is seasonally adjusted annualized rate. Orange denotes rolling four-quarter averages.



Contributions to GDP in Q2 and Q3

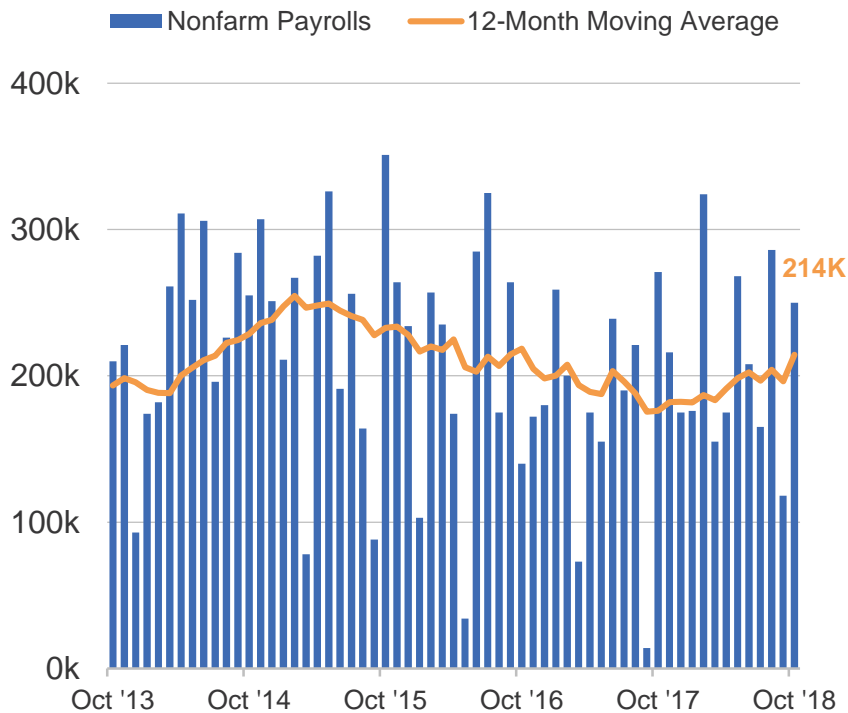


Source: Bureau of Economic Analysis, as of October 2018. 3rd quarter contributions are based on the first GDP growth estimate.

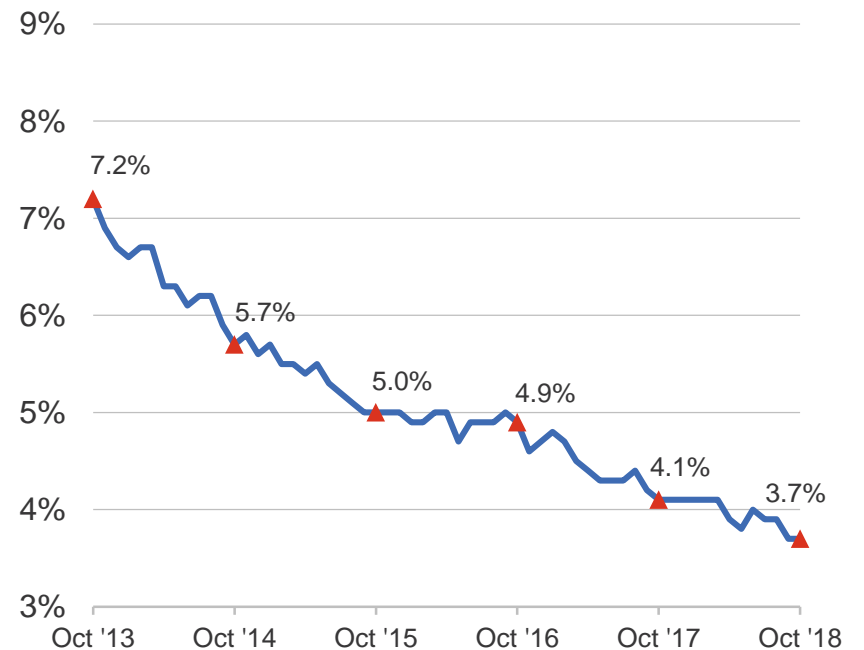


U.S. Labor Market Remains Strong

Monthly Change in Nonfarm Payrolls



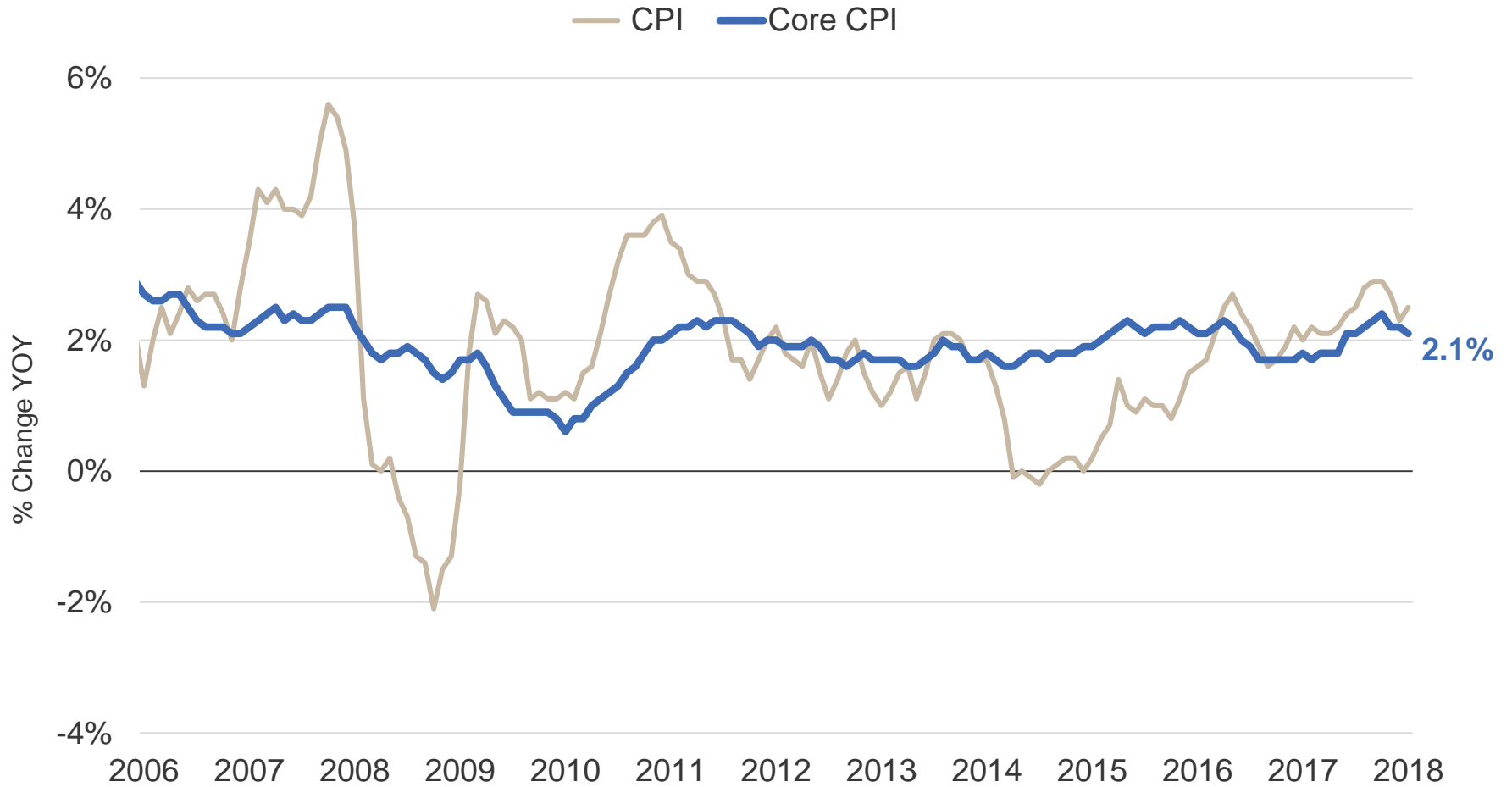
Unemployment Rate



Source: Bloomberg, as of October 2018.



U.S. Inflation Near Fed's 2% Target

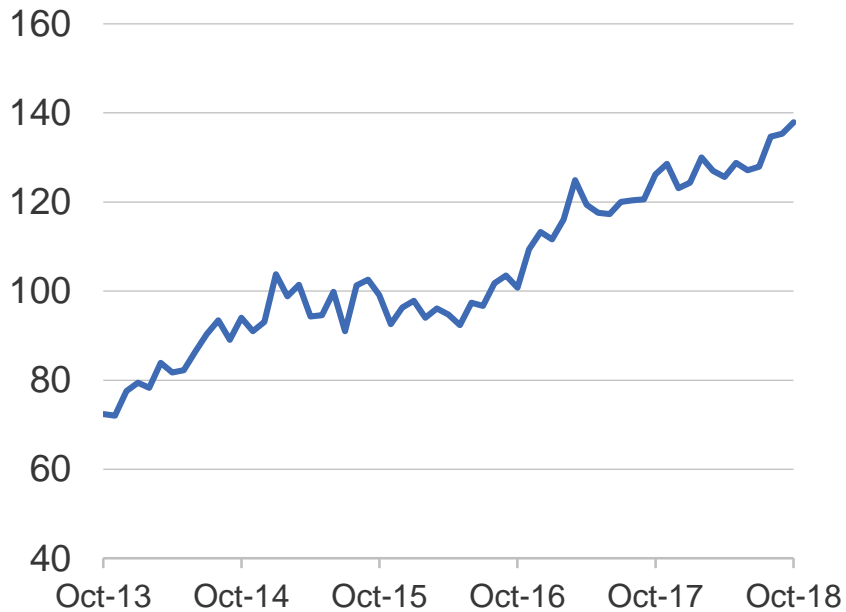


Source: Bloomberg, as of 10/31/18

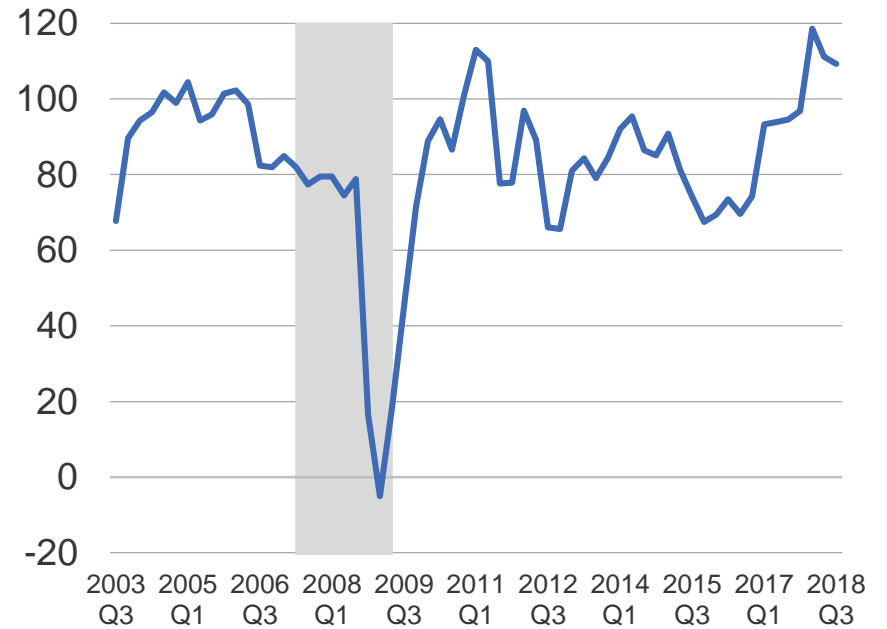


Consumer Confidence and Business Optimism Remains High

Consumer Confidence



CEO Economic Outlook Index



Source: Business Round Table & Bloomberg



Interest Rates Trending Sharply Higher

2-Year Treasury



10-Year Treasury



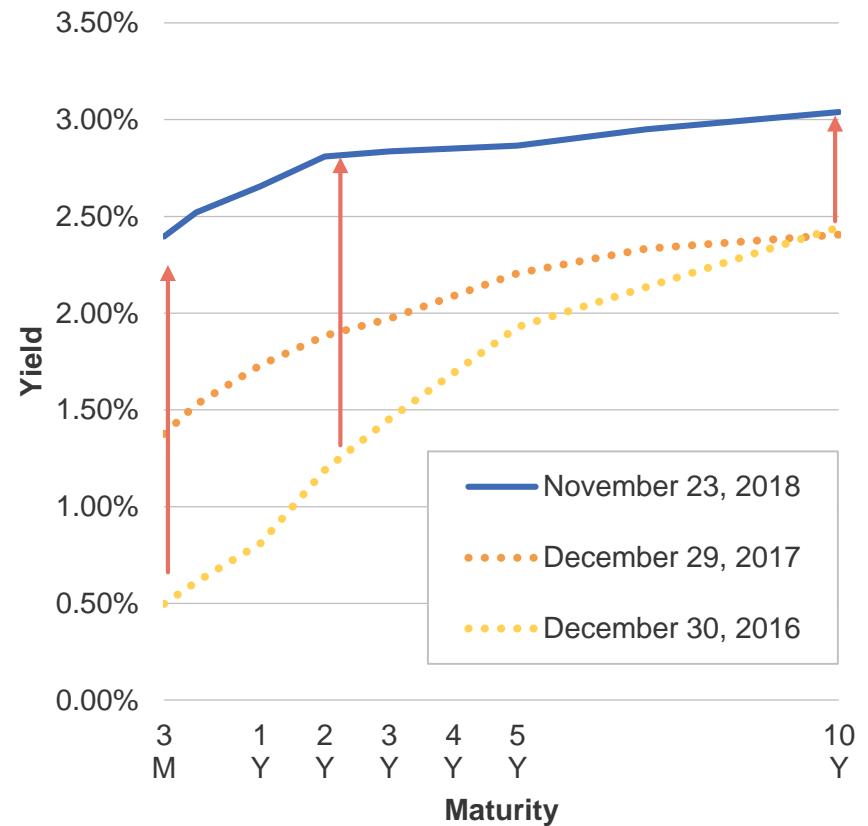
Source: Bloomberg, as of 11/23/18.



