

# Paperboard Packaging Council

*Winds of Change*



Dr. Alan Beaulieu  
President

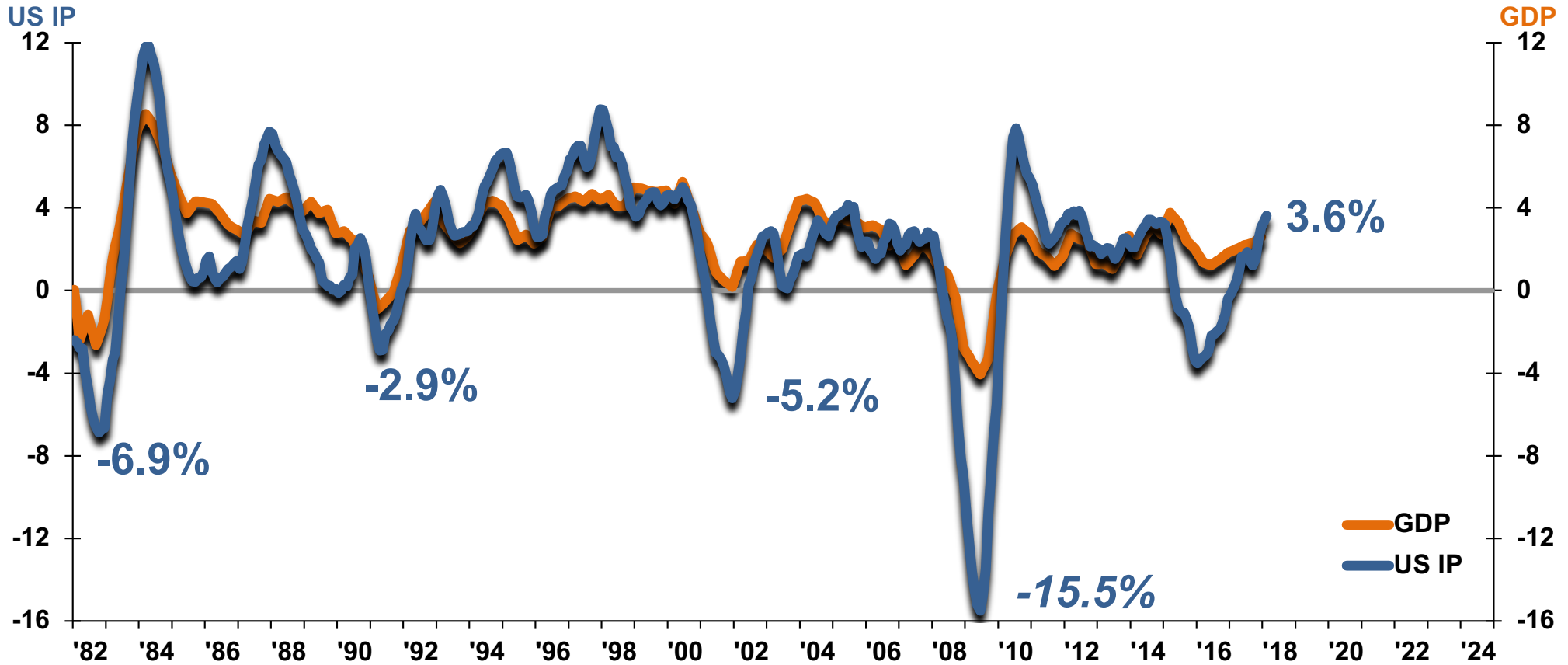
## 2017 Forecast Results

### If you heard ITR around two years ago...

	Duration	Accuracy
US GDP	24	99.7%
US Ind. Prod.	24	96.8%
Europe Ind. Prod.	27	99.9%
Canada Ind. Prod.	24	96.7%
China Ind. Prod.	30	97.8%
Retail Sales	25	98.0%
Housing	27	99.5%
Employment	23	99.5%

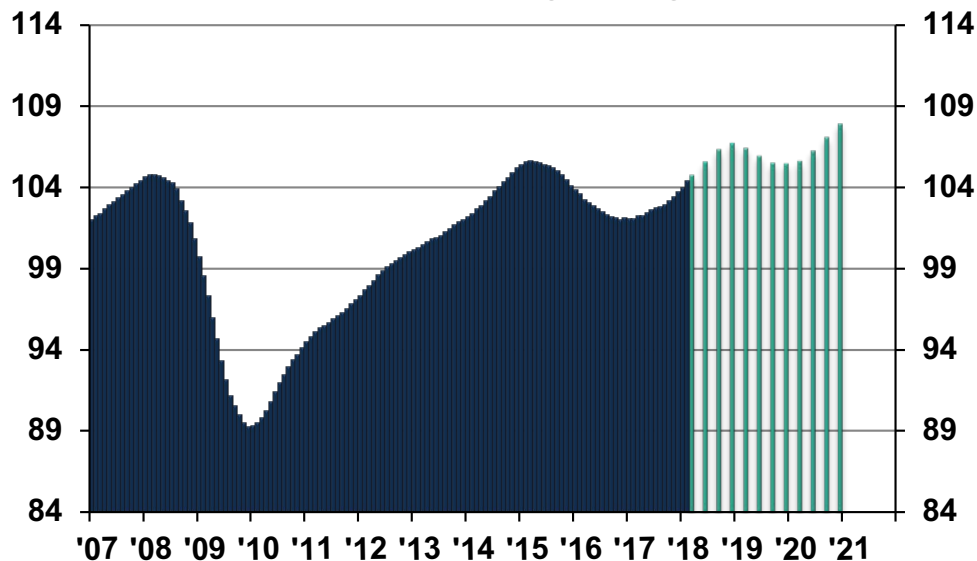
*ITR Economics provides the best economic intelligence to reduce risk and drive practical and profitable business decisions.*

# US Industrial Production to Gross Domestic Product



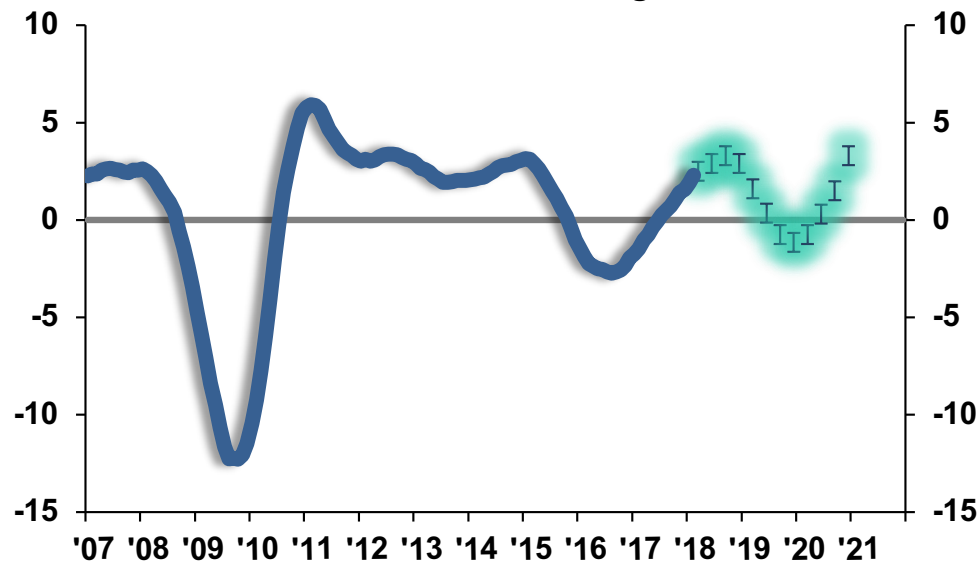
# US Industrial Production Index

**US Industrial Production Index**  
12-Month Moving Average



- Annual Trend: 104.4
- Phase: B
- Year-over-Year: 2.3%

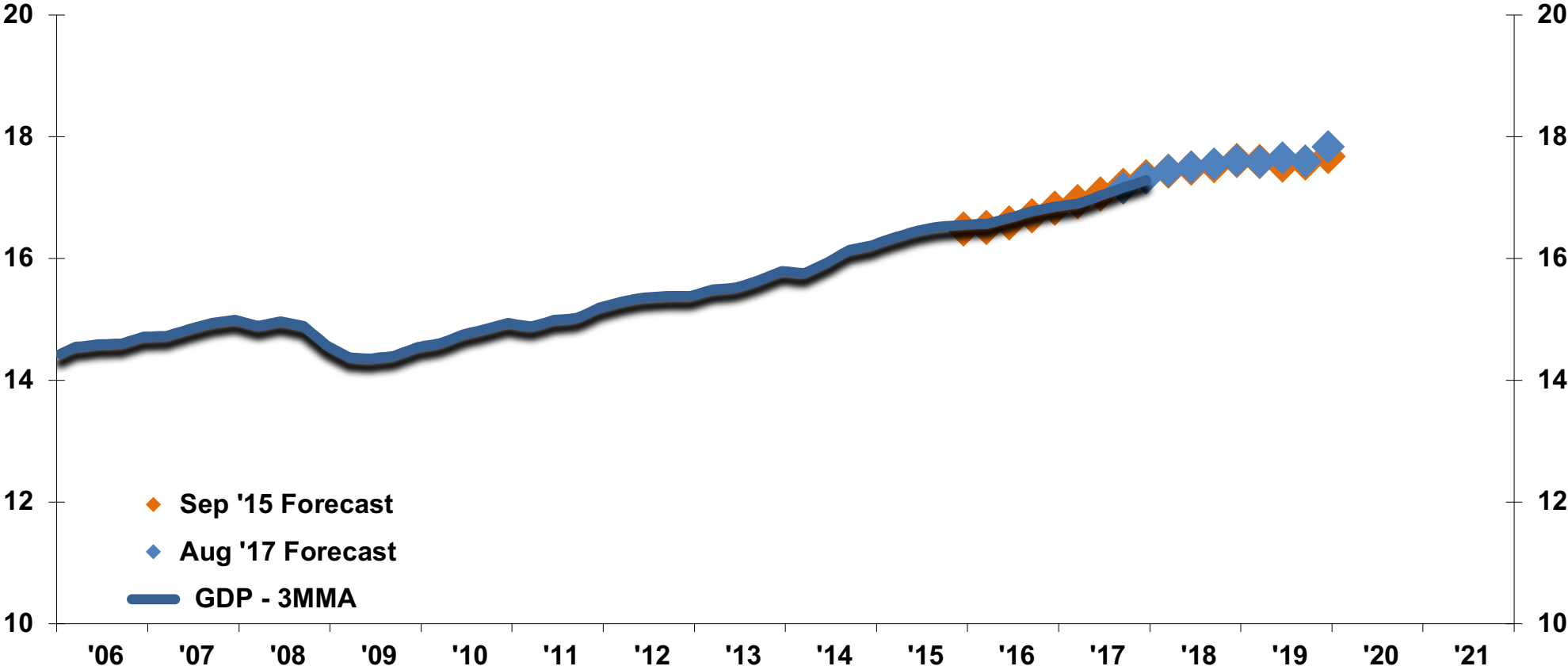
**Year-over-Year Growth Rate**  
12/12 Rate-of-Change



**ITR**   
**Outlook**

**2018: 2.9%**  
**2019: -1.2%**  
**2020: 2.3%**

# US Real Gross Domestic Product



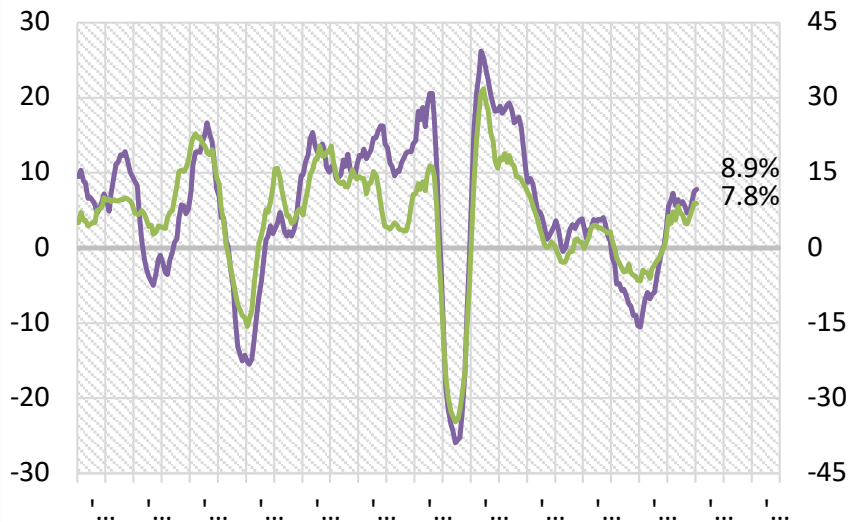
First in Forecasts Since 1948

3MMA

Source: BEA 5

# Rate-of-Change & How They Work

Tools for Seeing the Future



# Data Preparation

	<u>Raw</u>	<u>3MMT</u>	<u>3/12</u>	<u>12MMT</u>	<u>12/12</u>
Apr-16	1.4				
May-16	1.5				
Jun-16	1.5	4.4			
Jul-16	1.4	4.4			
Aug-16	1.5	4.4			
Sep-16	1.3	4.2			
Oct-16	1.3	4.1			
Nov-16	1.6	4.2			
Dec-16	1.6	4.5			
Jan-17	1.5	4.7			
Feb-17	1.7	4.8			
Mar-17	1.6	4.8		18.0	
Apr-17	1.7	5.0		18.2	
May-17	1.7	5.0		18.4	
Jun-17	1.7	5.1	15.9%	18.6	
Jul-17	1.6	5.0	13.6%	18.8	
Aug-17	1.7	5.0	13.6%	19.0	26.7%
Sep-17	1.5	4.8	14.3%	19.2	25.5%
Oct-17	1.5	4.7	14.6%	19.4	25.2%
Nov-17	1.9	4.9	16.7%	19.7	22.4%
Dec-17	1.7	5.1	13.3%	19.8	20.0%
Jan-18	1.7	5.3	12.8%	20.0	18.3%
Feb-18	1.9	5.3	10.4%	20.2	15.4%
Mar-18	1.7	5.3	10.4%	20.3	12.7%

**DATACAST !**

## 3/12 Rate-of-Change

$$= \frac{\text{March 2018 3MMT}}{\text{March 2017 3MMT}} \times 100 - 100$$

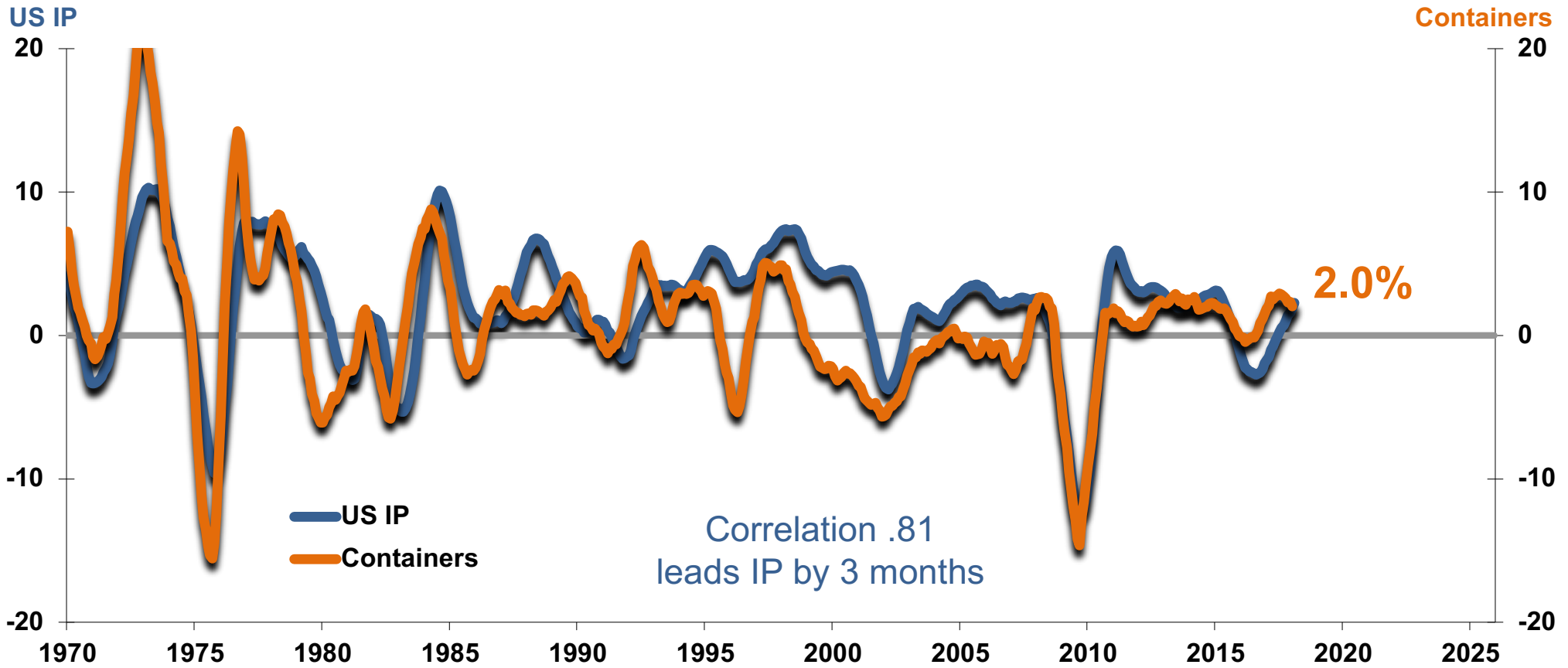
$$= \frac{5.3}{4.8} \times 100 - 100 = 10.4\%$$

## 12/12 Rate-of-Change

$$= \frac{\text{March 2018 12MMT}}{\text{March 2017 12MMT}} \times 100 - 100$$

$$= \frac{20.3}{18.0} \times 100 - 100 = 12.7\%$$

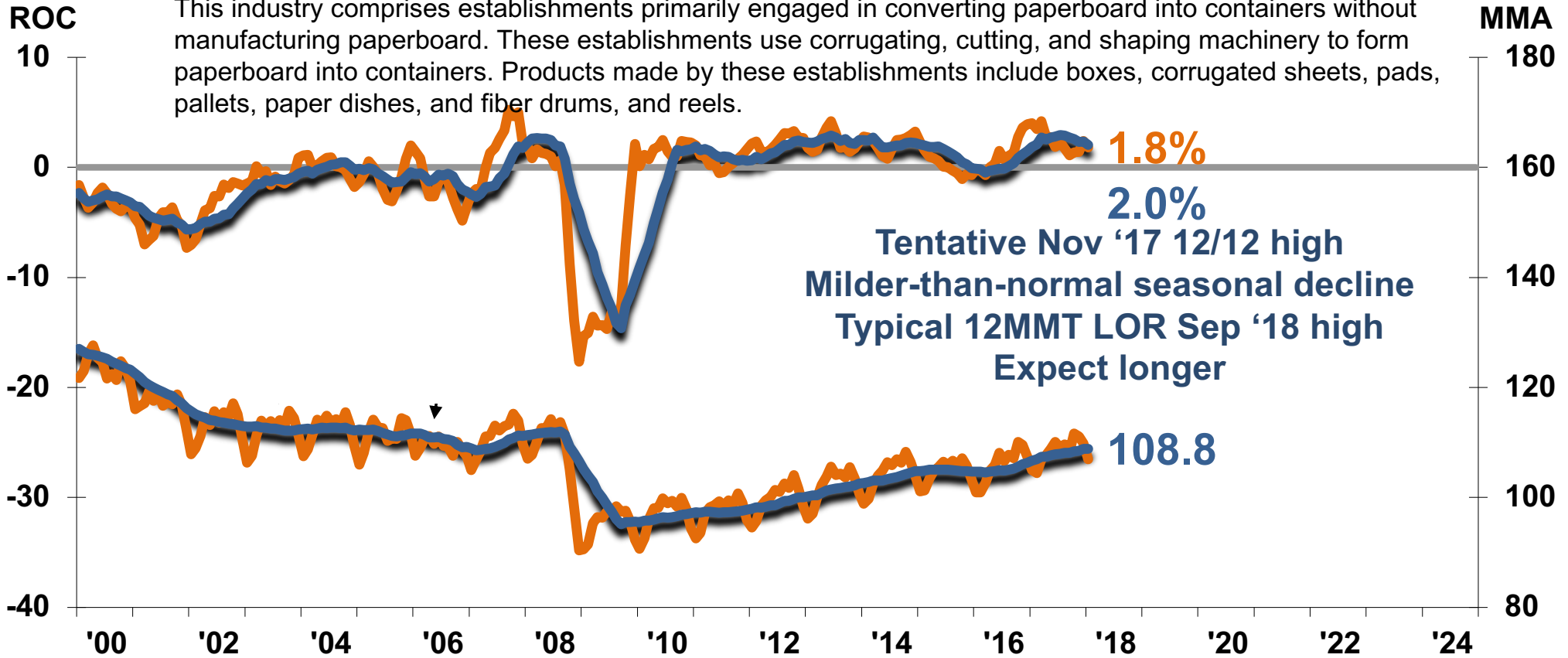
# US Industrial Production to Paperboard Containers Production



