

# Paperboard Packaging Council

**A Good Year  
Ahead**



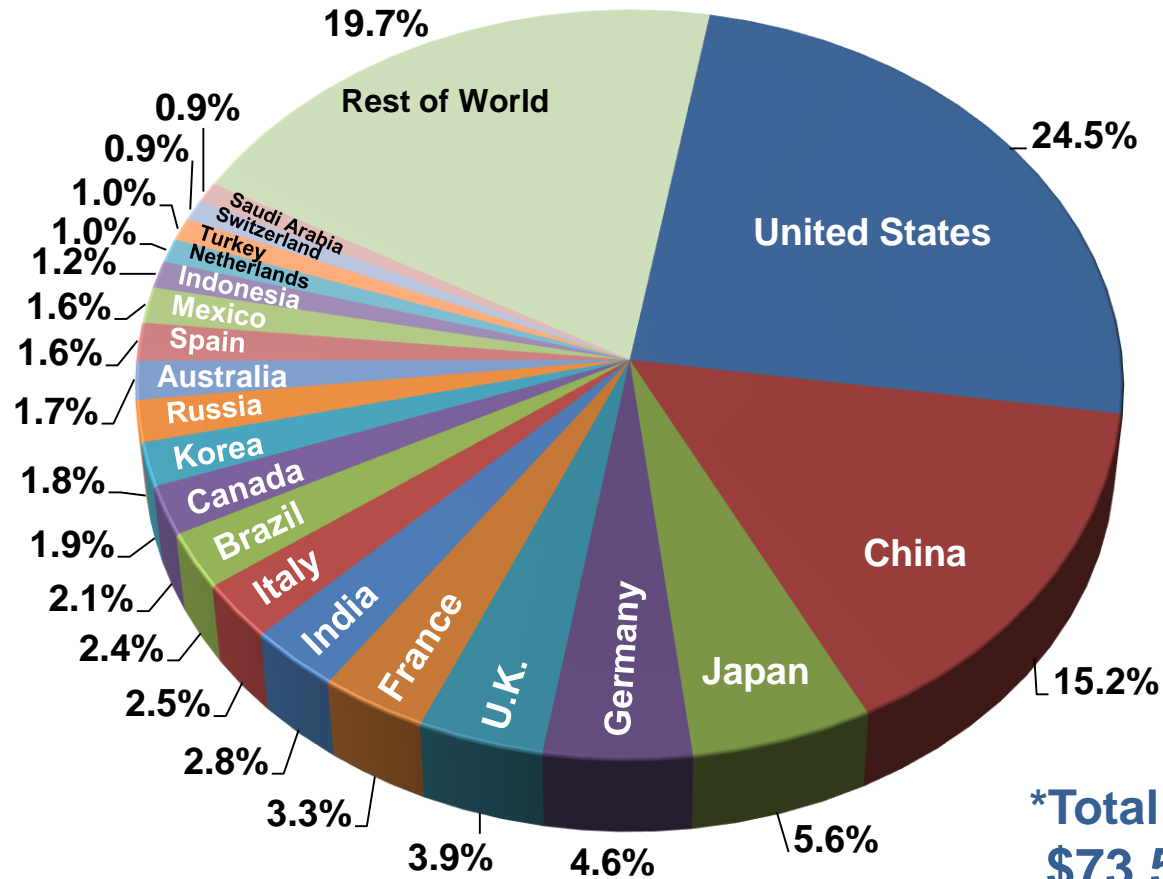
**Dr. Alan Beaulieu**  
President

# 2016 Forecast Results

	Duration	Accuracy
US GDP	15	99.1%
US Ind. Prod.	10	99.9%
Eur Ind. Prod.	15	99.2%
Canada Ind Prod	15	99.6%
China Ind Prod	18	99.3%
Retail Sales	18	99.8%
Housing	15	95.6%
Employment	14	99.7%

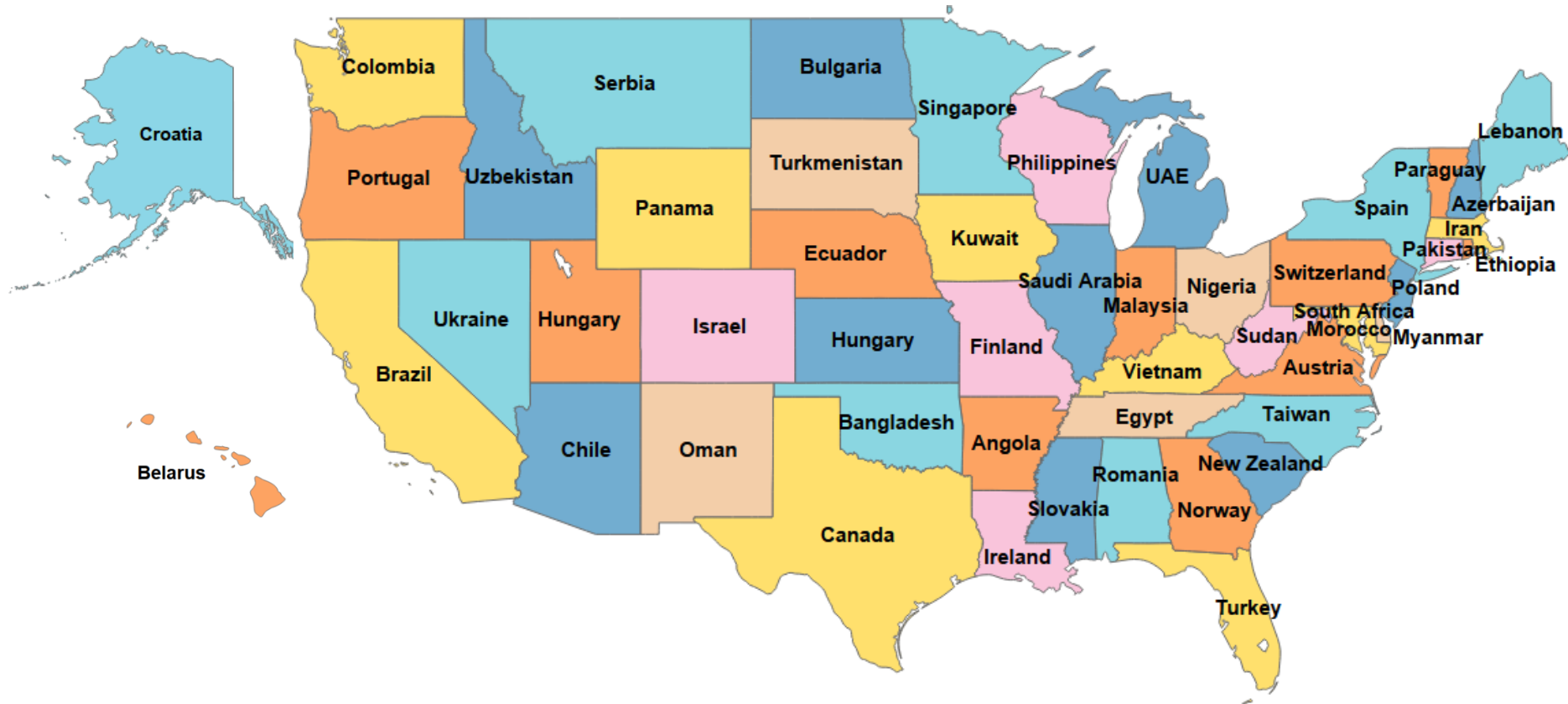
*ITR Economics provides the best economic intelligence to reduce risk and drive practical and profitable business decisions.*

# Percent of 2015 World GDP by Country

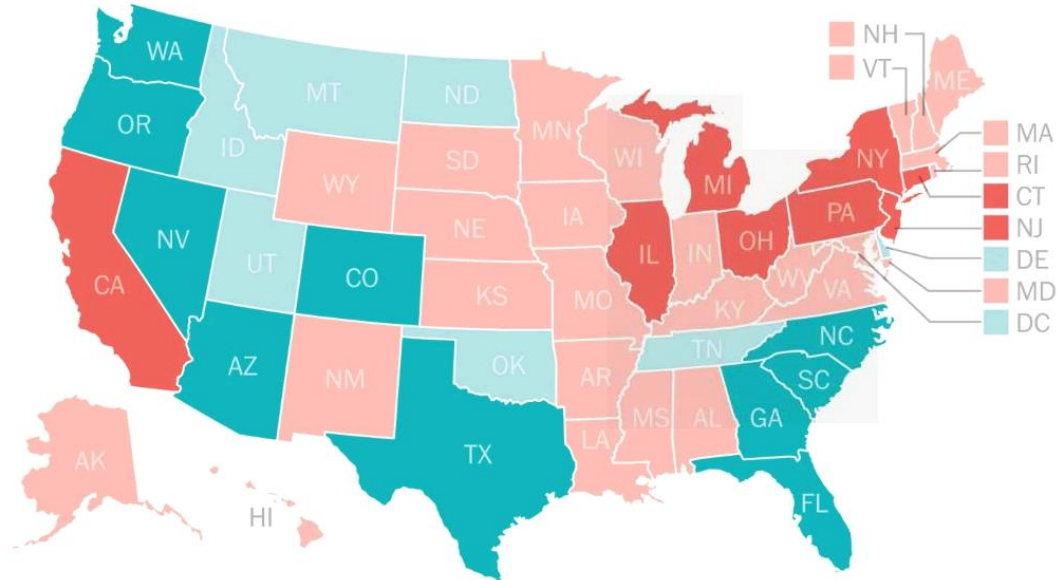
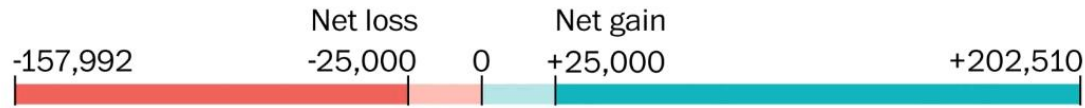


**\*Total 2015 World GDP:  
\$73.599 Trillion, US\$**

# US States Renamed for Countries with Similar GDPs



# Net Migration Between States, July 2014-July 2015

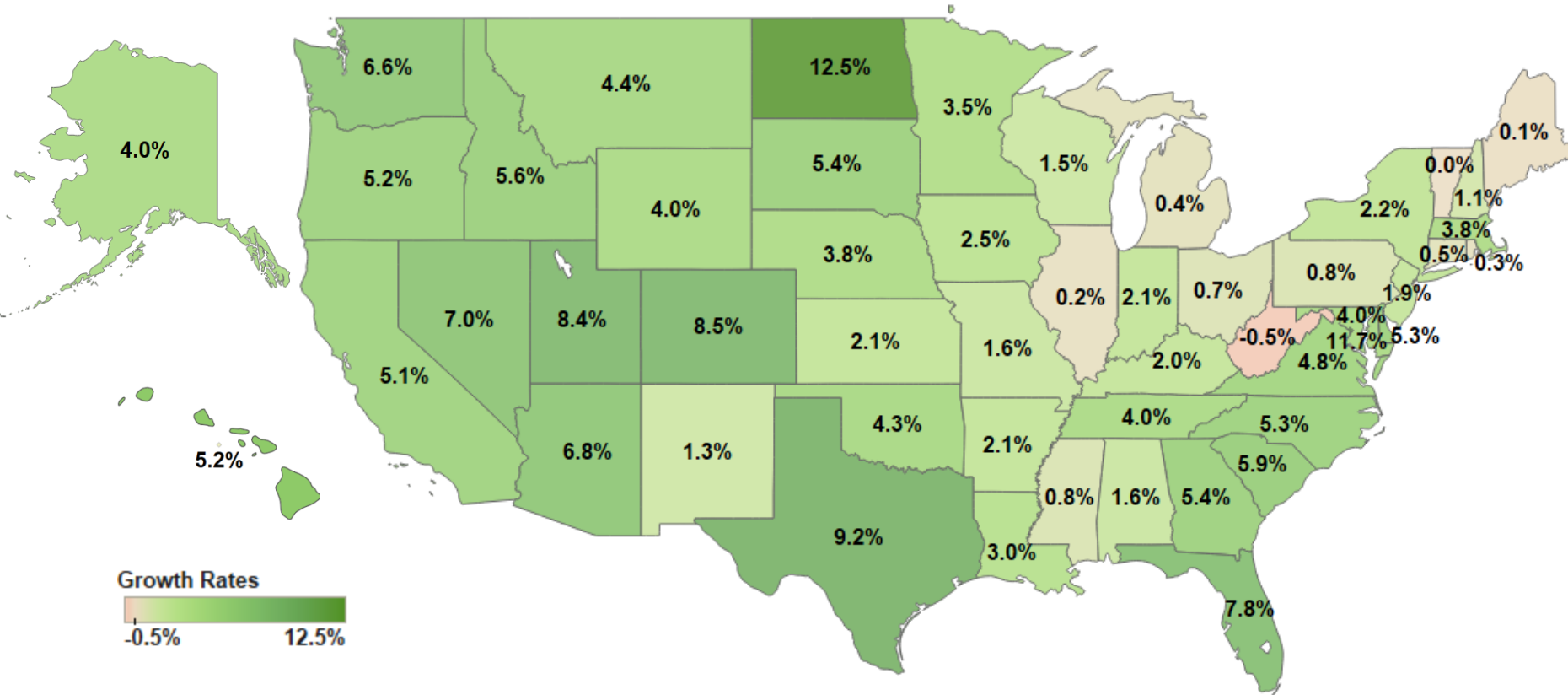


Note: Does not include immigration into the U.S.

Source: William H. Frey analysis of Census estimates

DARLA CAMERON / THE WASHINGTON POST

# State Population Growth Rates



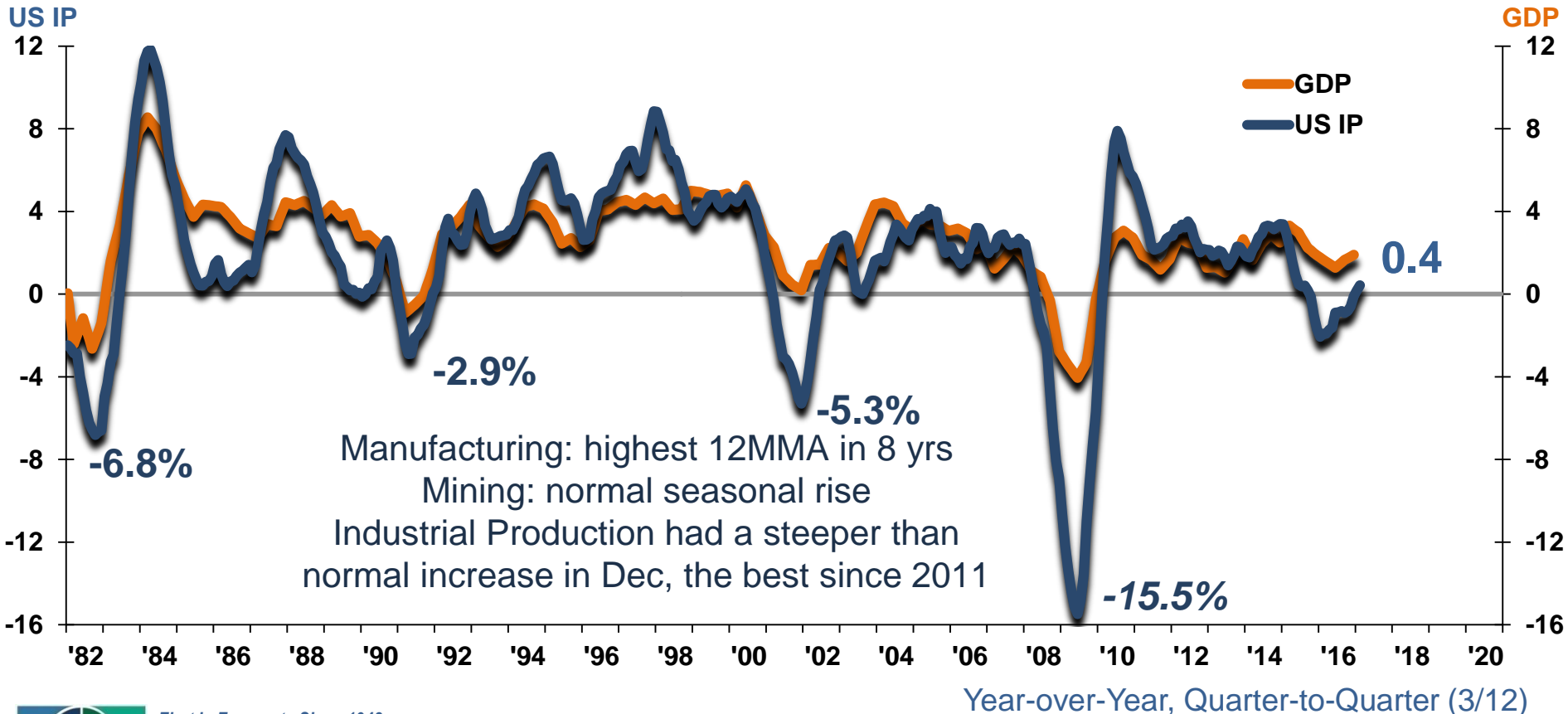
Growth Rates



Percent Change from Population Estimates 2010 to 2015

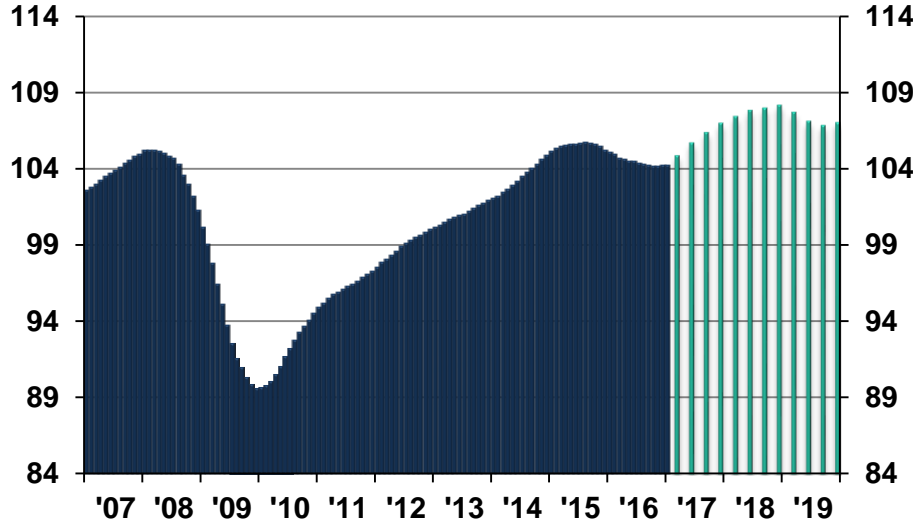
Source: Census Bureau

# US Industrial Production to Gross Domestic Product



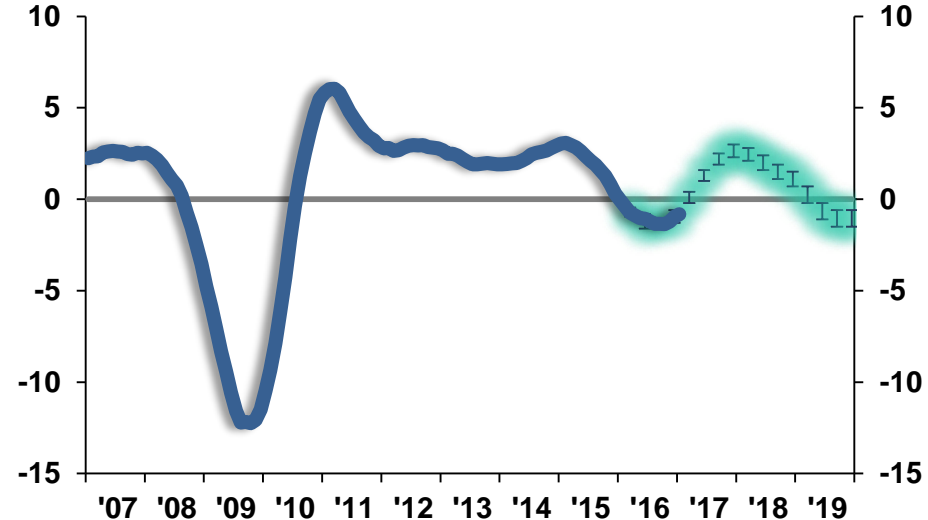
# US Industrial Production Index

## US Industrial Production Index 12-Month Moving Average



- Annual Trend: 104.3
- Phase: A
- Year-over-Year: -0.7%

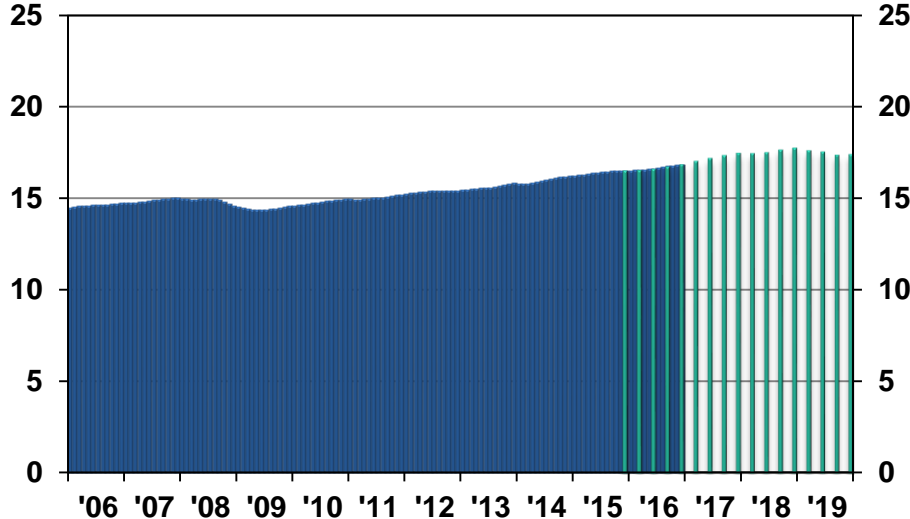
## Year-over-Year Growth Rate 12/12 Rate-of-Change