Yield Curve Continues to Flatten

Maturity	Current 11/23/18	Year-End 12/31/2017	Year-End 12/31/16
3 month	2.40%	1.38%	0.45%
2 year	2.81%	1.88%	1.21%
5 year	2.87%	2.21%	1.95%
10 year	3.04%	2.41%	2.48%
30 year	3.30%	2.74%	3.07%

U.S. Treasury Yield Curve

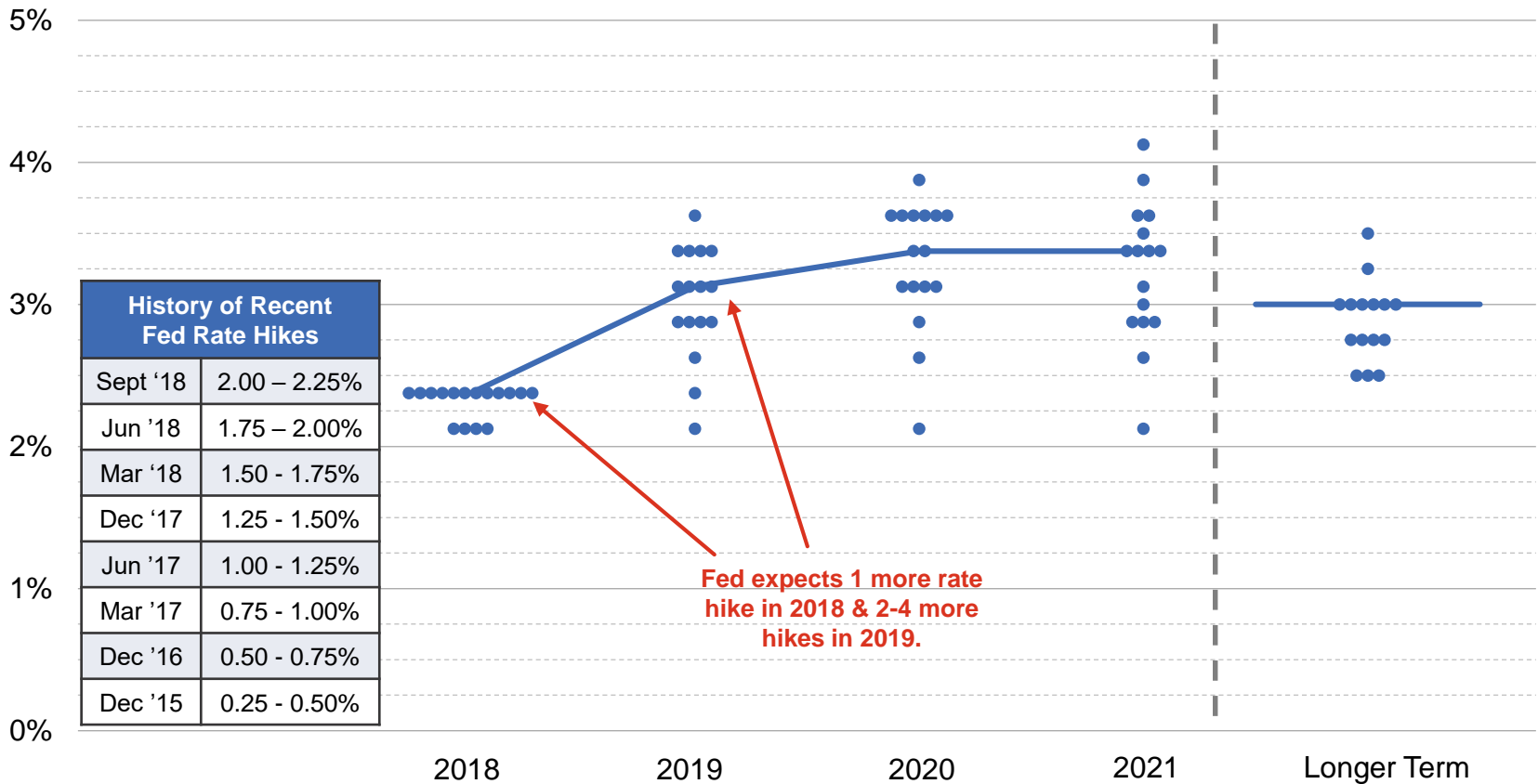


Source: Bloomberg, as of 11/23/2018.



Fed's September "Dot Plot" Projects More Rate Hikes

Fed Participants' Assessments of 'Appropriate' Monetary Policy

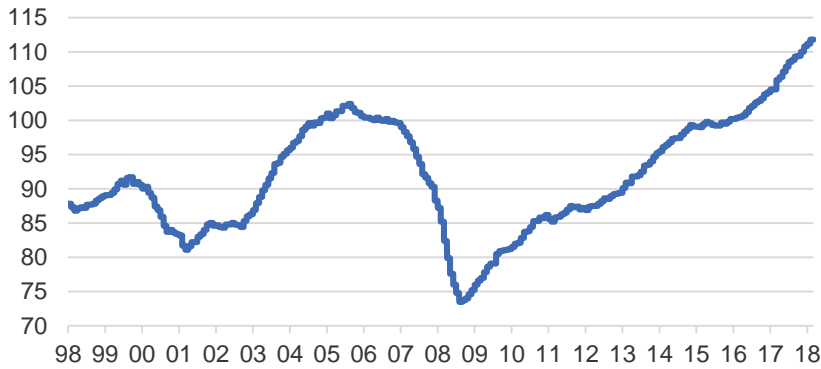


Source: Federal Reserve and Bloomberg. Individual dots represent each Fed member's judgement of the midpoint of the appropriate target range for the federal funds rate at each year-end.

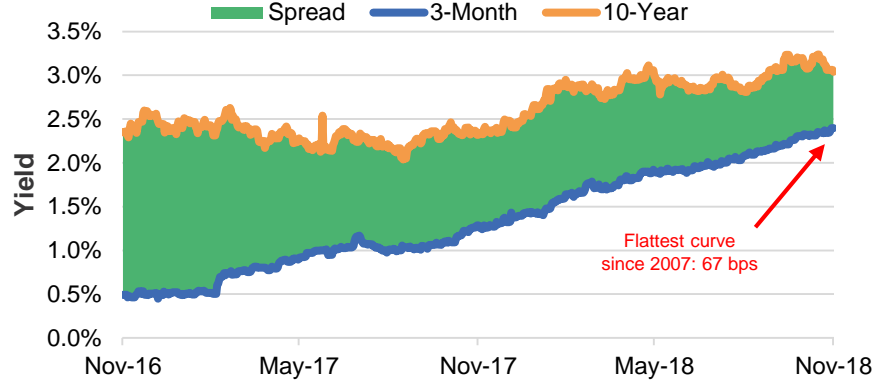


What We're Watching...

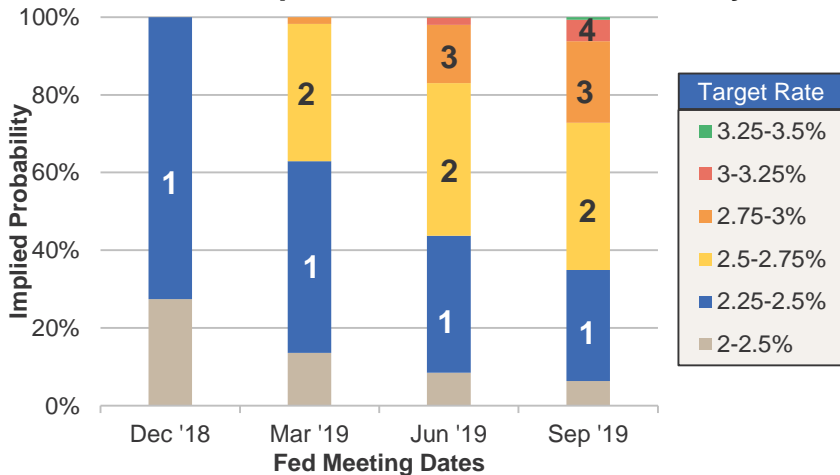
Conference Board Leading Economic Index



Flattening Yield Curve (10-Yr vs. 3-Mo)



Market Implied Fed Rate Hike Probability



Economic Indicators are Strong

Metrics At or Near Multi-Year Bests	
U.S. GDP	Unemployment Rate
Consumer Confidence	Job Openings
Consumer Sentiment	Avg. Hourly Earnings
U.S. Manufacturing	Inflation (Core PCE)

Source: Bloomberg, as of 11/23/2018.

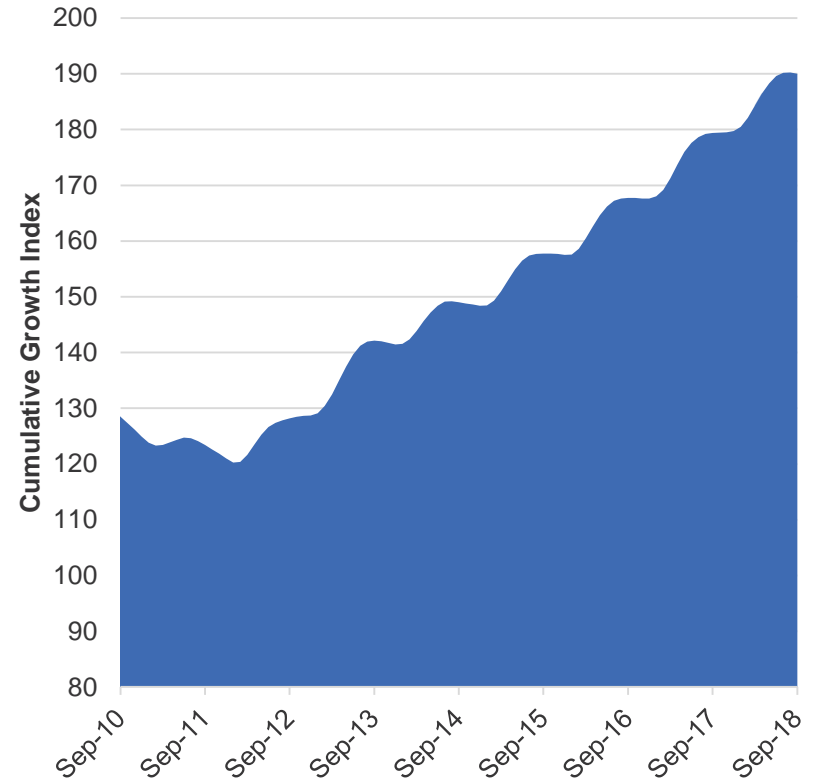


But ... Housing Market is Slowing

30-Year Fixed-Rate Mortgage



U.S. Housing Price Index



Source: Bankrate.com U.S. Home Mortgage 30 Year Fixed National Average; Bloomberg, as of 10/31/18.



Oil Prices Tumble Amid Increased Supply and Lower Demand

Crude Oil per Barrel
(WTI. per barrel)



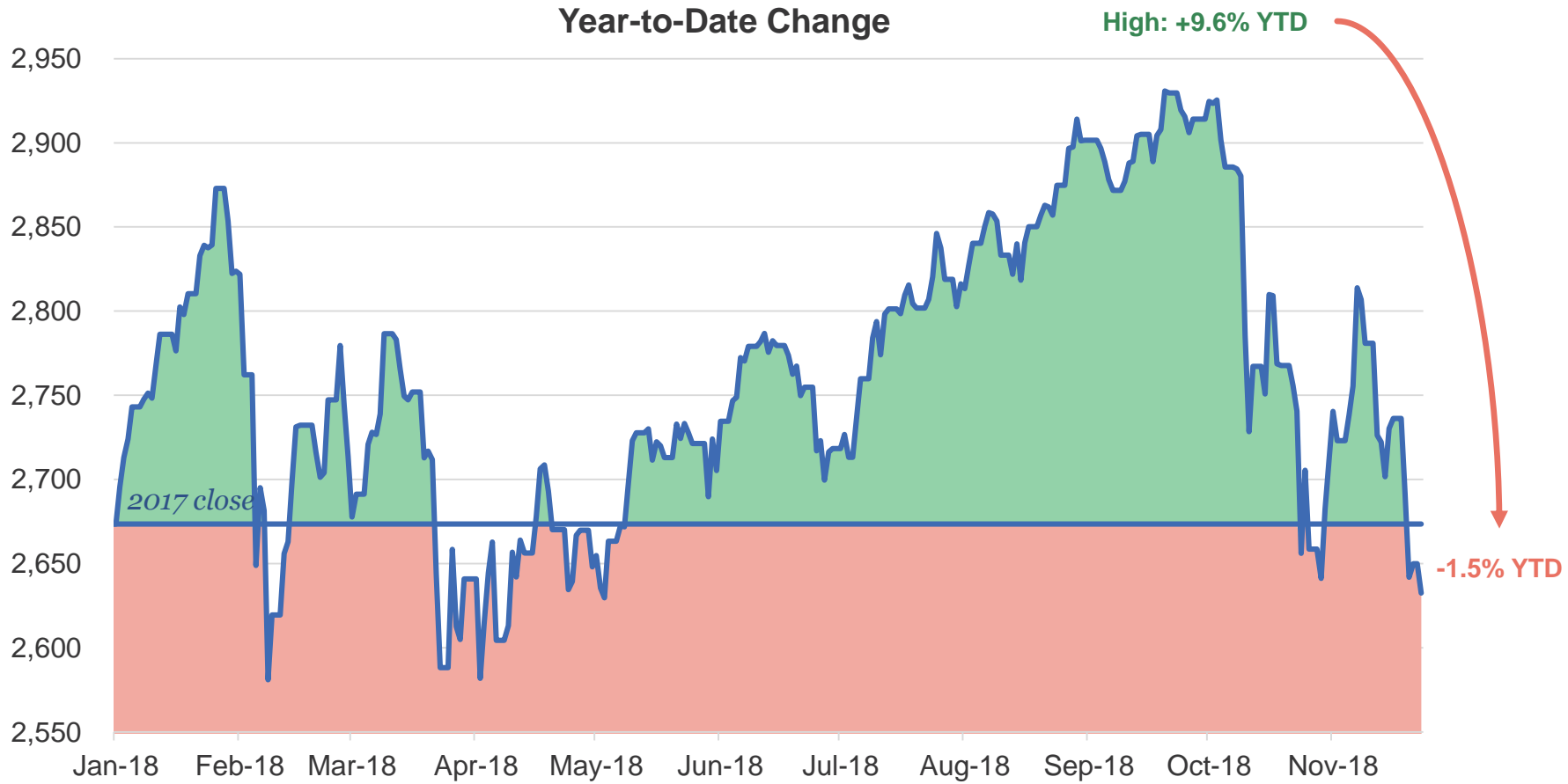
Retail Regular Gasoline
(per gallon)