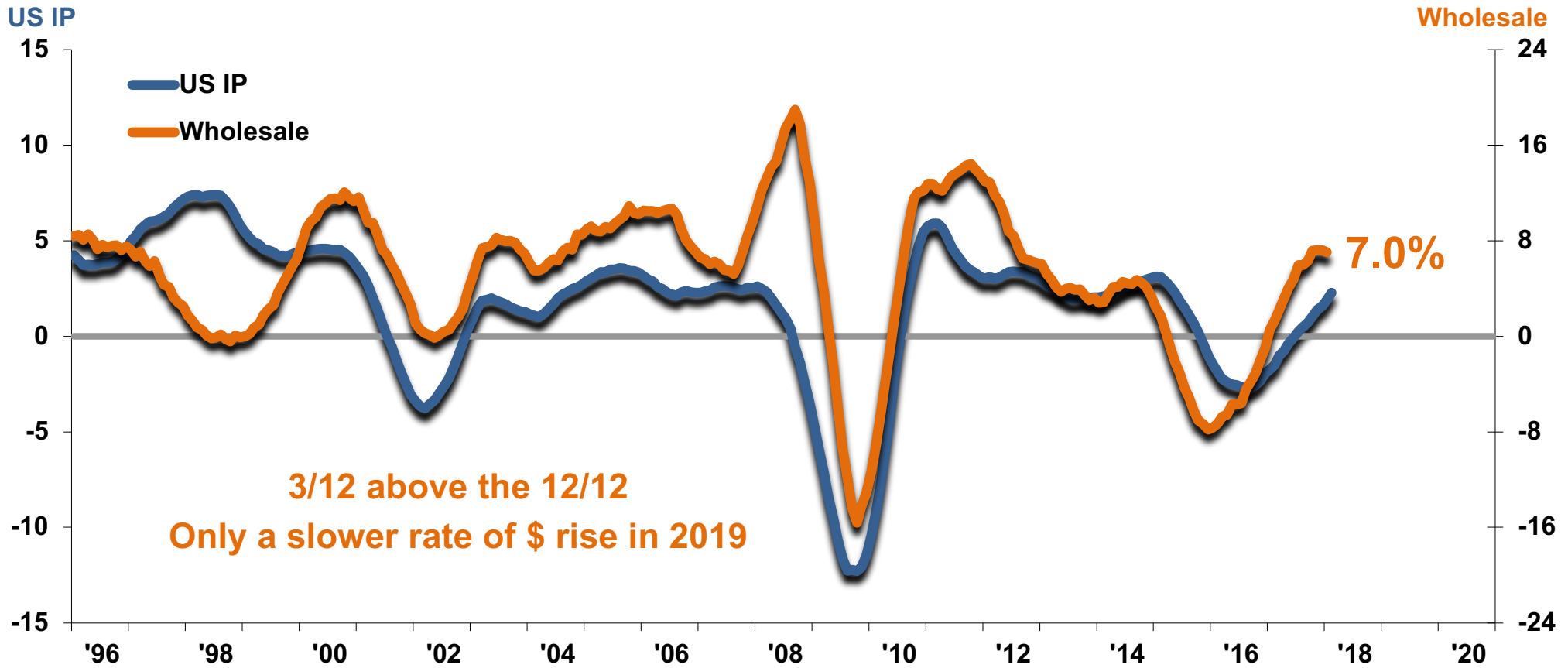
# Paperboard Containers Production Index

## 32221 Paperboard Container Manufacturing

This industry comprises establishments primarily engaged in converting paperboard into containers without manufacturing paperboard. These establishments use corrugating, cutting, and shaping machinery to form paperboard into containers. Products made by these establishments include boxes, corrugated sheets, pads, pallets, paper dishes, and fiber drums, and reels.

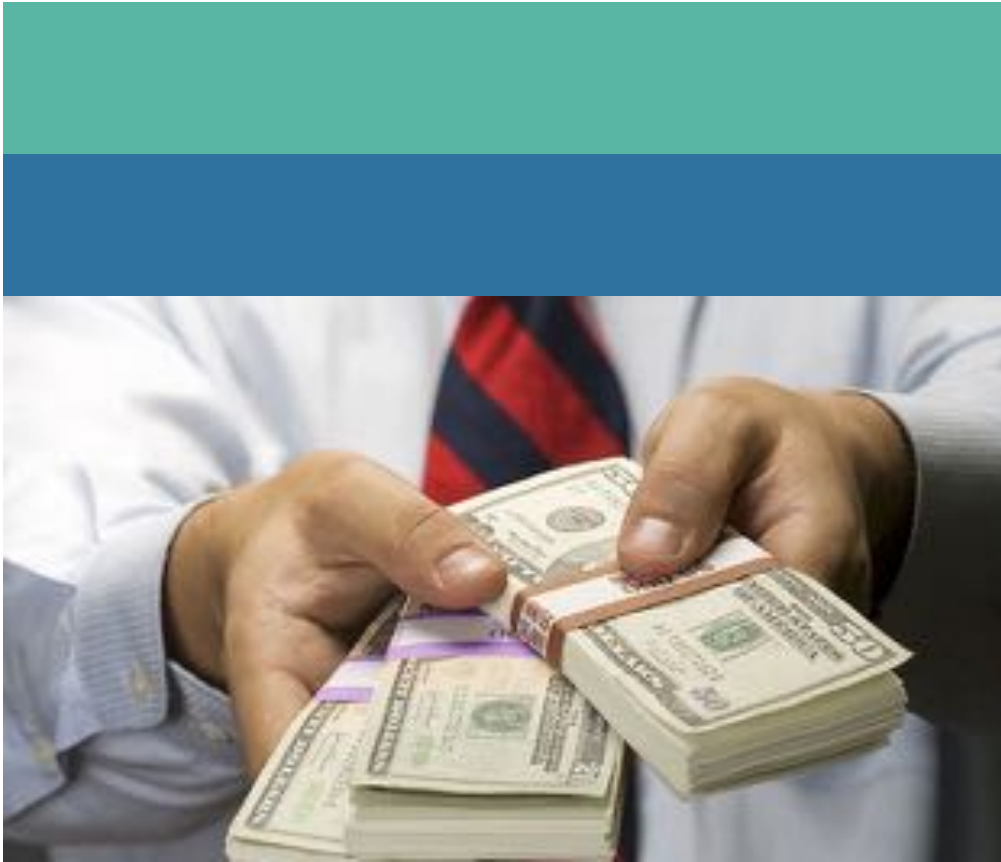


# US Industrial Production to US Wholesale Trade Nondurable Goods



3/12 above the 12/12  
Only a slower rate of \$ rise in 2019

7.0%



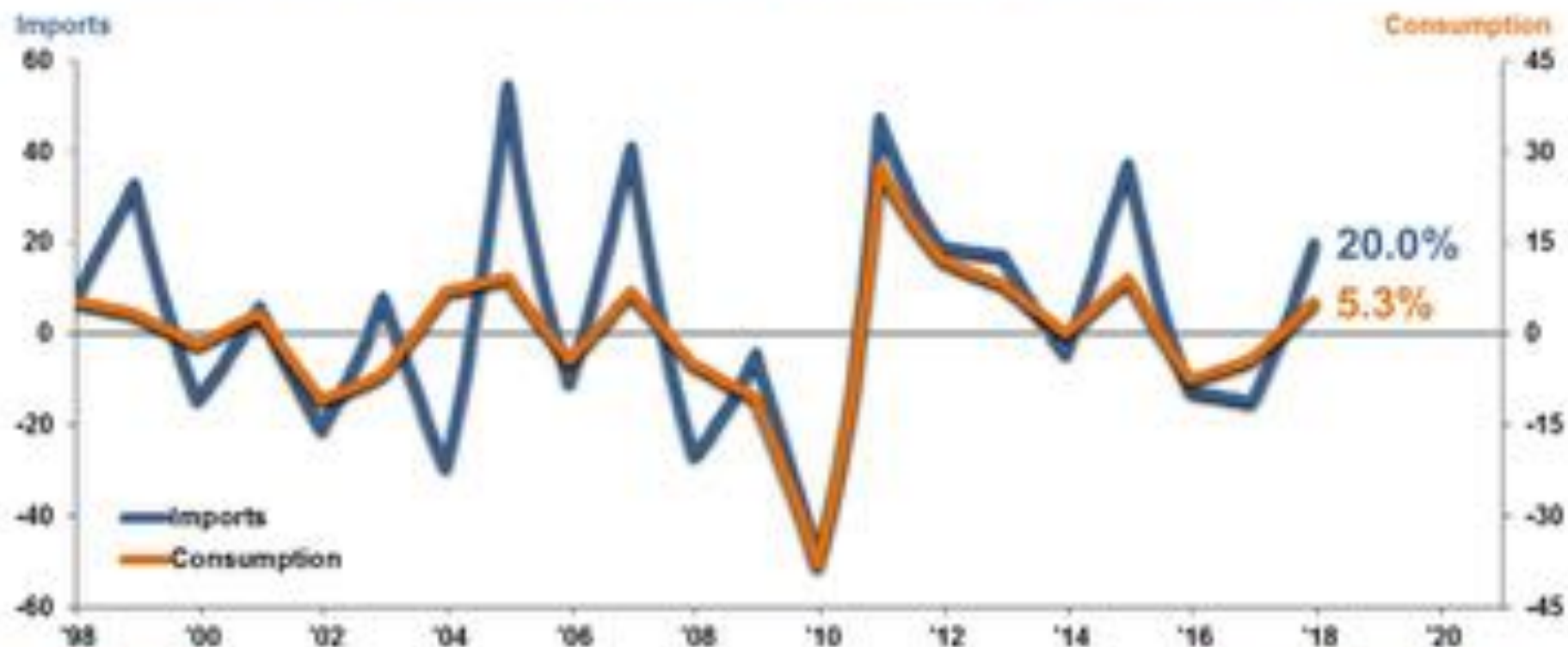
# Tariffs and other fun things

# Ease of Doing Business

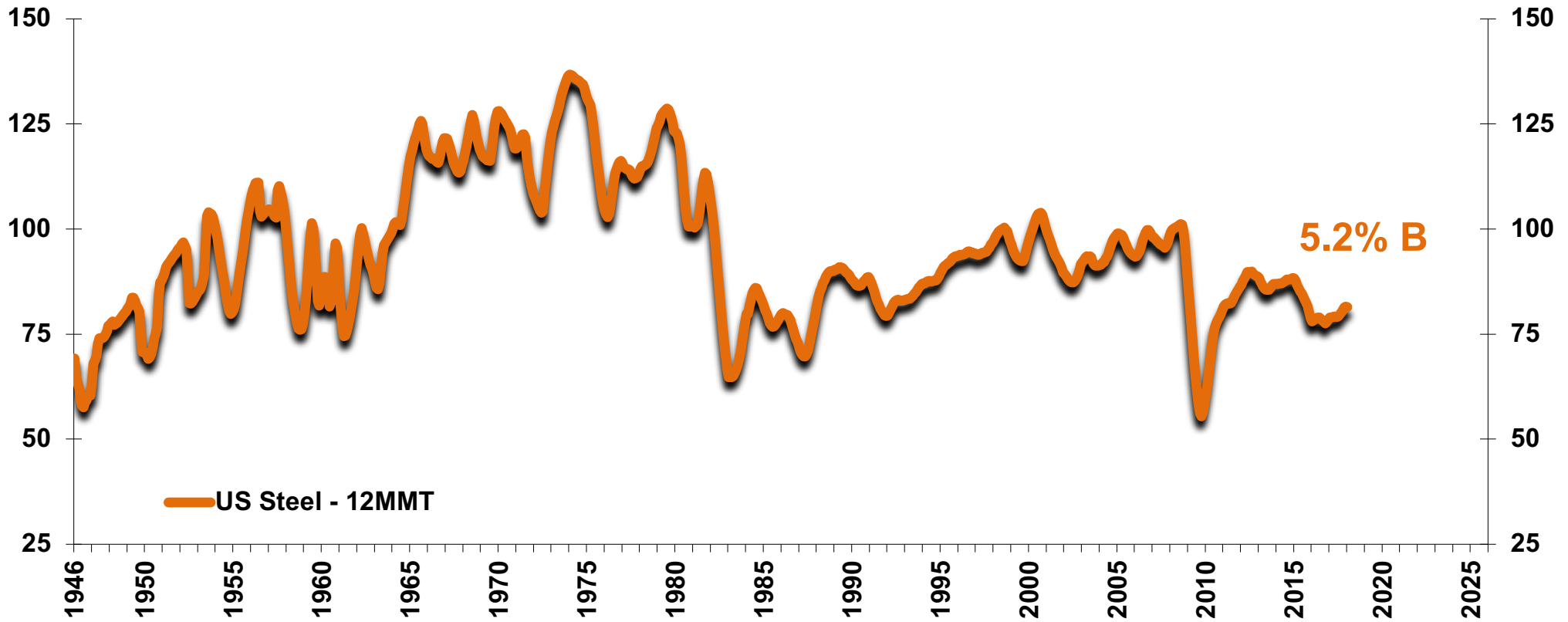


<b>NZ</b>	<b>1</b>
<b>Singapore</b>	<b>2</b>
<b>Denmark</b>	<b>3</b>
<b>Korea</b>	<b>4</b>
<b>Hong Kong</b>	<b>5</b>
<b>US</b>	<b>6</b>
<b>UK</b>	<b>8</b>
<b>Germany</b>	<b>21</b>
<b>Japan</b>	<b>35</b>
<b>Russia</b>	<b>36</b>
<b>China</b>	<b>75</b>
<b>India</b>	<b>100</b>
<b>Brazil</b>	<b>125</b>