**Industry** 2017: 2.7%  
**Outlook** 2018: 1.1%  
2019: -1.1%

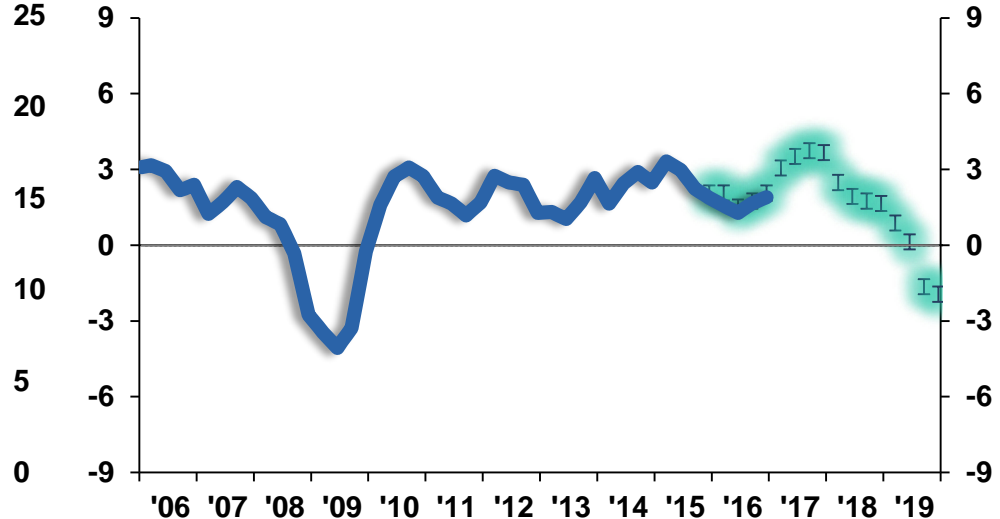
# US Gross Domestic Product


**US Gross Domestic Product  
3-Month Moving Average**



- **Annual Trend: \$16.7 trillion**
- **Phase: B**
- **Year-over-Year: 1.6%**

**Quarter-over-Quarter Growth Rate  
3/12 Rate-of-Change**



<b>Industry</b>	<b>2017: 3.7%</b>
 <b>Outlook</b>	<b>2018: 1.7%</b>
	<b>2019: -1.9%</b>

# Data Preparation

	<u>Raw</u>	<u>3MMT</u>	<u>3/12</u>	<u>12MMT</u>	<u>12/12</u>
Apr-15	1.4				
May-15	1.5				
Jun-15	1.5	4.4			
Jul-15	1.4	4.4			
Aug-15	1.5	4.4			
Sep-15	1.3	4.2			
Oct-15	1.3	4.1			
Nov-15	1.6	4.2			
Dec-15	1.6	4.5			
Jan-16	1.5	4.7			
Feb-16	1.7	4.8			
Mar-16	1.6	4.8		18.0	
Apr-16	1.7	5.0		18.2	
May-16	1.7	5.0		18.4	
Jun-16	1.7	5.1	15.9%	18.6	
Jul-16	1.6	5.0	13.6%	18.8	
Aug-16	1.7	5.0	13.6%	19.0	26.7%
Sep-16	1.5	4.8	14.3%	19.2	25.5%
Oct-16	1.5	4.7	14.6%	19.4	25.2%
Nov-16	1.9	4.9	16.7%	19.7	22.4%
Dec-16	1.7	5.1	13.3%	19.8	20.0%
Jan-17	1.7	5.3	12.8%	20.0	18.3%
Feb-17	1.9	5.3	10.4%	20.2	15.4%
Mar-17	1.7	5.3	10.4%	20.3	12.7%

**DATACAST !**

## 3/12 Rate-of-Change

$$= \frac{\text{March 2017 3MMT}}{\text{March 2016 3MMT}} \times 100 - 100$$

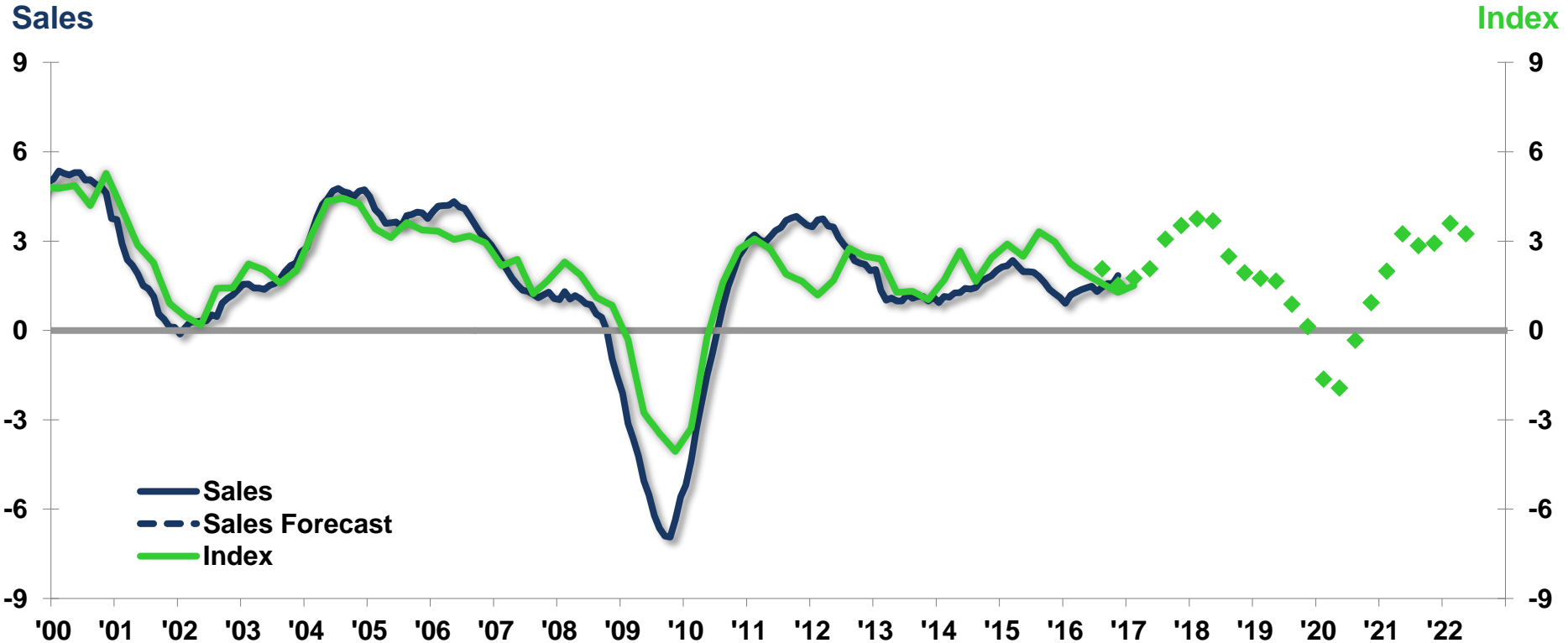
$$= \frac{5.3}{4.8} \times 100 - 100 = 10.4\%$$

## 12/12 Rate-of-Change

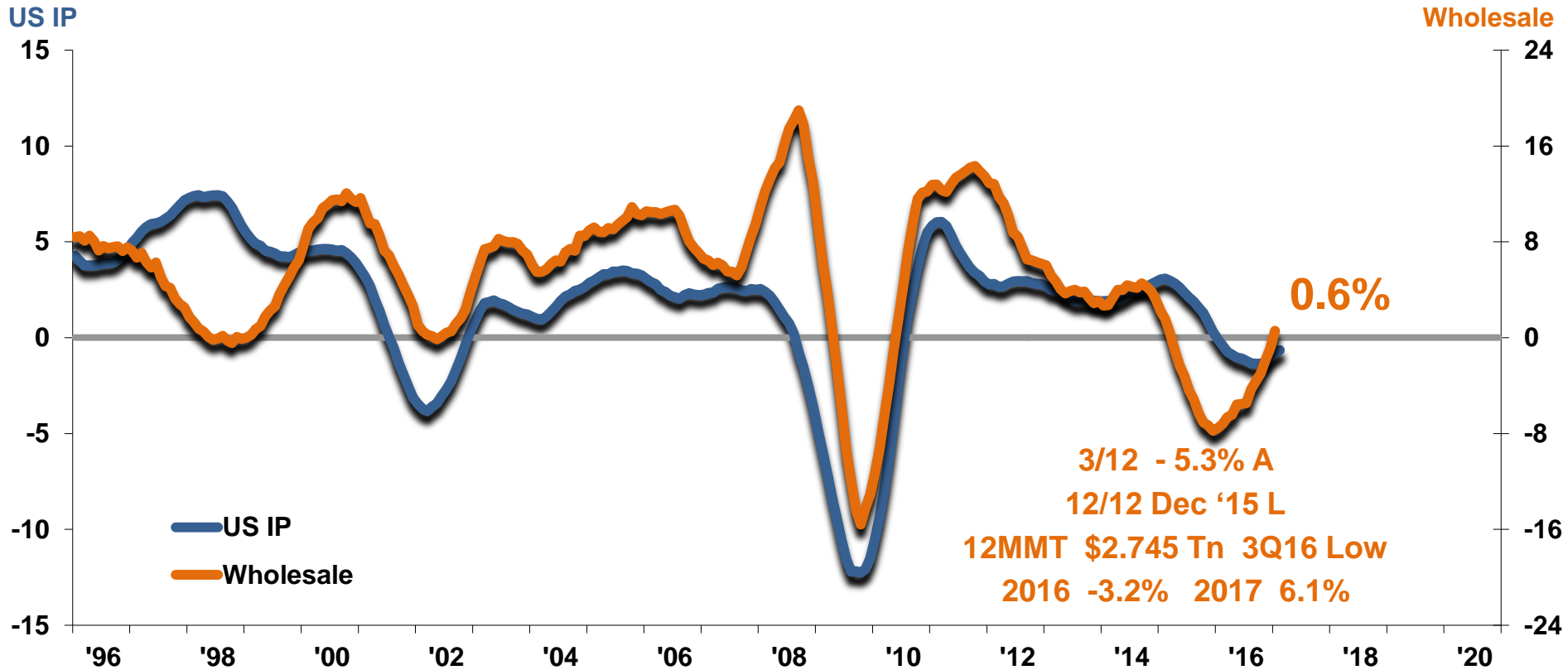
$$= \frac{\text{March 2017 12MMT}}{\text{March 2016 12MMT}} \times 100 - 100$$