Source: Bloomberg, as of 11/23/18



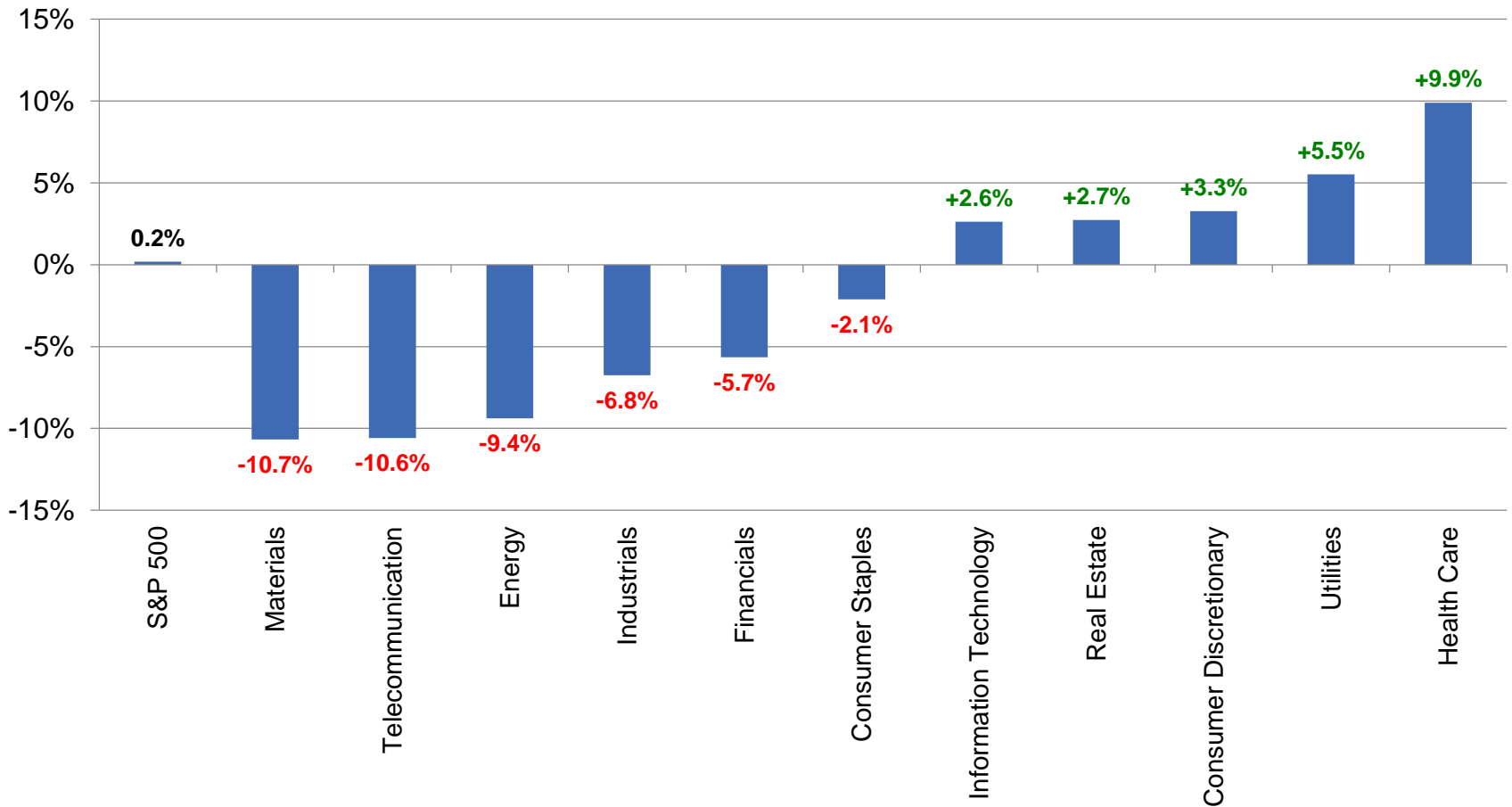
S&P 500 2018 YTD



Source: Bloomberg, as of 11/23/18.



S&P 500 2018 YTD Sector Returns

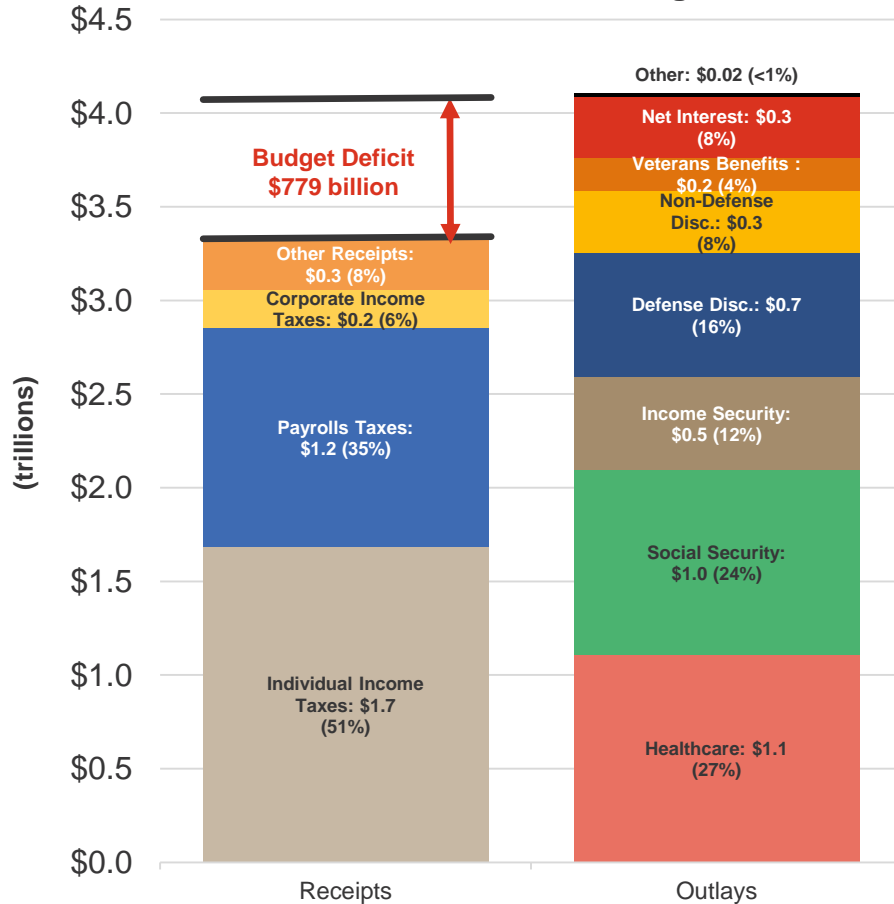


Source: Bloomberg, as of 11/23/18.

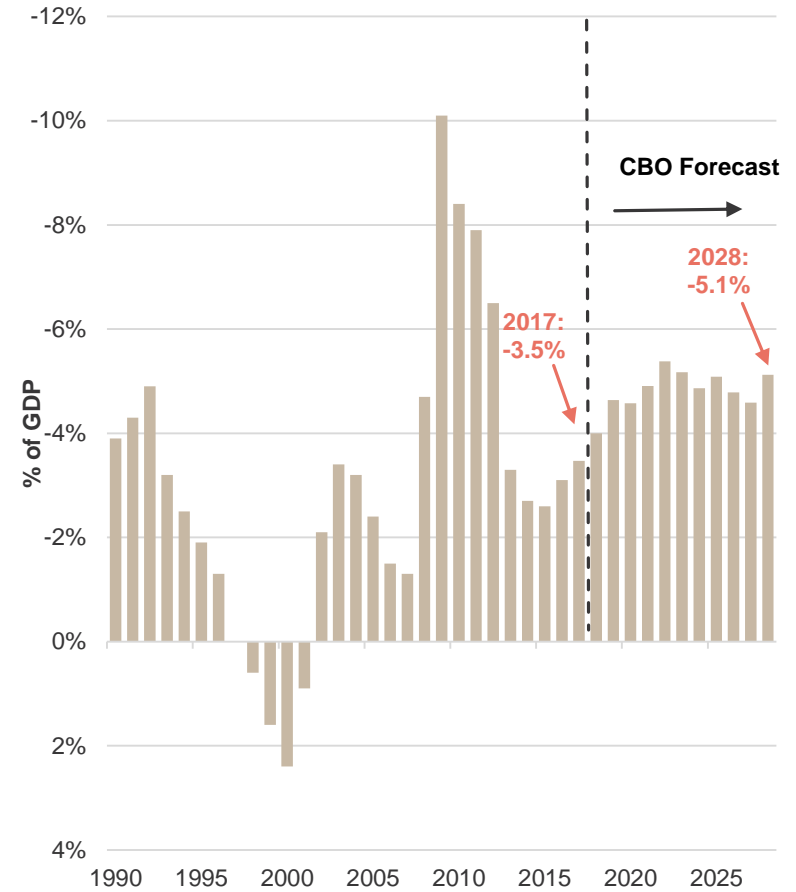


U.S. Federal Finances

Fiscal 2018 Federal Budget



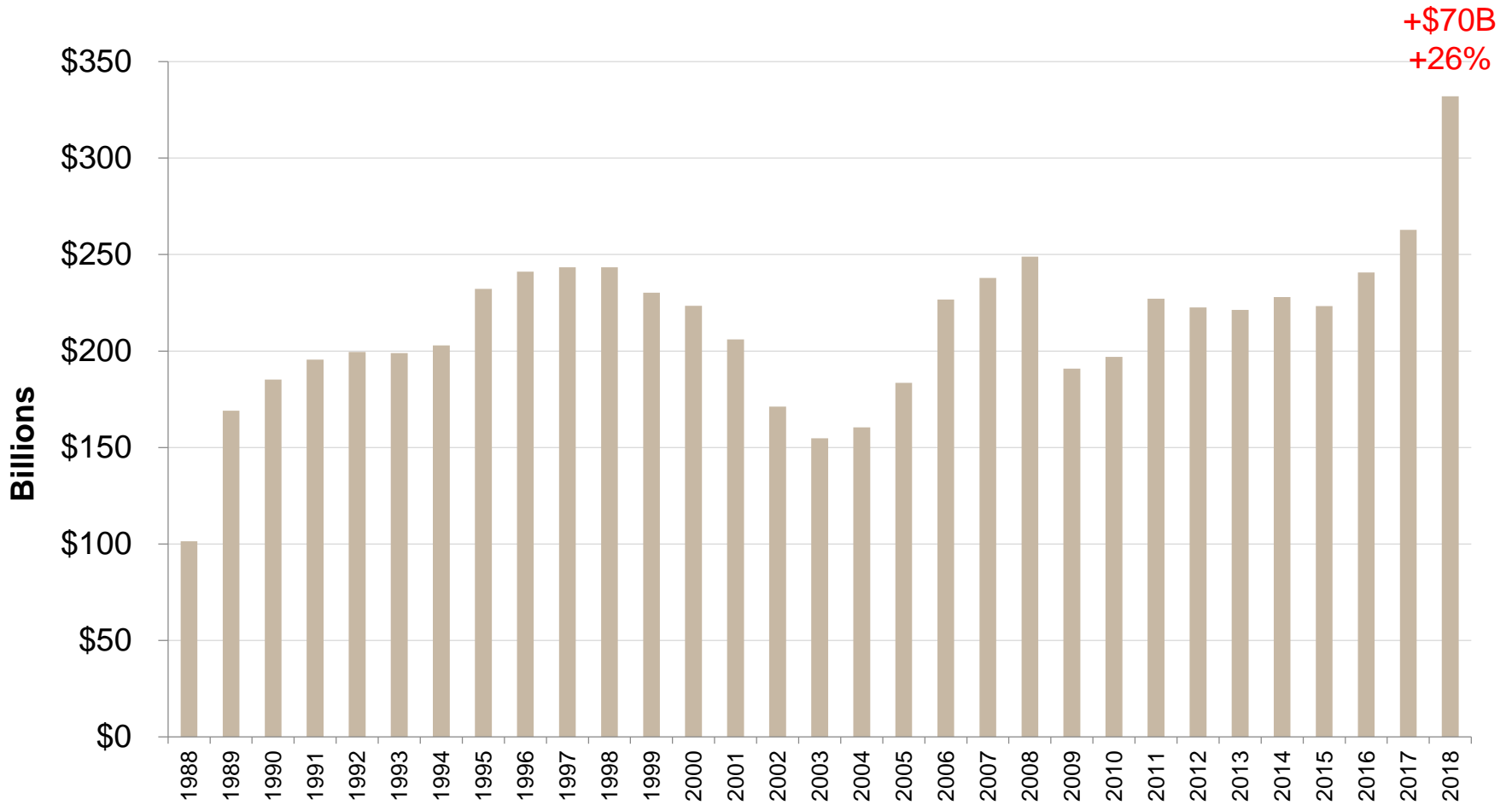
Federal Budget Deficit



Source: Bureau of Fiscal Service, and Congressional Budget Office (CBO)- 2018 CBO Baseline. Other receipts include, but are not limited to excise taxes, gift and estate taxes, and customs duties. Healthcare includes Medicare. The U.S. fiscal year is the 12-month period ending September 30.