## US Imports of Steel (volume) to US Steel Consumption



# US Raw Steel Production

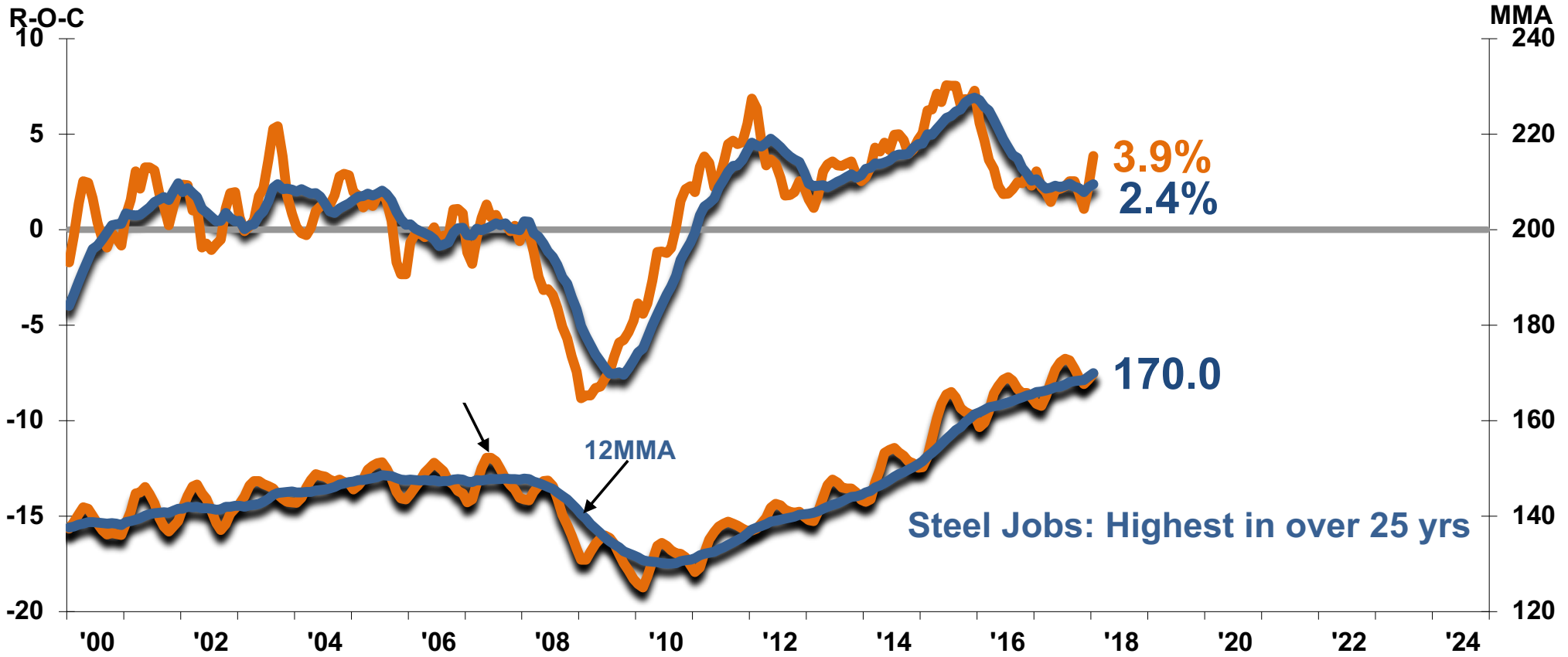


US Steel - 12MMT

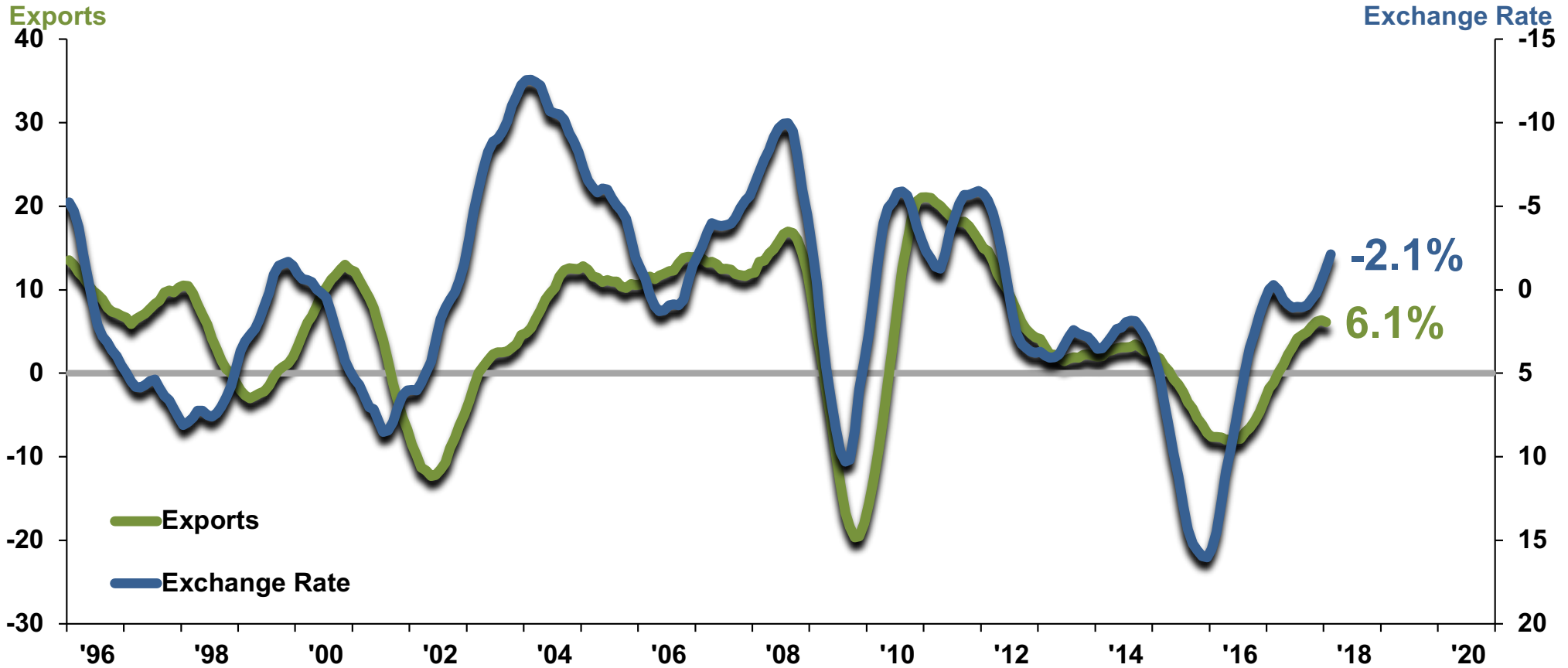
5.2% B

12MMT

# US Steel Mill Employment



# US Trade in Goods with World: Exports to Trade Weighted Exchange Rate Index



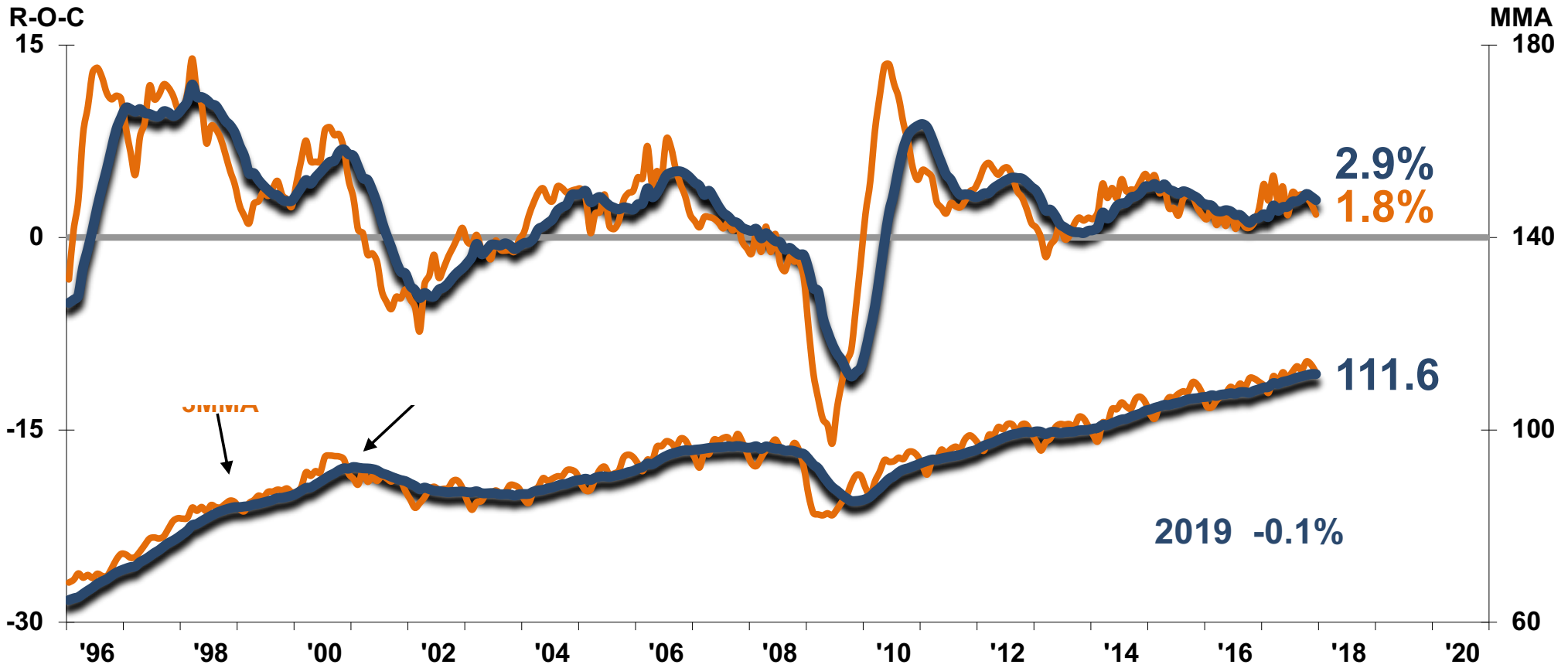
12/12 Rates-of-Change

Sources: Census Bureau, FRED 16

# US Top Goods Export by State



# Mexico Manufacturing Production Index



2008 = 100

Source: CEIC 18

## Leveling the Manufacturing Field Around the Globe

Years of 15% to 20% per annum labor cost increases in China without corresponding productivity increases

Cheap and readily available energy in North America

Aggressive reengineering and automation

**2004: 15 Percentage Point Advantage**

**The China Advantage?**

**2016: Only 1 Percent Point Difference**

## Leveling the Manufacturing Field Around the Globe

Years of 15% to 20% per annum labor cost increases in China without corresponding productivity increases

Cheap and readily available energy in North America

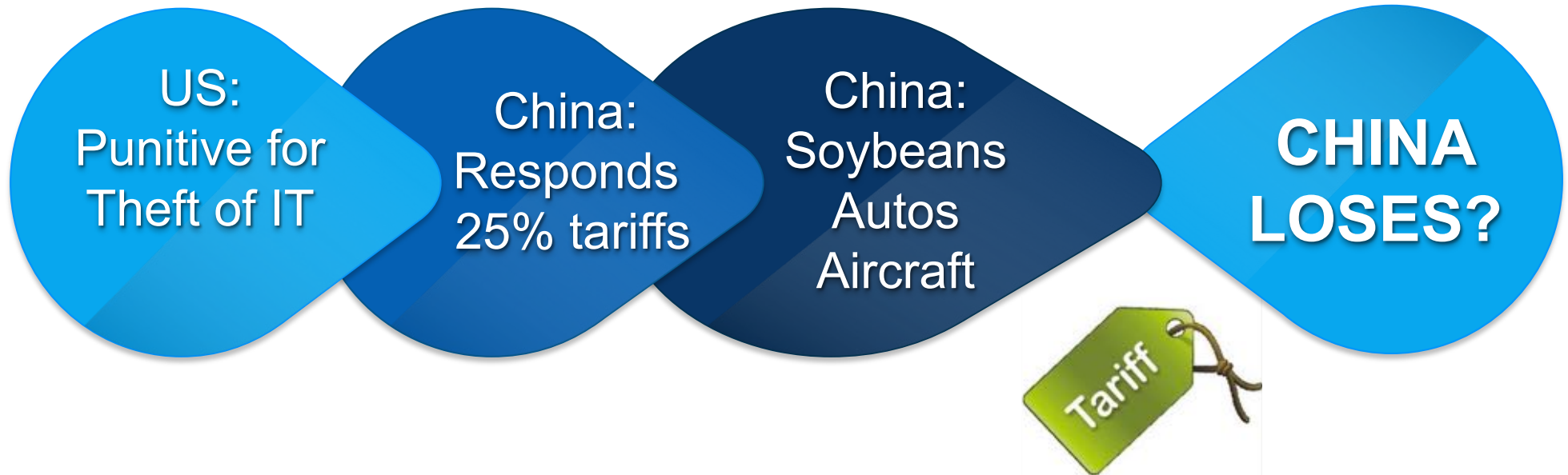
Moving Forward **2004: 15 Percentage Point Advantage**

Robotics   Protectionism   Politics & Economic Stability

**The China Advantage?**

**2016: Only 1 Percent Point Difference**

## \$50 Billion in New Tariffs Aimed at China – Trade War?



### The US is China's Biggest Customer

Exports from the US to China stand at **\$130.1bn**, or **0.7%** of US GDP.

Exports from China to the US are a **record high \$436.9bn**, or **3.8%** of China GDP.

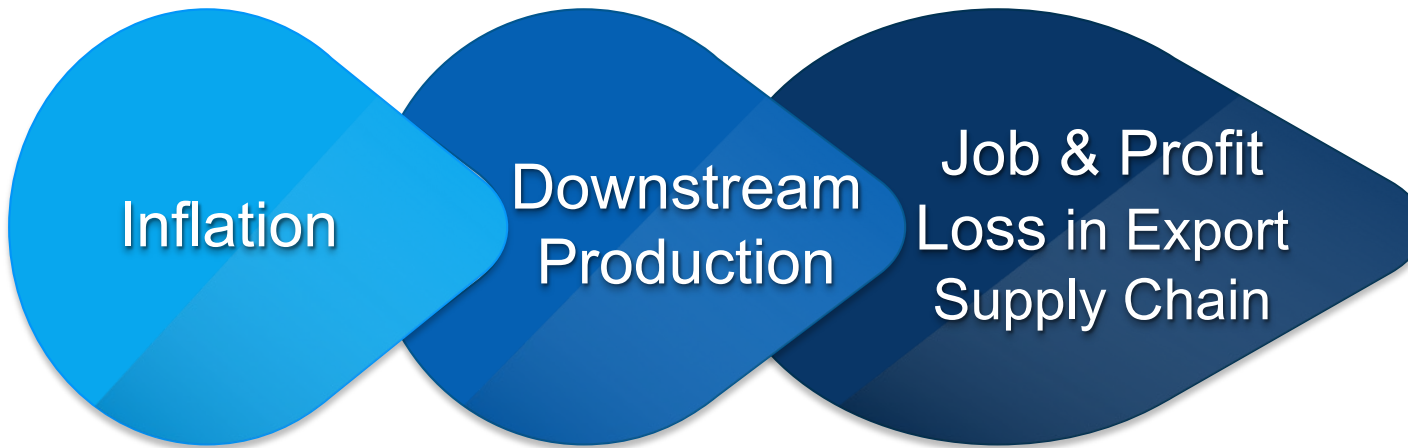
# \$60 Billion in New Tariffs Aimed at China – Trade War Ahead?

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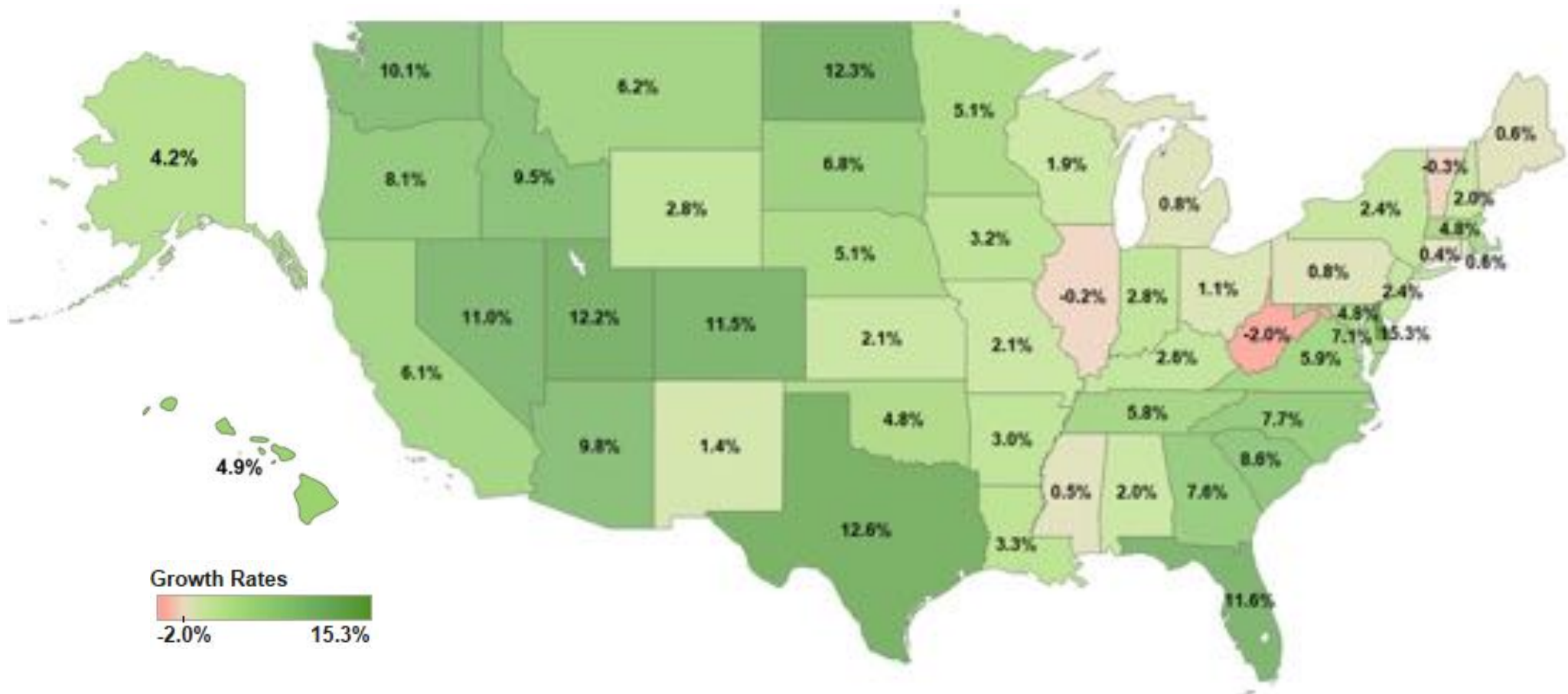
Slowing exports to the US will hurt their economy more than ours **but it is not risk free.**



(to China)	
<u>Industry Exports</u>	<u>US \$ bn</u>
Aerospace	\$ 16.3
Soybeans	\$ 12.4
Motor Vehicles	\$ 10.0
Semiconductors	\$ 6.9
Oil & Gas	\$ 6.9
Waste & Scrap	\$ 5.6
Ctrl Instruments	\$ 5.6
Synthetic Rubbers	\$ 3.9
Pharmaceuticals	\$ 3.4
Ind'l Machines	\$ 3.3



# State Population Growth Rates

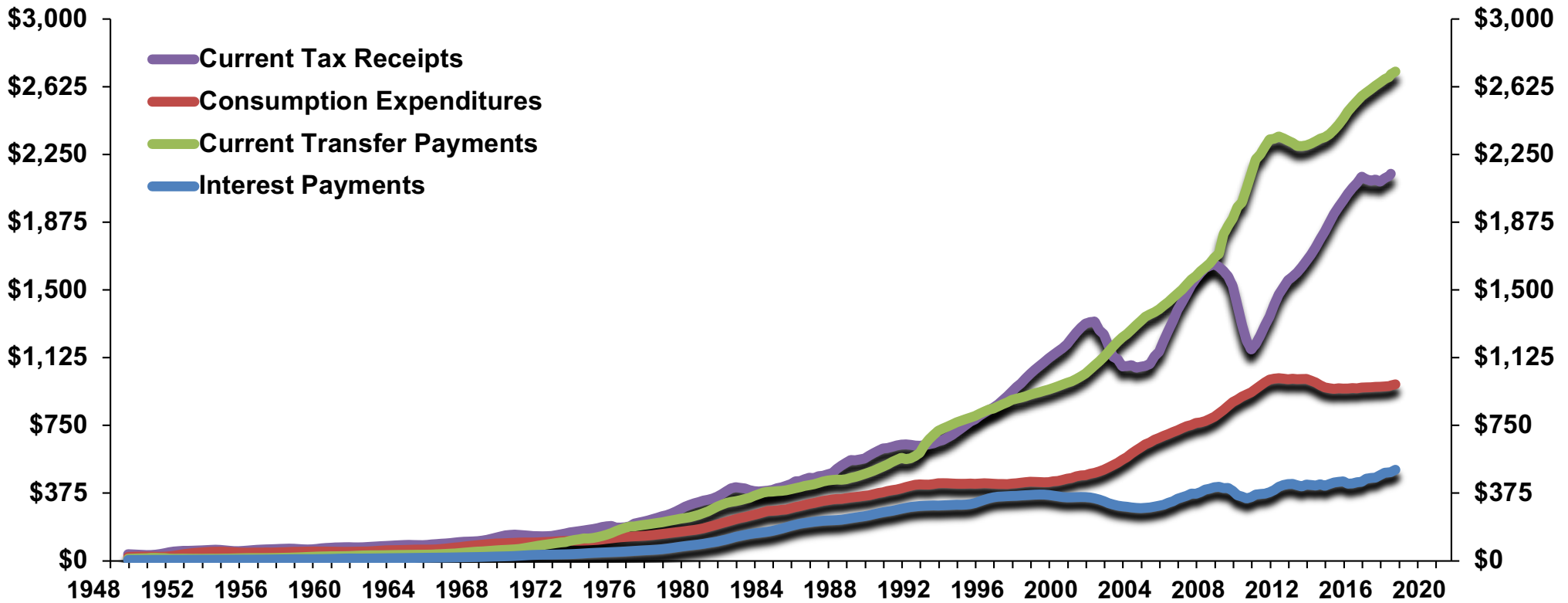


Percent Change from Population Estimates 2010 to 2017

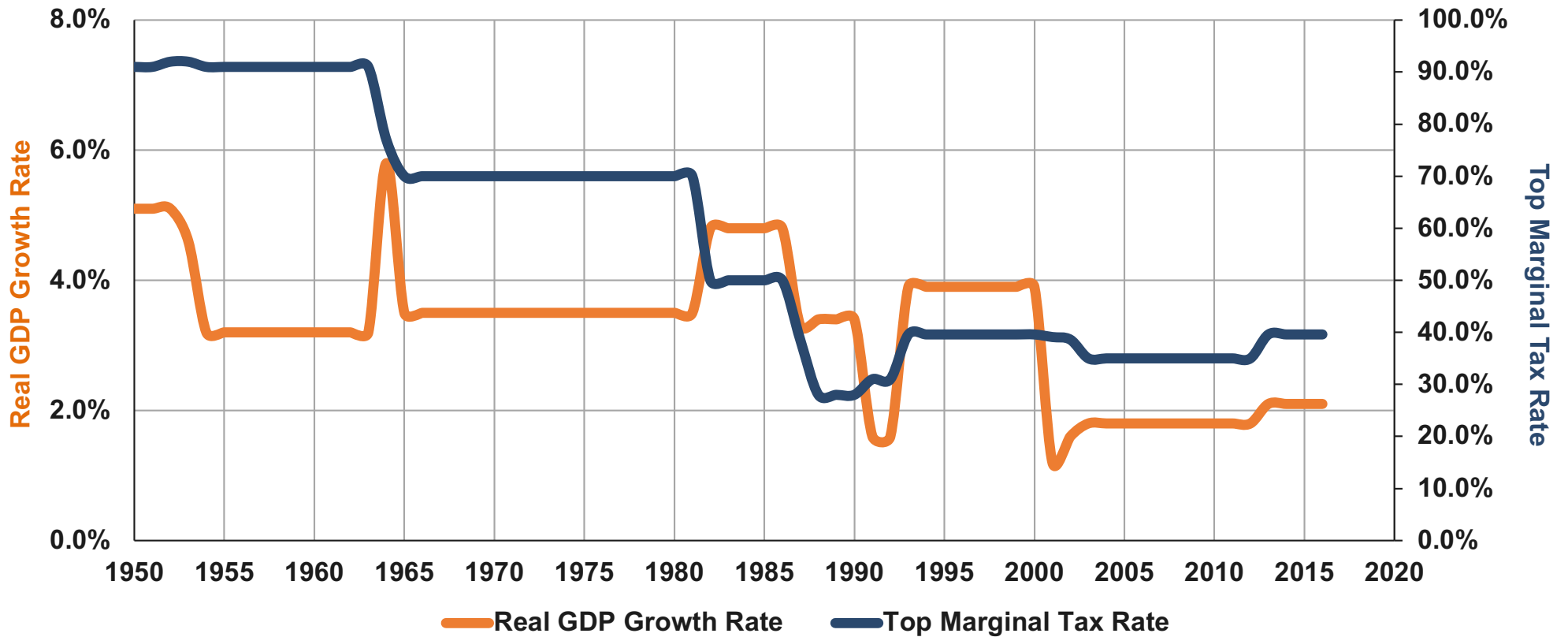
Source: Census Bureau 24

# US Federal Government Current Tax Receipts to Consumption Expenditures to Current Transfer Payments to Federal Government Interest Payments