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

# Total Retail Sales Excluding Automobiles (deflated) to US Real Gross Domestic Product

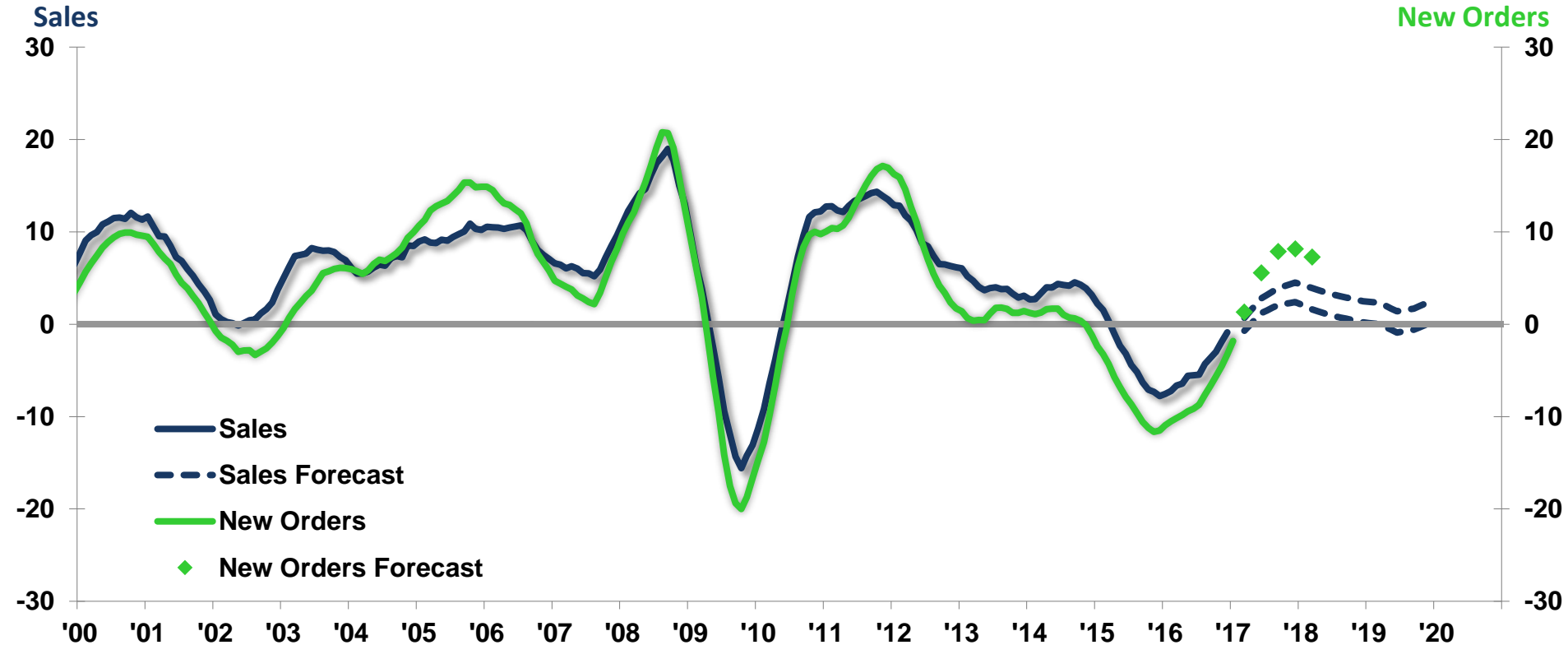


# US Industrial Production to US Wholesale Trade Nondurable Goods

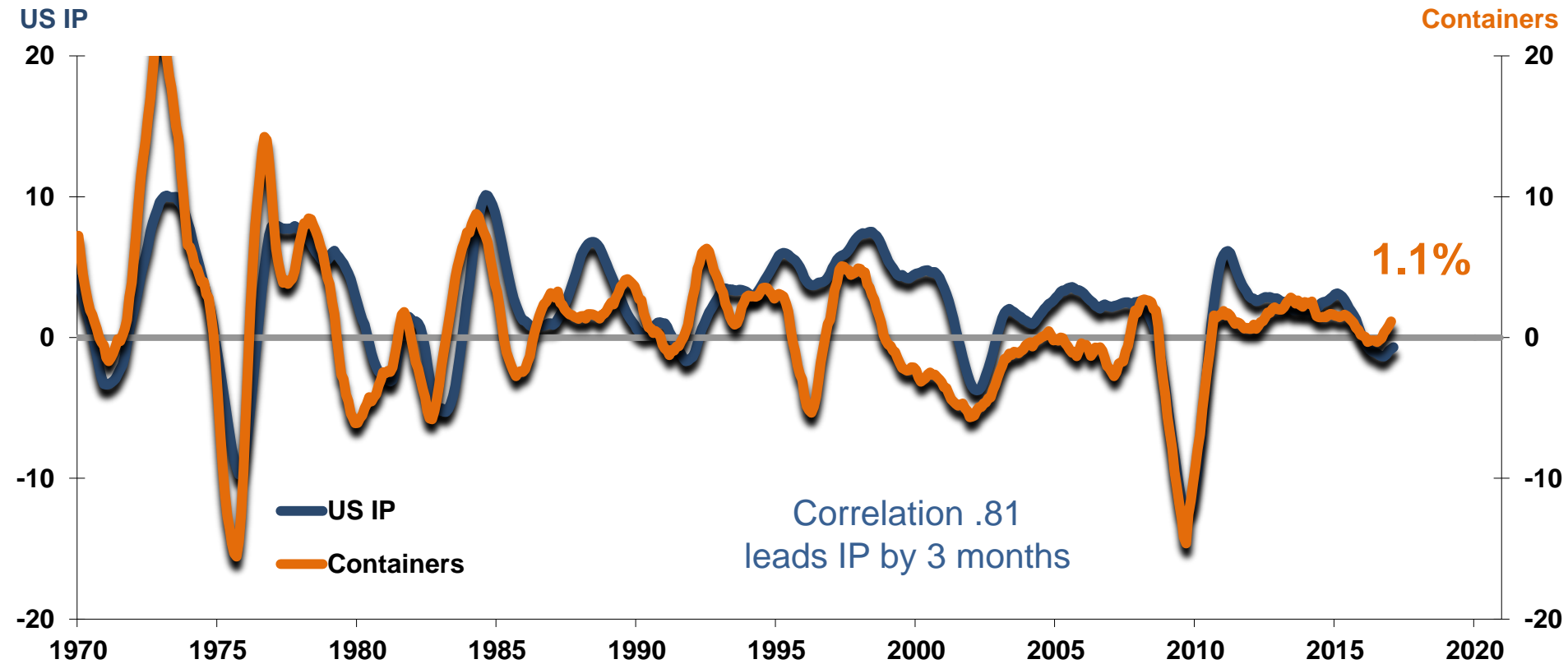


# Wholesale Trade of Nondurable Goods to US Consumer

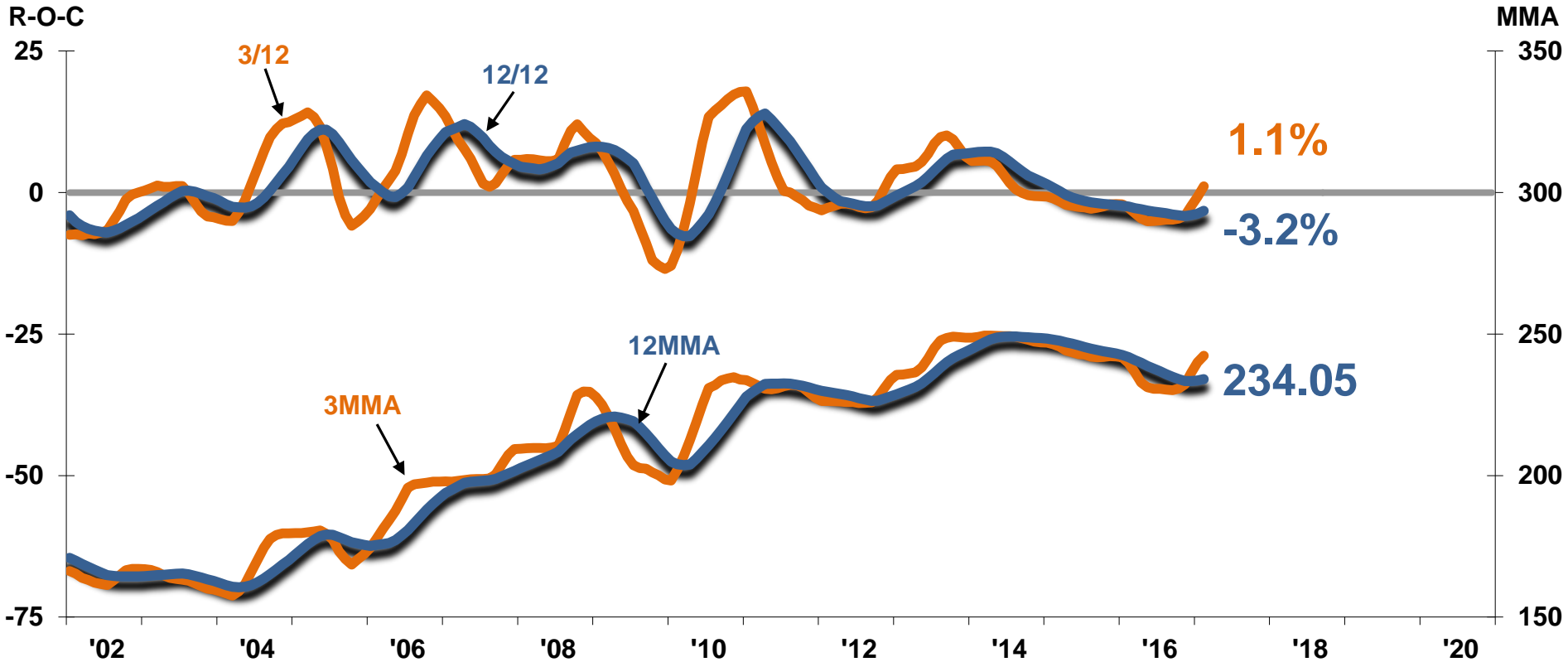
## Nondurable Goods New Orders



# US Industrial Production to Paperboard Containers Production

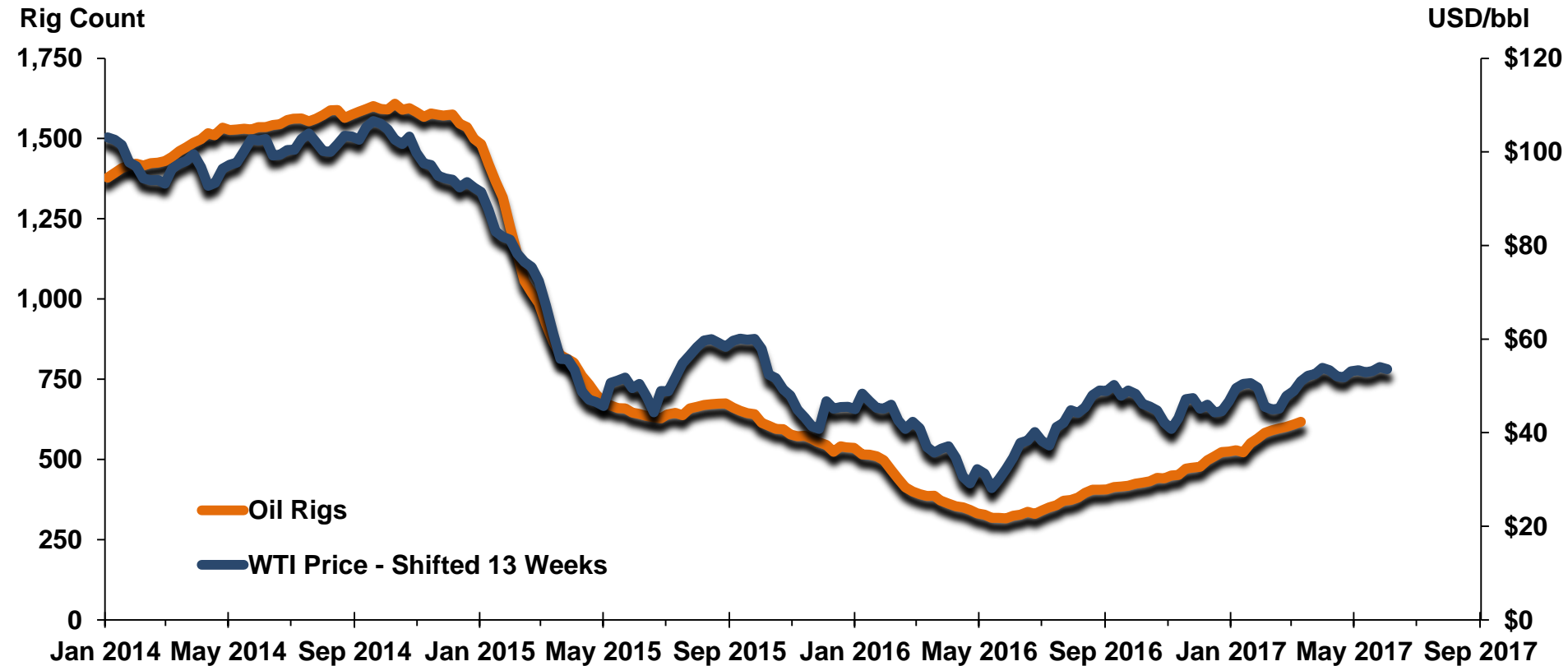


# US Paperboard Producer Price Index

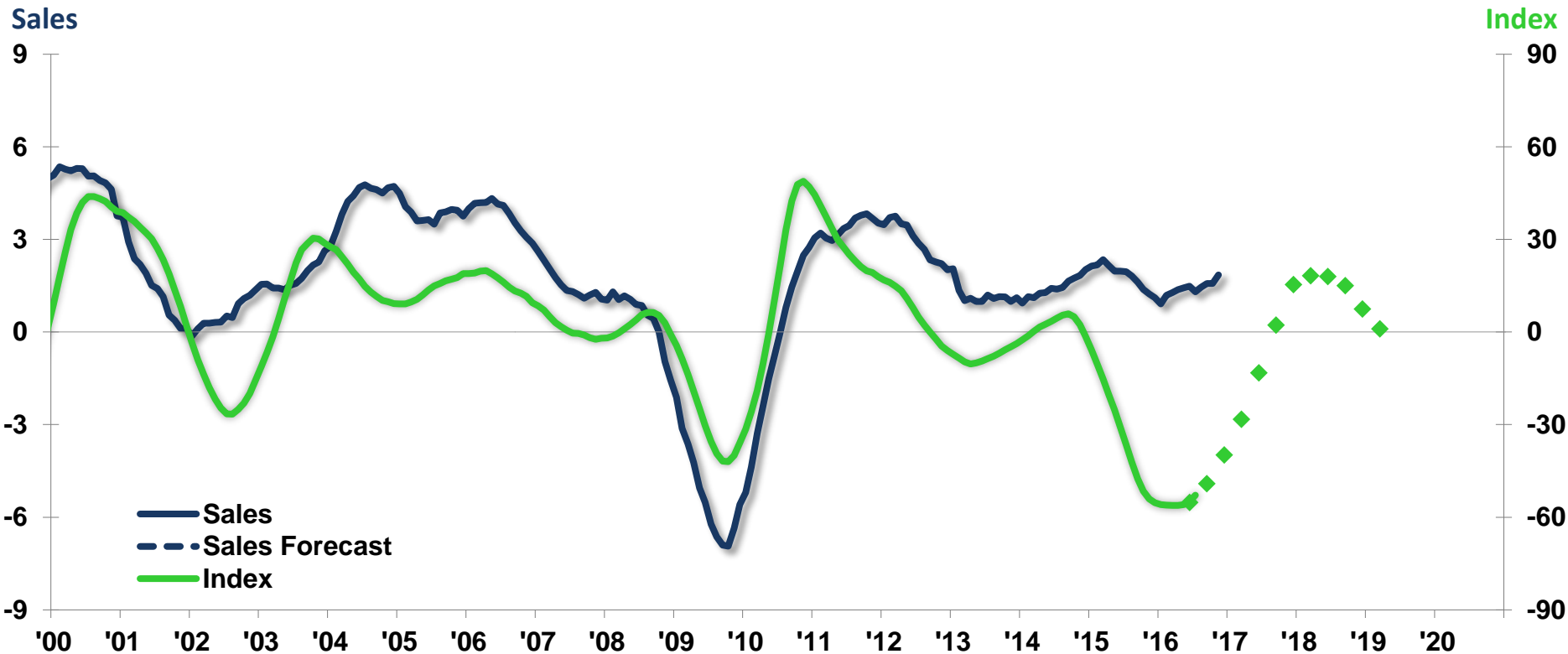


# United States Overview

## Weekly Oil Price & Rig Count

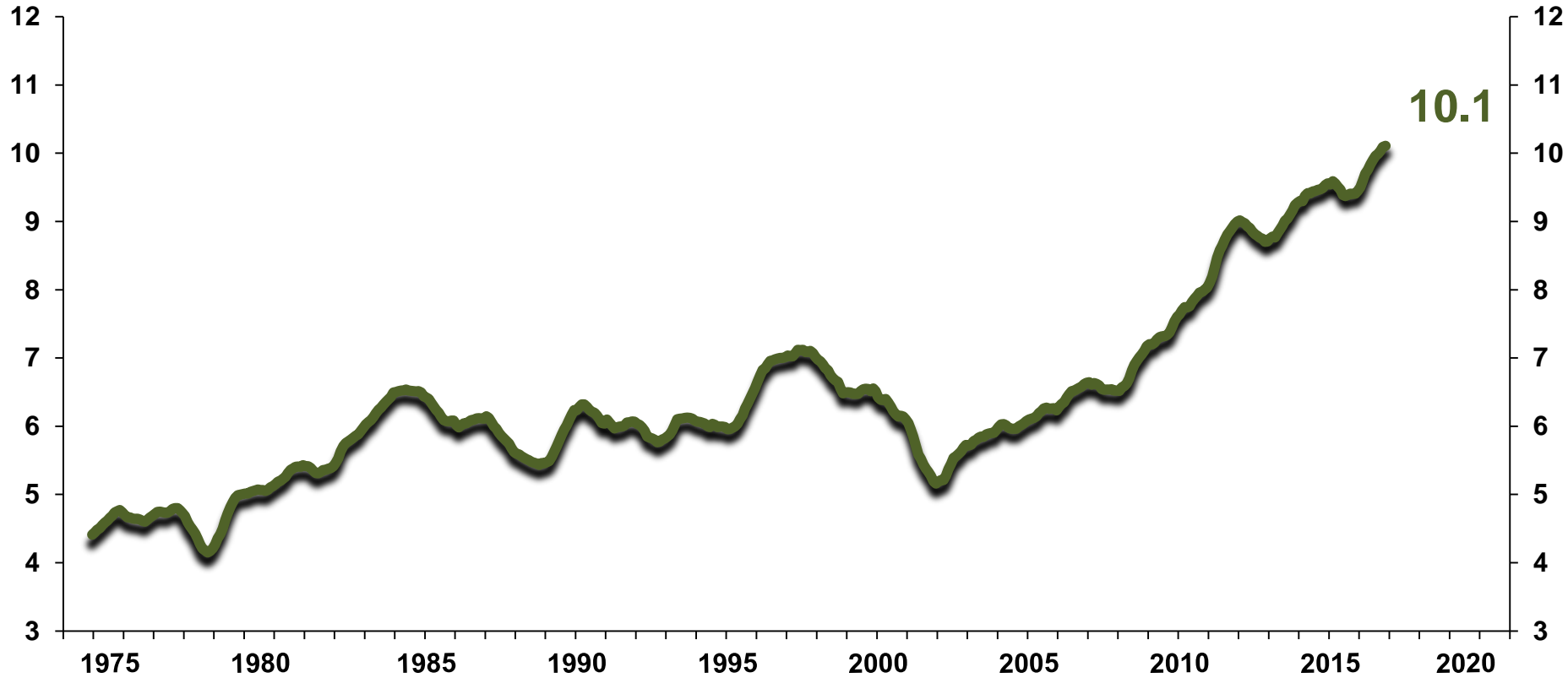


# Total Retail Sales Excluding Automobiles (deflated) to North American Rotary Rig Count

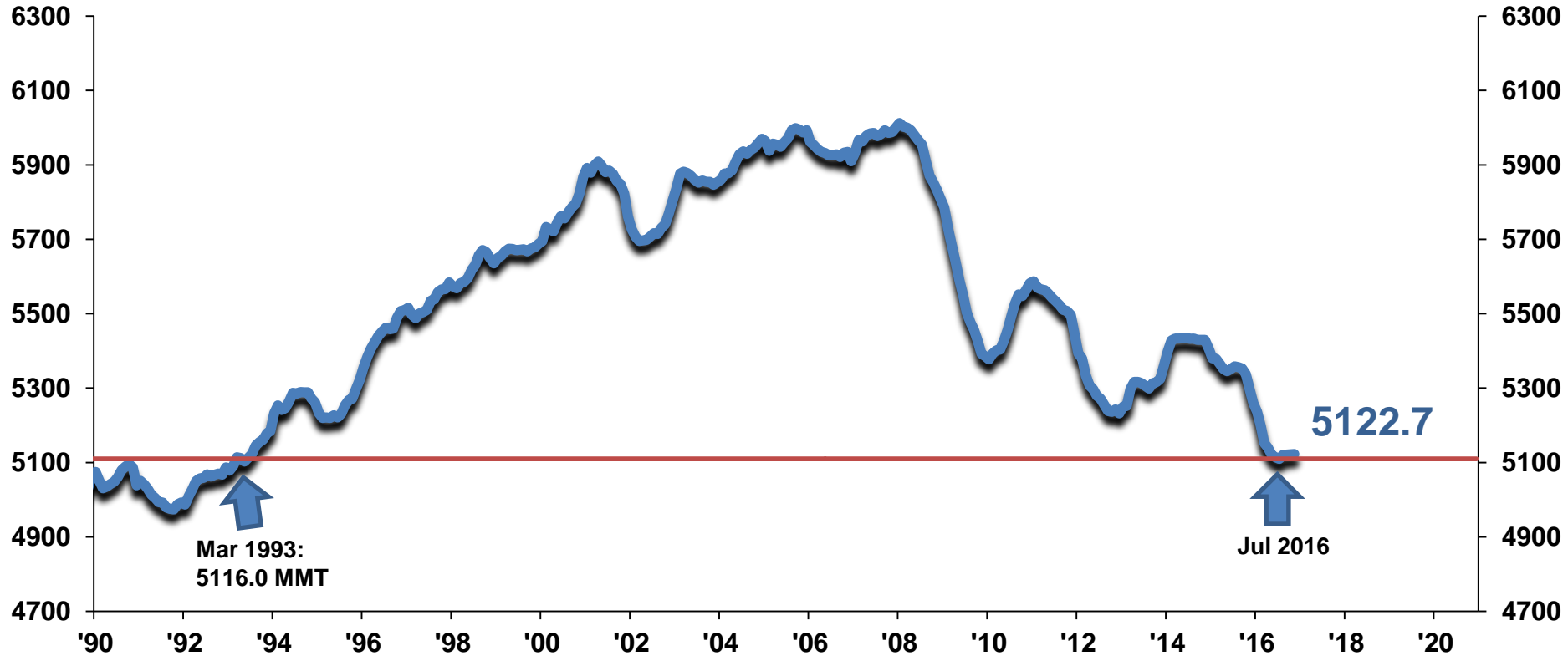


12/12 Rates-of-Change

# US Total Renewable Energy Consumption



# US Carbon Dioxide Emissions



# Ongoing Concerns

**China**

**NAFTA and International Trade**

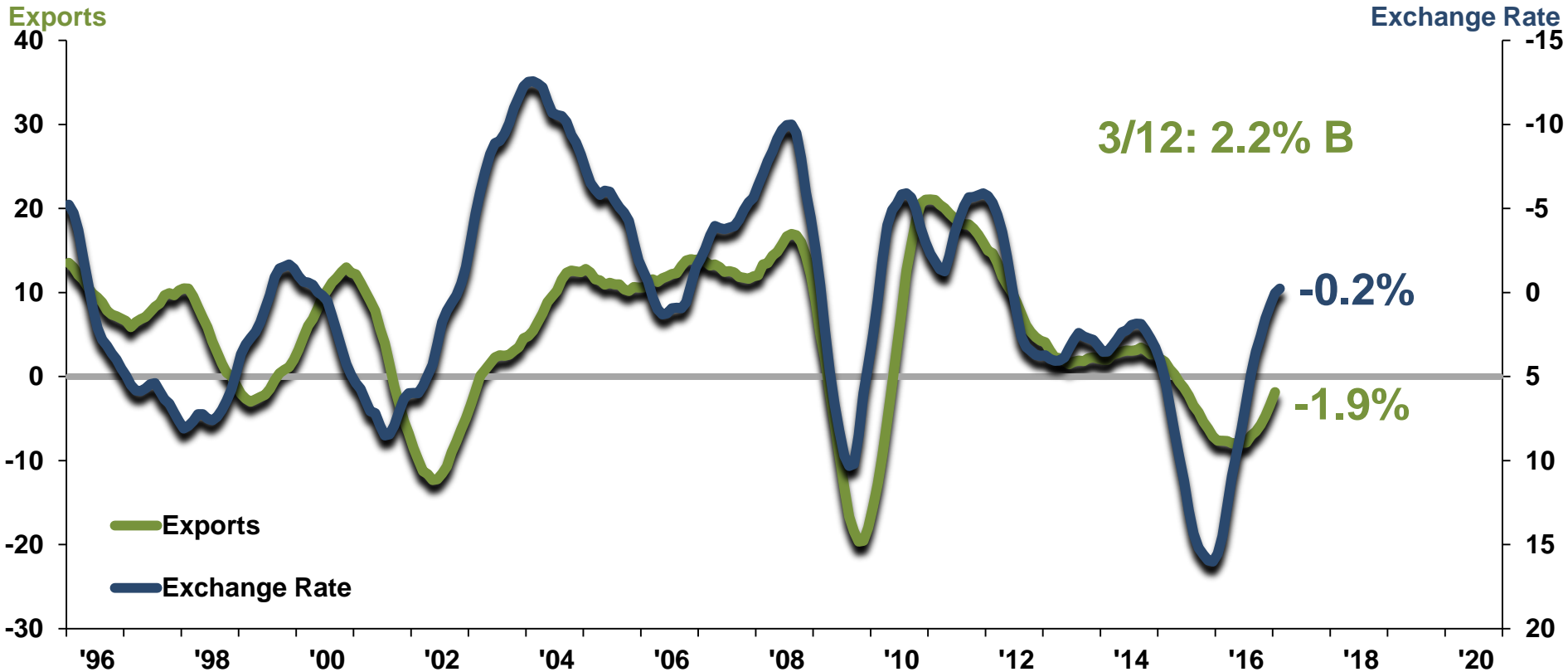
**Brexit**

**South America**

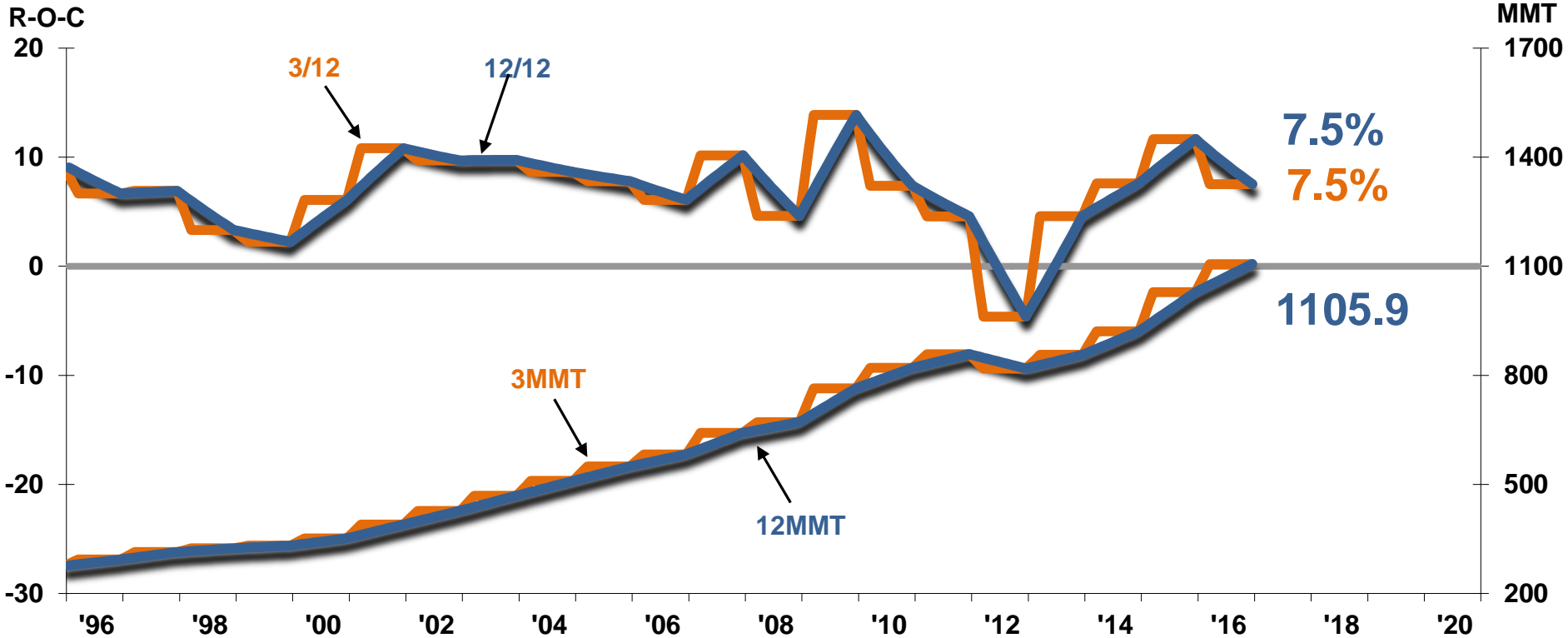
**US Debt**

**Health Care**

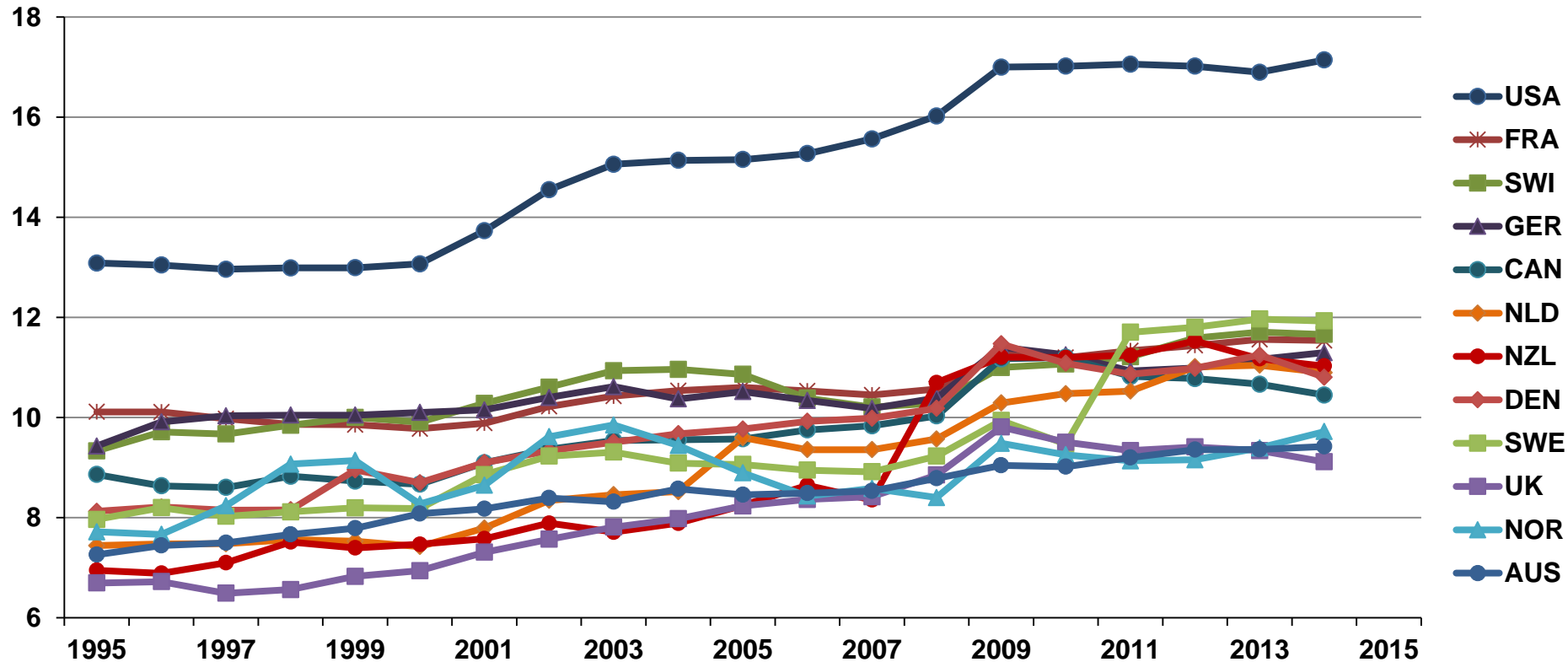
# US Trade in Goods with World: Exports to Trade Weighted Exchange Rate Index