U.S. Treasury Annual Interest Cost

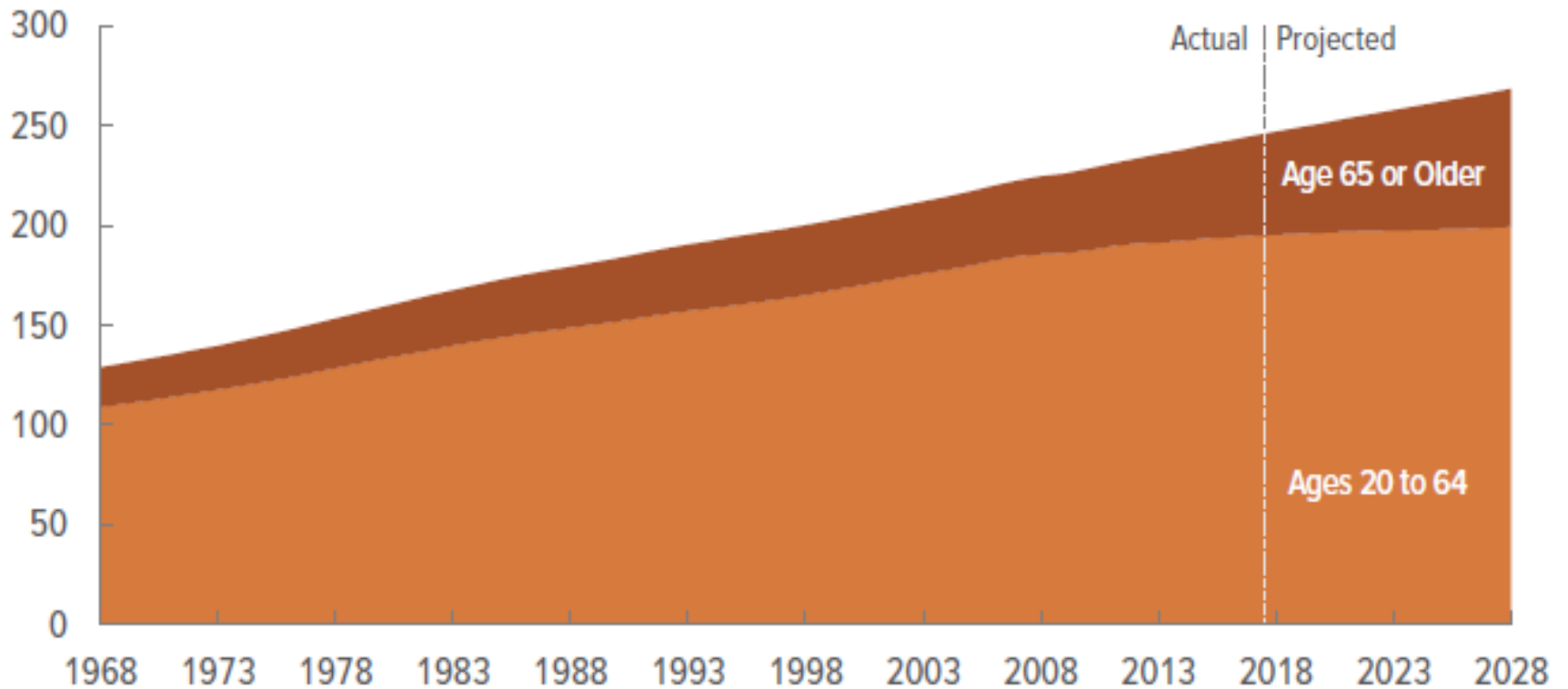


Source: CBO, Bloomberg



U.S. Population Growth by Age Group

Millions of People

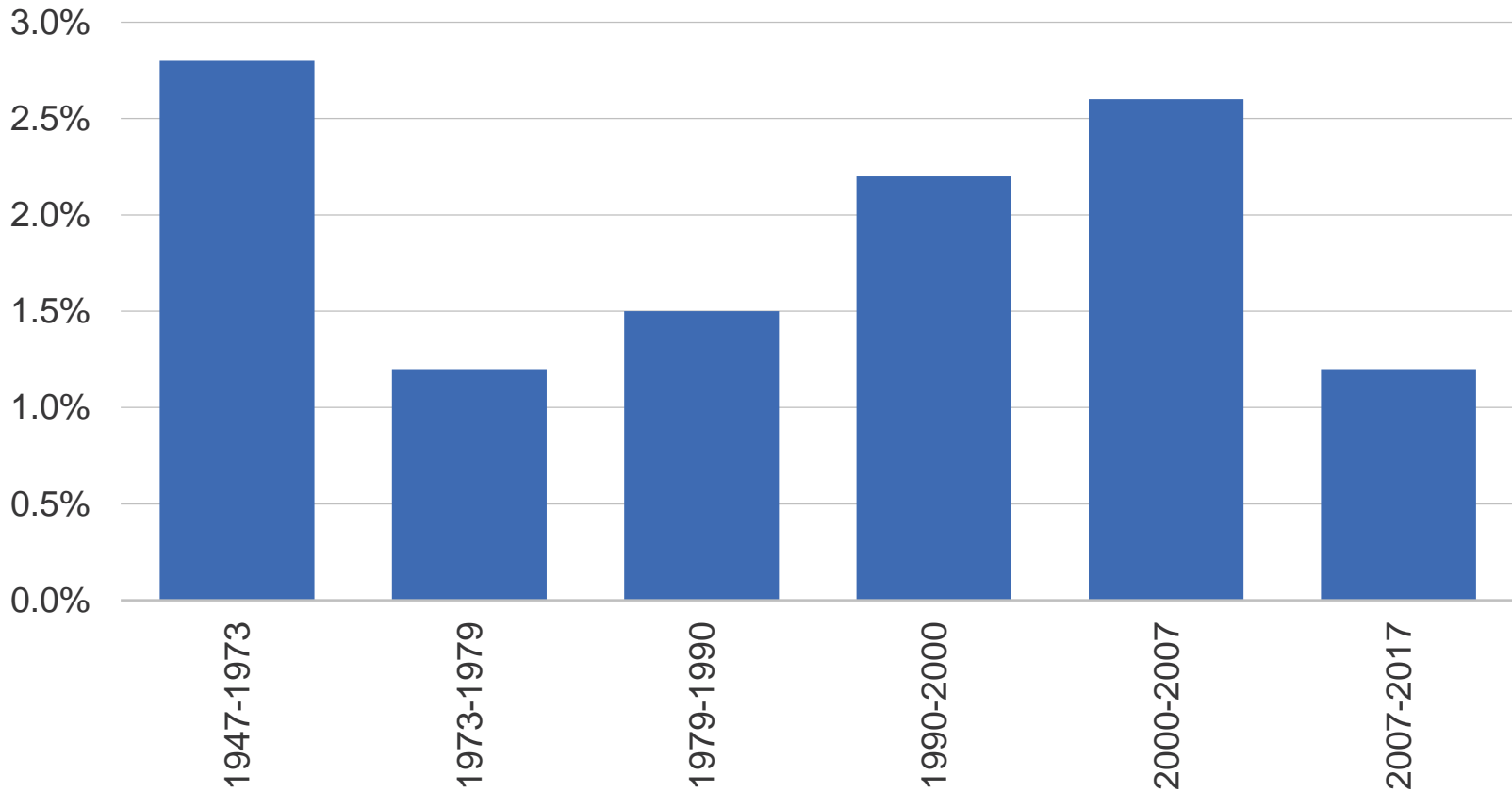


Source: CBO



U.S. Productivity Growth Has Slowed Over The Last Decade

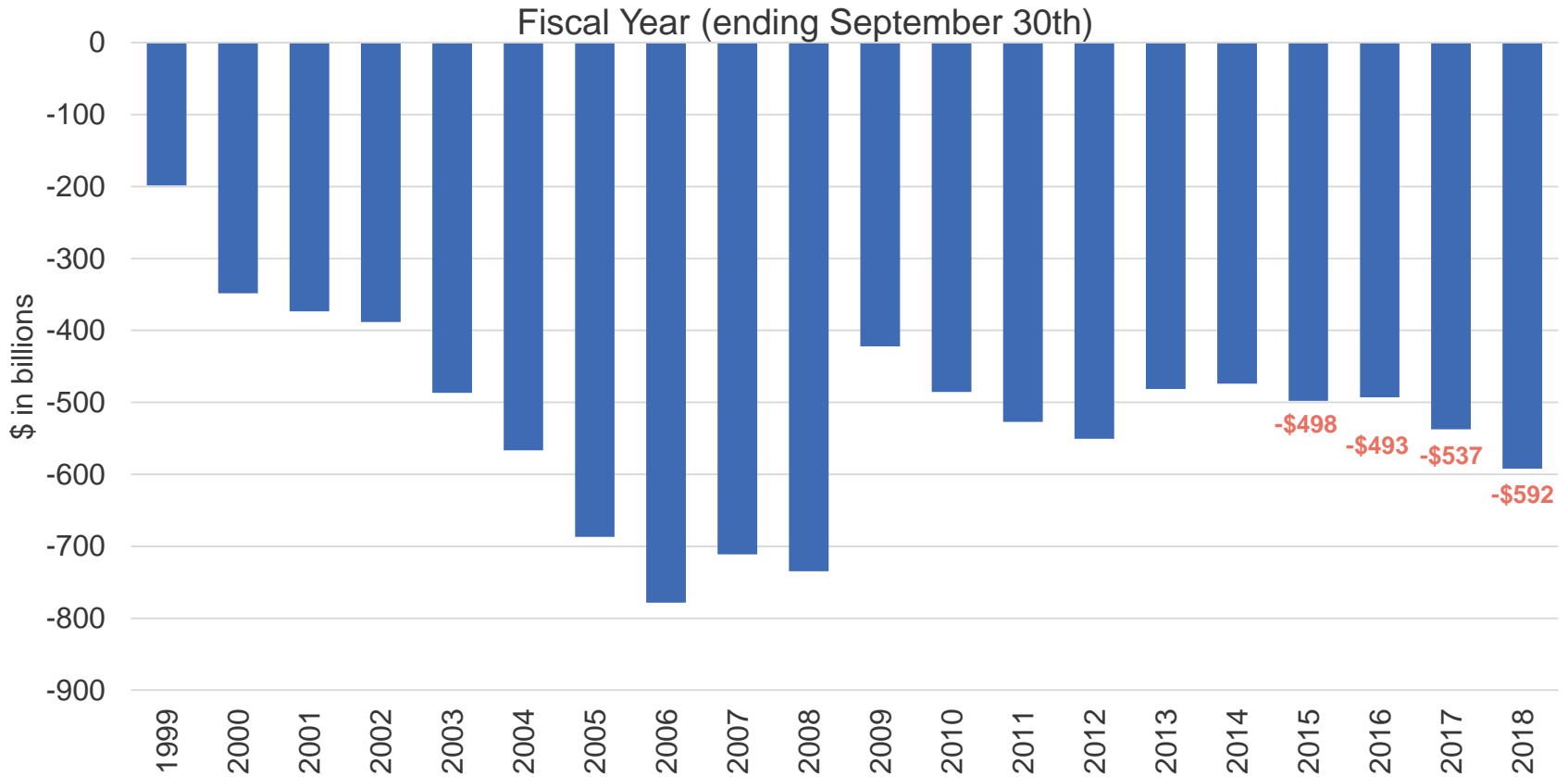
Nonfarm Business Sector



Source: Bureau of Labor Statistics



U.S. Trade Deficit



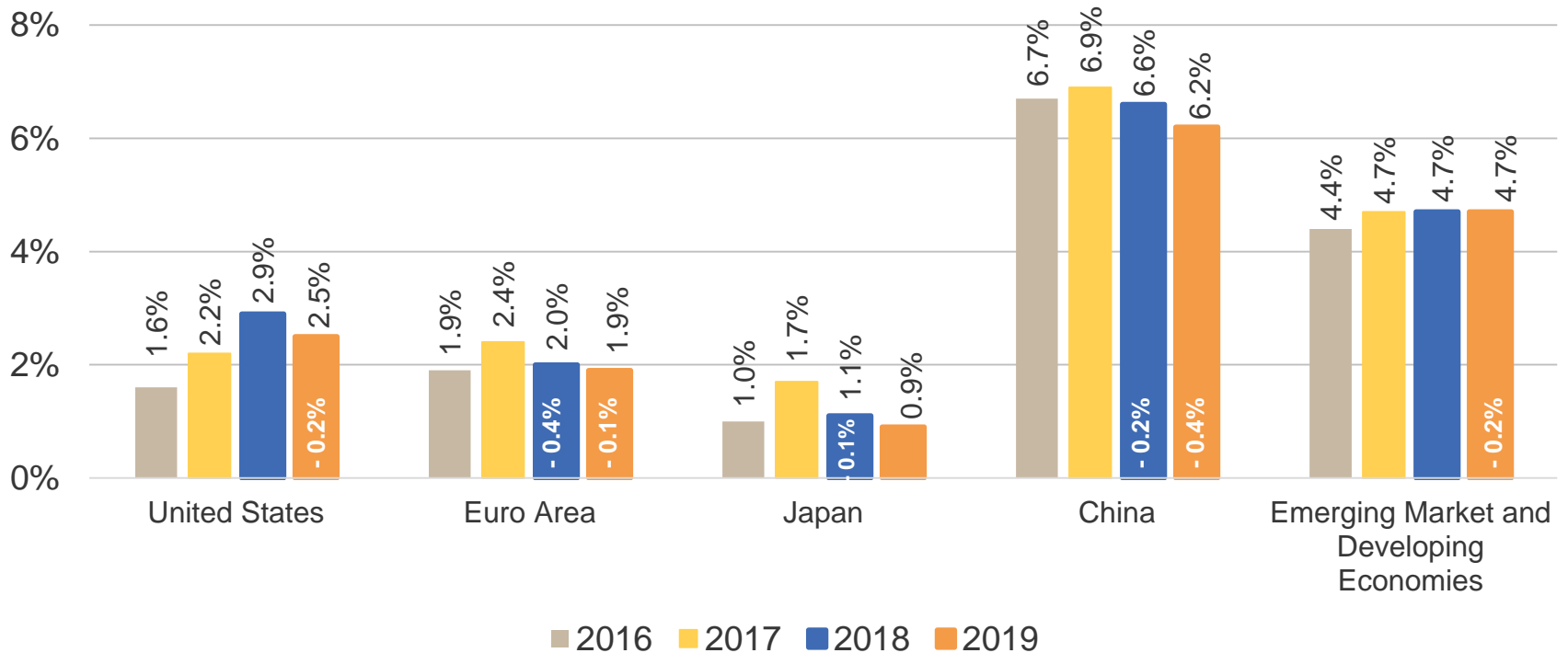
Source: Bloomberg, as of 9/30/18.



International Monetary Fund (IMF) Outlook For Lower Global Growth

- Global growth for 2018-2019 is projected to remain steady at its 2017 level, but its pace is less vigorous than projected in April. Downside risks to global growth have risen in the past six months and the potential for upside surprises has receded.

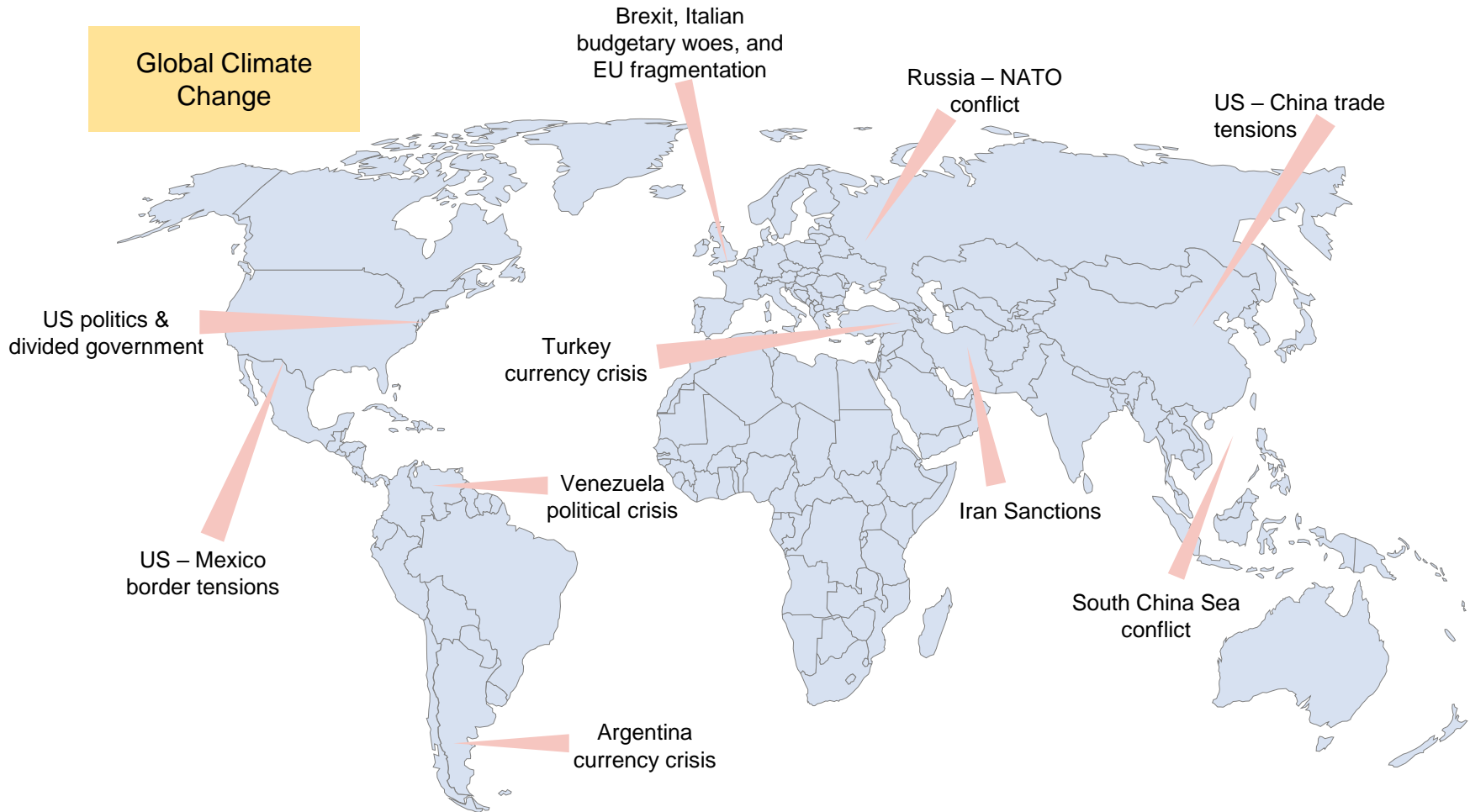
World GDP Projections



Source: IMF October Update. Numbers inside bars are the change from the IMF's April forecast.