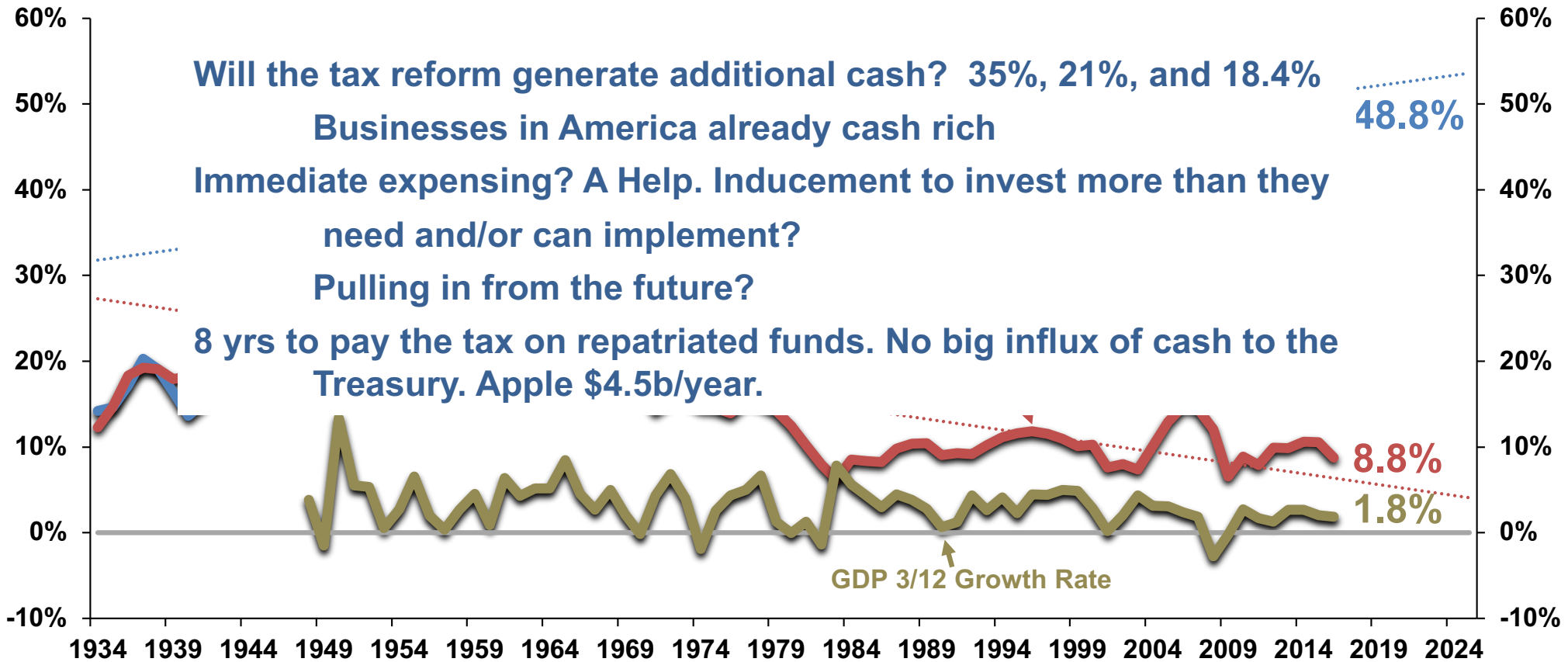
Tax/Exp/Paym



# US Tax Rates and Real GDP Growth



# Percent of Total US Tax Receipts by Source to Real Gross Domestic Product

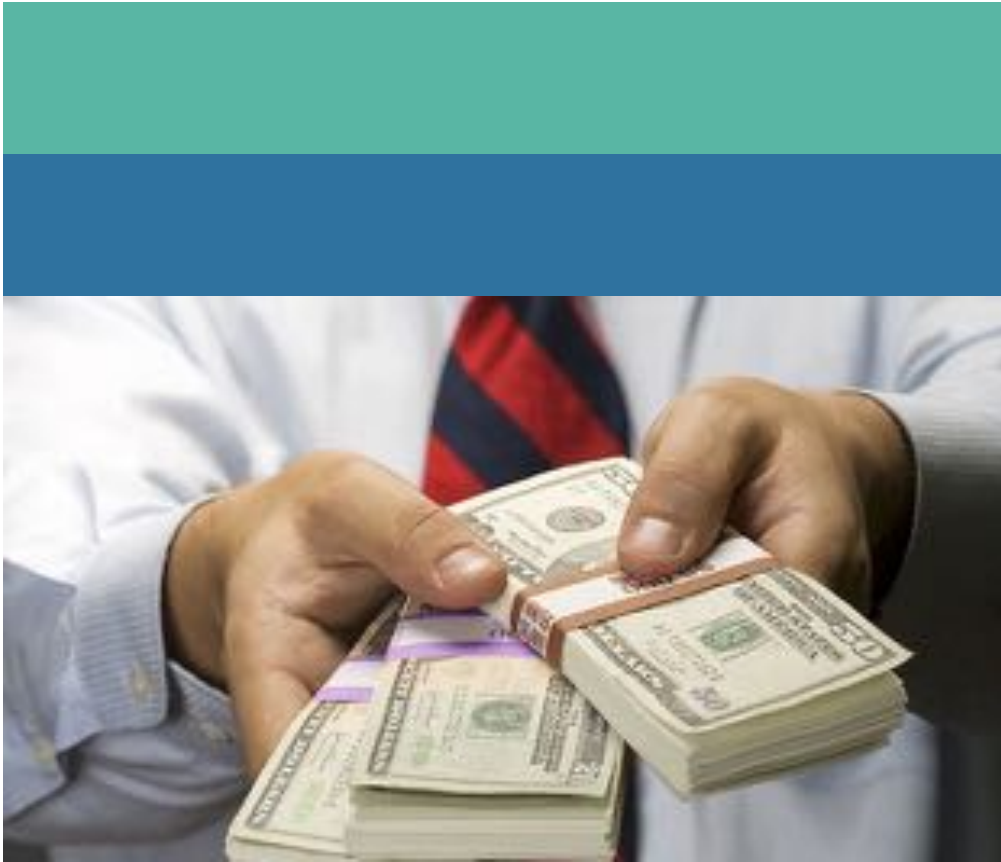


# *ATLANTA FED IS WATCHING...*



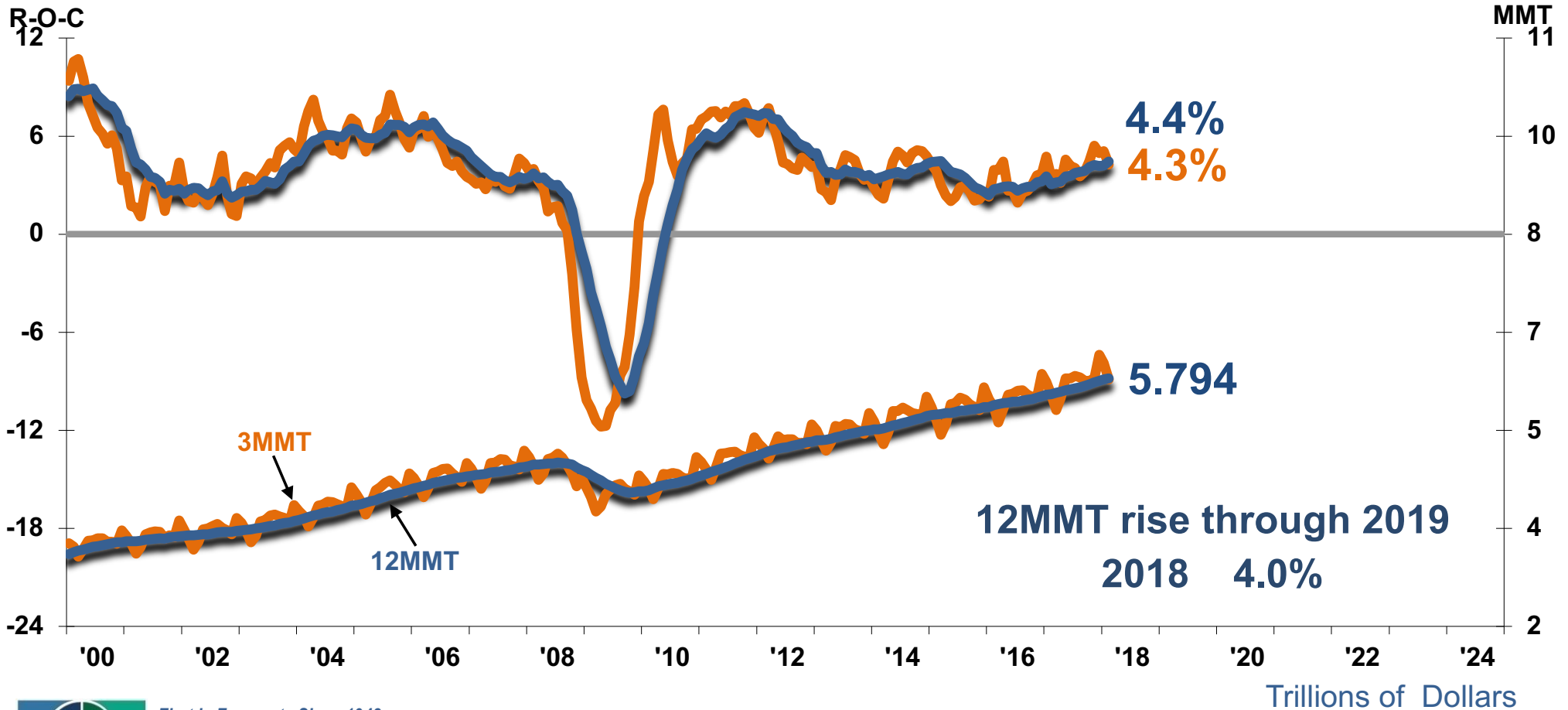
*On business investment, roughly two-thirds of respondents to our national survey...indicated that the reform wouldn't affect their capital expenditures at all. Just **15 percent** said they would increase their capital spending by **10 percent** or more, and those responses came mostly from smaller firms.*

*~ Raphael Bostic  
Atlanta Federal Reserve Chair  
Rotary Club of Atlanta  
January 8, 2018*

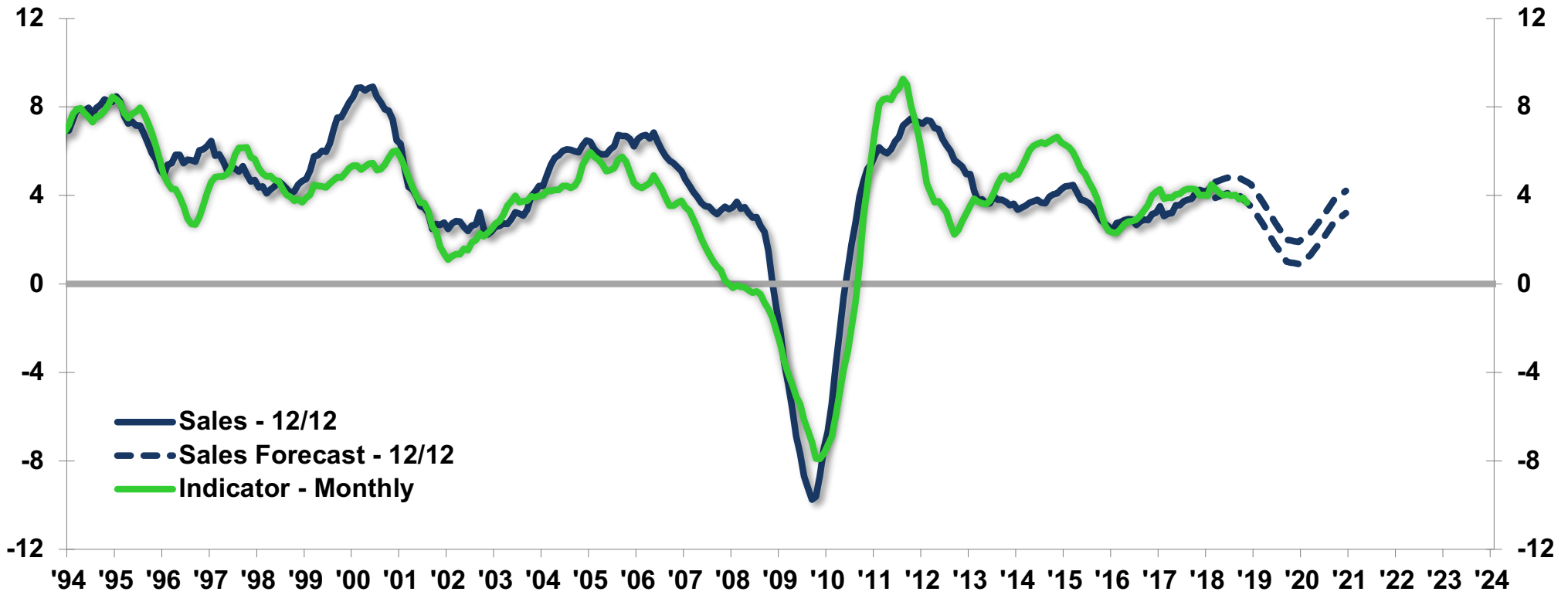


# PPC & Retail Sales

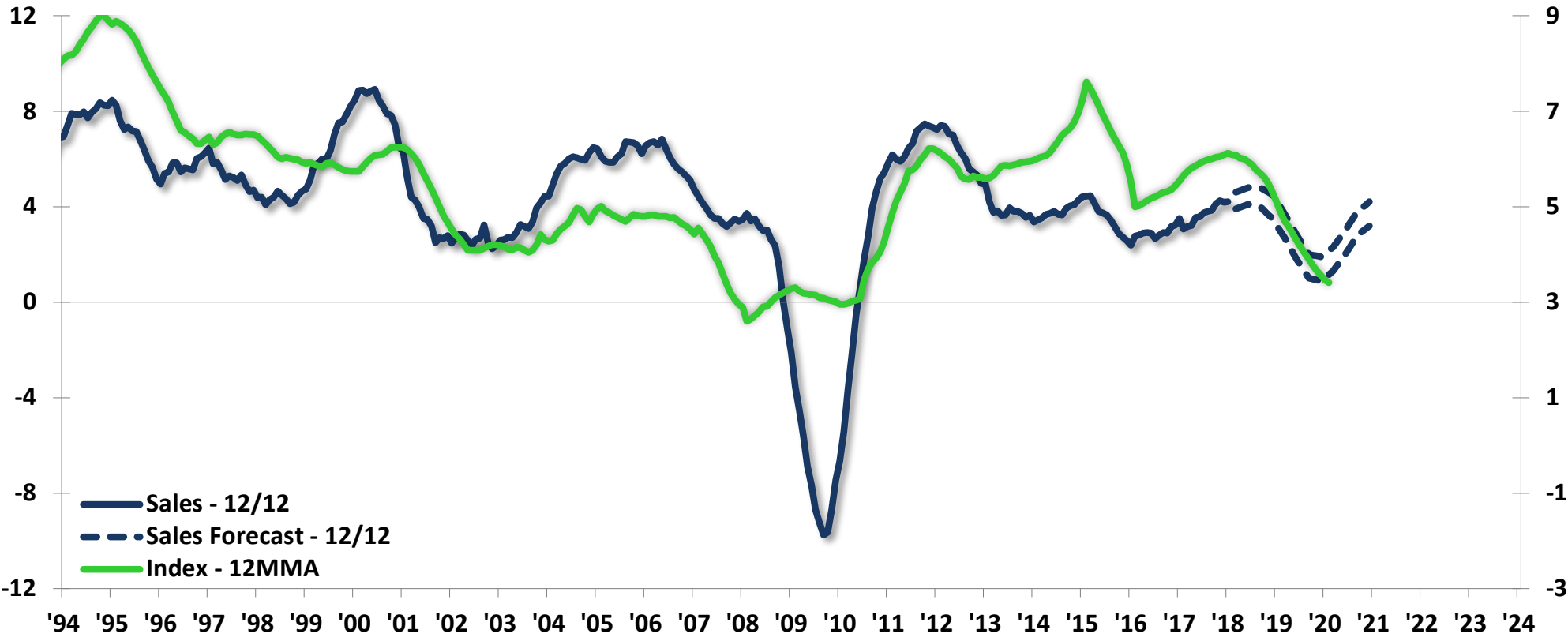
# US Total Retail Sales



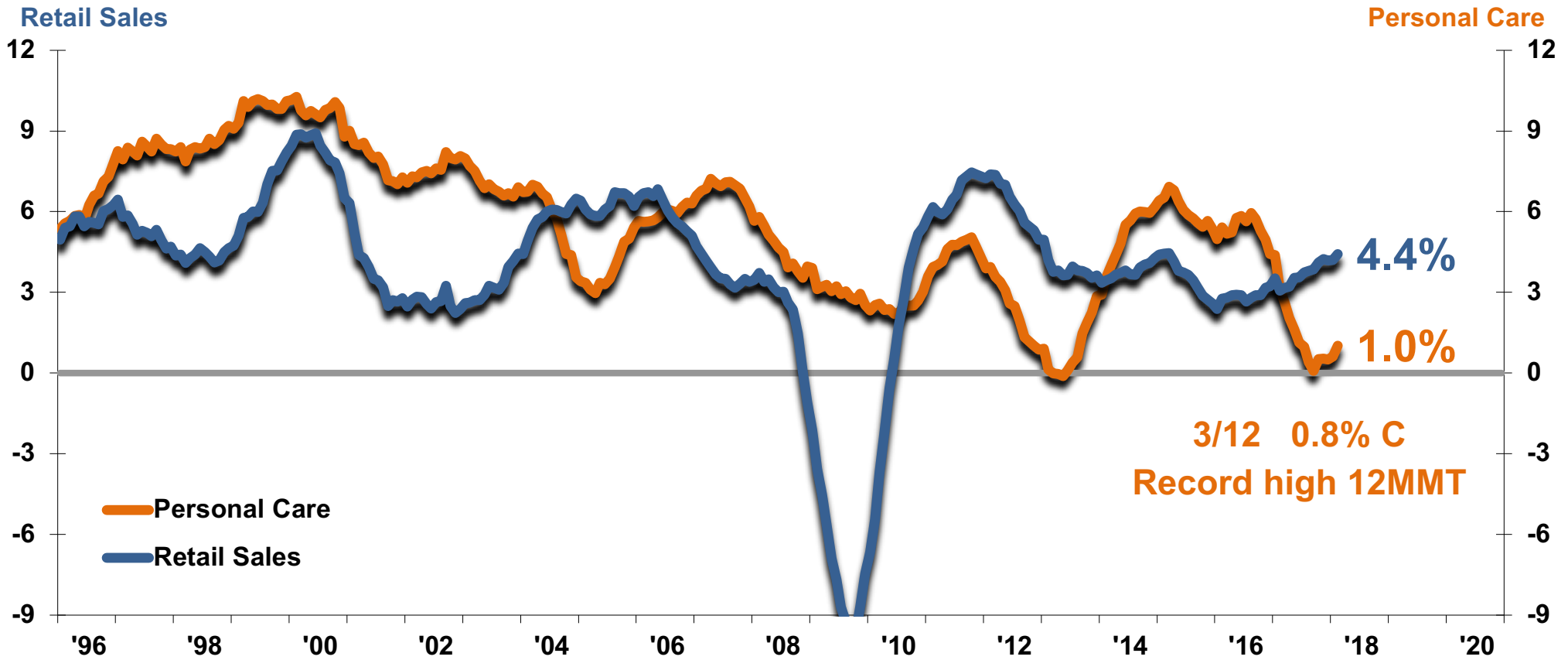
# US Total Retail Sales to ITR US Retail Sales Leading Indicator