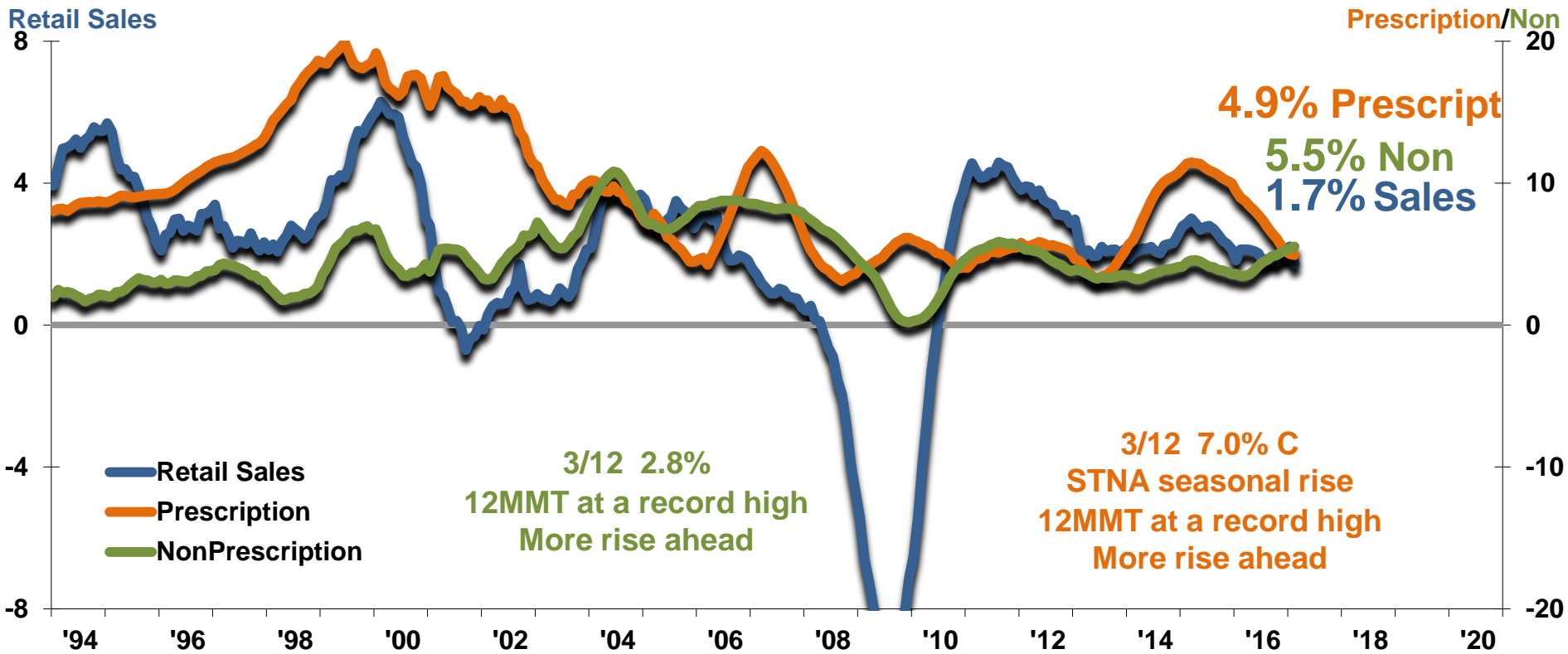
# US Federal Government Spending on Healthcare



# Total Expenditure on Health as a Percent of GDP (1995-2013)

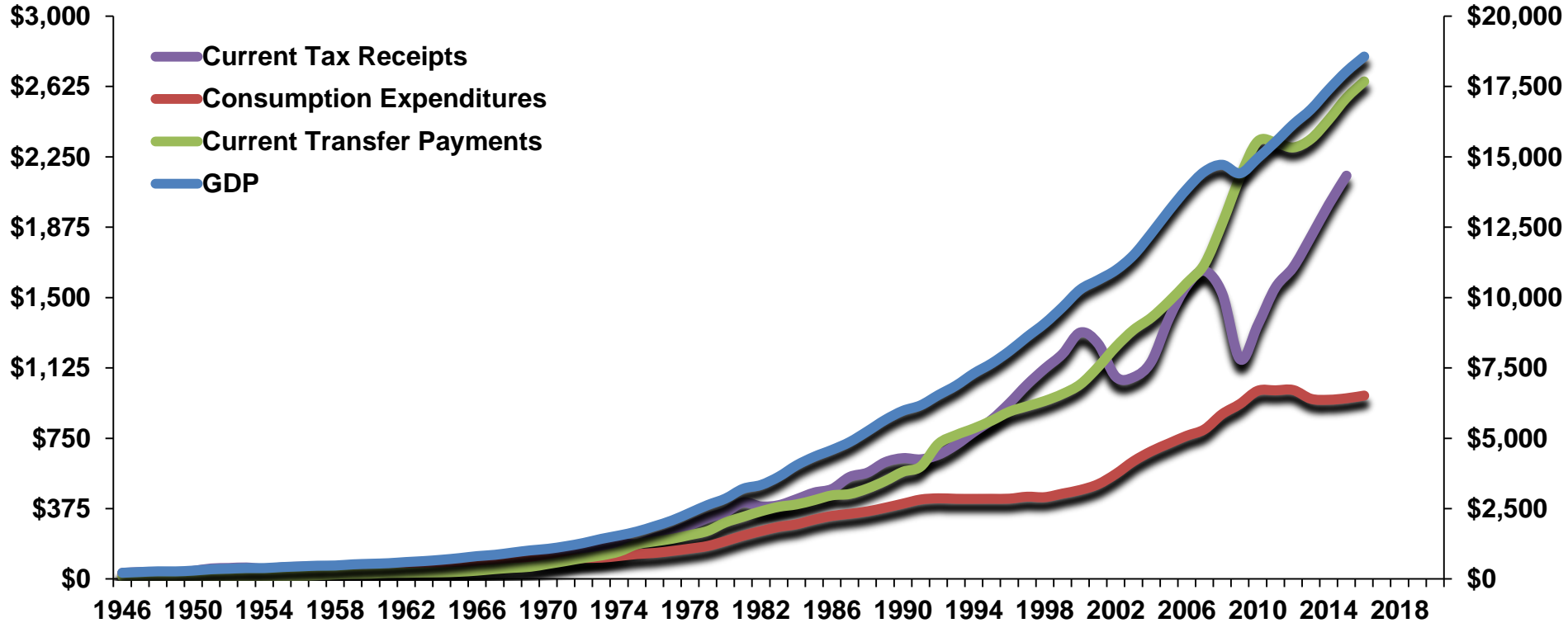


# US Total Retail Sales (deflated) to Prescription Drug and Nonprescription Drug Expenditures



# Federal Government Current Tax Receipts to Consumption Expenditures to Current Transfer Payments to GDP

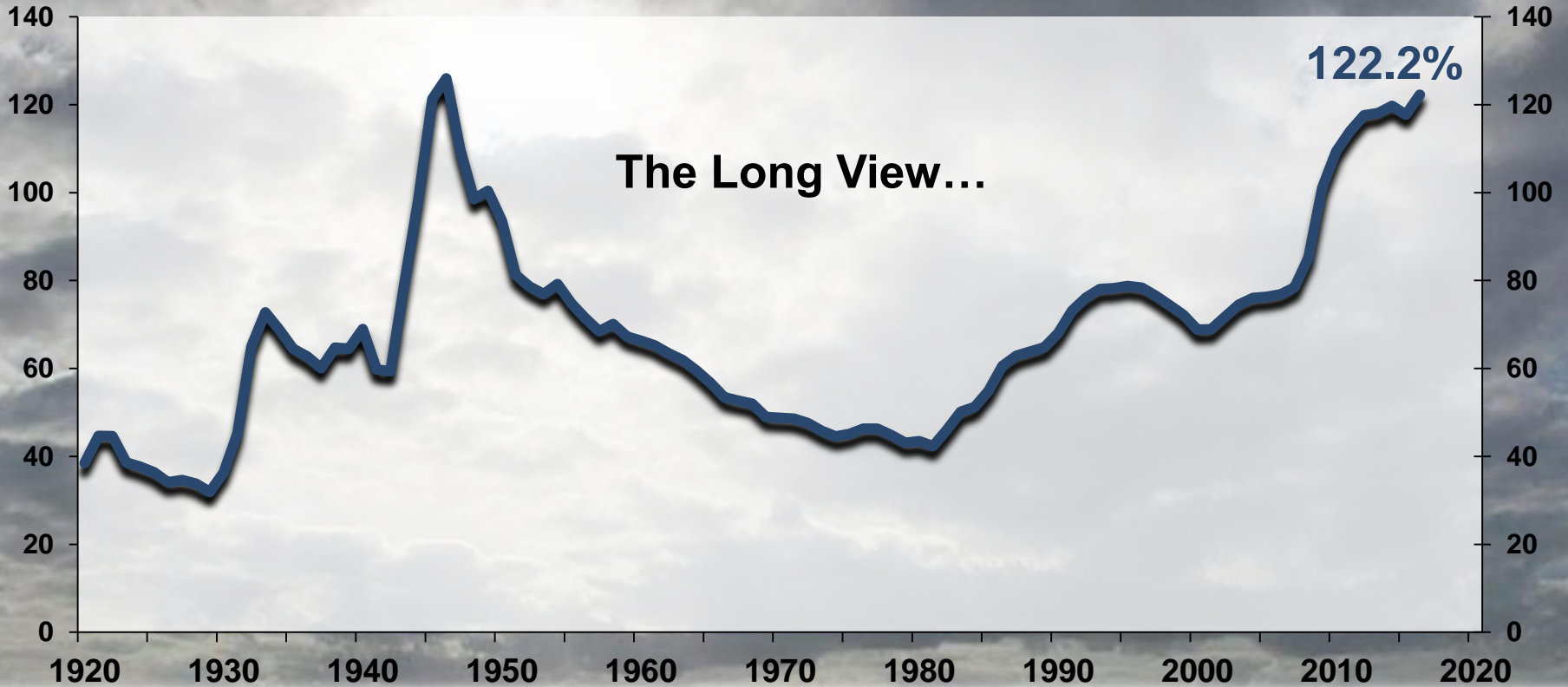
Tax/Exp/Paym



Billions of Dollars

Source: BEA 25

# Total U.S. Public Debt



The Long View...

122.2%

# CBO Projection Statistics

	A	B	C	D	E
	<u>B+C+D/E</u>	<u>Net Interest</u>	<u>Healthcare</u>	<u>Social Security</u>	<u>Total Spending</u>
<b>2015</b>	<b>56%</b>	<b>234</b>	<b>936</b>	<b>882</b>	<b>3,690</b>
<b>2030</b>	<b>69%</b>	<b>1,176</b>	<b>2,251</b>	<b>2,049</b>	<b>7,896</b>
<b>2035</b>	<b>71%</b>	<b>1,602</b>	<b>3,041</b>	<b>2,589</b>	<b>10,110</b>