Geopolitical Risks Around the Globe





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Michael Todd Fraizer



Michael Todd Fraizer

Managing Director
Public Financial Management
Charlotte, NC

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THE CAPITAL MARKETS TODAY: MUNICIPAL MARKET UPDATE

Council of Development Finance Agencies

PFM Financial Advisors LLC
Todd Fraizer, Managing Director

November 28, 2018

PFM Financial Advisors LLC

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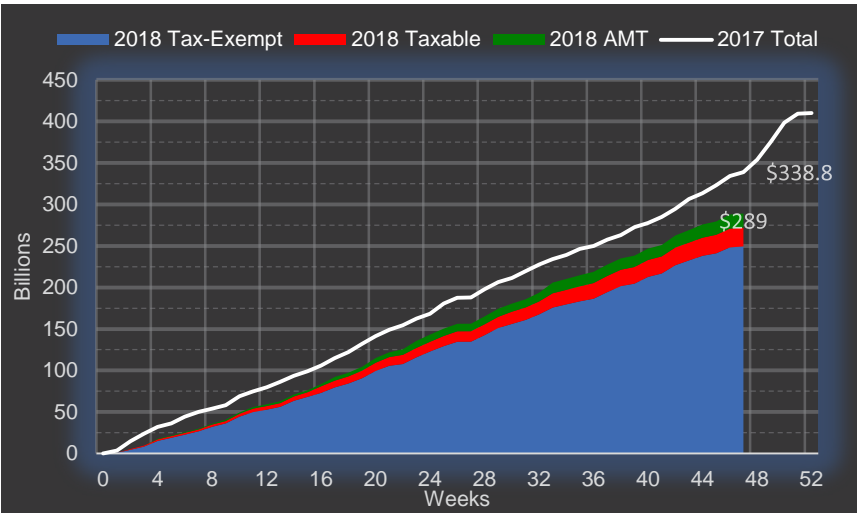
Municipal Bond Market in 2018

◆ Impacts of Tax Cuts & Jobs Act of 2017

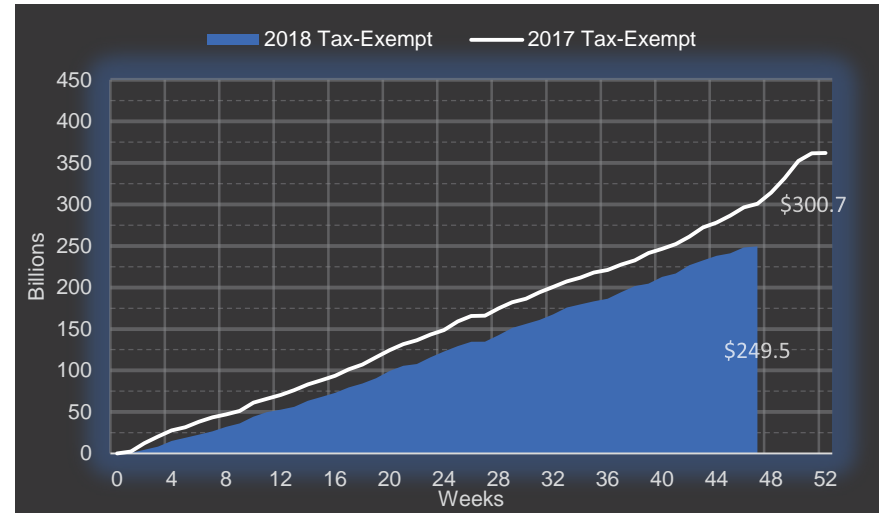
- Capped SALT Deduction at \$10k
- Reduction in corporate and individual maximum tax rates
- Raised the individual AMT exemptions significantly to \$500k for individuals and \$1M for married filing jointly
- PABs barely escaped elimination
- Repeal of Advance Refunding



Cumulative YTD Supply - Total



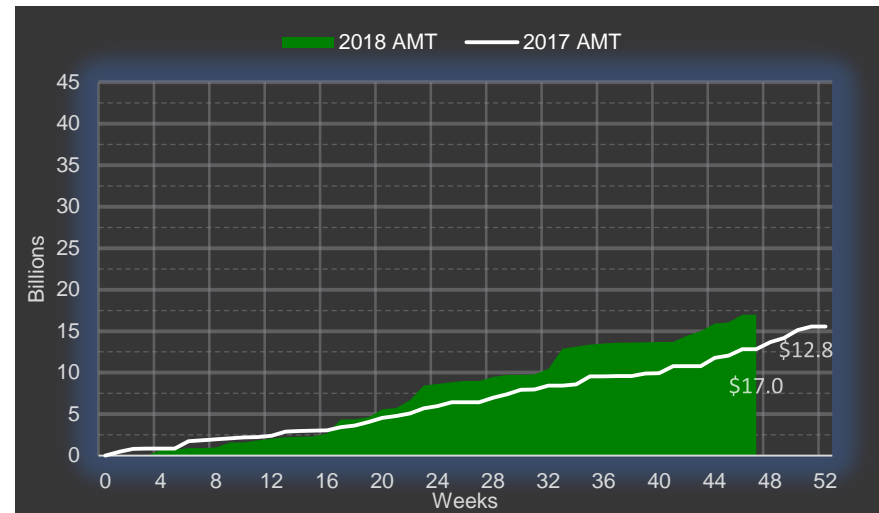
Cumulative YTD Supply - Tax-Exempt



Cumulative YTD Supply - Taxable



Cumulative YTD Supply - AMT





Municipal Bond Market in 2018

- ◆ Increase in Federal deficit and debt
- ◆ Began year with strong global recovery and economic growth
- ◆ On-shoring by multinationals which held \$3.1 trillion in Treasuries and Corporate debt to unload and distribute out to shareholders
- ◆ Asset allocation shift from fixed income to equities
- ◆ All eyes on inflationary pressure



Municipal Market at 2018 Year End

- ◆ The combination of slower global growth, higher interest rates and a potential trade war with China are finally slowing the US economy and hitting U.S. equities. This is pressuring credit spreads wider.
- ◆ Recent tensions in Europe – from wrangling over Italy’s budget to the fight over UK’s Brexit deal, as well as continued trade tensions with China - are helping the appeal of Treasuries and Municipals as safe havens.
- ◆ Global data is a real factor and may cause Fed to pause in their tightening. Reason for rate decline in recent weeks.

Source: *Bloomberg*



10-Year & 30-Year Spot Rates



10-Year Rates

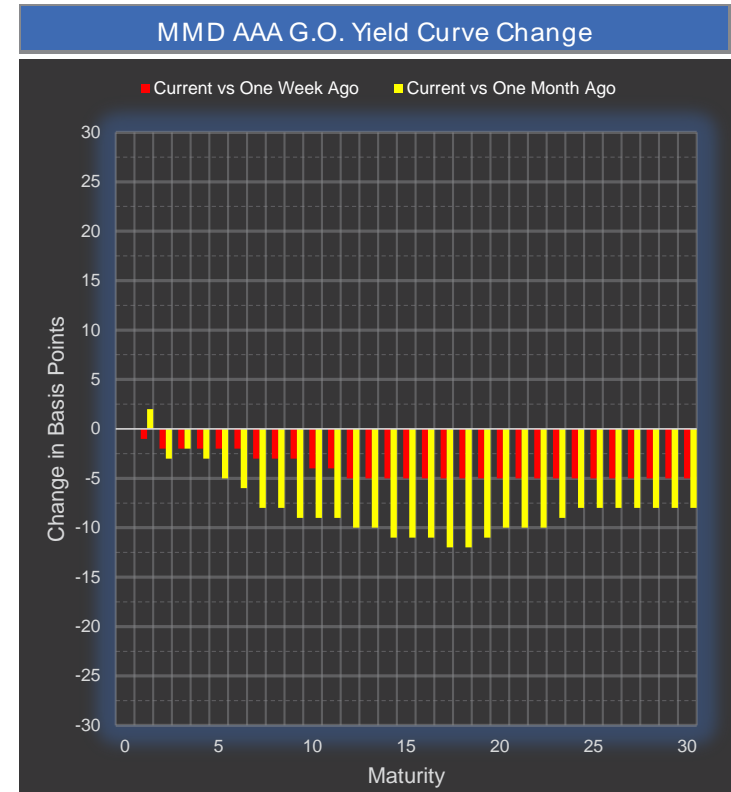
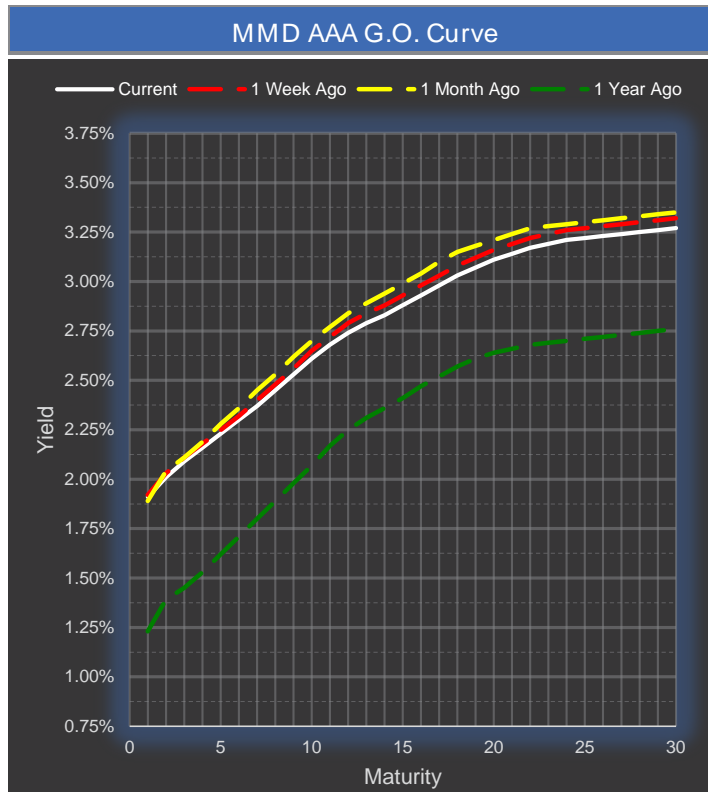
30-Year Rates

	Current	Last Week	Last Month	Last Year		Current	Last Week	Last Month	Last Year
MMD	2.61%	2.65%	2.70%	2.07%	MMD	3.27%	3.32%	3.35%	2.76%
Treasury	3.04%	3.06%	3.17%	2.32%	Treasury	3.30%	3.32%	3.37%	2.74%
MMD/TSY	86%	86%	85%	89%	MMD/TSY	99%	100%	99%	101%
BVAL	2.66%	2.69%	2.74%	2.09%	BVAL	3.35%	3.39%	3.42%	2.83%



Market Interest Rate Movements

- ◆ Municipals have recently outperformed both investment grade and high-yield corporate bonds as stock prices began to slide and some investors became defensive, retreating from debt that could be hit hard from an economic downturn.
- ◆ The recent positive tone in the past month resulted in rates improving 5-12bps with the biggest improvements in the belly (10-20 year) of the curve.



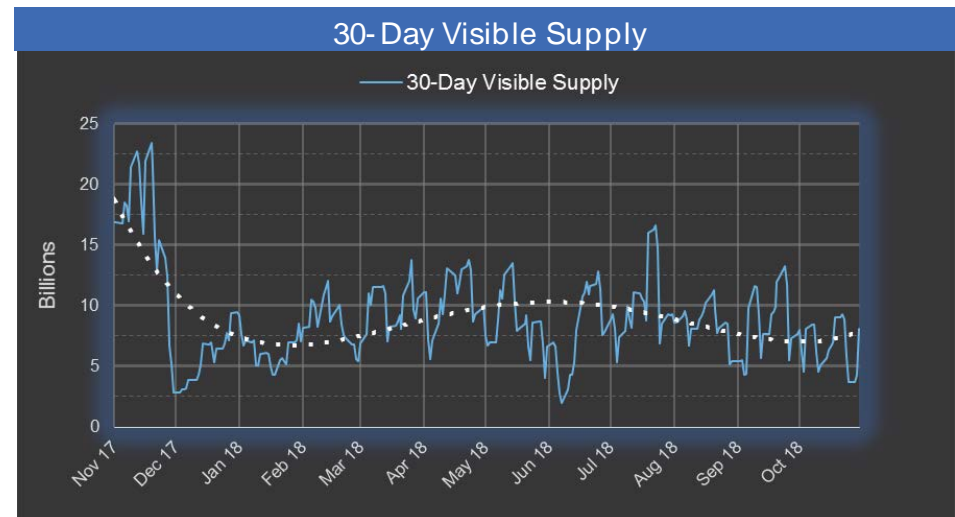
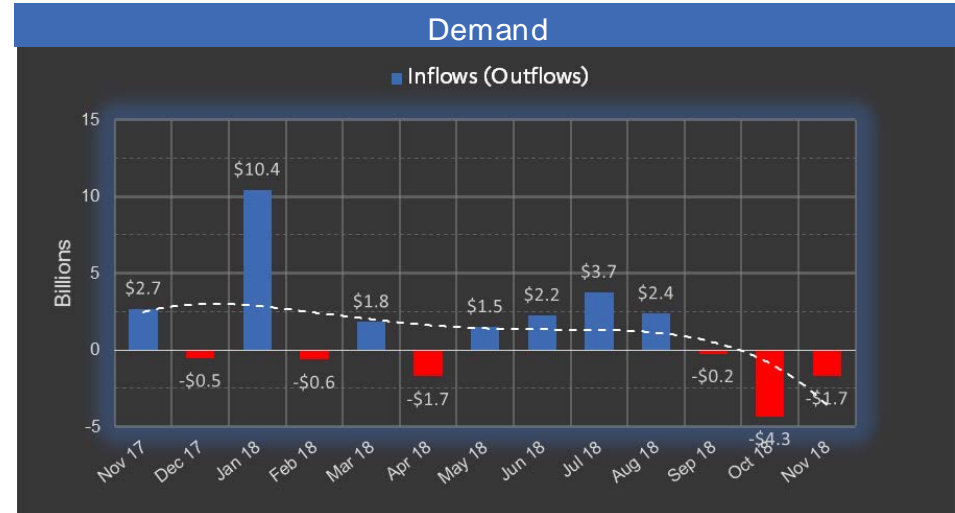
Source: Thomson Reuters
PFM Pricing Group



Fund Flows and Supply & Demand

Municipal Bond Flows

- The municipal market has seen 9 straight weeks of outflows, particularly in long dated funds, totaling over \$6B (Trump election saw \$28B in 2.5mos).
- Taxable corporate bond funds have seen investor withdraws of \$21B since the first of October.
- November – particularly after Thanksgiving – thru the end of the year has historically seen heavy supply. While supply is picking up, it appears much more manageable than recent years.
- Interest and principal payments for November and December are at estimated at \$64B, which should are outpace supply. Add in January, and the total is \$95B. This has and should continue to help offset negative fund flows.
- Nevertheless, investors remain focused on the slope of the yield curve and ratios.