# US Total Retail Sales to US Personal Savings as a Percentage of Disposable Income



# Total Retail Sales to US Health & Personal Care Retail Stores



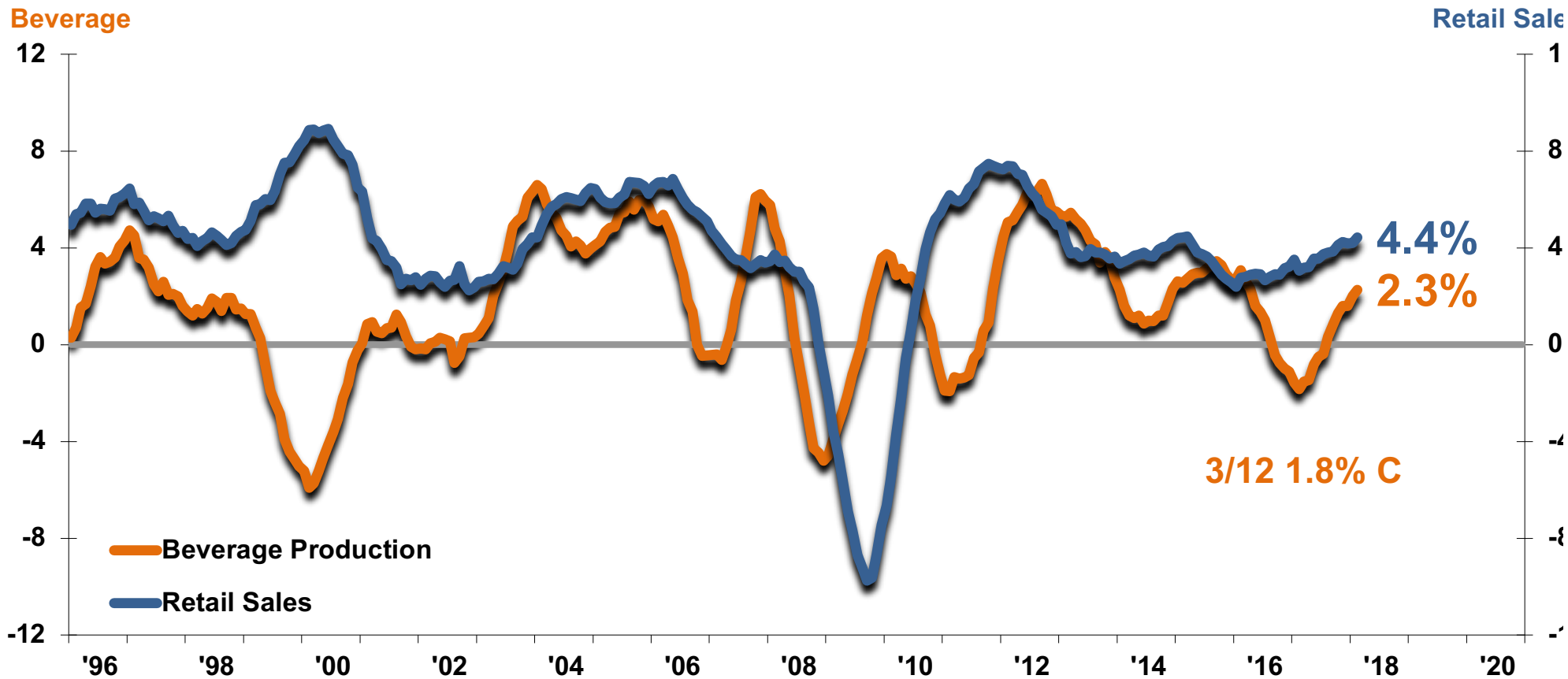
3/12 0.8% C  
Record high 12MMT



First in Forecasts Since 1948

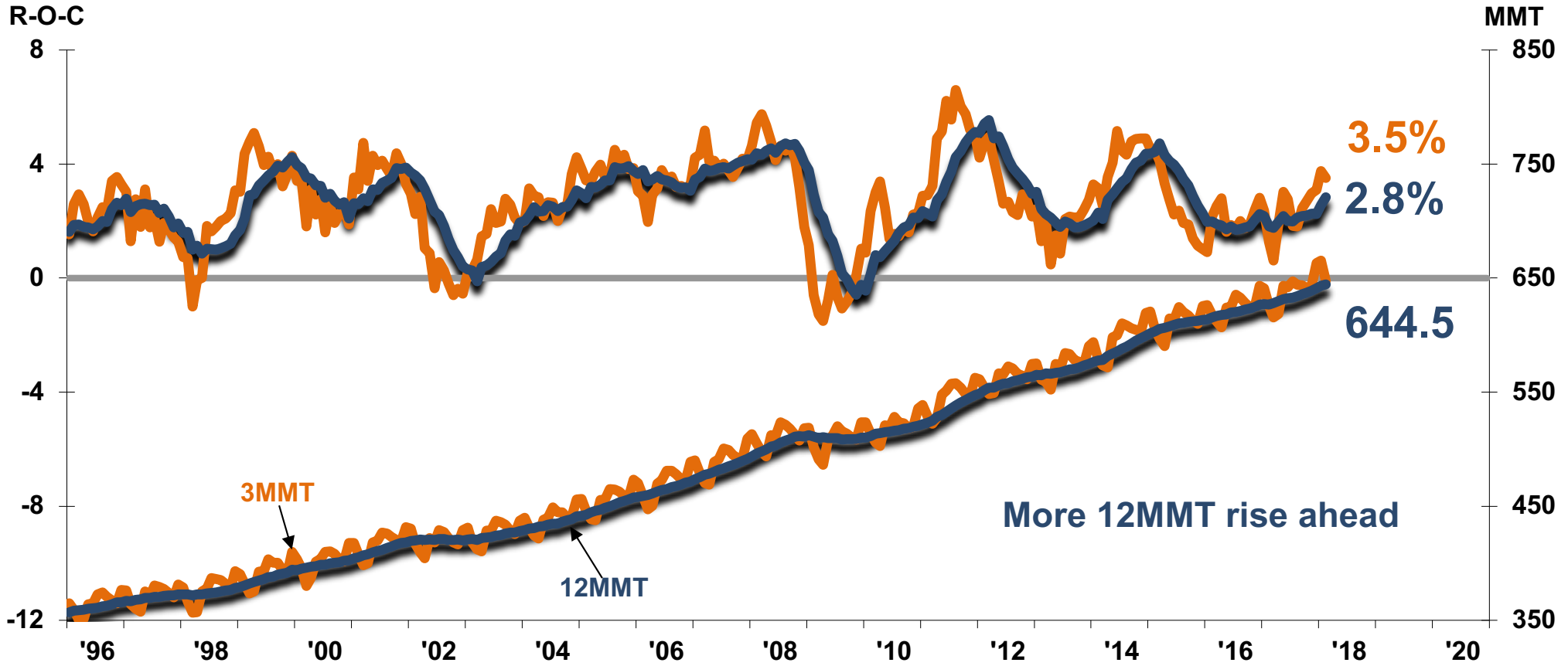
12/12 Rates-of-Change  
Source: US Census Bureau