# US/Global Recovery – Good Days Ahead

Consumers are in great shape

Interest Rates remain favorable

Employment rising, as are wages

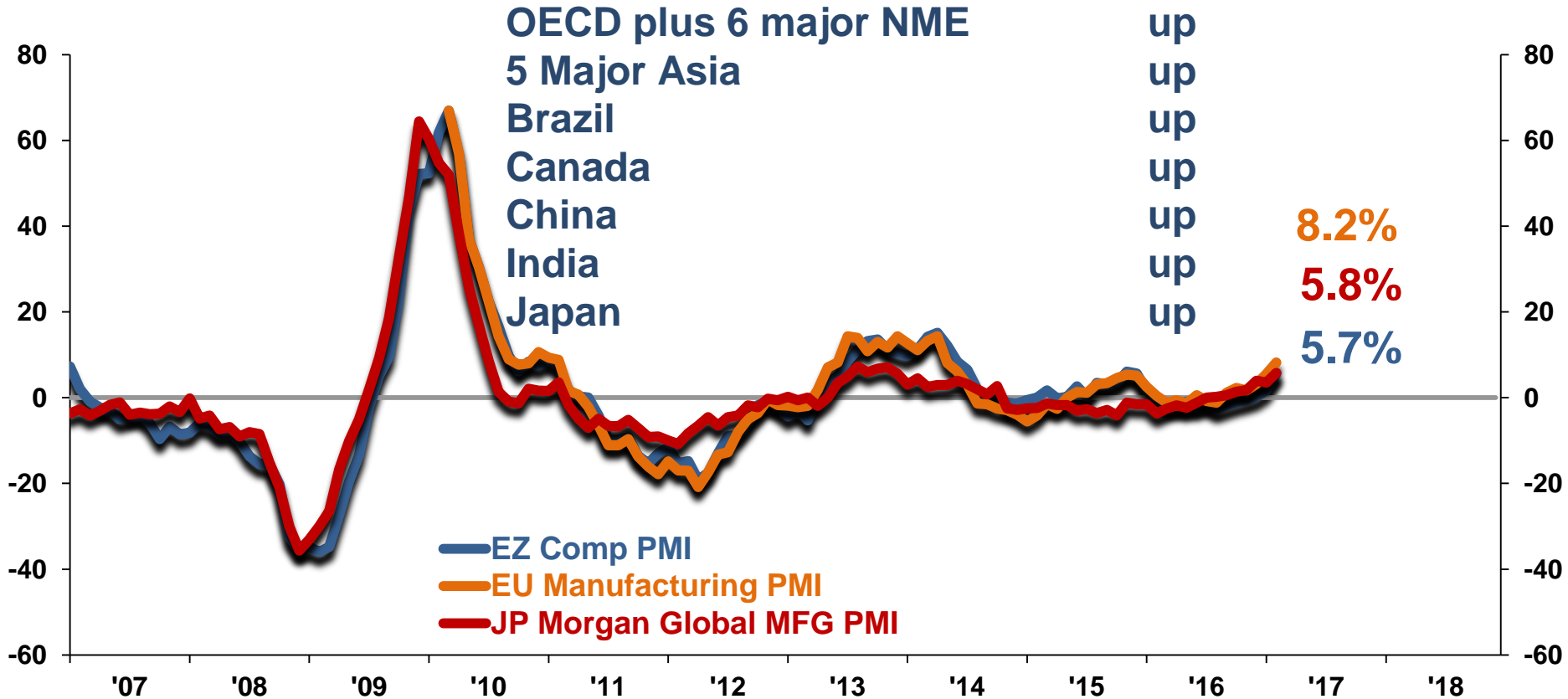
Banks are lending

Retail Sales at a record high level

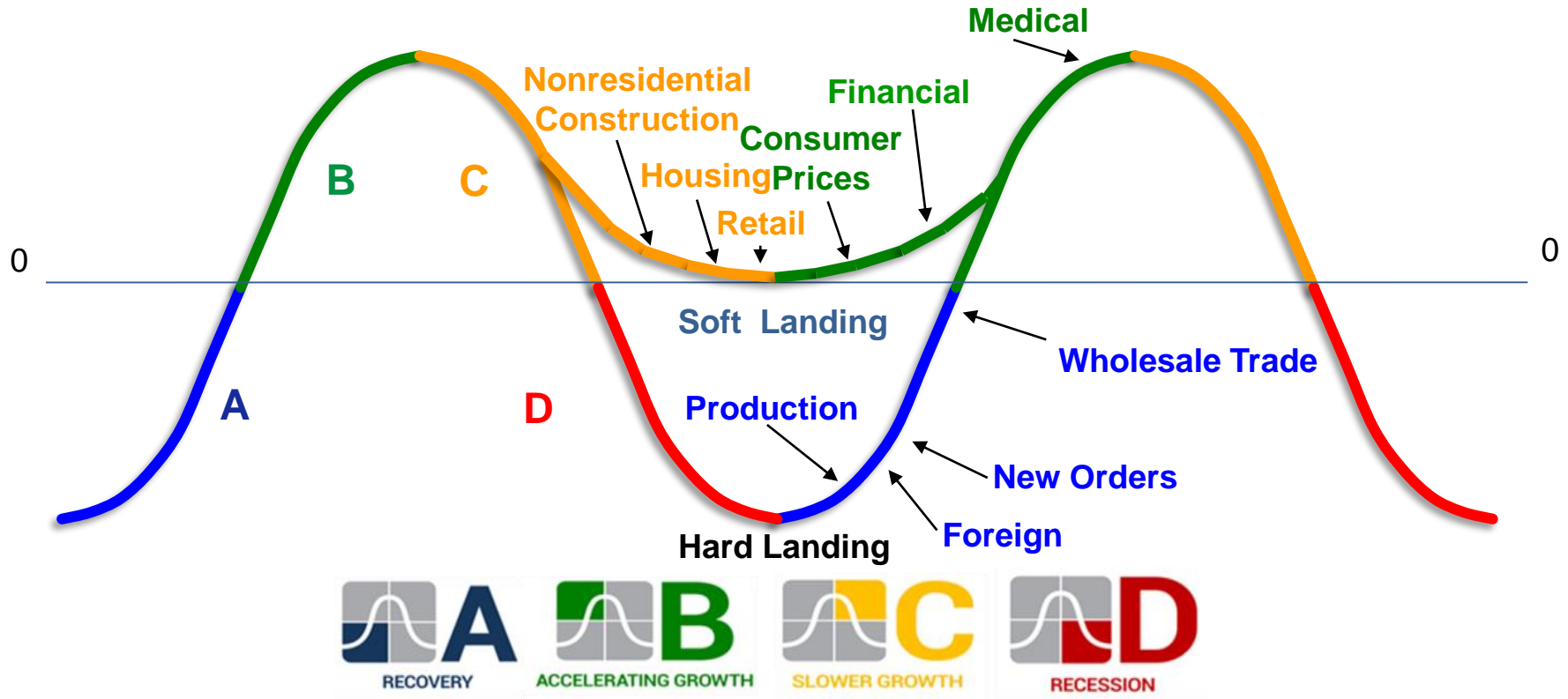
Housing Starts

Commodity Prices are experiencing some upside pressure

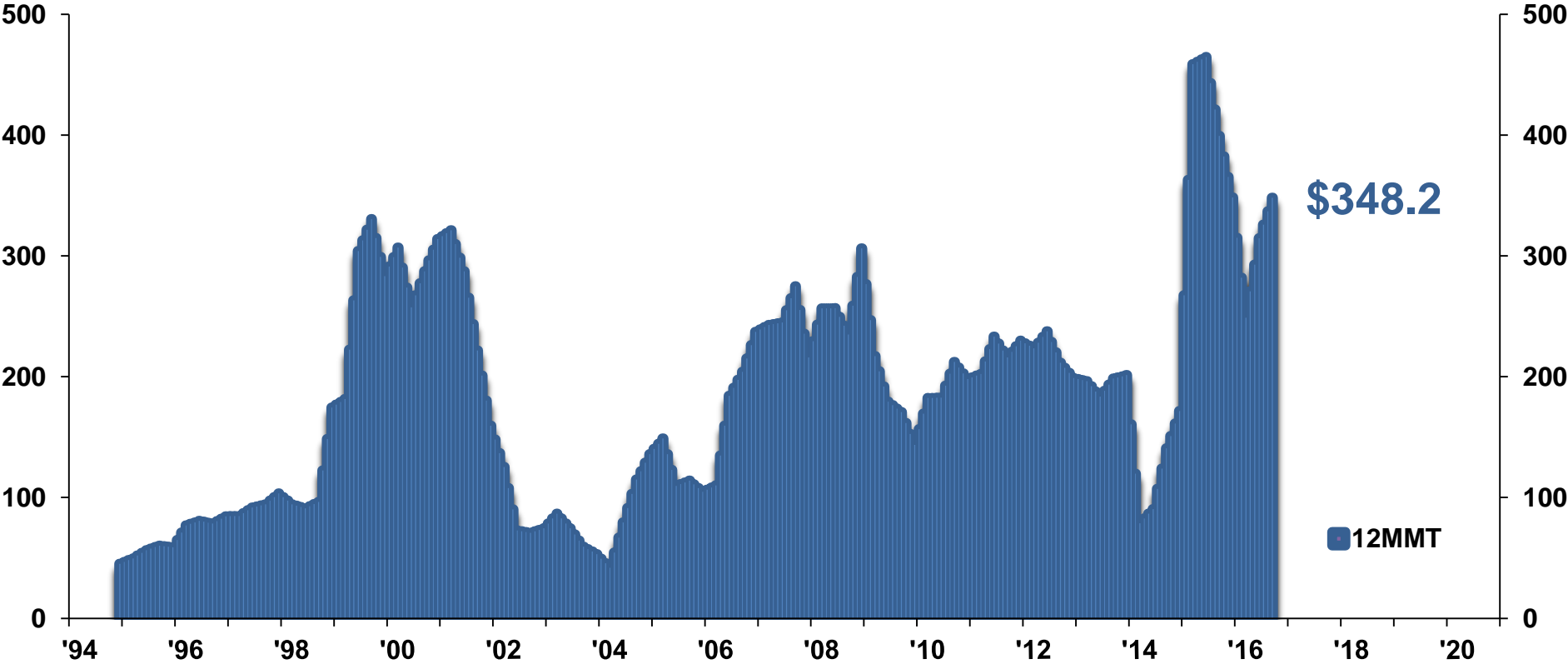
# Global Leading Indicators



# Trends 10



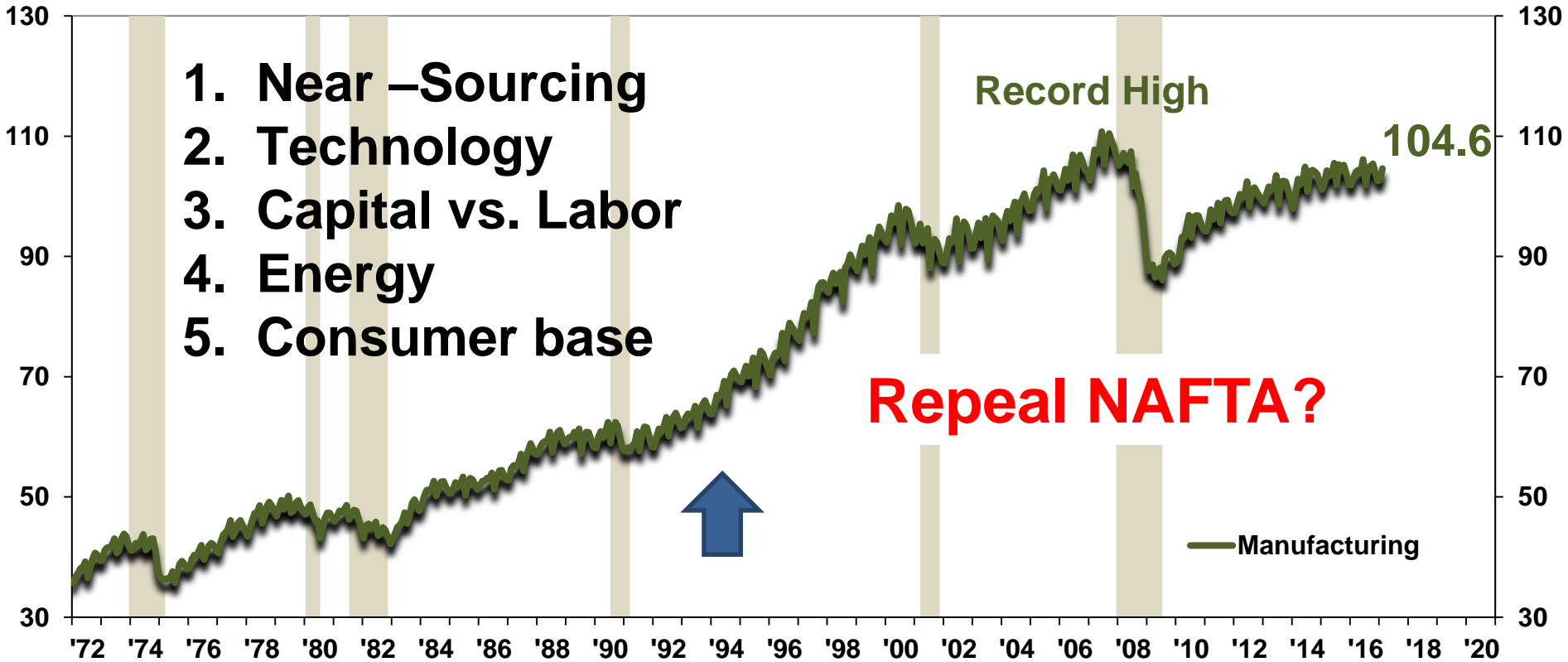
# US Total Foreign Direct Investment



\$348.2

12MMT

# US Total Manufacturing Production Index



# 2016 Global Manufacturing Competitiveness Index

2016 (Current)		
Rank	Country	Index Score
1	China	100.0
2	United States	99.5
3	Germany	93.9
4	Japan	80.4
5	South Korea	76.7
6	United Kingdom	75.8
7	Taiwan	72.9
8	Mexico	69.5
9	Canada	68.7
10	Singapore	68.4



**Talent** is the most important driver of a country's ability to compete on the global stage

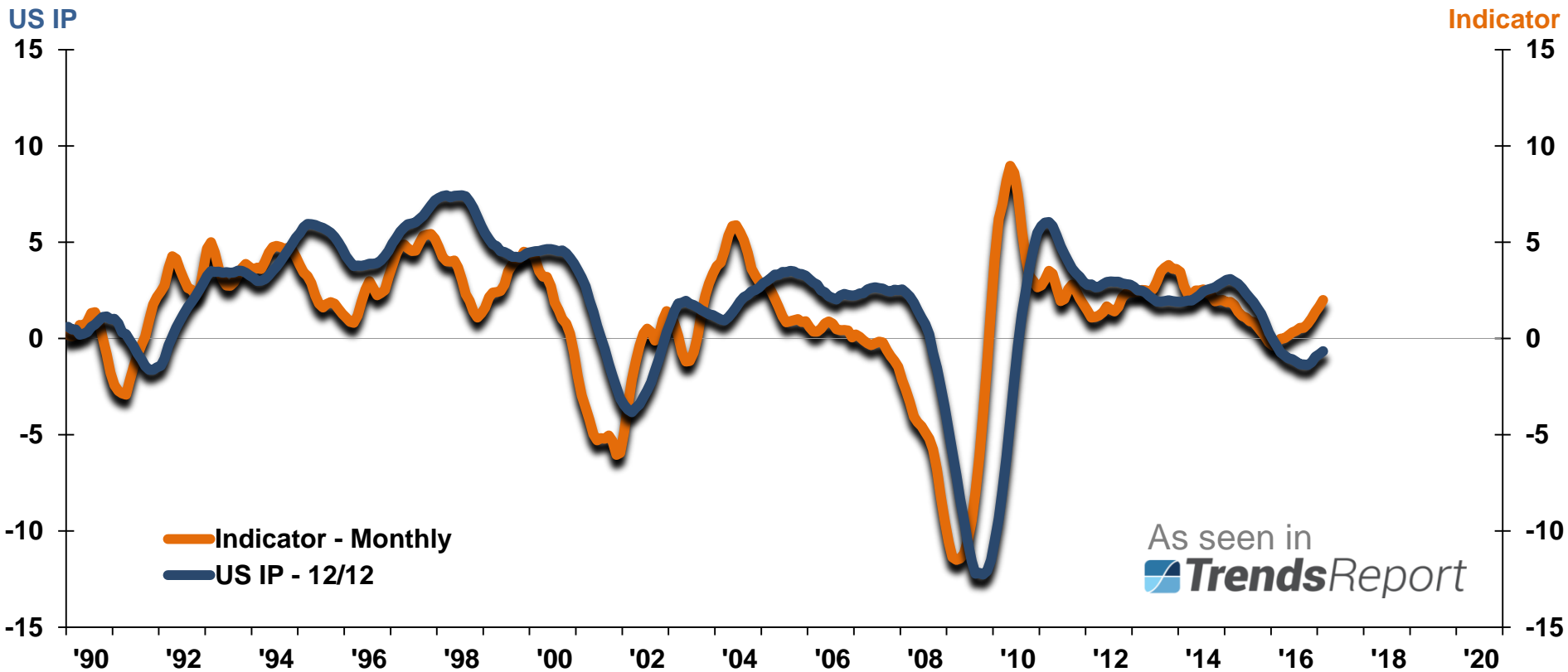
2020 (Projected)		
Rank	Country	Index Score
1	United States	100.0
2	China	93.5
3	Germany	90.8
4	Japan	78.0
5	India	77.5
6	South Korea	77.0
7	Mexico	75.9
8	United Kingdom	73.8
9	Taiwan	72.1
10	Canada	68.1



**Cost competitiveness** is the second most influential driver

# US Industrial Production to ITR Leading Indicator™

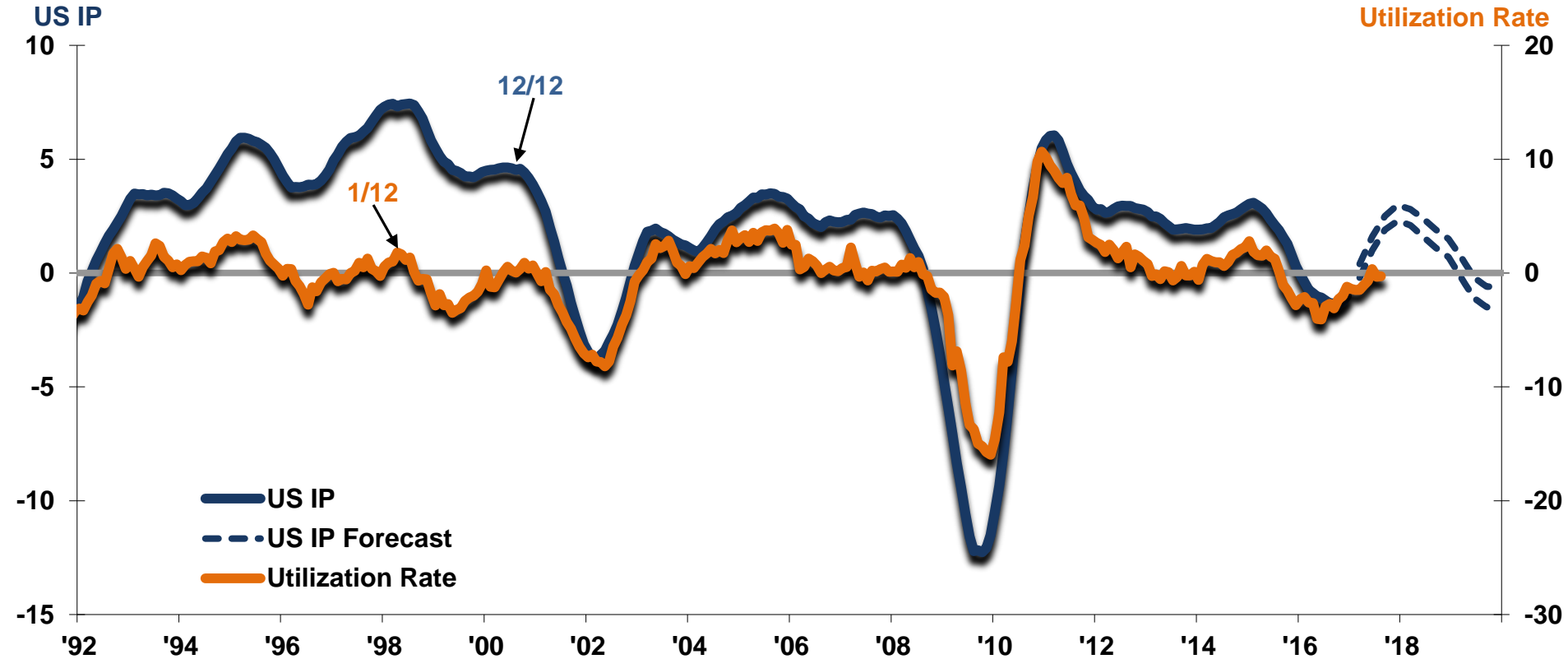
Reported in *ITR Trends Report – ITR Advisor*



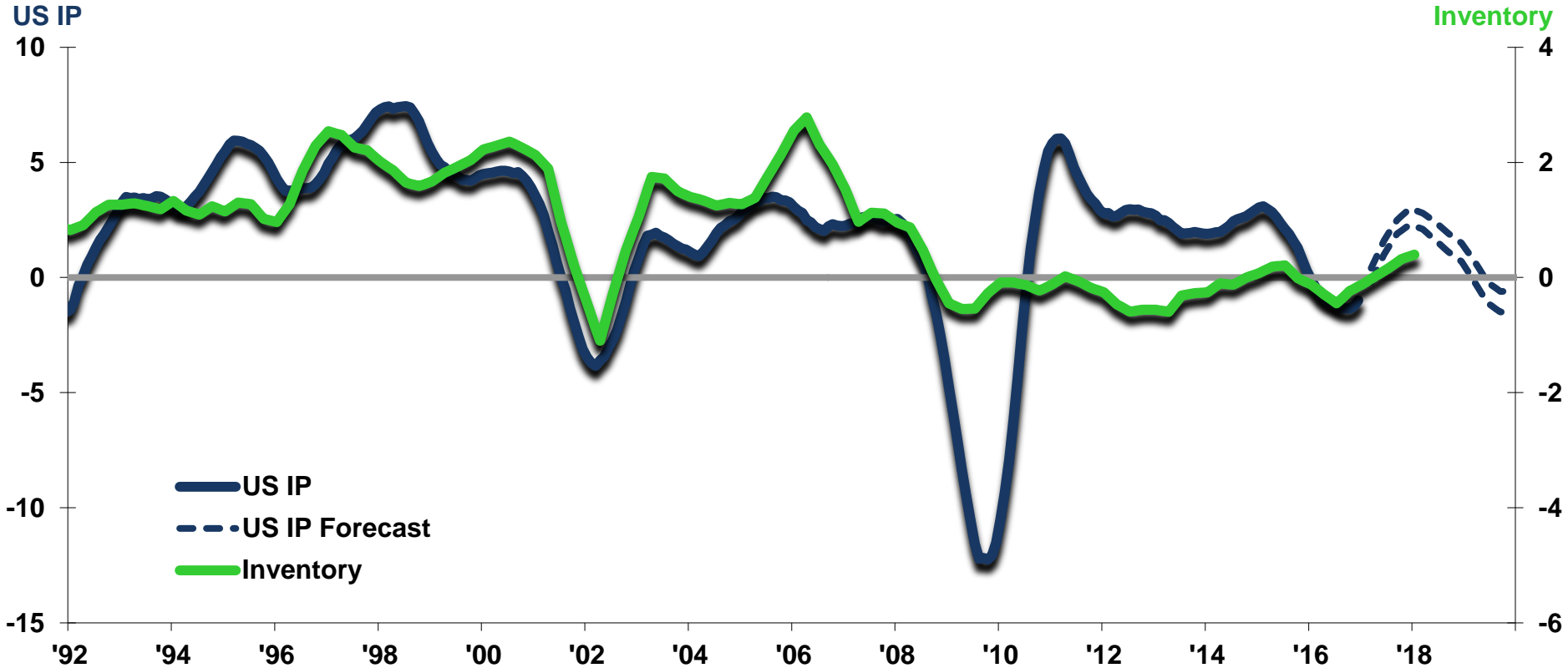
Indicator - Monthly  
US IP - 12/12

As seen in  
**TrendsReport**

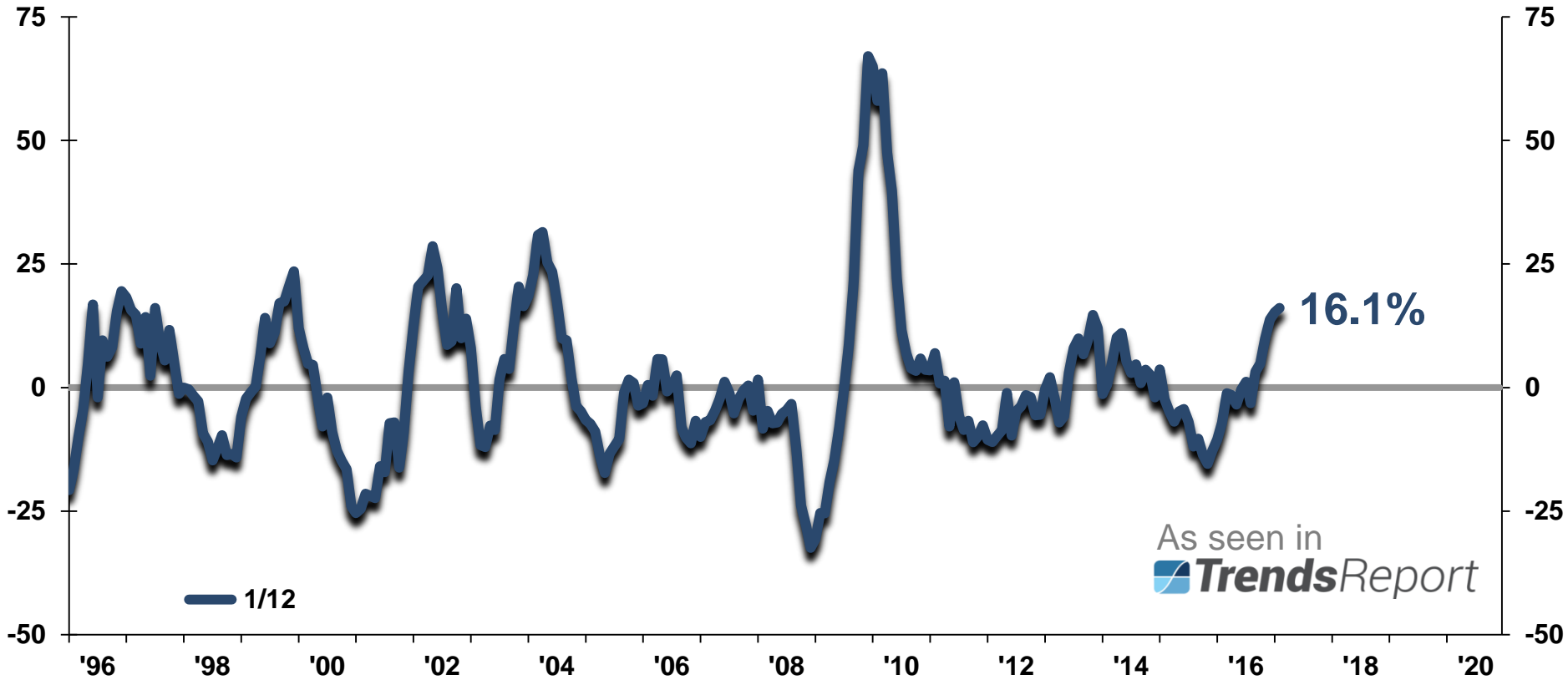
# US Industrial Production to US Total Industry Capacity Utilization Rate