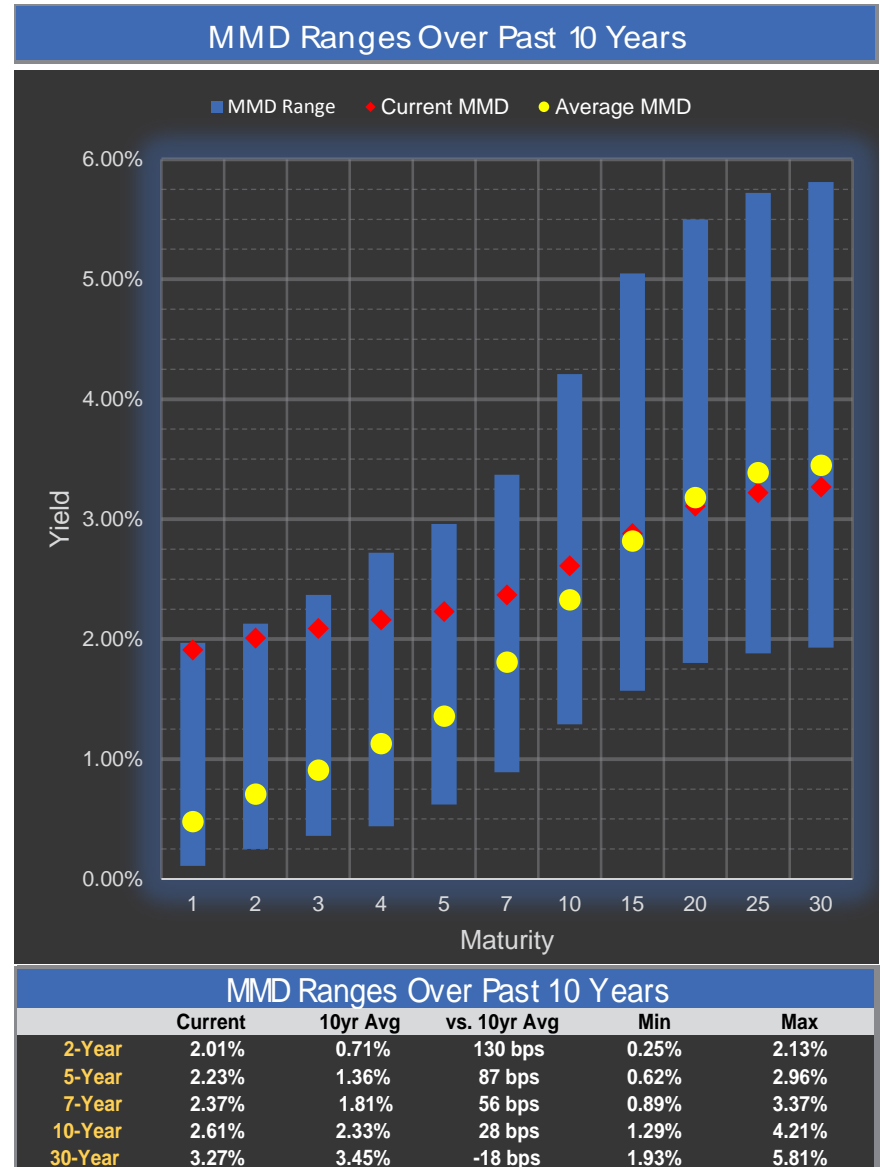


Source: Thomson Reuters
PFM Pricing Group



Market Interest Rate Movements

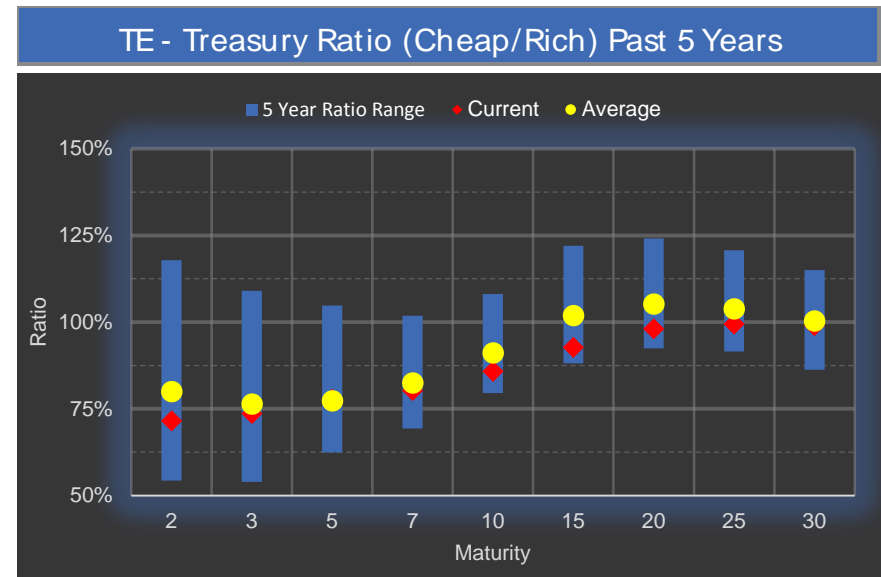
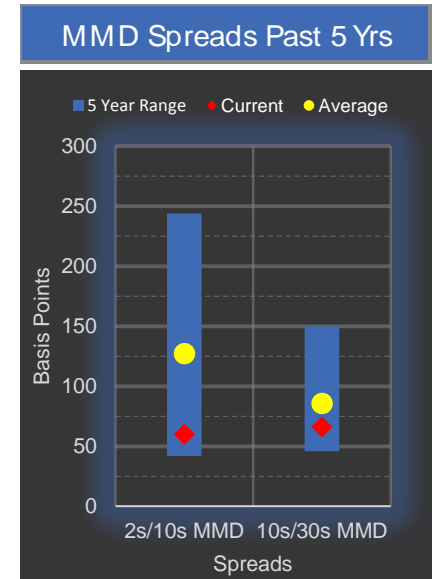
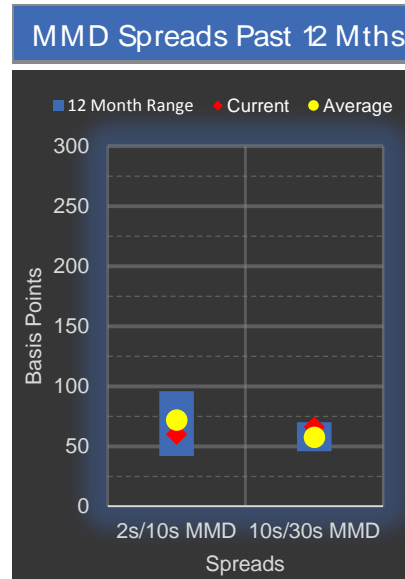
- ◆ Municipal Curve has flattened significantly. The spread between the 2 year and 30 year maturities (2s/30s) has averaged 350bps over the past 10 years. 2s/30s slope now sits at 125 bps.
- ◆ The 2 year maturity is up 130bps vs the 10 year average while 30 year maturity is lower by 18bps.
- ◆ Treasury curve is even flatter. 2s/30s slope is 50bps (40bps in September).
- ◆ The concern with additional Fed rates hikes is that the 2s/30s slope could go to zero or negative, leading to an inverted curve.
- ◆ An inverted yield curve historically has signaled an economic slowdown/recession.
- ◆ The Fed has recently commented that they see short-run inflation pressures, but not running away. The question whether the Fed will continue with the 3 planned rate hikes in 2019 or set back.



Source: Thomson Reuters
 PFM Pricing Group



- Muni Curve still has some slope relative to Treasuries, helping the municipals, however long-end of the curve remains challenging.
- 2s/10s slope is currently 60bps vs the 5 year historical average of 125bps – high was 250bps.
- 10s/30s is currently 65bps vs the 5 year average of 95bps average – high was 150bps.
- Municipal/Treasury ratios are right on top of historical averages. So, from a cheap/rich perspective, municipals are in a neutral position.
- With rates in a neutral position, the curve at its flattest levels in years, and a market uncertain about economic growth, Fed hikes and inflation, investors have become defensive and duration adverse.
- Issuers selling bonds on the long-end of the curve (beyond 20 years) have come with significant spread concessions to investors.





Short-term Market Interest Rate Movements

Short-Term Spot Rates



Short-Term Spot Rates

	Current	Average	Minimum	Maximum		Current	Average	Minimum	Maximum
SIFMA	1.69%	1.07%	0.55%	1.81%	SOFR	1.75%	1.05%	0.50%	1.84%
VRD	2.18%	1.35%	0.43%	2.18%	LIBOR	2.23%	1.93%	1.65%	2.28%

Source: Bloomberg, Thomson Reuters
PFM Pricing Group



What to Expect in 2019

- ◆ Impact of Mid-term elections
 - Additional Tax Cuts likely to stall
 - Potential Market Demand improvement
 - New Infrastructure spending likely to increase
 - Return of Refinancing?

- ◆ Transition from LIBOR to SOFR makes meaningful strides

- ◆ All eyes will remain on inflationary pressure

- ◆ Heightened Fed watch to begin the year



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Leonard Jones



Leonard Jones

Managing Director
Moody's Investor Services
New York, NY

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Global Credit Themes and ESG in Credit Ratings

• Leonard Jones, Managing Director, US Public Finance

• November 28, 2018

- 
- Global Credit Themes
2018/2019

Six main themes will shape global credit in 2019 and beyond

GROWTH

Economic growth, a core underpinning of credit conditions and quality, continues to be a key focus area for 2019.



FINANCIAL STABILITY

Financial stability, a fundamental building block for the global economy and markets, remains a prominent theme for 2019.

POLITICAL RISKS

Rising political and geopolitical risks take center stage in 2019. Heightened political risks will pose the greatest source of uncertainty to credit conditions and quality.

TRADE TENSIONS

Trade tensions are top of mind for investors. US trade policy is the most potent, far-reaching source of global risk with significant sector and regional impacts that could derail the global economy.

ESG RISKS

Environmental, social and governance risks will become more prominent in 2019. The transition to a low-carbon economy and social and demographic change have the potential to alter credit profiles.

TECHNOLOGY AND INNOVATION

Technology and innovation have the potential to reshape the credit landscape for countries, banks and companies. They remain a key secular theme for 2019.

Six main themes will shape global credit in 2019 and beyond

GROWTH

- » Economic growth will decelerate in 2019, remaining solid in advanced economies
- » Inflation will firm; trade growth will moderate
- » Slowing growth will provide less support to revenue for most sectors, amid rising labor and funding costs



TRADE TENSIONS

- » The US-China trade dispute will be prolonged
- » Escalating trade disputes will create uncertainty around company investment decisions, moderation of global trade flows and likely shifts in supply chains



FINANCIAL STABILITY

- » Global financial conditions will continue to tighten as monetary policy normalizes
- » Financial volatility, credit spreads and term premia will rise
- » Rising risks of tighter liquidity and greater rebalancing of EM portfolios, amid high corporate debt and weakening covenants



TECHNOLOGY AND INNOVATION

- » Advances in digital technologies will likely lead to productivity improvements as well as business disruptions
- » Cyber risks and data privacy issues will add to operational and reputational risks



POLITICAL RISKS

- » Rising US-China tensions will extend far beyond trade disputes
- » Potential has risen for a “no-deal” Brexit
- » Rising populism will increasingly influence political debates and policymaking



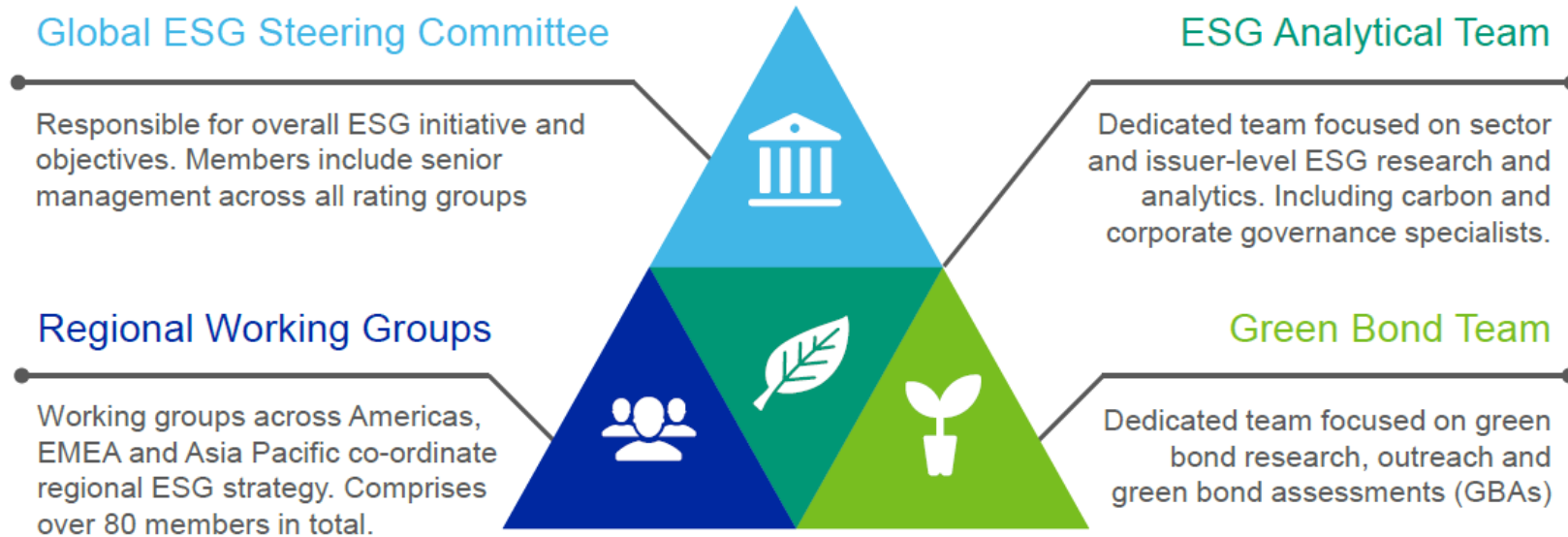
ESG RISKS

- » Carbon transition will have a tangible and disruptive impact on credit in emissions-intensive industries
- » Social considerations such as labor and income, pensions, education and health and safety will have a growing credit spotlight