# US Total Retail Sales to US Beverage Production Index

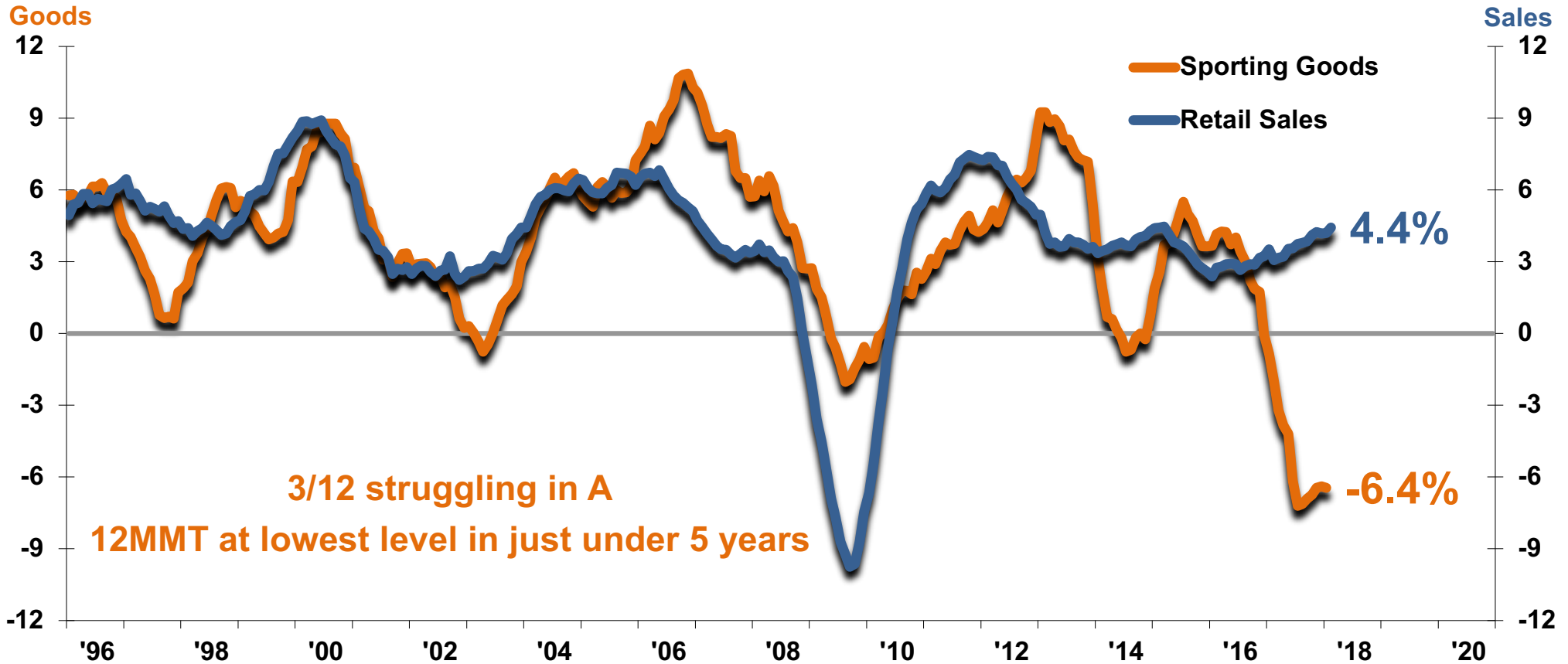


12/12 Rates-of-Change

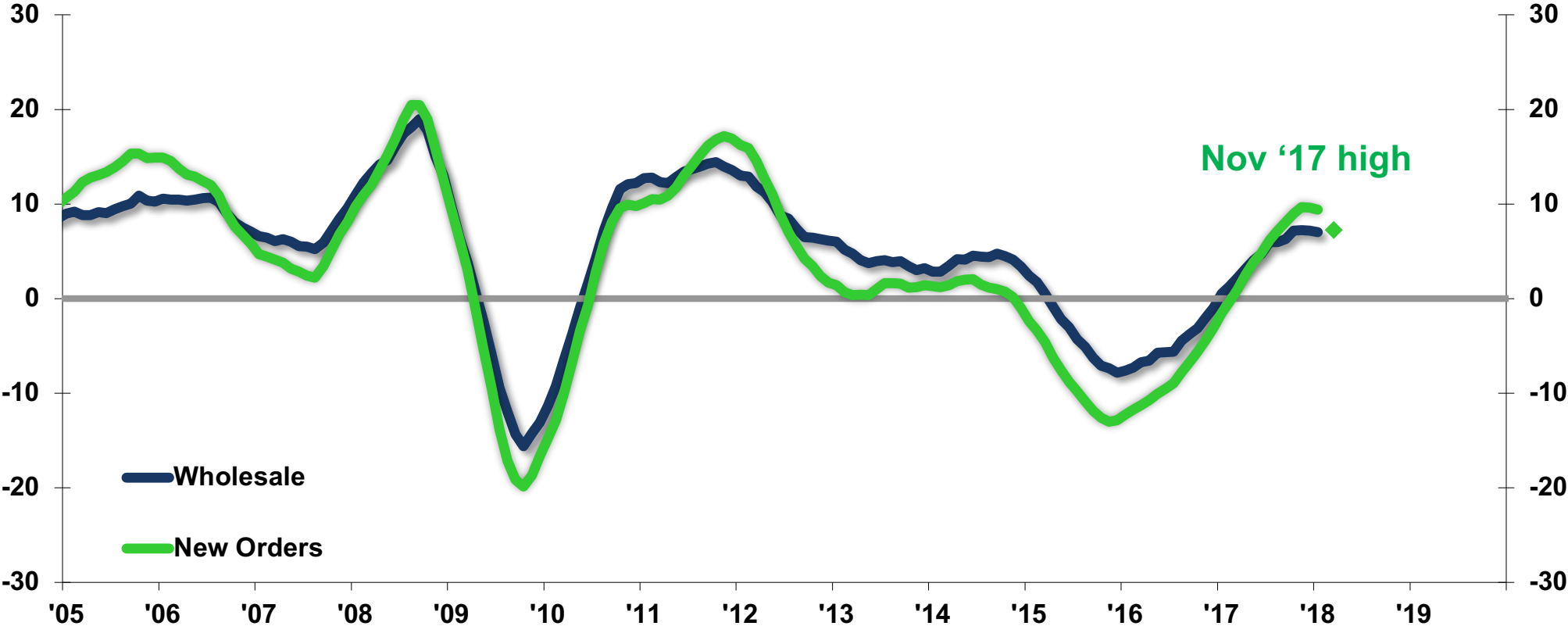
# US Grocery Stores Retail Sales



# US Total Retail Sales to US Sporting Goods Retail Stores



# Wholesale Trade of Nondurable Goods to US Consumer Nondurable Goods New Orders



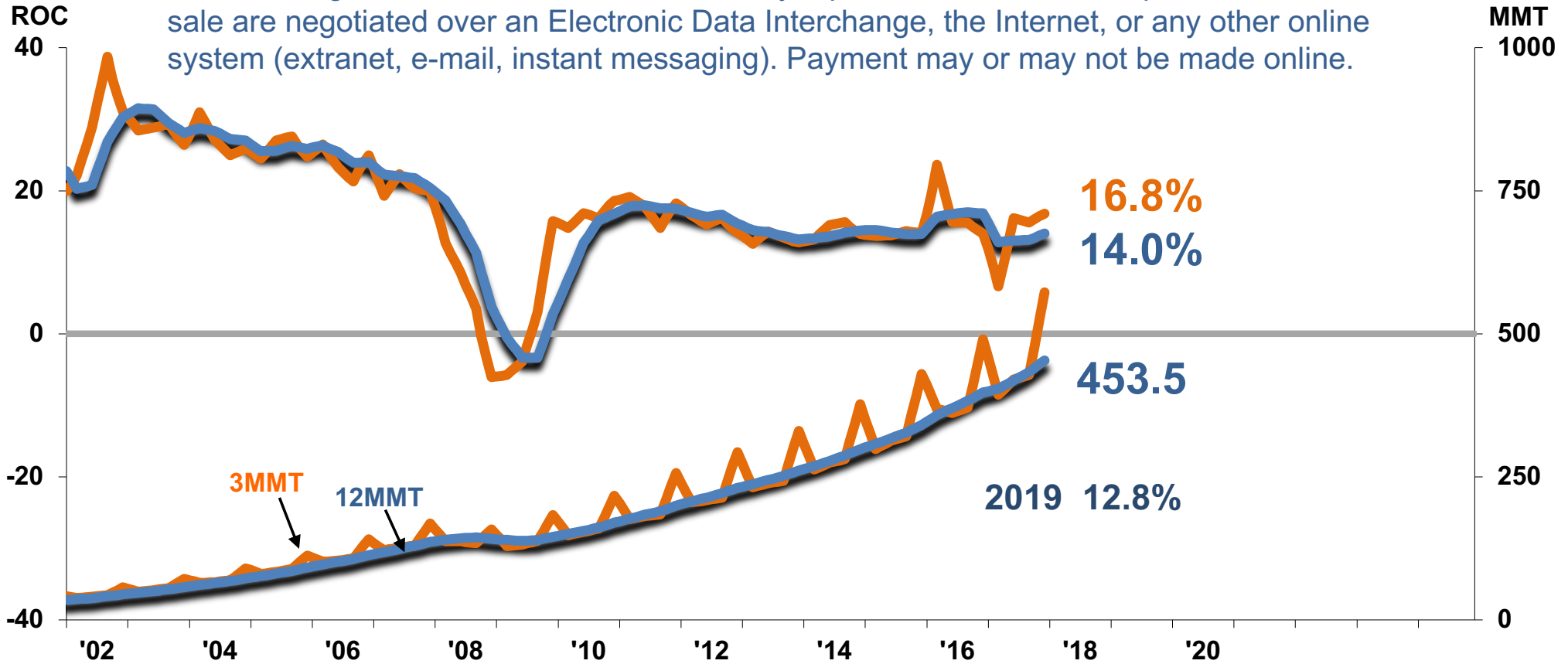
Nov '17 high

Wholesale  
New Orders

12/12 Rates-of-Change

# US E-Commerce Retail Sales

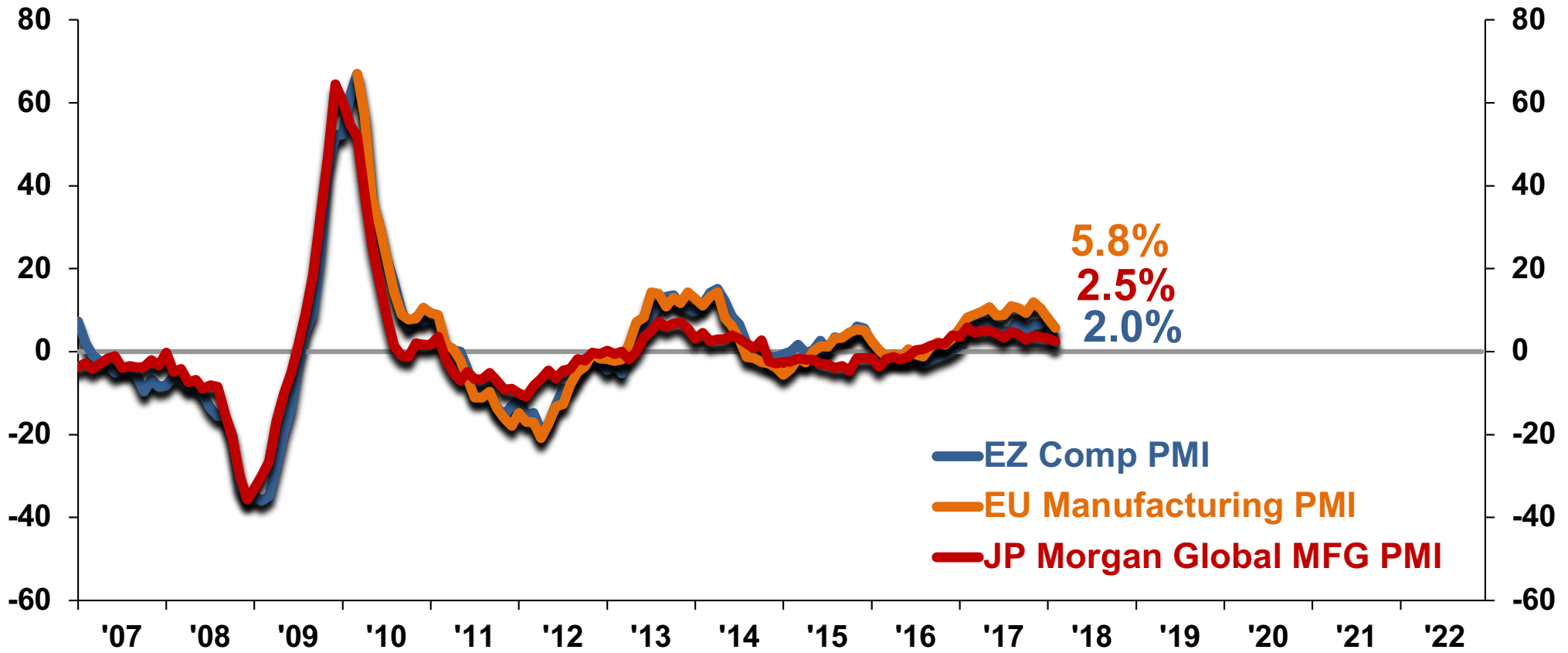
The sale of goods and services where the buyer places an order, or the price and terms of the sale are negotiated over an Electronic Data Interchange, the Internet, or any other online system (extranet, e-mail, instant messaging). Payment may or may not be made online.