# US Industrial Production Index to US Owner Occupied Housing Inventory



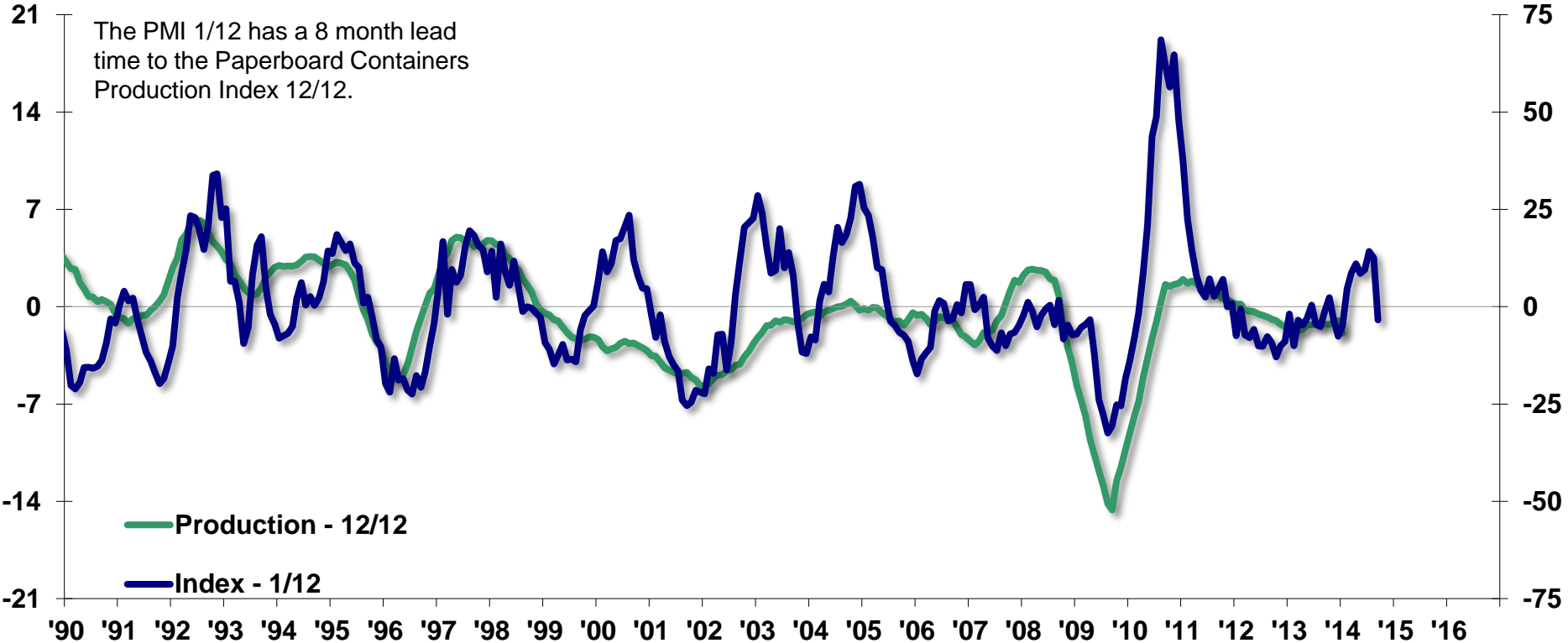
# Purchasing Managers Index



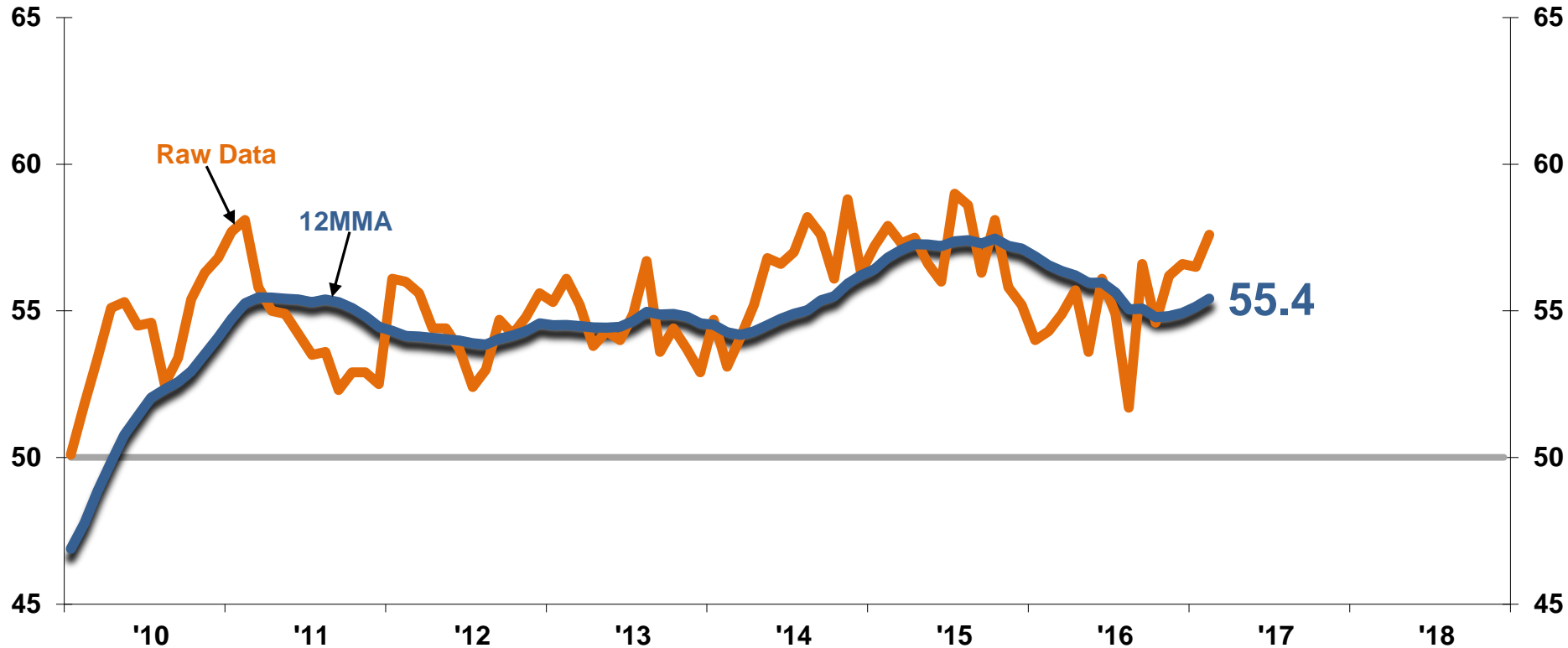
As seen in  
**TrendsReport**

# Paperboard Containers Production Index to Purchasing Managers Index

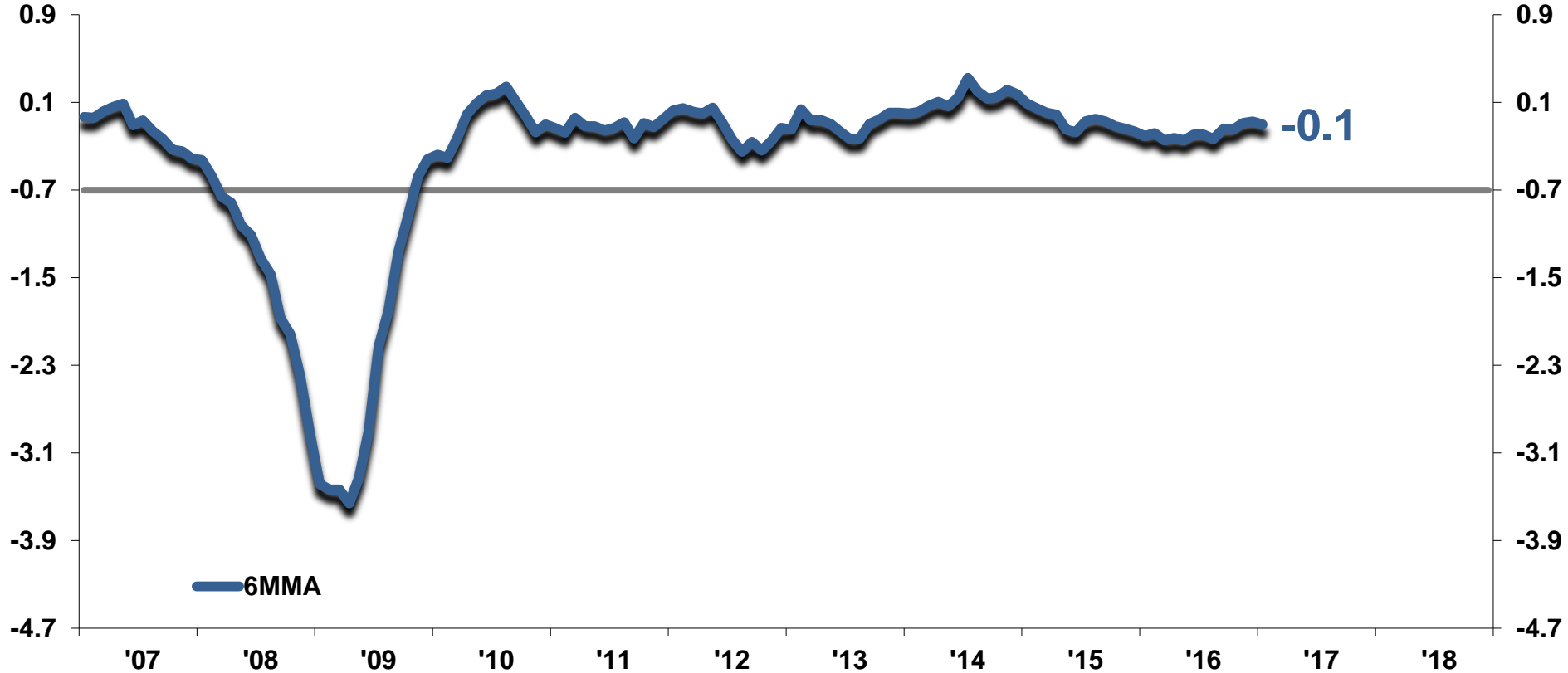
## Production



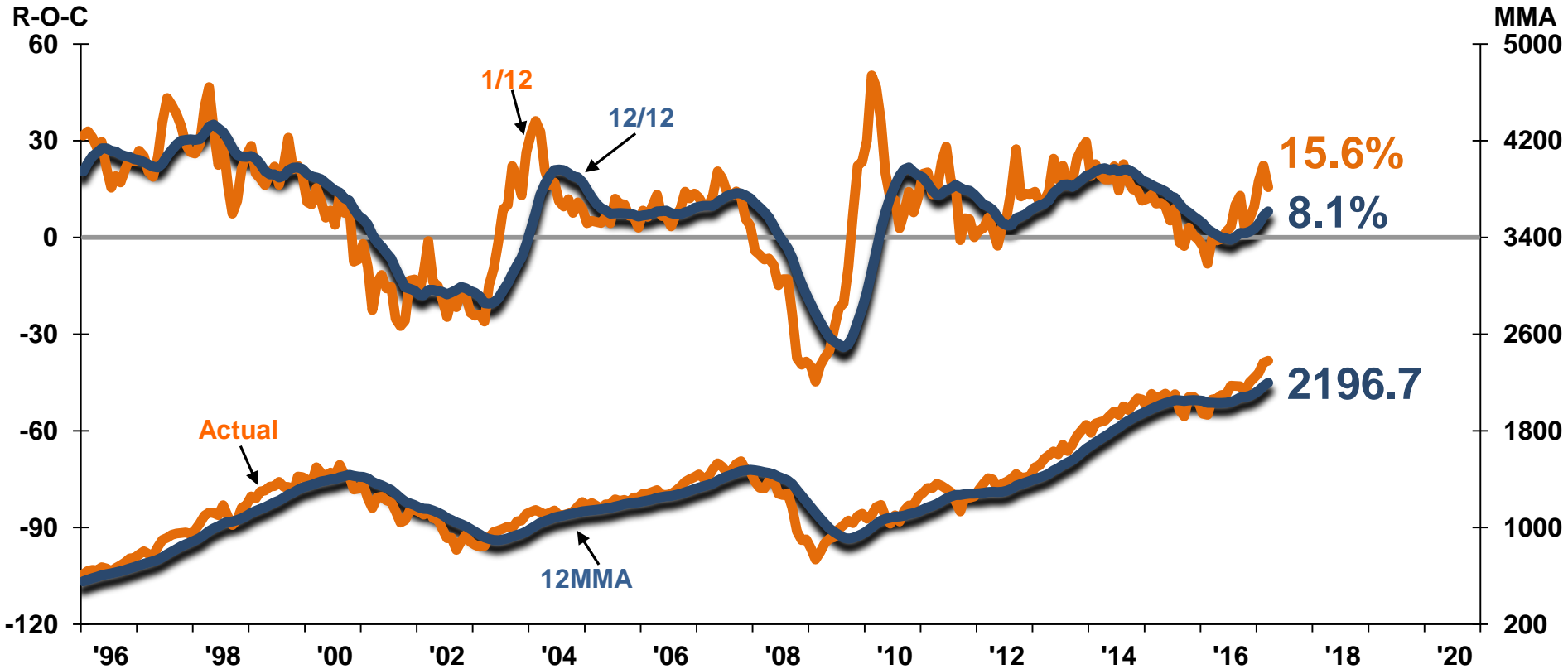
# Non-Manufacturing Purchasing Managers Index



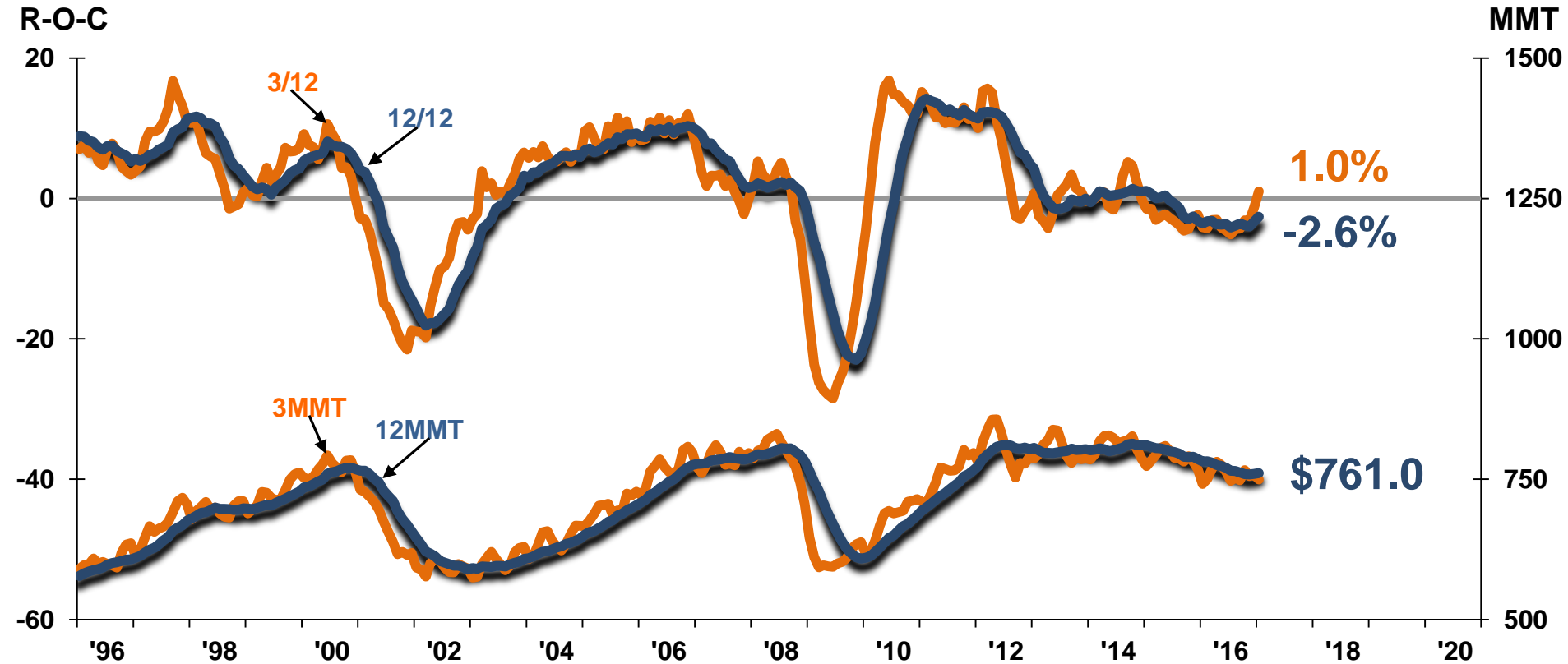
# Chicago Fed National Activity Index



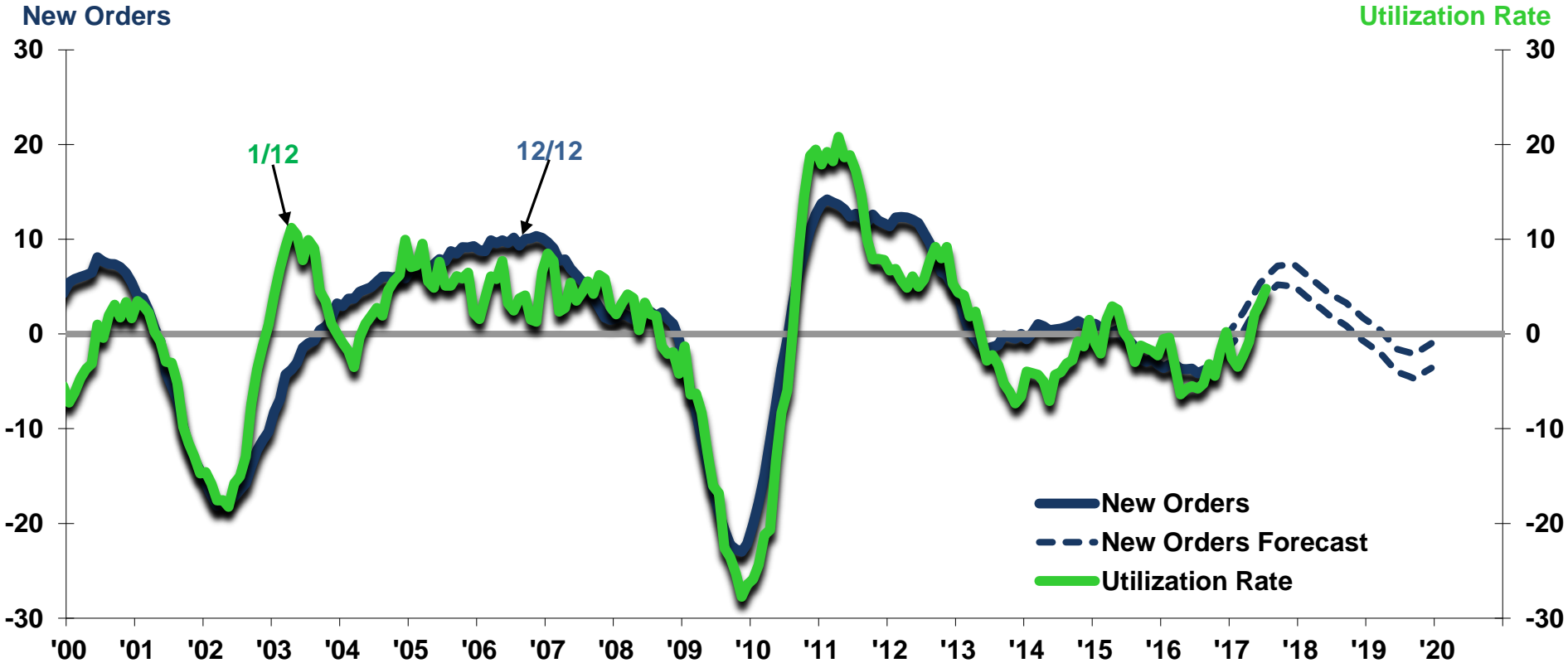
# Stock Prices Index



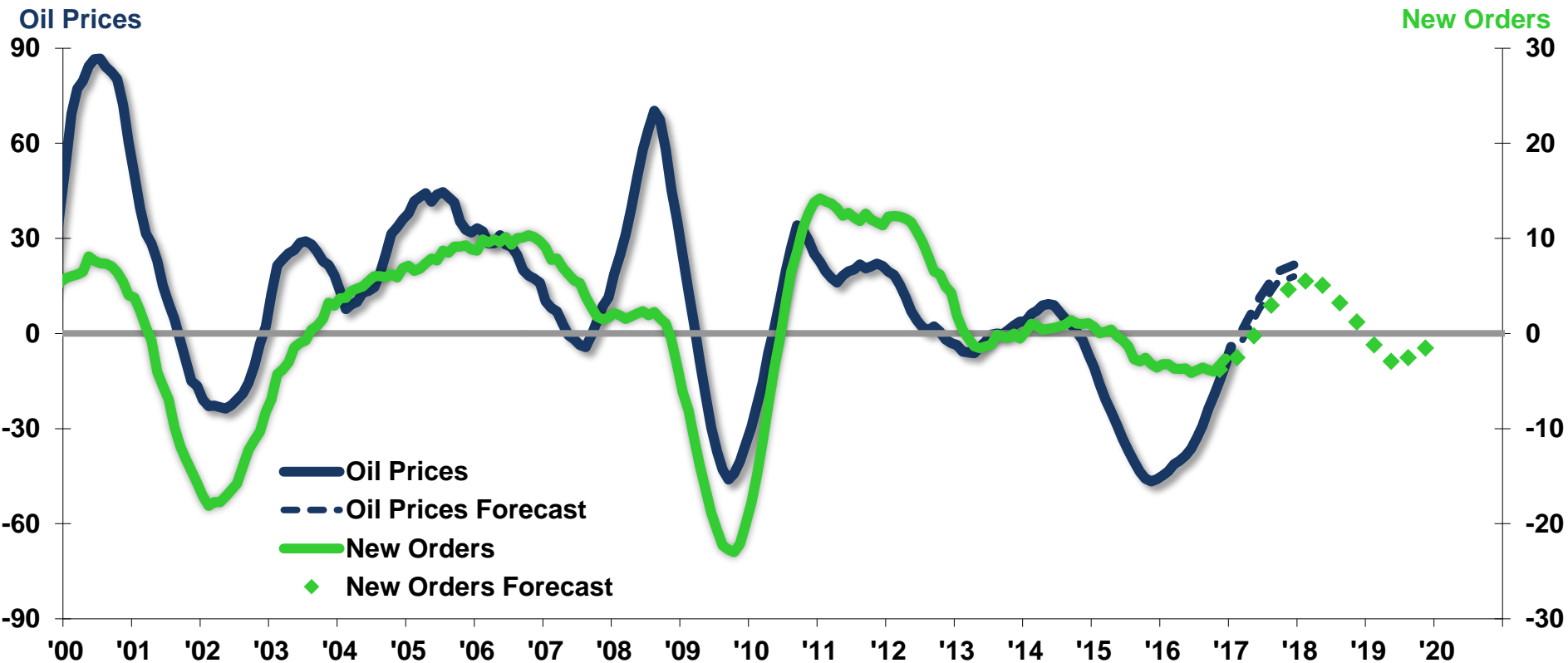
# Nondefense Capital Goods New Orders w/o Aircraft