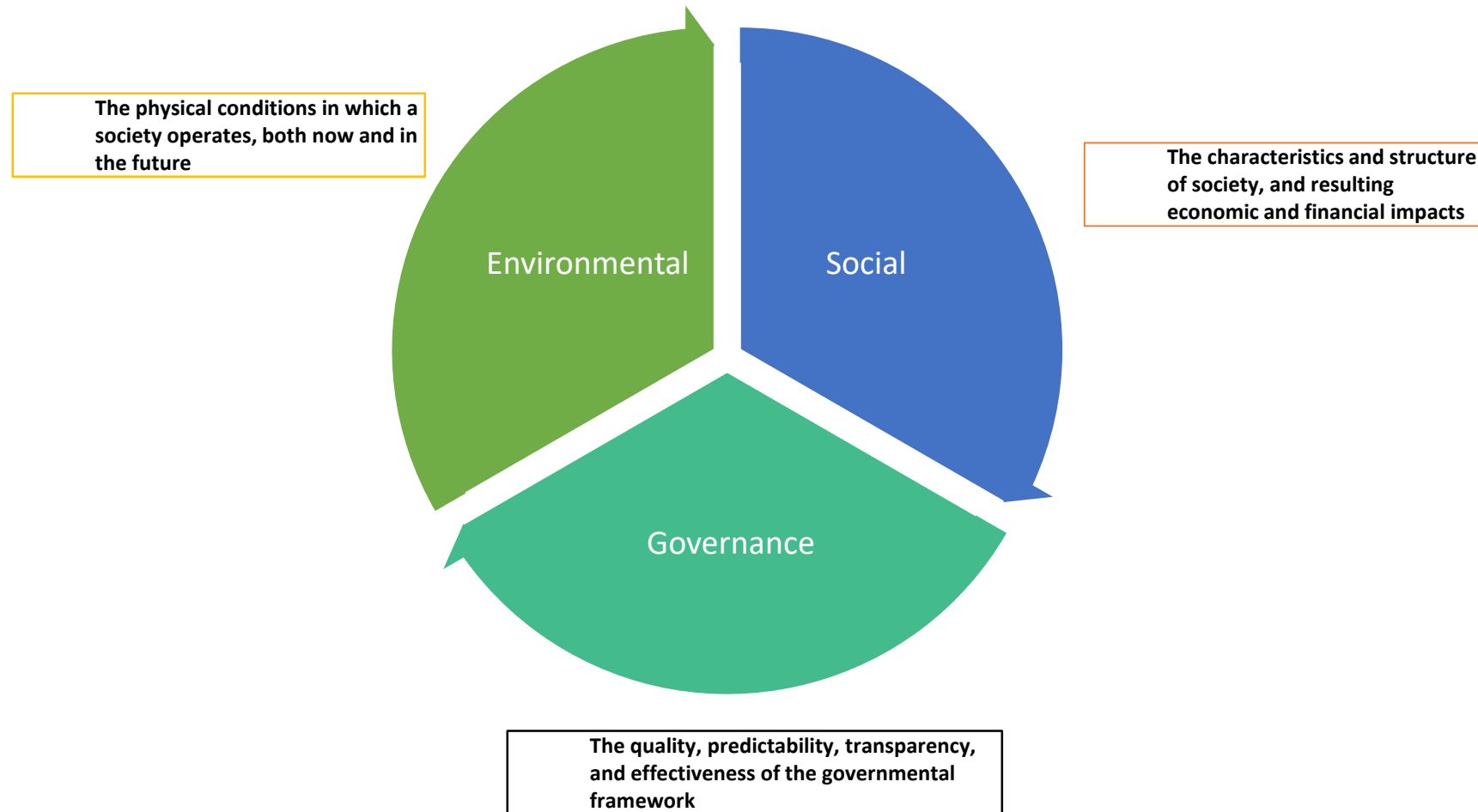


- 
- ESG in Credit Ratings

Global ESG Governance Structure

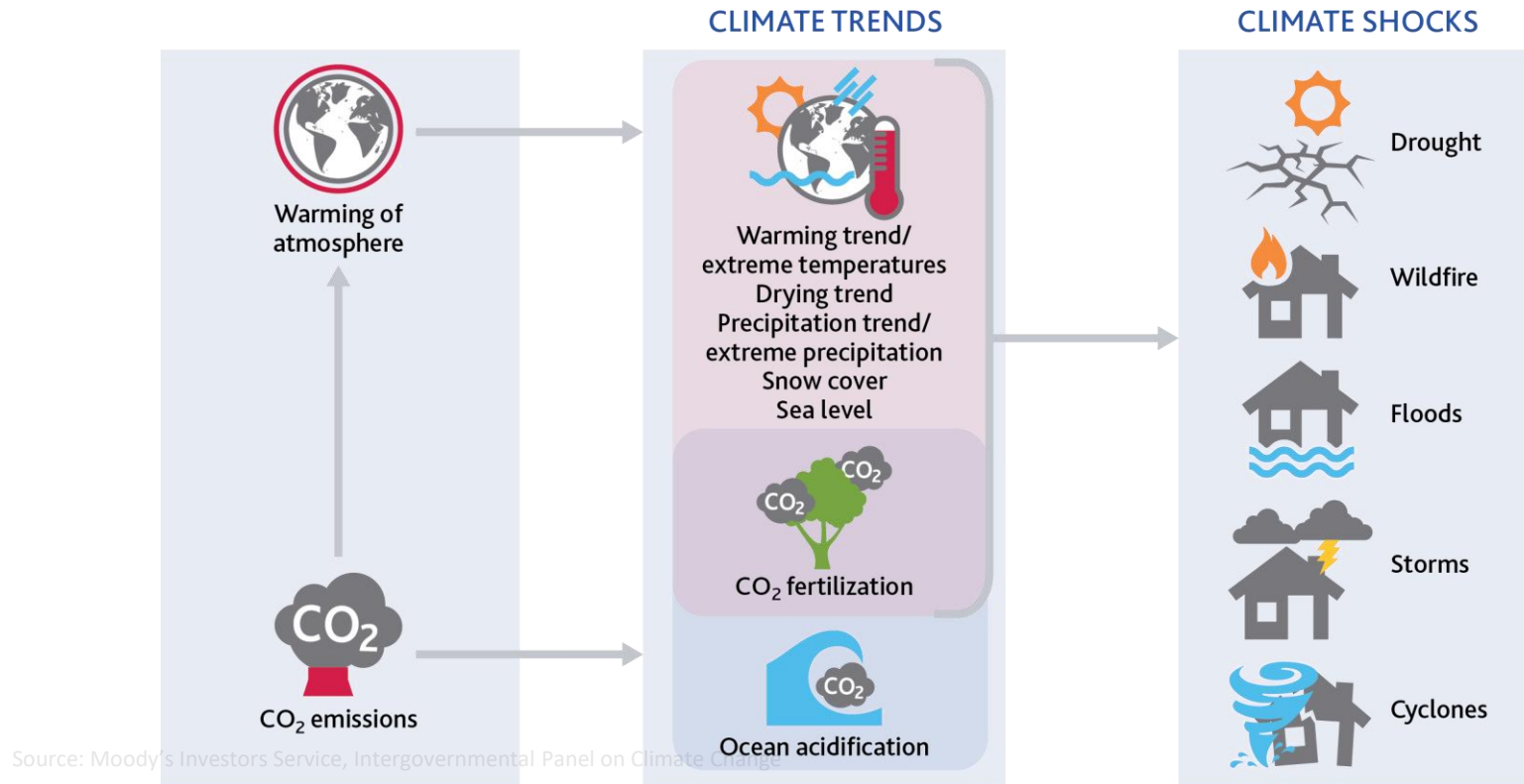


Complex interplay among the ESG Factors



- 
- Environmental Factors

Physical Effects Manifest as Climate Trends and Climate Shocks

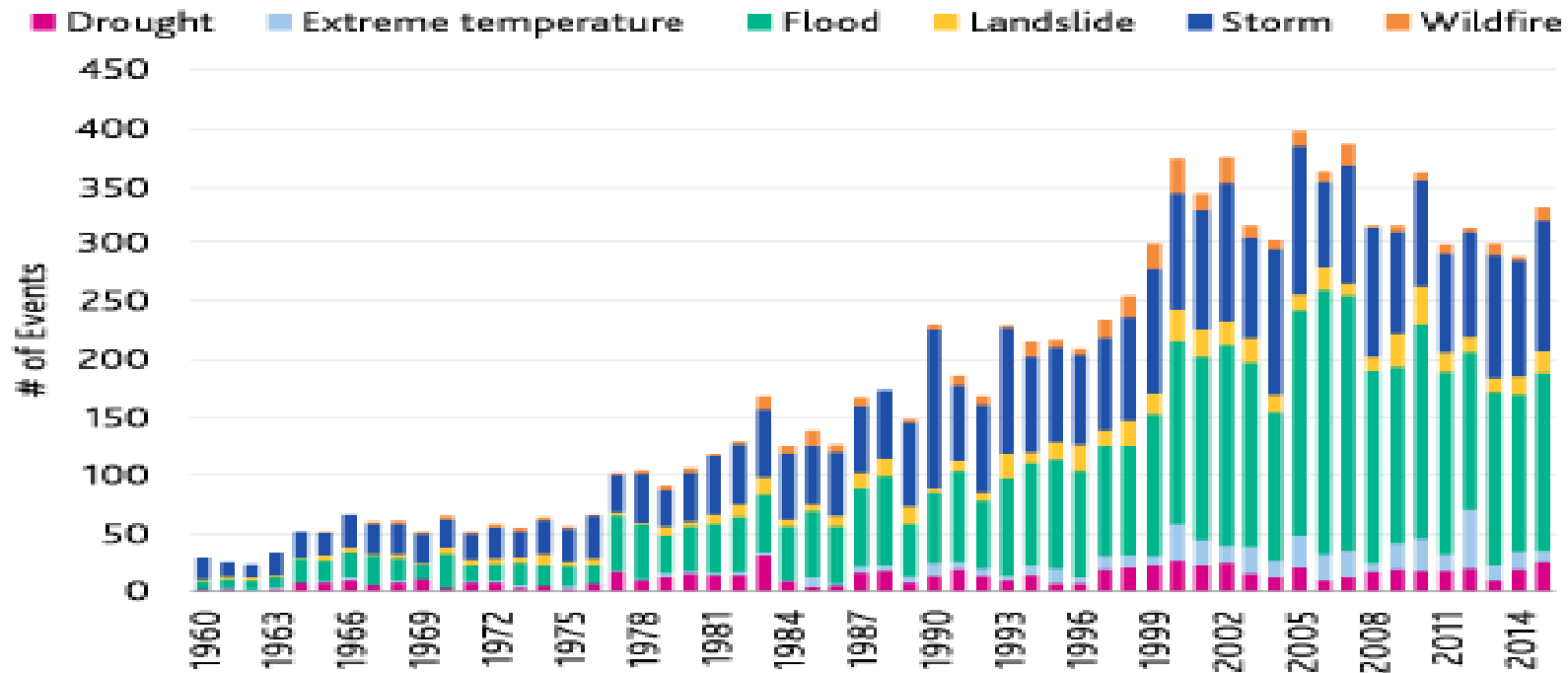


- Credit implications of climate trends and shocks will vary depending on time frame and magnitude of impact

US facing increased vulnerability to severe heat and rising sea levels

- **Rising Temperatures:** The National Climate Assessment (NCA), indicates that average US temperatures have risen by 1.3 degrees to 1.9 degrees Fahrenheit since 1895, with the majority of the increase having occurred since 1970.
- **Sea Level Rise:** The National Ocean Service forecasts that global average sea level rise will continue. In 2014, the global average sea level rise was about 2.6 inches above the 1993 average.