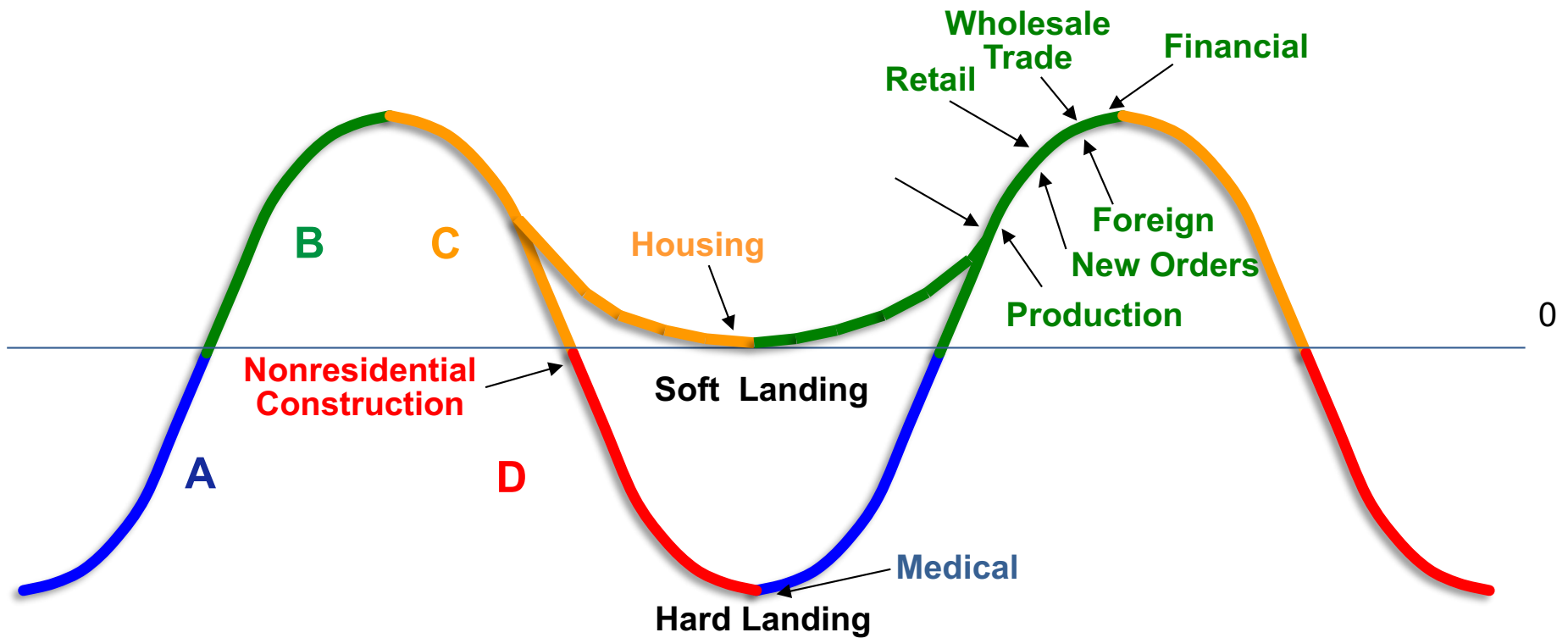
# General Economic Trends



# Global Leading Indicators

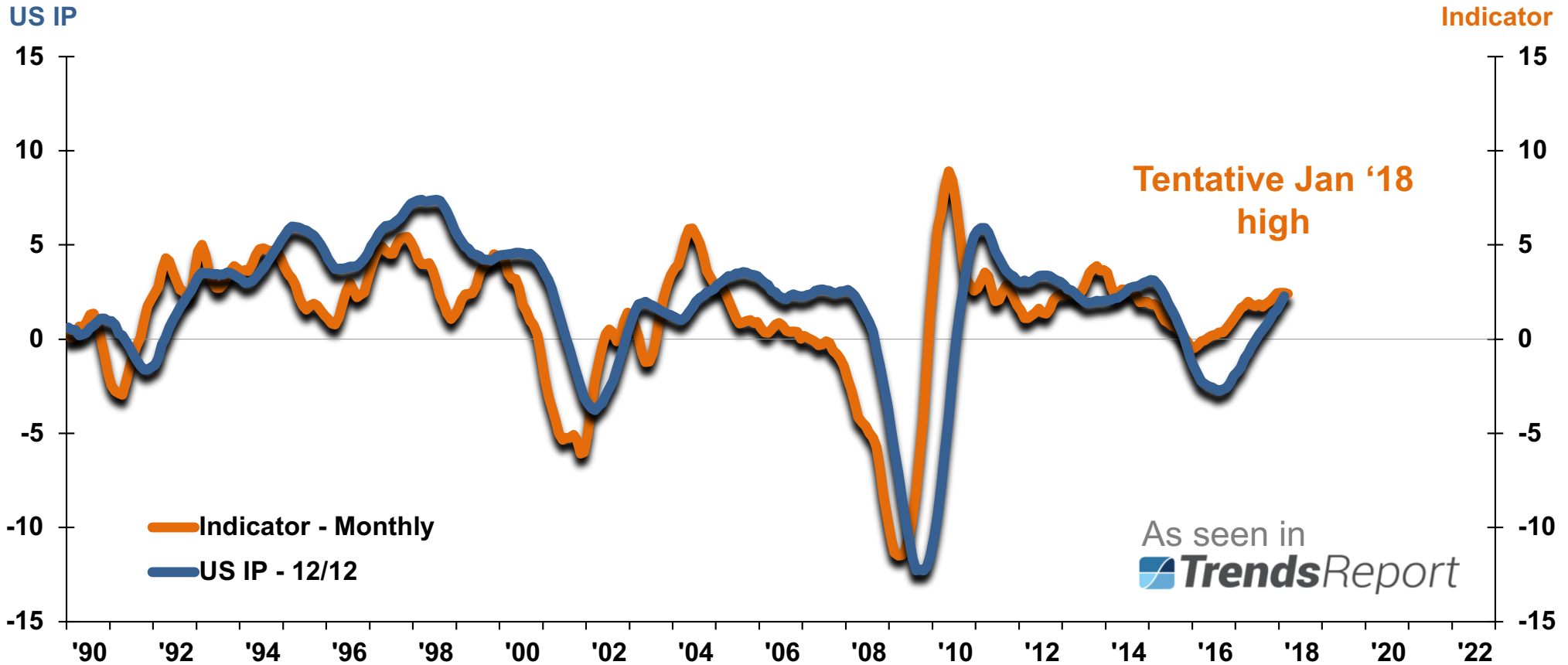


# Trends 10

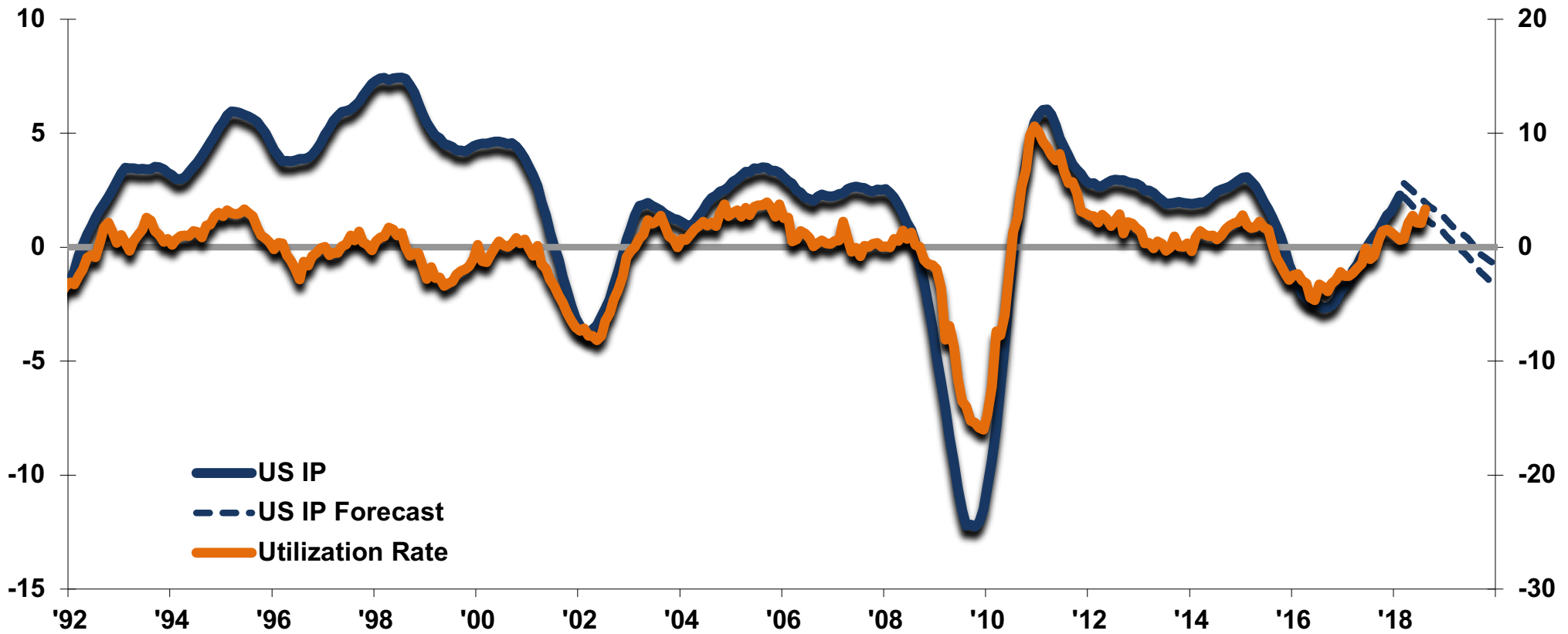


# US Industrial Production to ITR Leading Indicator™

Reported in *ITR Trends Report – ITR Advisor*



# US Industrial Production to US Total Industry Capacity Utilization Rate



— US IP  
- - - US IP Forecast  
— Utilization Rate

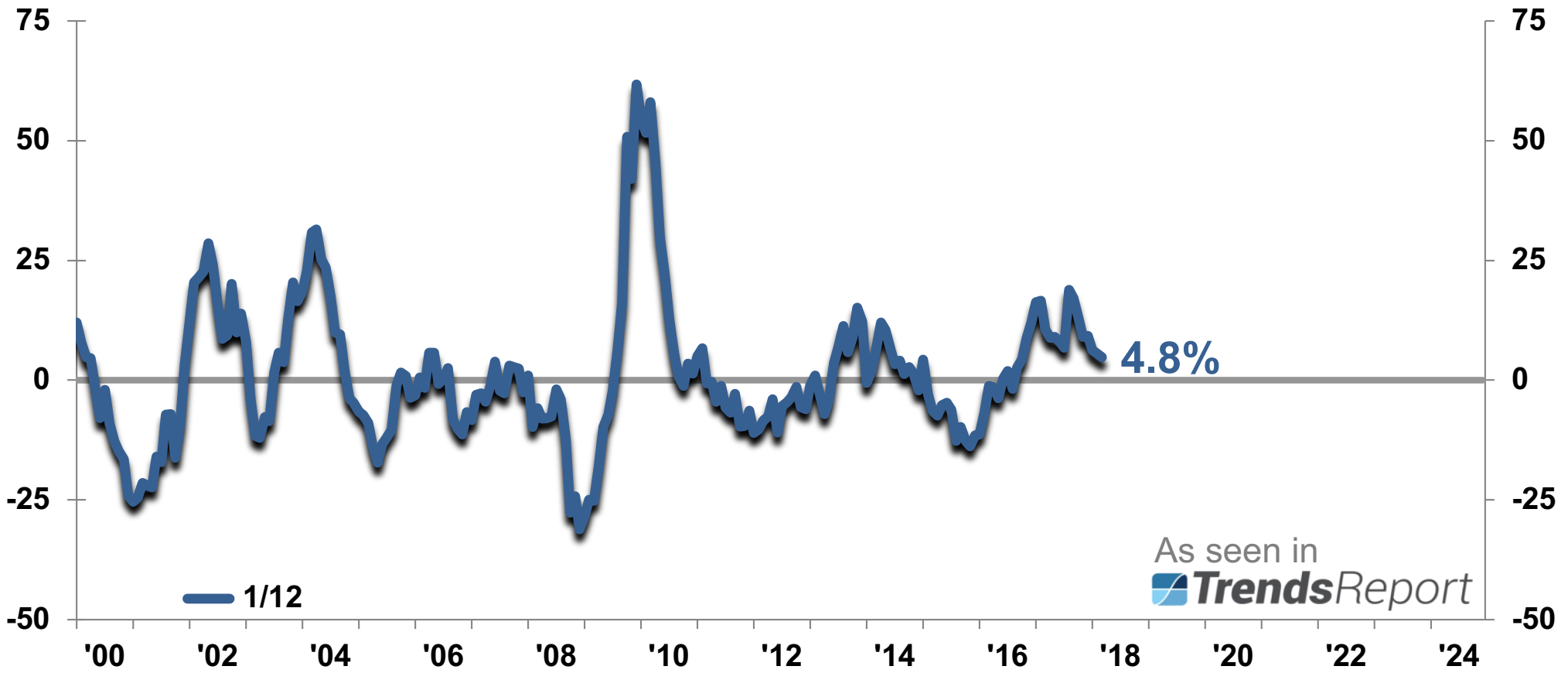
Rates-of-Change

Source: FRB 43



First in Forecasts Since 1948

# Purchasing Managers Index



As seen in  
**TrendsReport**

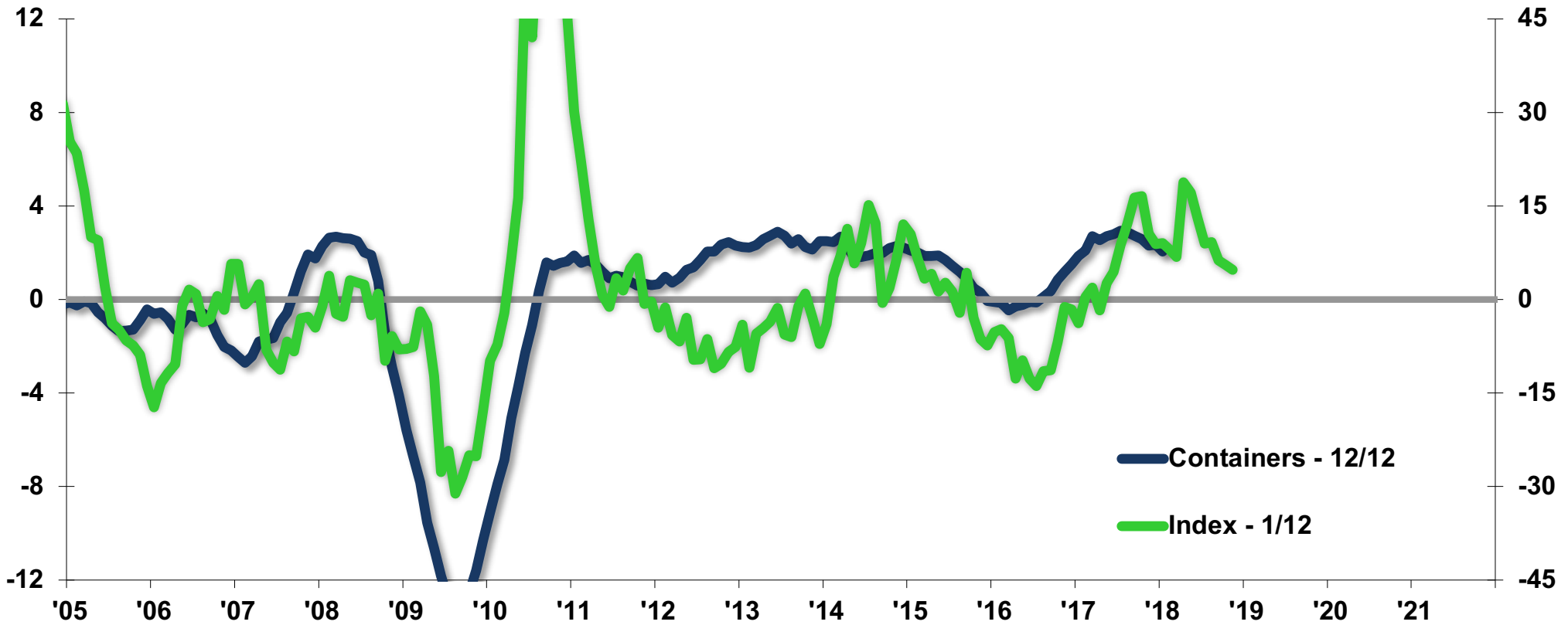


First in Forecasts Since 1948

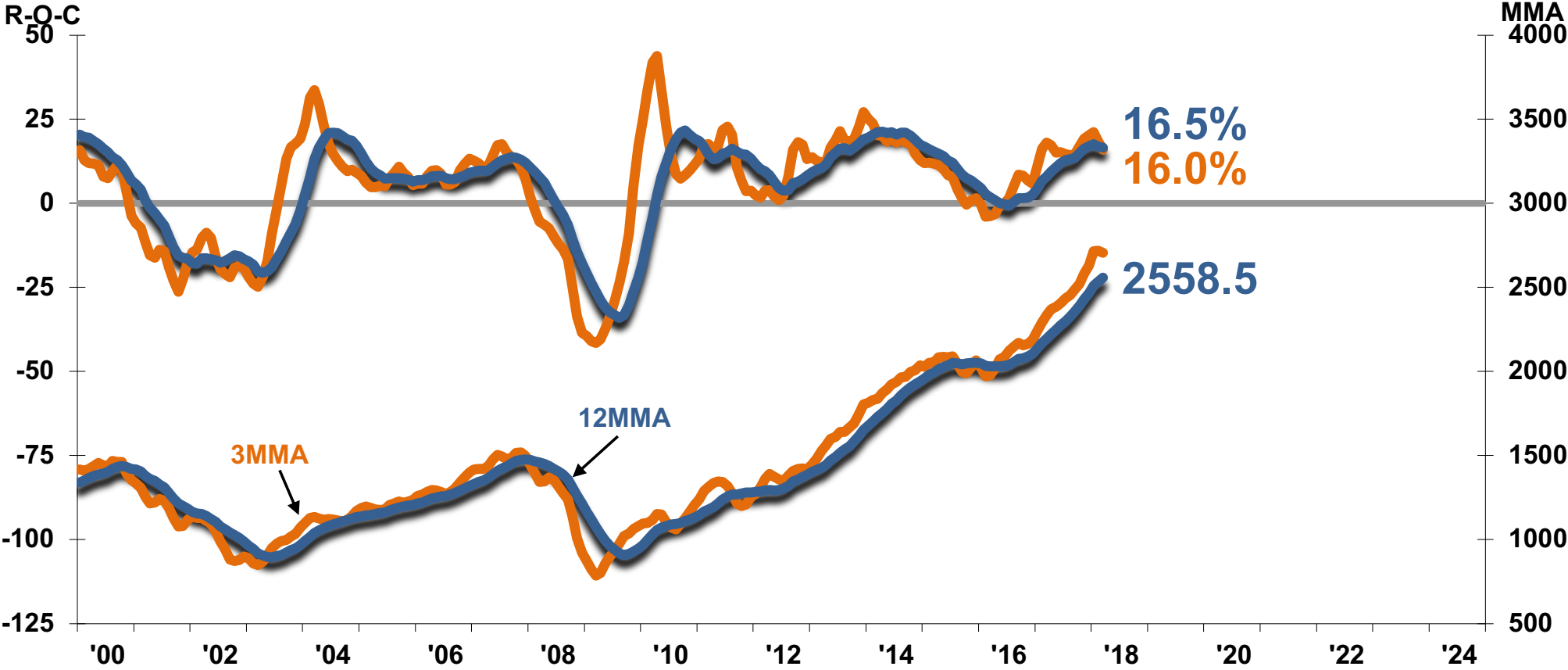
1/12 Rate-of-Change

Source: Institute for Supply Management 44

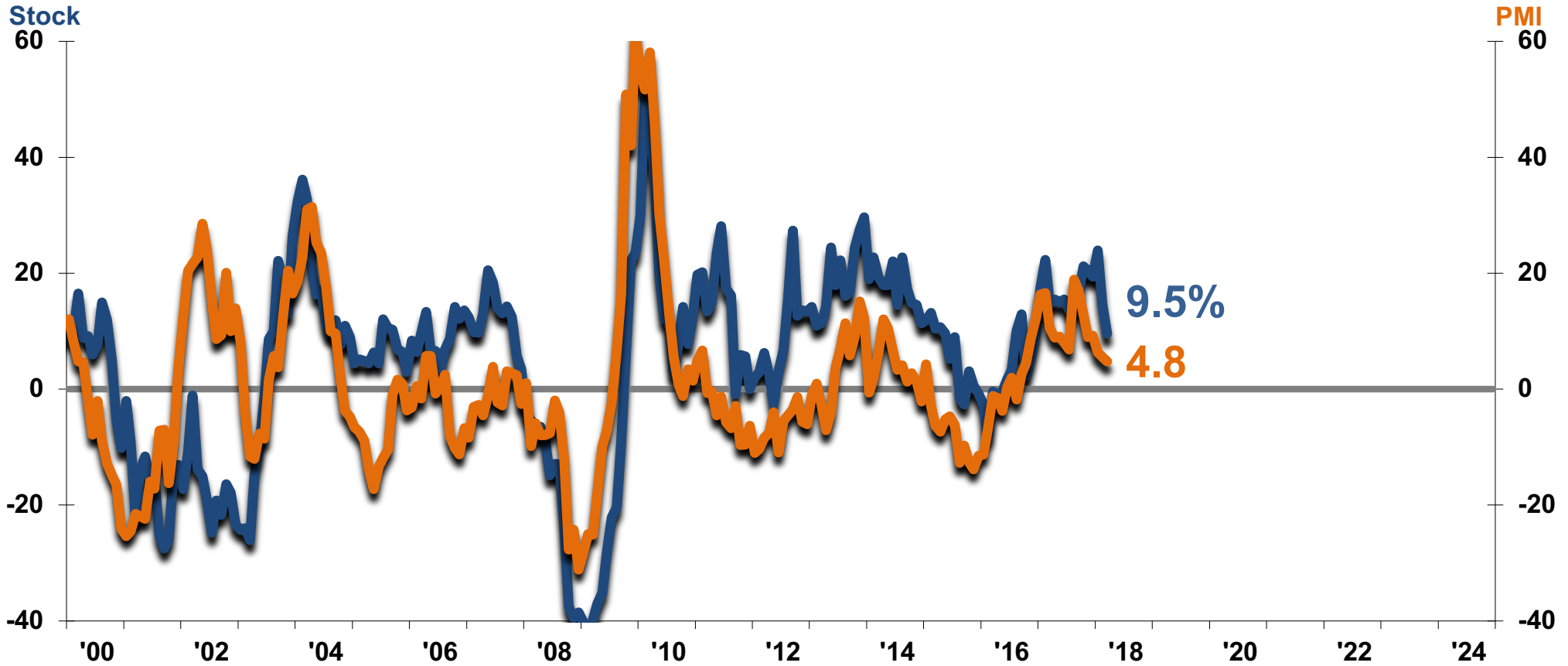
# US Paperboard Containers Production Index to US Purchasing Managers Index



# US Stock Prices Index

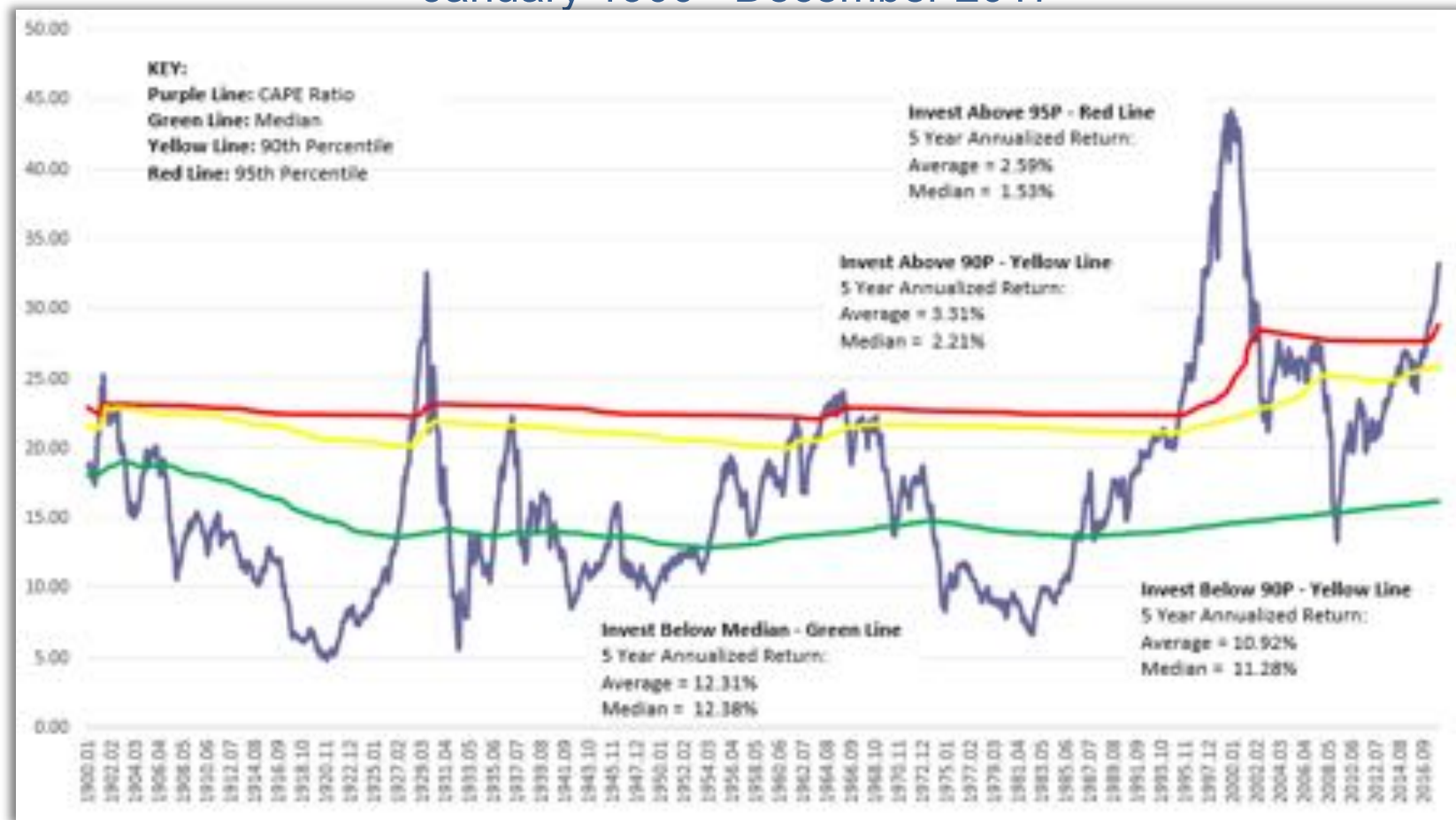


# US Stock Prices Index to US Purchasing Managers Index



# Cyclically Adjusted Price Earnings (CAPE) Ratio

January 1900 – December 2017

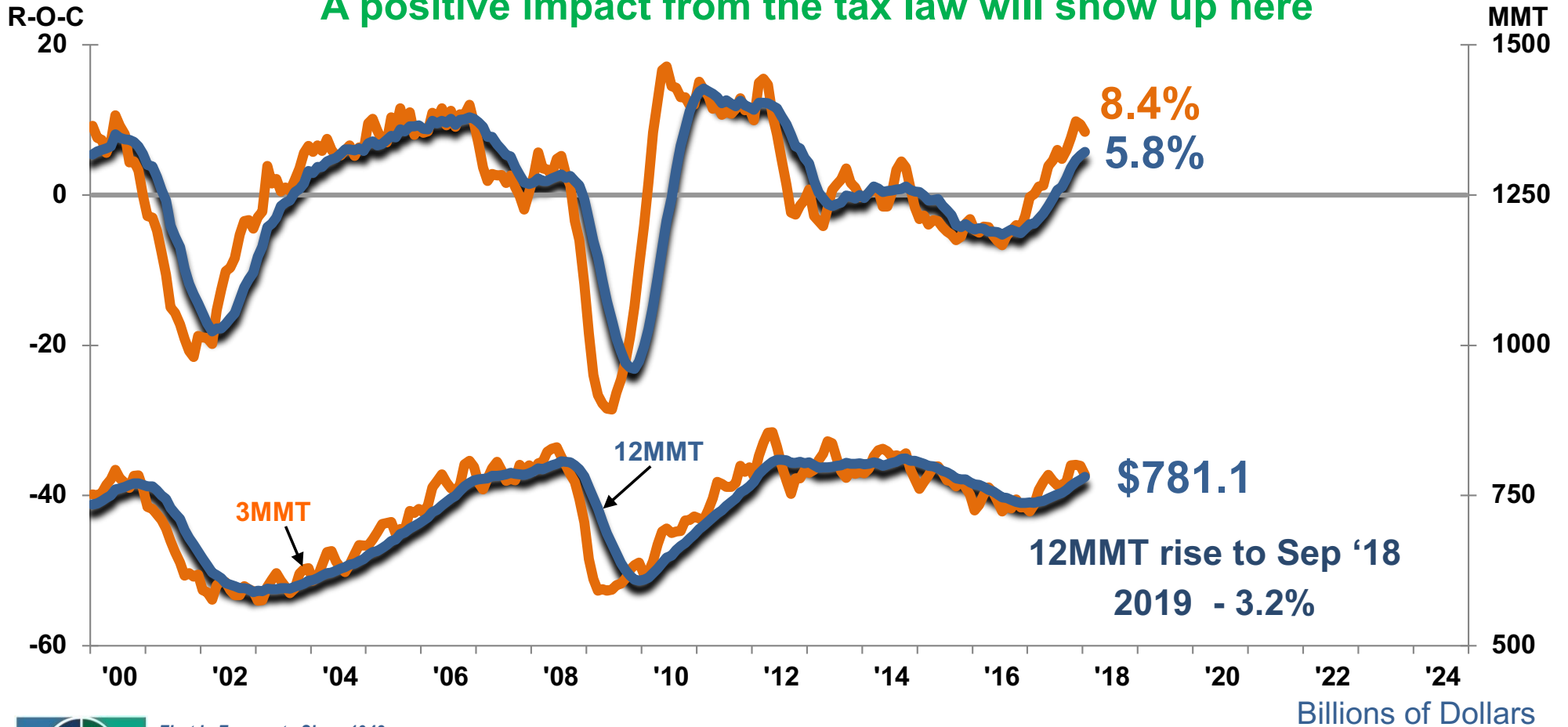


Source: Robert Shiller – Yale University

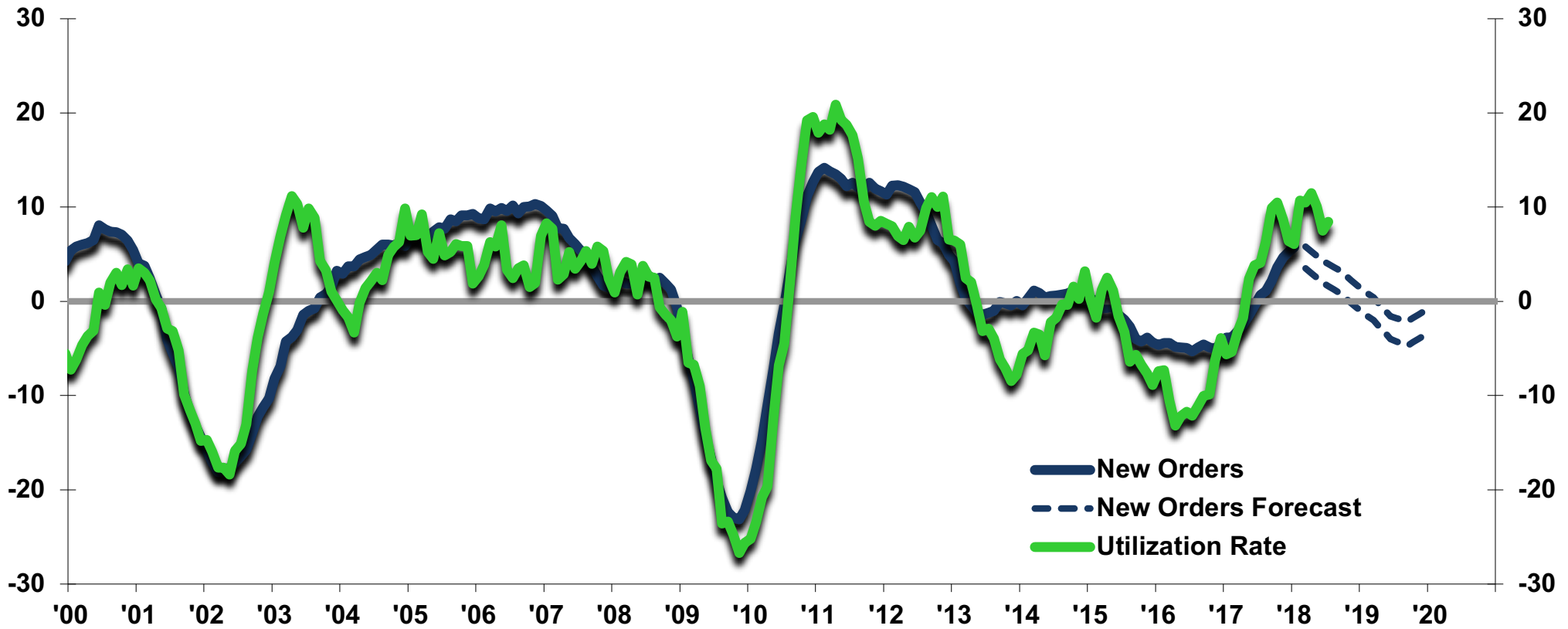
Analysis prepared by : Baird Family Wealth Group 1/4/18 48

# US Nondefense Capital Goods New Orders w/o Aircraft

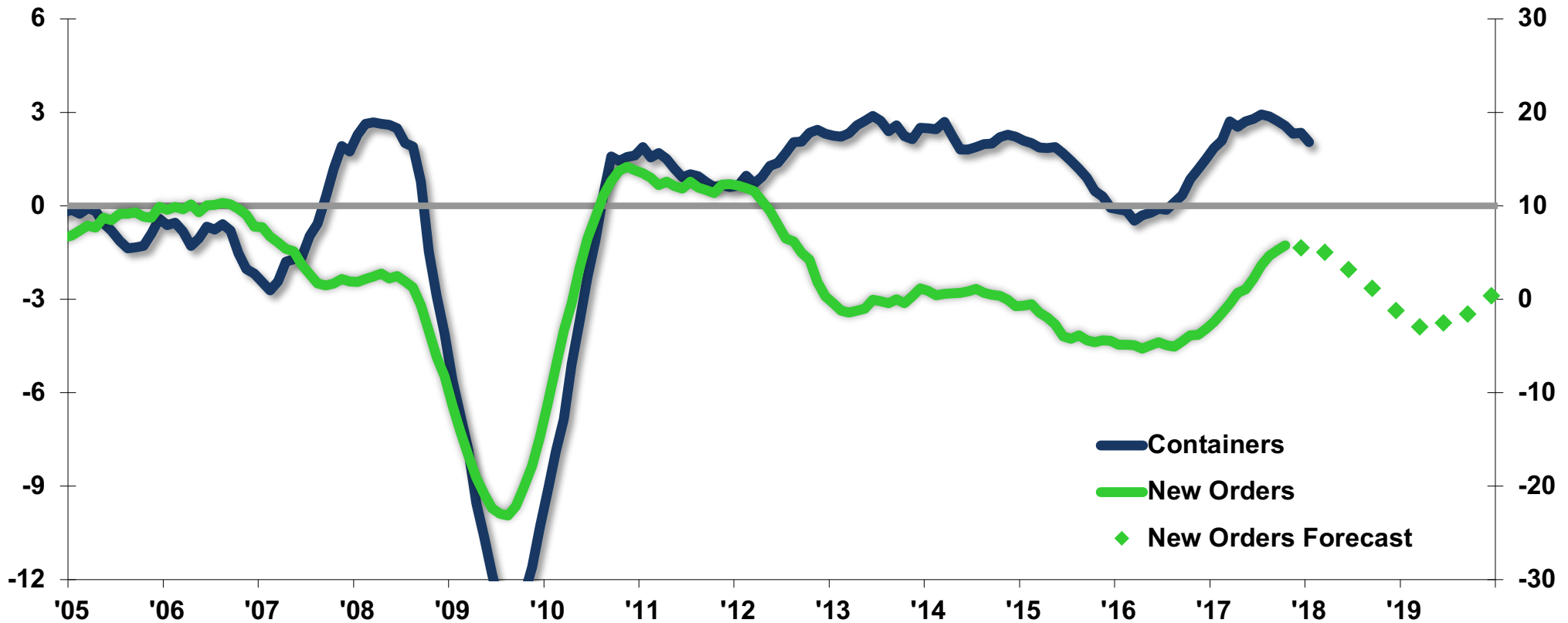
A positive impact from the tax law will show up here