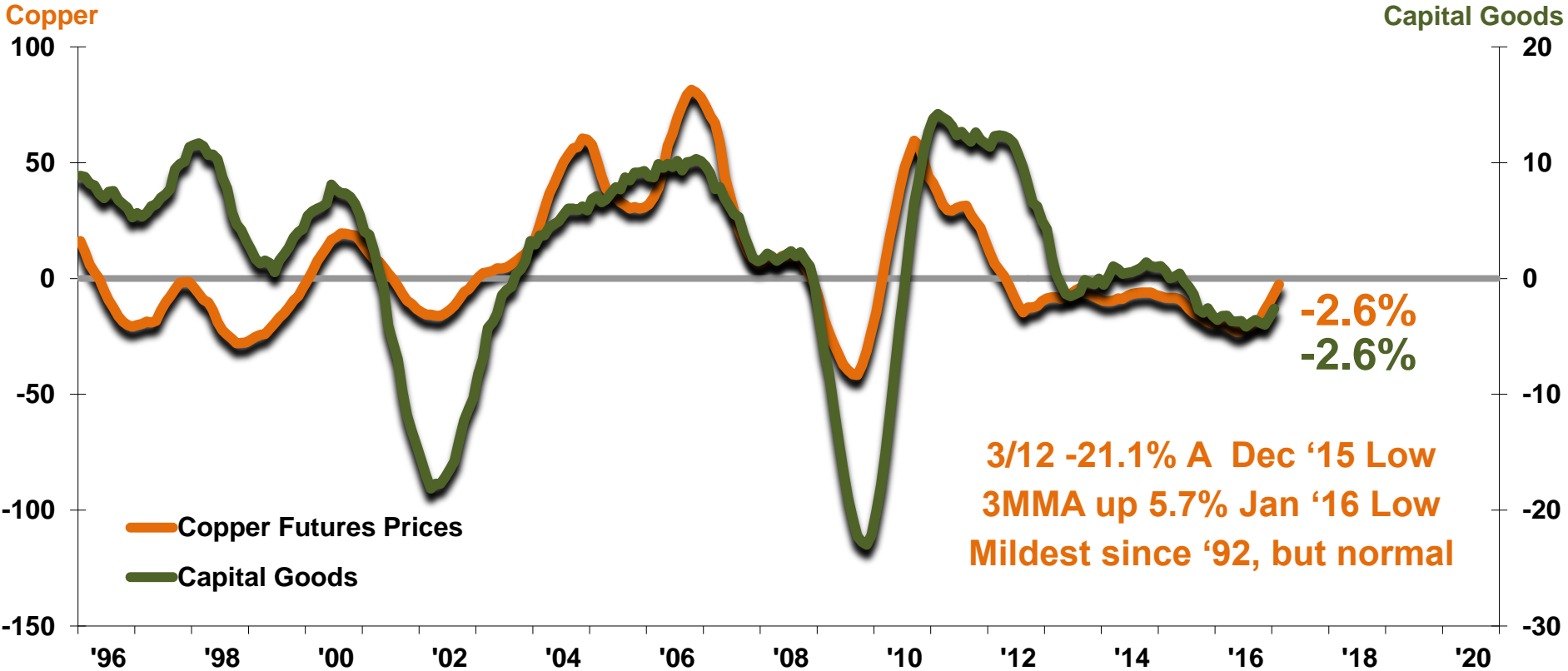
# Nondefense Capital Goods New Orders (excl. Aircraft) to Manufacturing Capacity Utilization



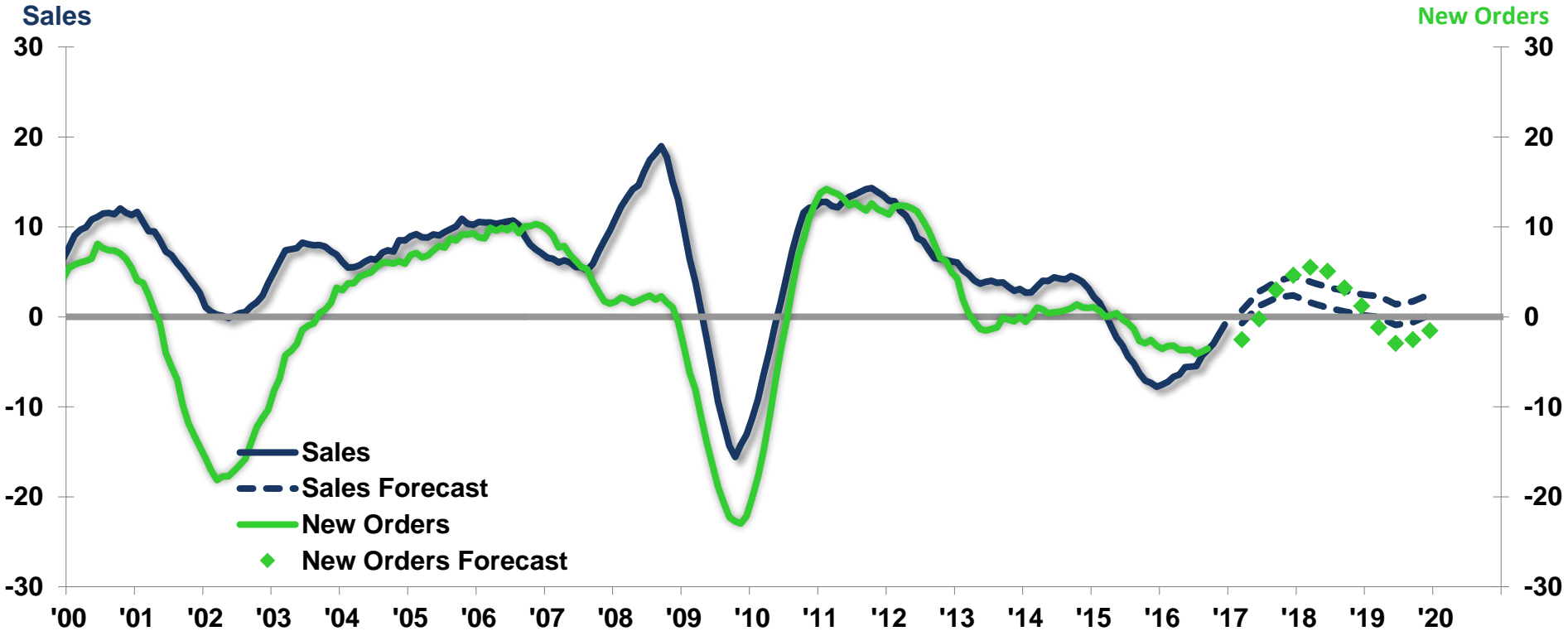
# US Crude Oil Futures Prices to US Nondefense Capital Goods New Orders (excluding aircraft)



# US Copper Futures Prices to US Nondefense Capital Goods New Orders(excluding aircraft)

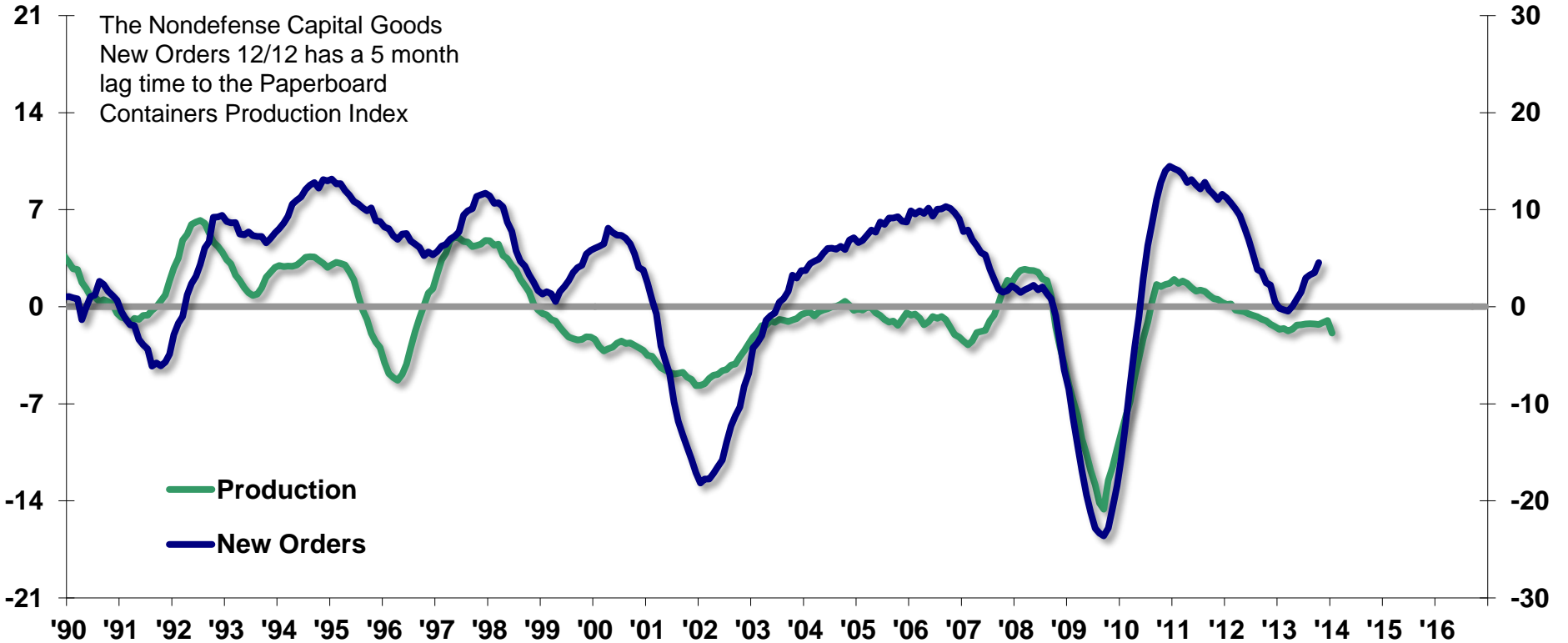


# Wholesale Trade of Nondurable Goods to US Nondefense Capital Goods New Orders (excluding aircraft)



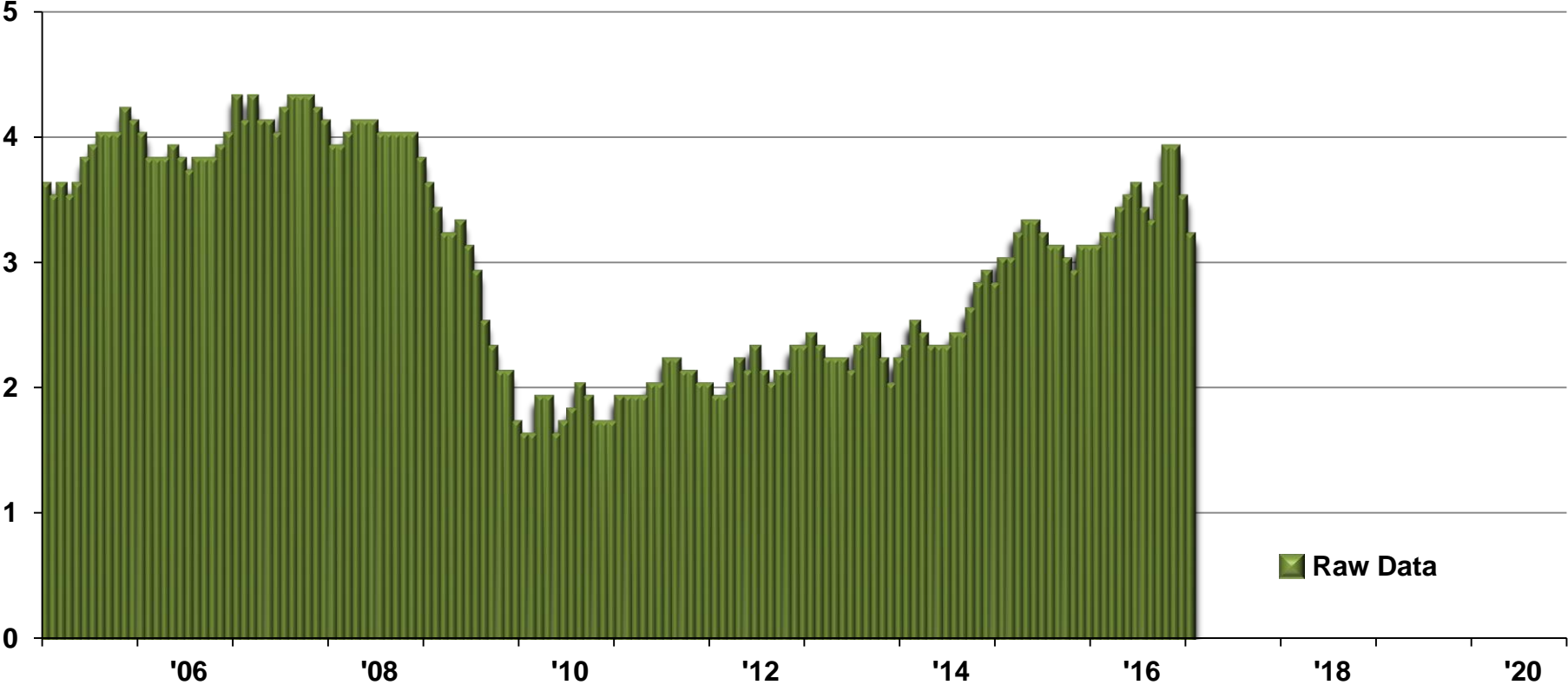
# Paperboard Containers Production Index to Nondefense Capital Goods New Orders without Aircraft