Natural disasters have become more frequent

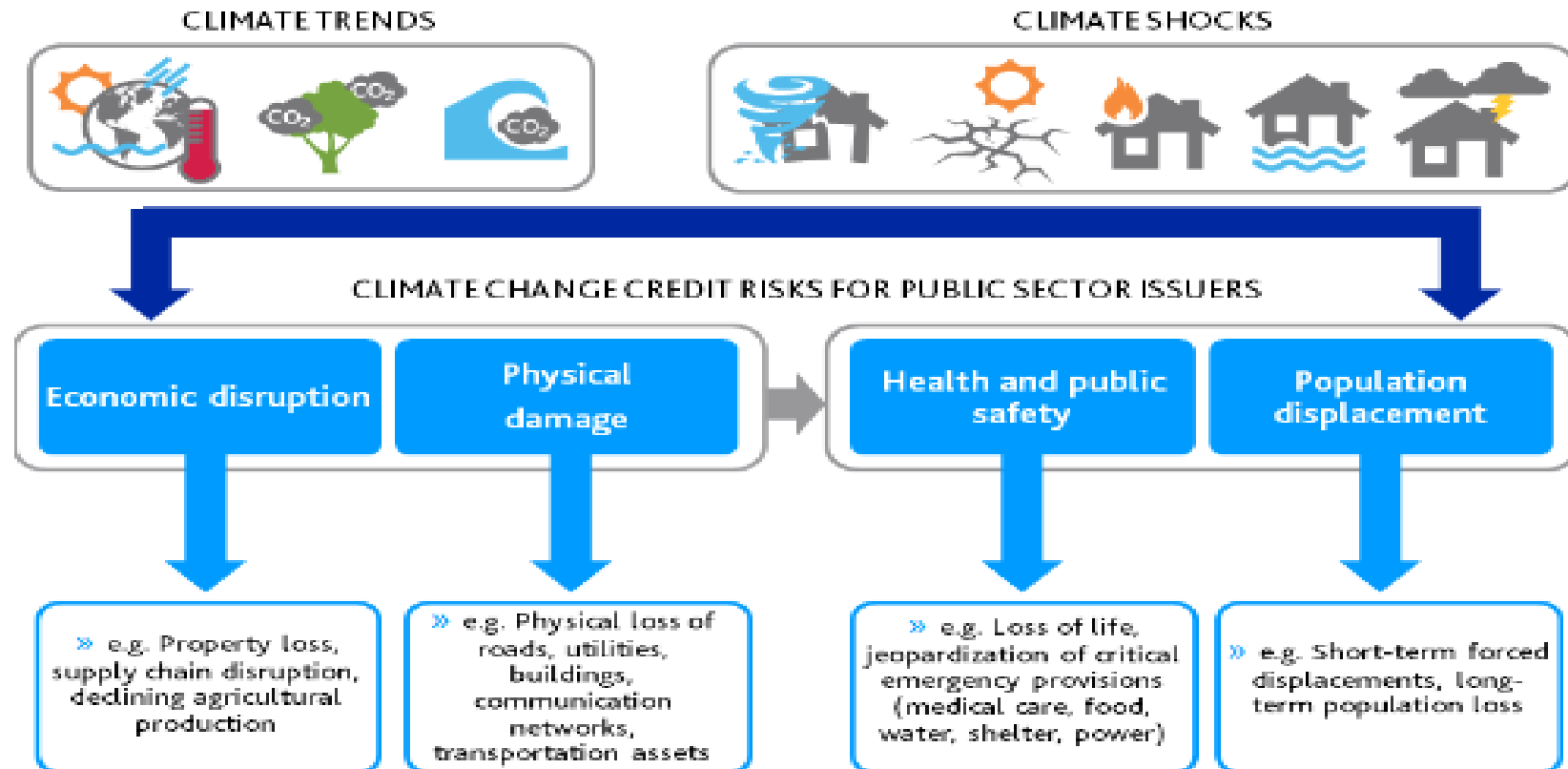


- Source: Mo *Sources: EM-DAT International Disaster Database 2016, Moody's Investors Service*

Climate risks are embedded in our approach to analyzing the key credit factors in our methodologies

- Our rating methodologies for states, local governments and public utilities do not explicitly address climate change as a credit risk.
- However, the credit challenges of climate change are captured in our analysis of economic strength and diversity, capital asset management, fiscal strength and governance, among other credit factors.
- Local governments facing elevated risk of climate shocks are asked by analysts during the rating process about their preparedness for such shocks and their activities in respect of adapting to climate trends.

We identify the primary public sector issuer credit risks of climate change as:



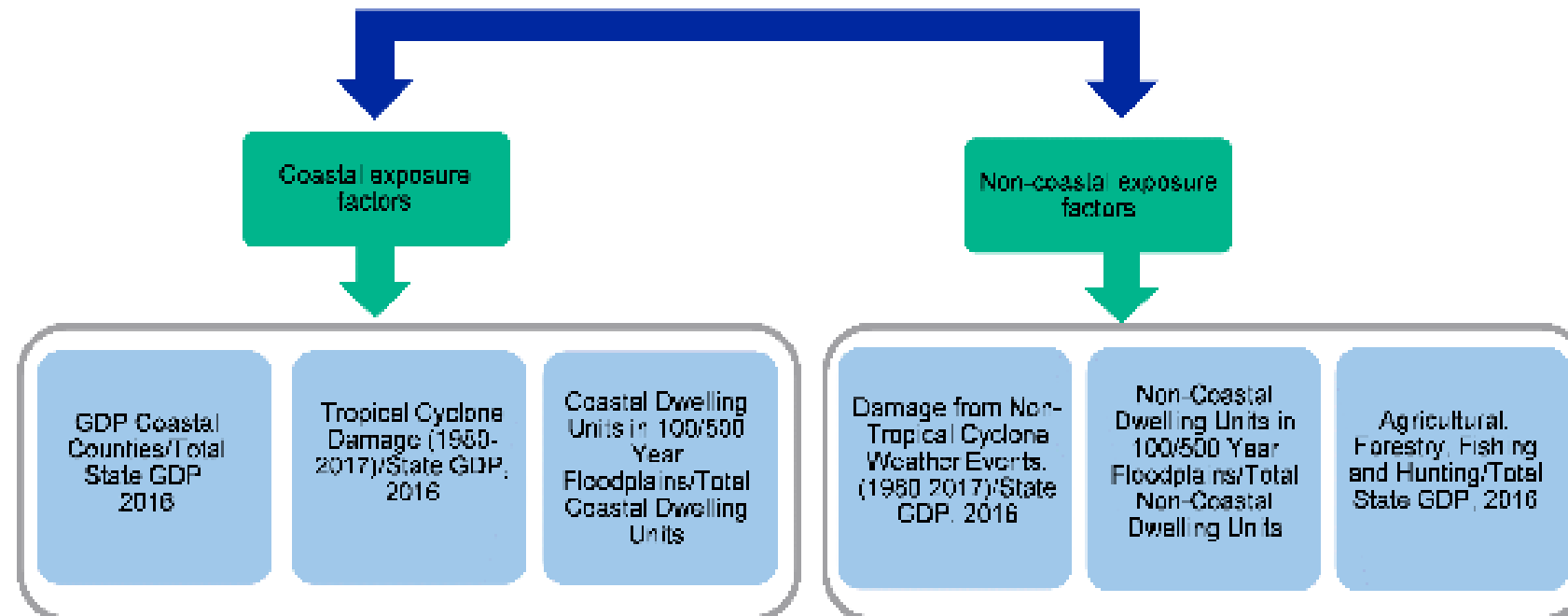
• Source: Moody's Investors Service

Analysis of key credit factors captures local government resilience

- Credit impact of climate risks captured in Local Government General Obligation methodology
 - **Economy and Tax Base (30%):** Issuers with economies concentrated in sectors exposed to climate risks face higher credit vulnerability. Small economies that can be disproportionately impacted by climate events are at a heightened risk.
 - **Finances: (30%):** Fiscal flexibility can be challenged by unanticipated emergency response costs, infrastructure repair costs, the loss of revenue or the cost of adaptive strategies. Issuers with healthy overall financial positions and strong liquidity are best positioned to service these risks with minimal credit impacts.
 - **Management (20%):** Issuers with established and well-developed emergency management, financial, capital and debt plans will be best suited to overcome climate stressors.
 - **Debt/Pensions (20%):** Entities with low, manageable debt profiles will benefit from having capacity to incorporate obligations to finance capital improvements.

US states' exposure and overall susceptibility to climate change

- Exposure to climate change risks



- Source: Moody's Investors Service

Local, state and federal tools for immediate response and long-term recovery enhance resilience to credit risks of climate shocks

- The availability of resources at multiple layers of government is an important element that broadens the response capabilities of local issuers and their ability to mitigate credit impacts.
- State governments monitor and evaluate the effectiveness of local response efforts and, if needed, provide both immediate response and long-term recovery assistance.
- Under FEMA, the federal government coordinates the provision of essential emergency response services through a variety of federal agencies. These services include, among others, transportation, communications, public works and engineering, mass care, food, energy, and search and rescue.


- 
- Social Factors

Six broad social factors with representative subcomponents

Each broad factor could have multiple additional subcomponents


- Age distribution
- Immigration
- Birth rates
- Racial & ethnic composition/trends

Demographics



- Labor force participation, broadly and by segment
- Income equality/income inequality

Labor & income




- Access to primary/secondary/tertiary
- Educated populace
- Literacy

Education



- Availability and access ability of housing
- Condition of housing

Housing




- Healthcare
- Food security
- Environmental quality
- Personal safety & well-being

Health and safety

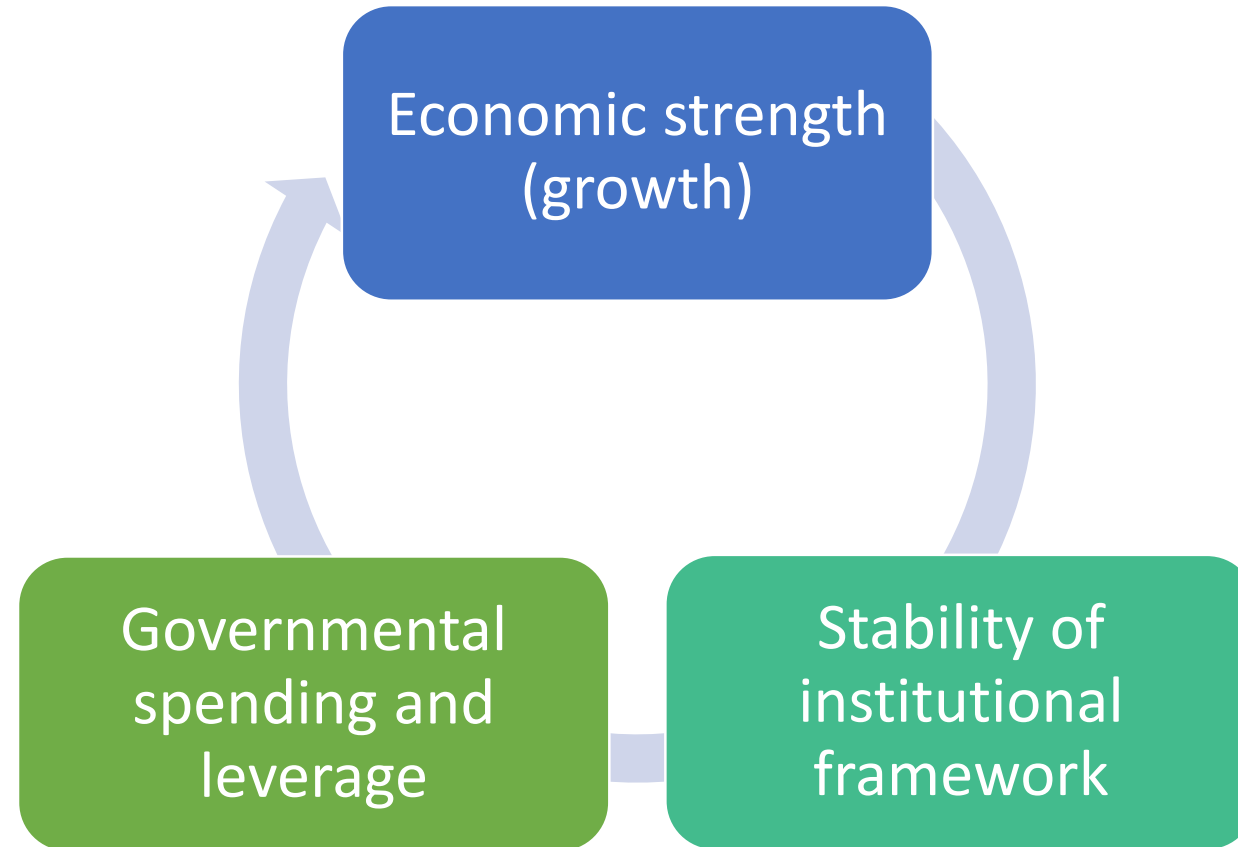


- Water
- Sewer
- Electricity
- Financial services
- Transportation
- Telecom/Internet

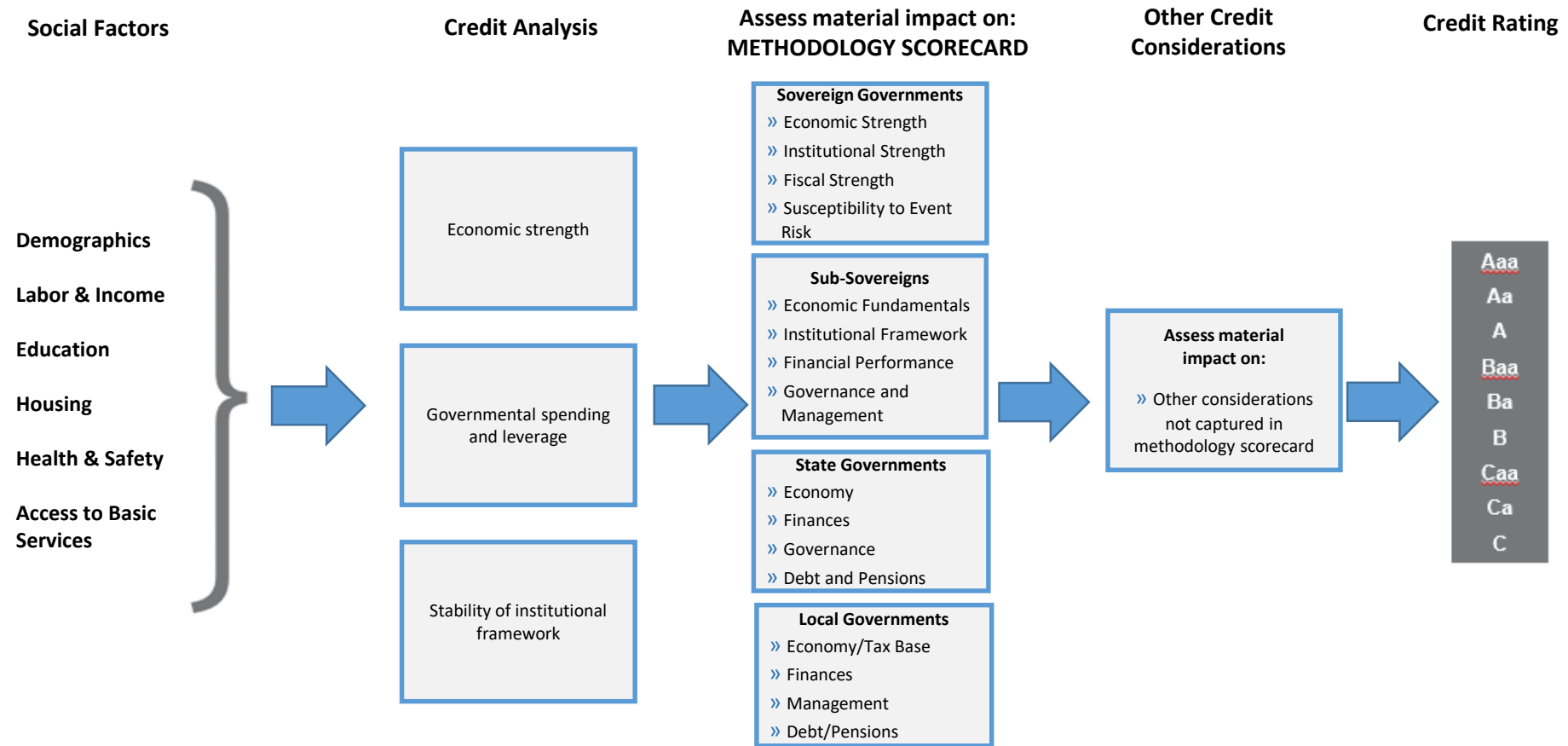
Access to basic services



Social factors affect credit in 3 primary ways



Social considerations impact governmental analysis via multiple channels



Source: Moody's Investors Service

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