# US Nondefense Capital Goods New Orders (excl. Aircraft) to US Machinery Manufacturing Capacity Utilization



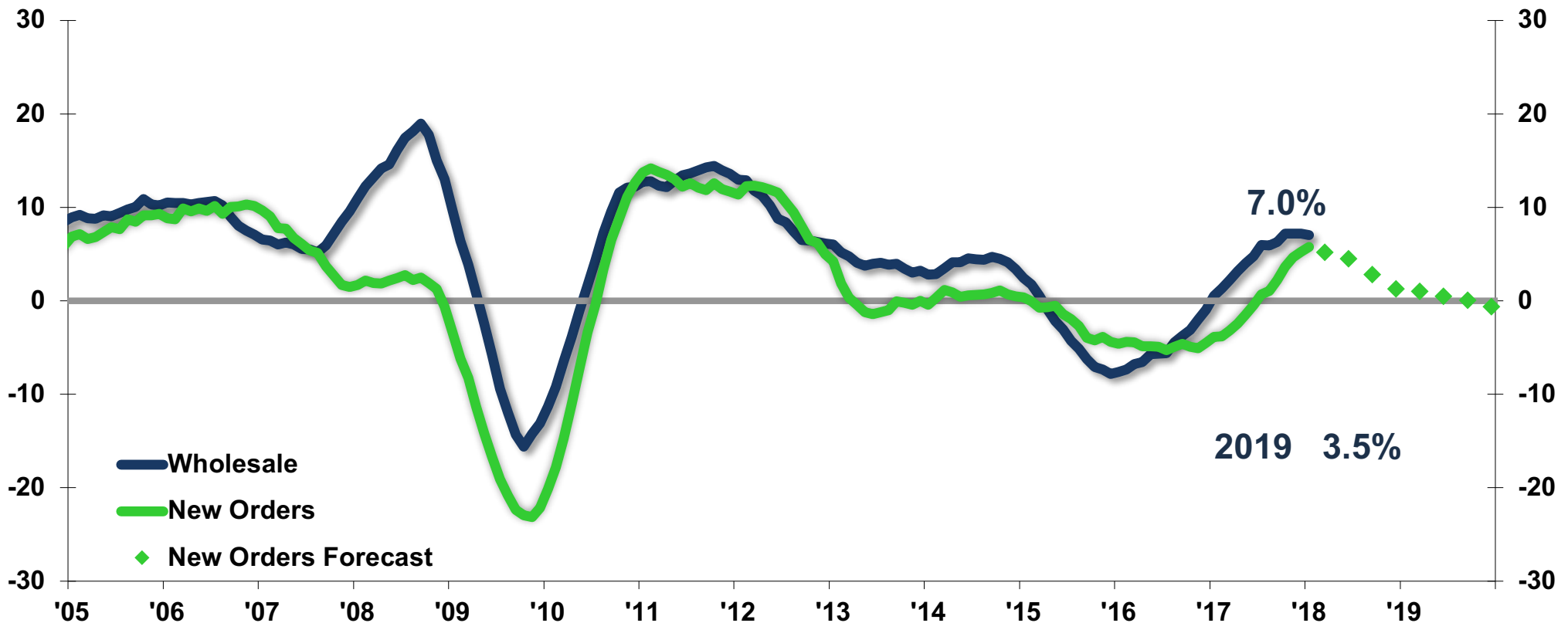
# US Paperboard Containers Production Index to US Nondefense Capital Goods New Orders without Aircraft



12/12 Rates-of-Change

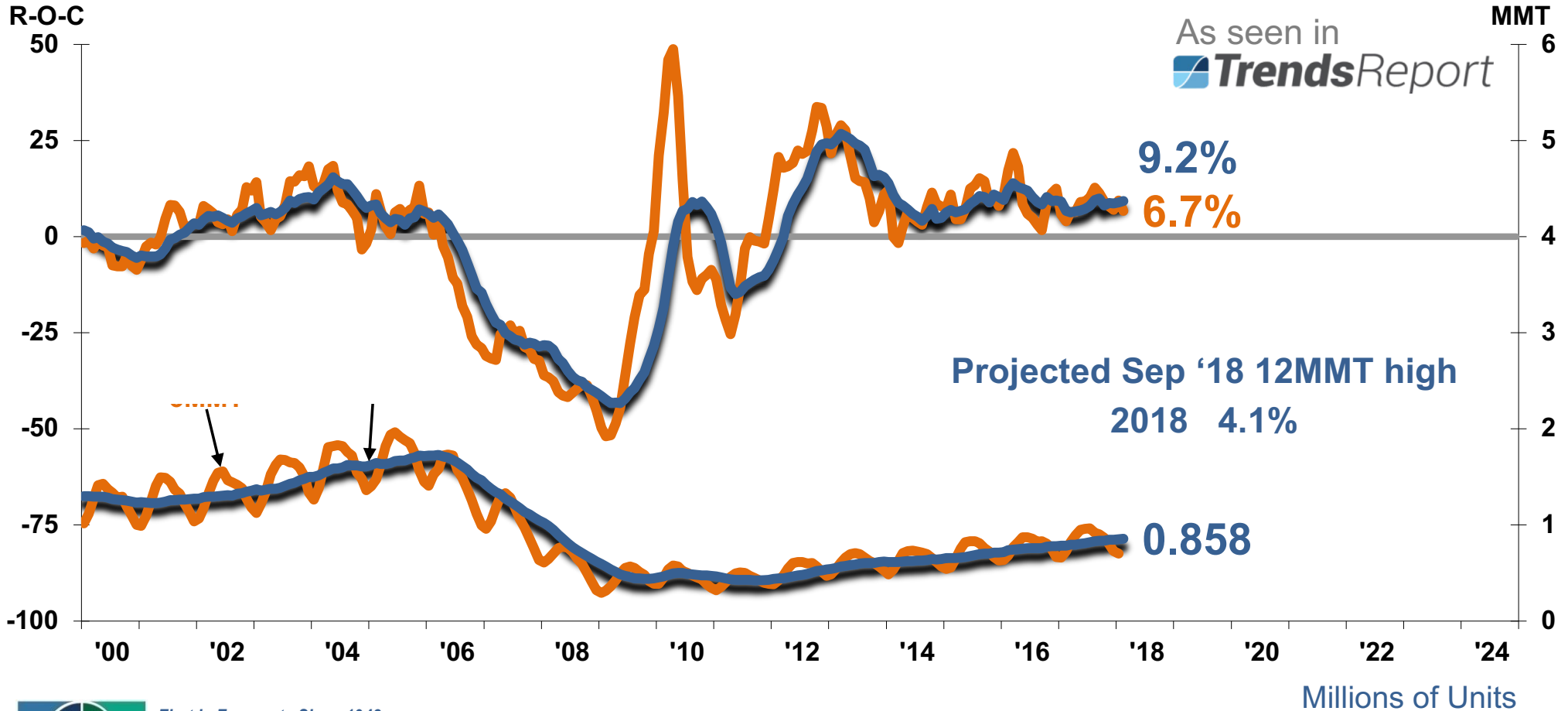
Sources: FRB, Census Bureau 51

# Wholesale Trade of Nondurable Goods to US Nondefense Capital Goods New Orders (excluding aircraft)



12/12 Rates-of-Change

# US Single Unit Housing Series

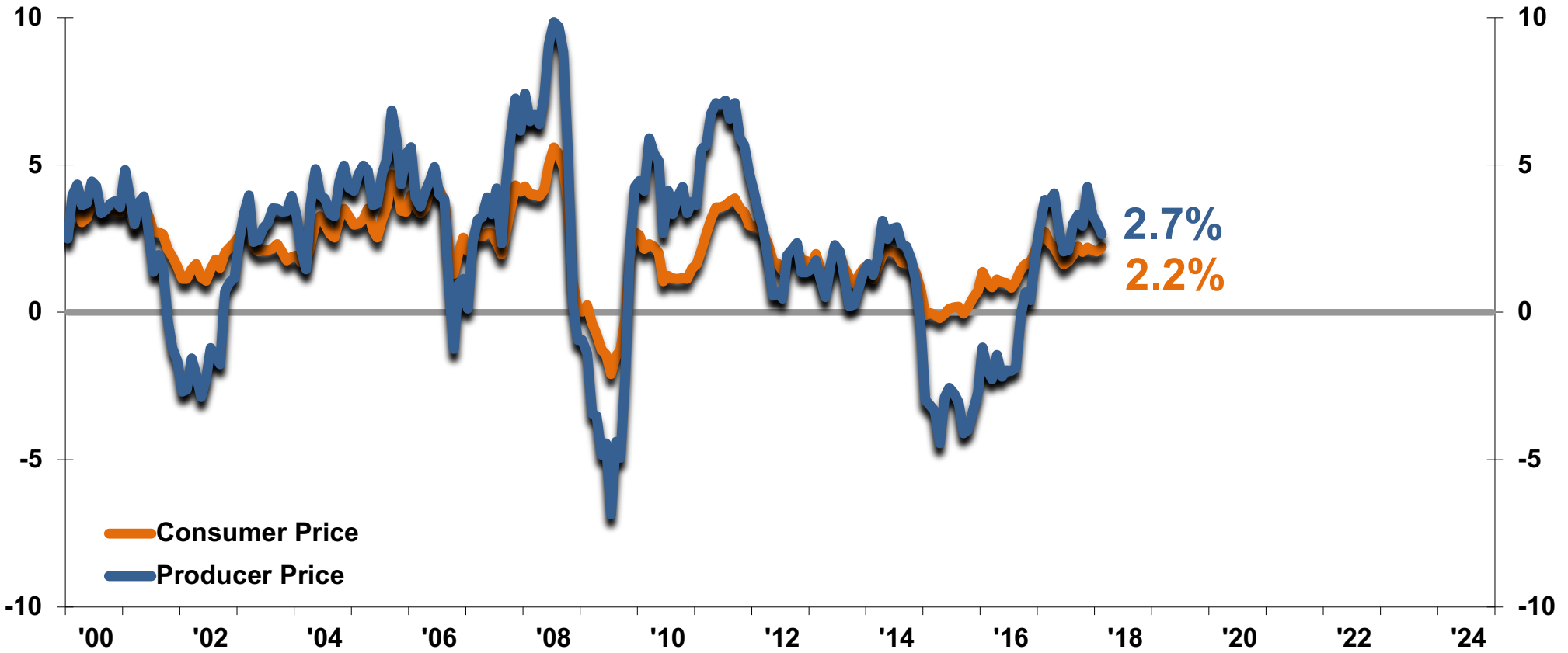


**I Can't Adult Today.**



**Please Don't Make Me Adult.**

# US Consumer Price Index to US Producer Price Index



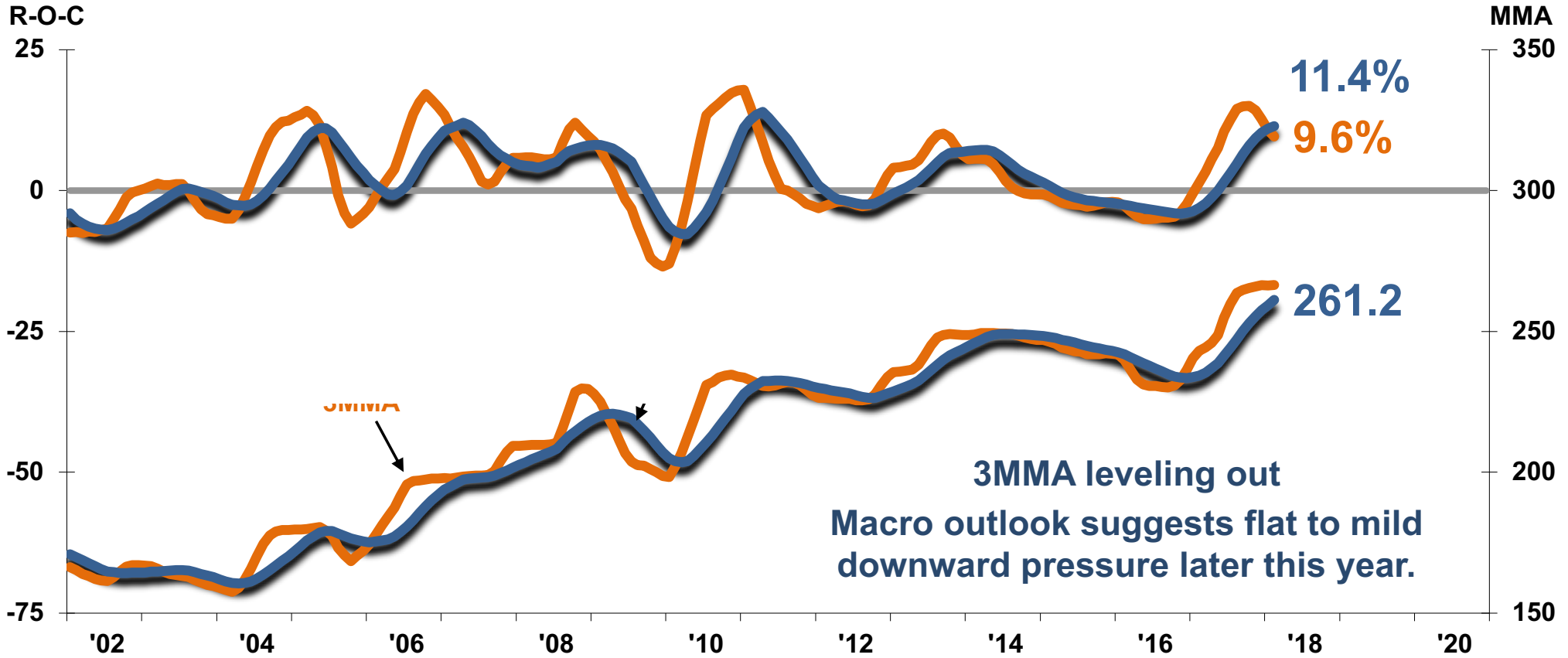
2.7%  
2.2%

Consumer Price  
Producer Price

1/12 Rate-of-Change

Source: BLS 55

# US Paperboard Producer Price Index

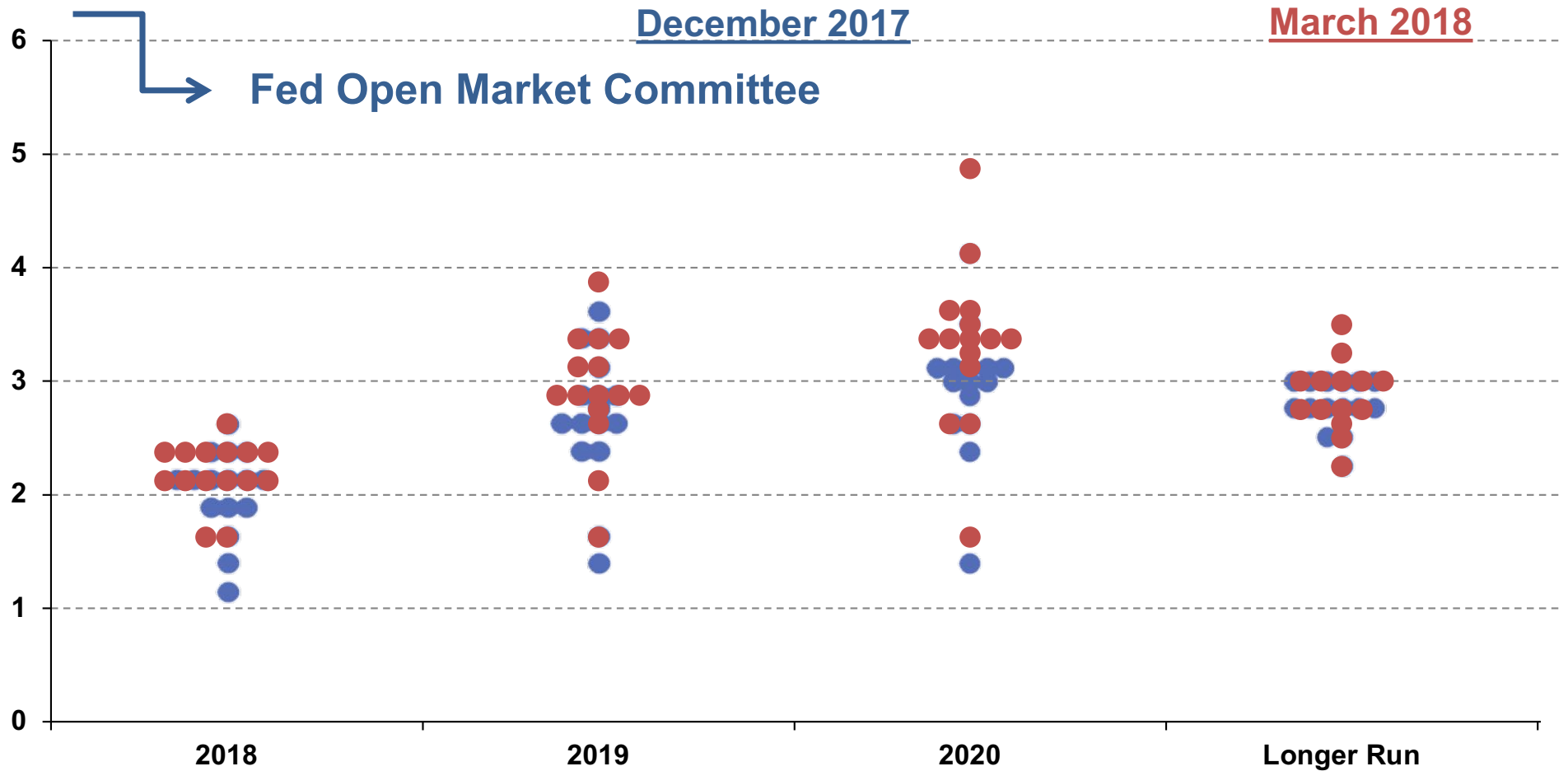




Source: FRB

Yield on 10 Year Treasury Note

# FOMC Member Interest Rate Projections





It is not enough to do your best; you must know what to do, and then do your best.

*W. Edwards Deming*

**If you only remember two things from my presentation, they should be...**

- 1. The need to update and rethink your webpage and social media footprint.**
- 2. Competitive advantages are an absolute must.**

**When you get back to your office, the two things you should do are...**

- 1. Decide on, and implement, changes while you have the time.**
- 2. Decide how you are going to increase market share in a slow growth environment.**

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