## Production

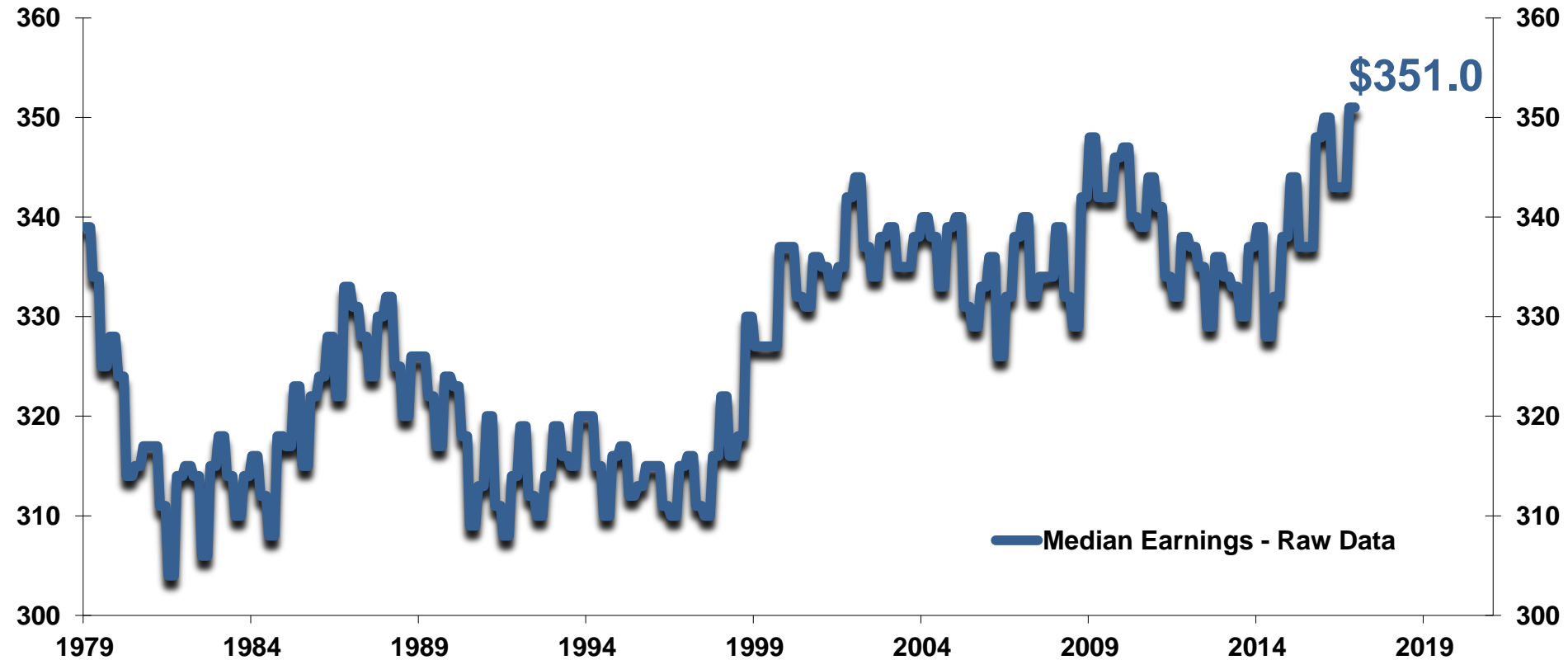


12/12 Rates-of-Change

# US Overall Wage Growth

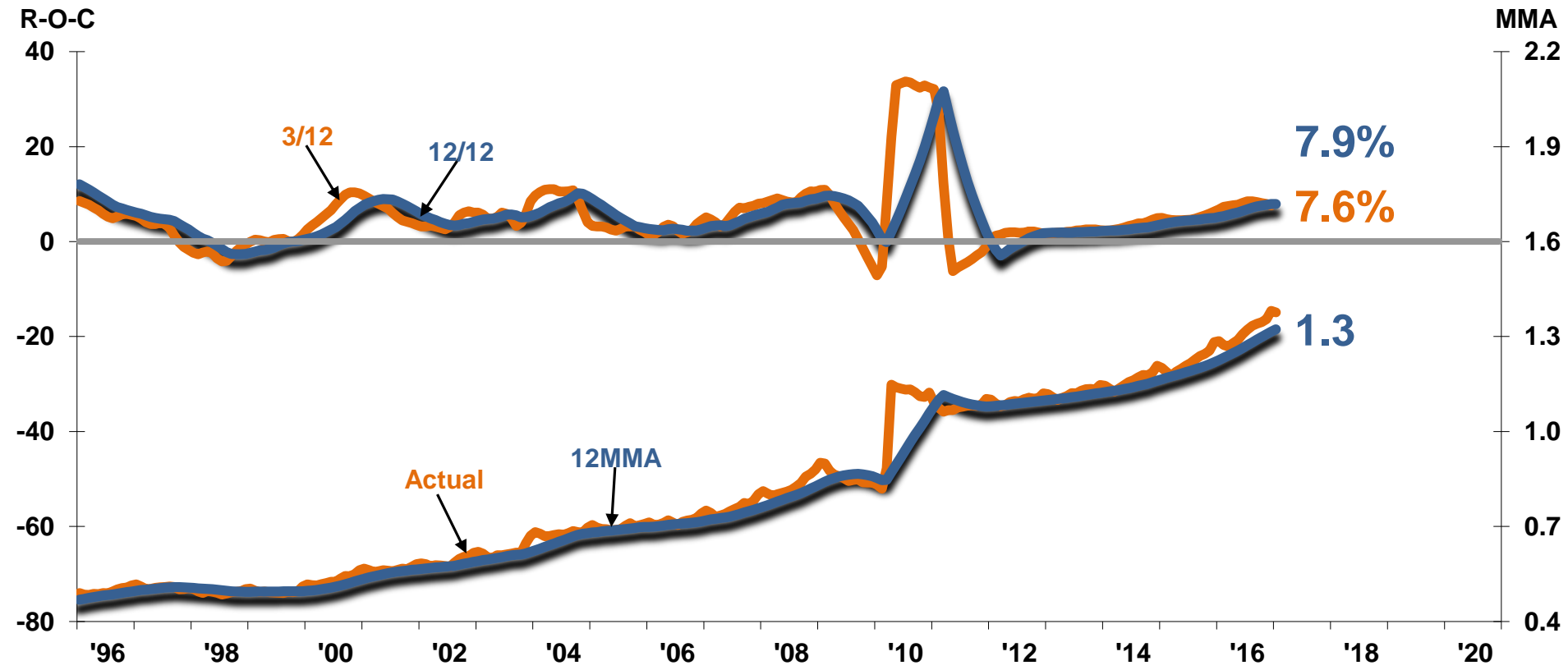


# US Median Annual Earnings (deflated)

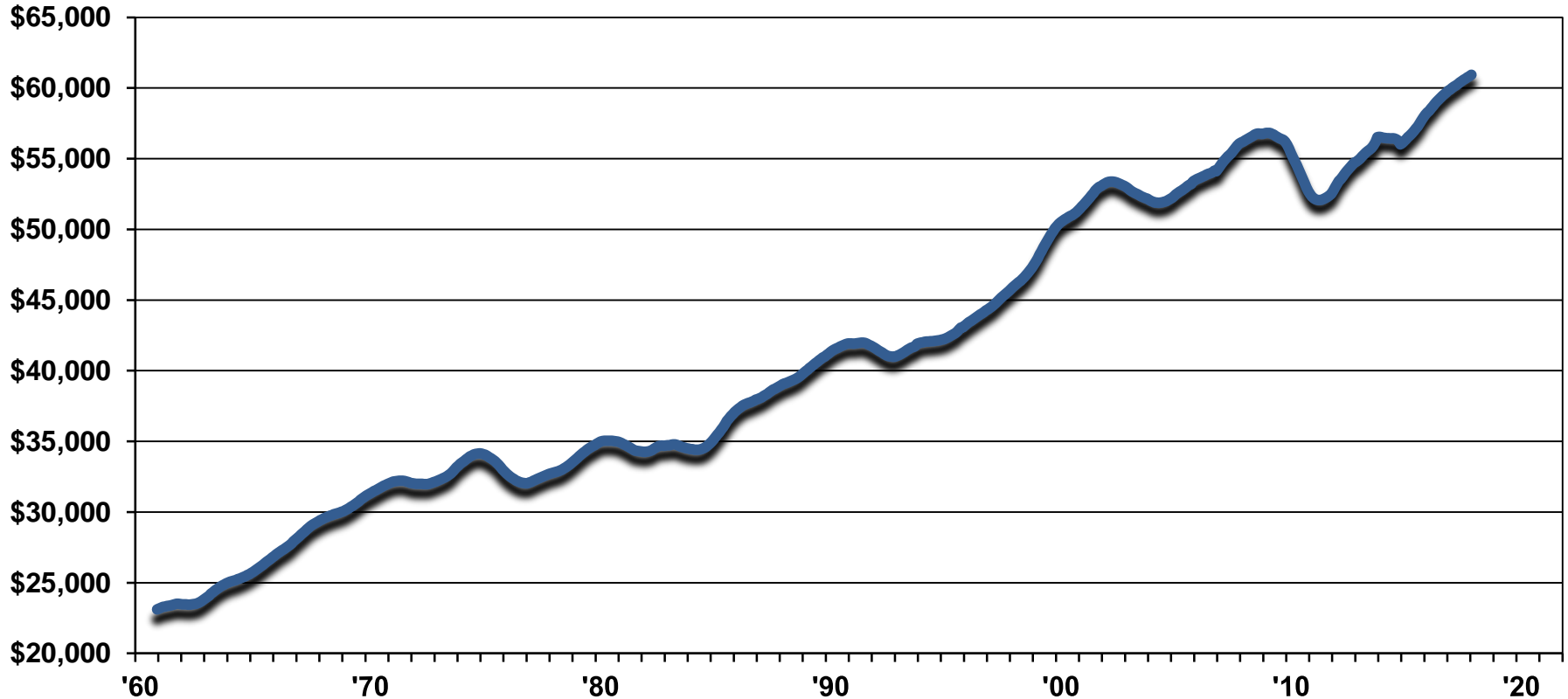


— Median Earnings - Raw Data

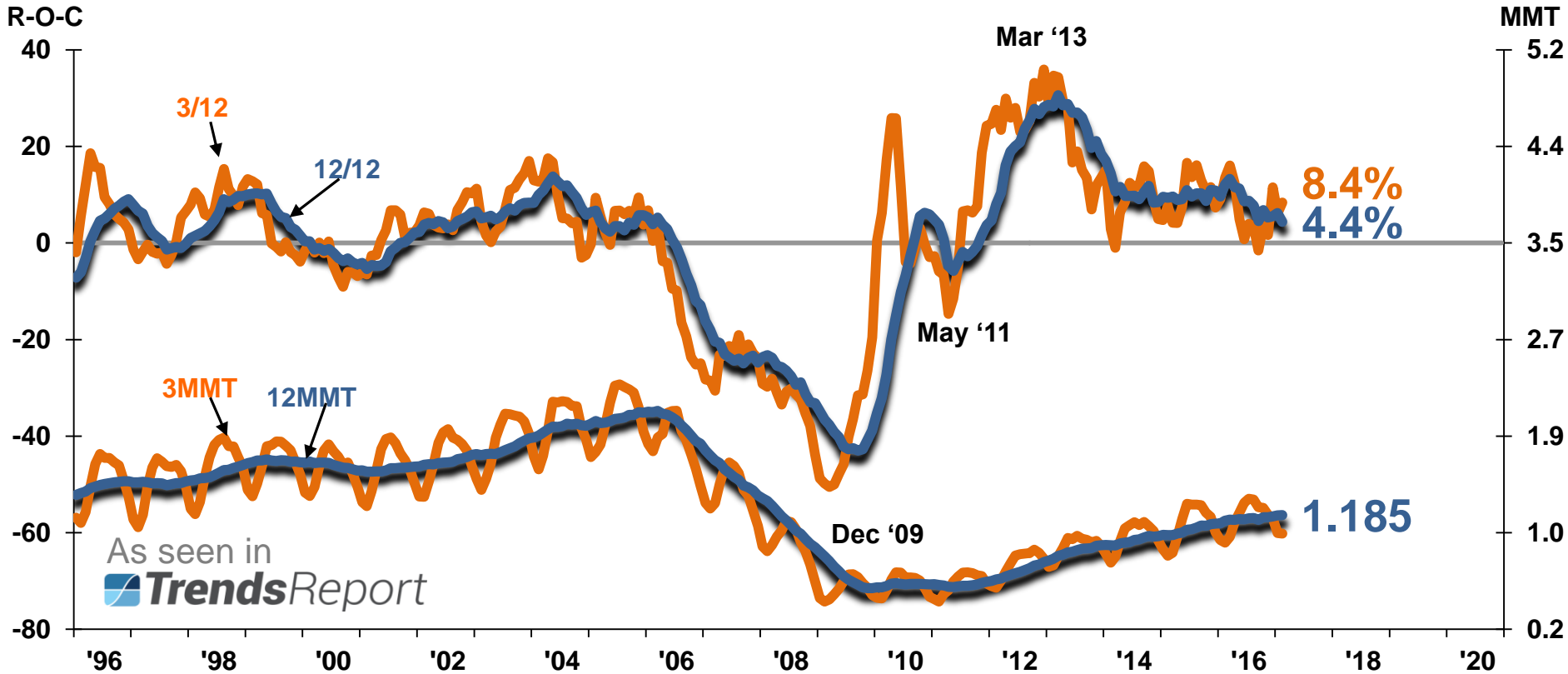
# US Consumer Credit



# US Real Personal Income Less Transfer Receipts Average per Person Age 18 to 65

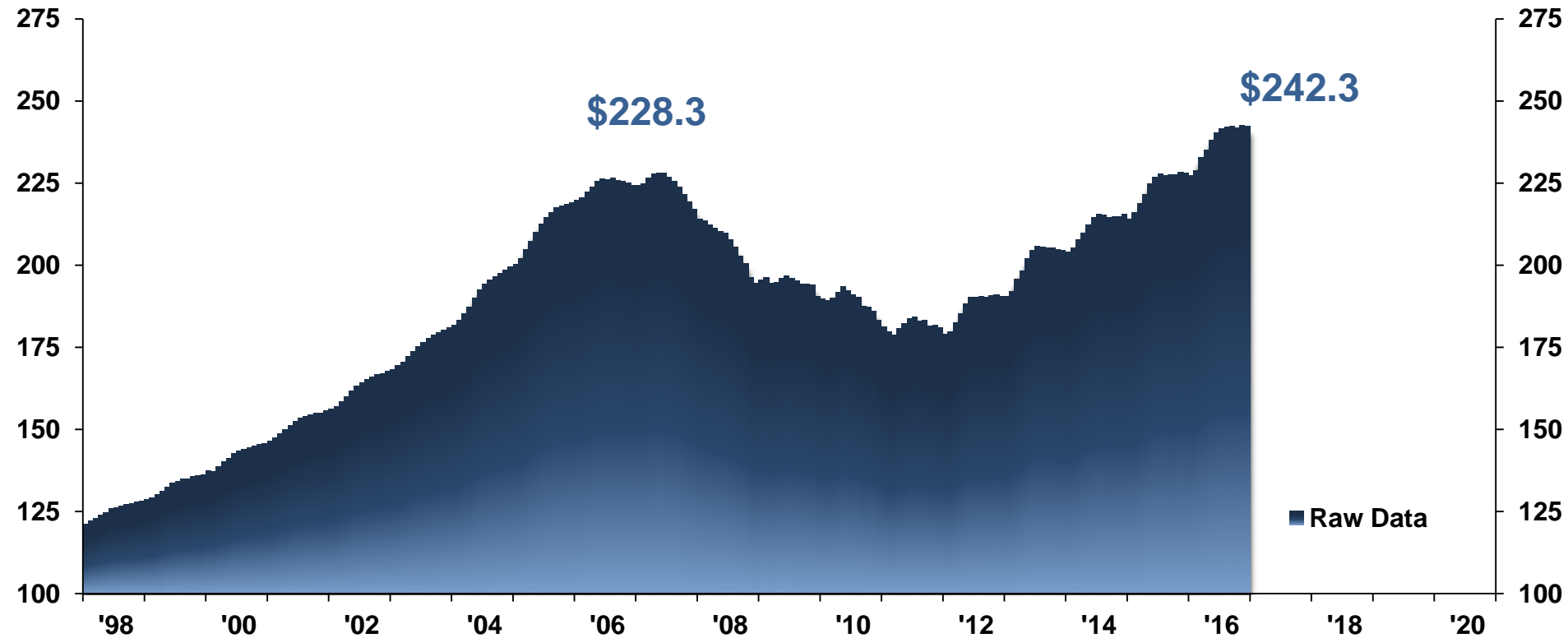


# US Housing Starts

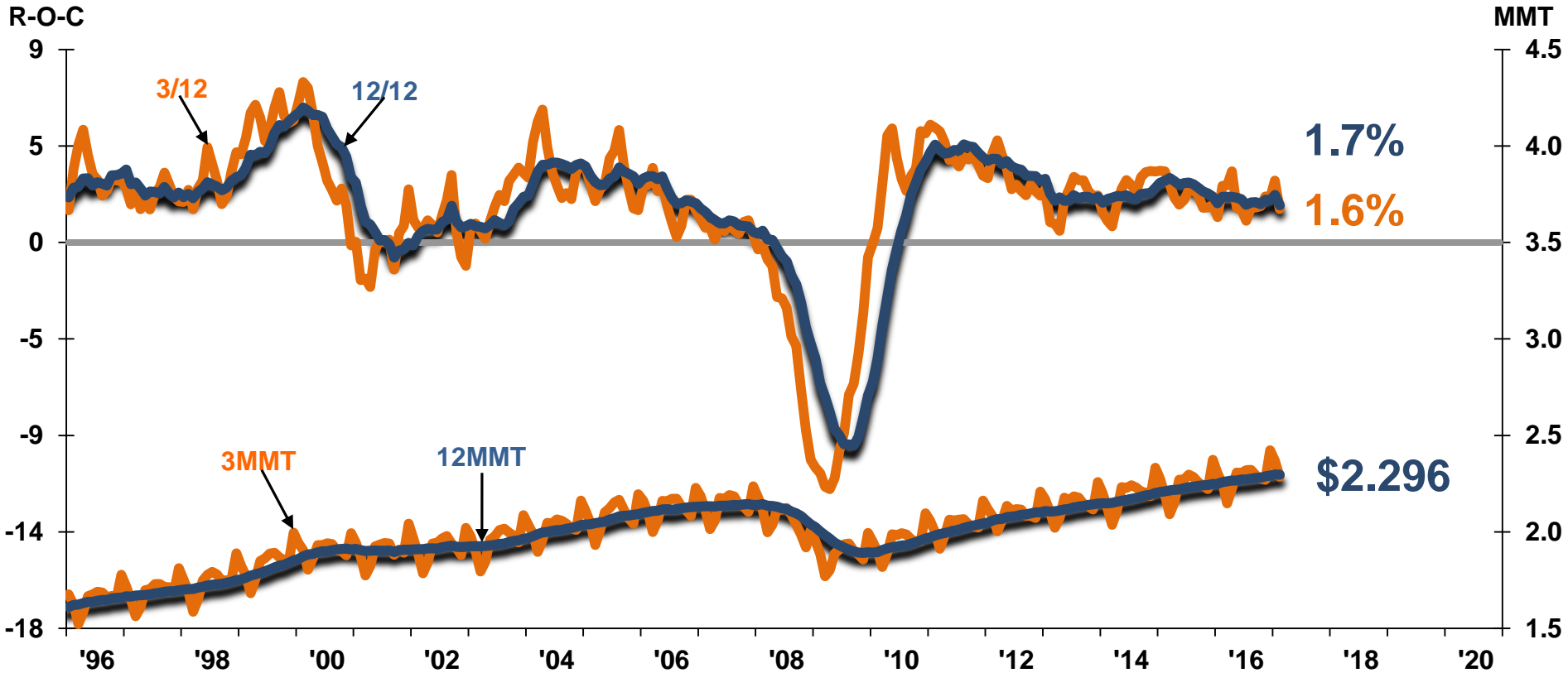


As seen in  
**TrendsReport**

# US Housing Price Index

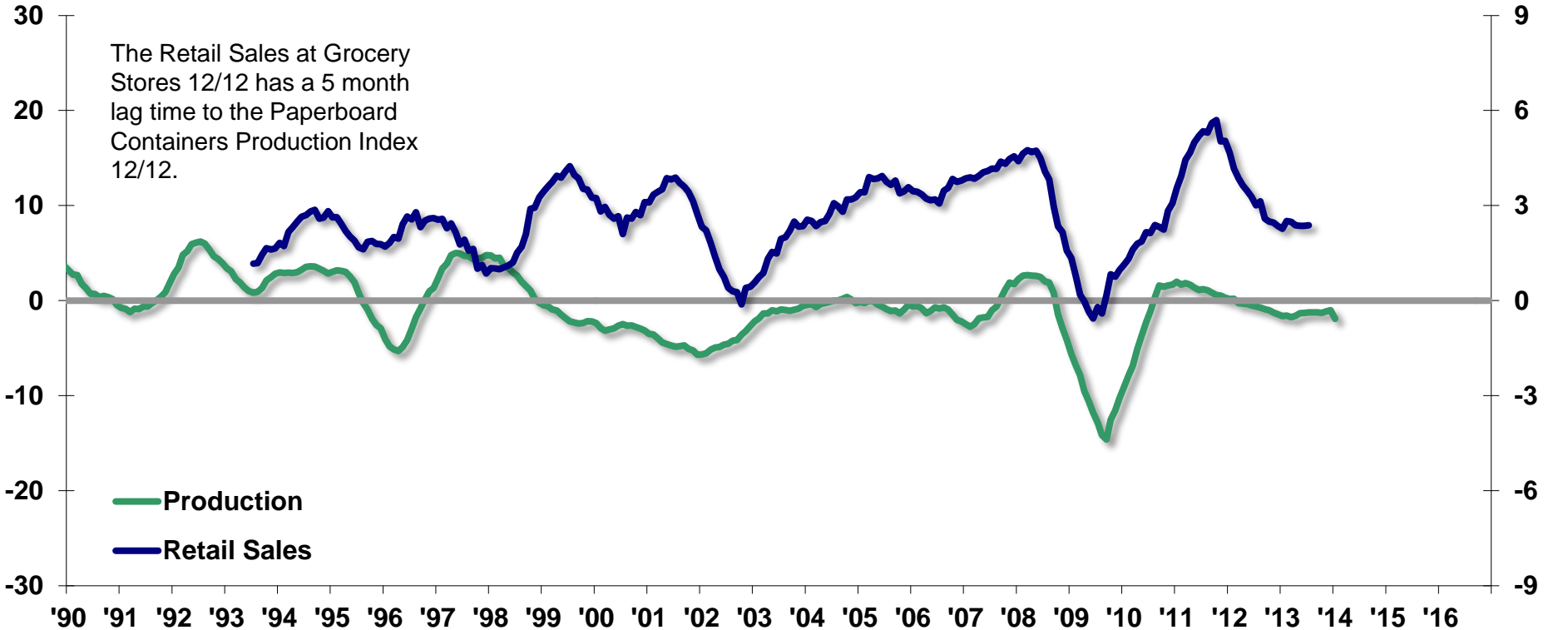


# US Total Retail Sales (deflated)



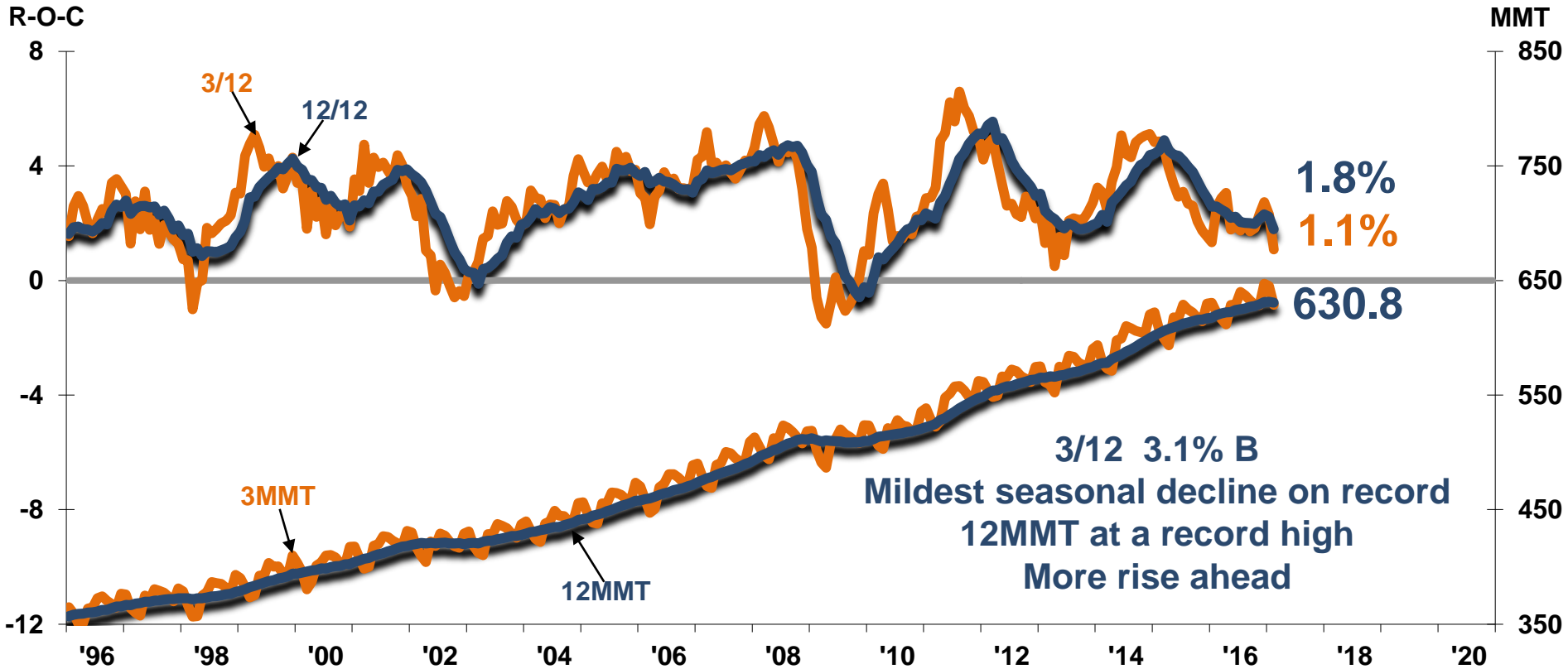
# Paperboard Containers Production Index to Retail Sales at Grocery Stores

Production

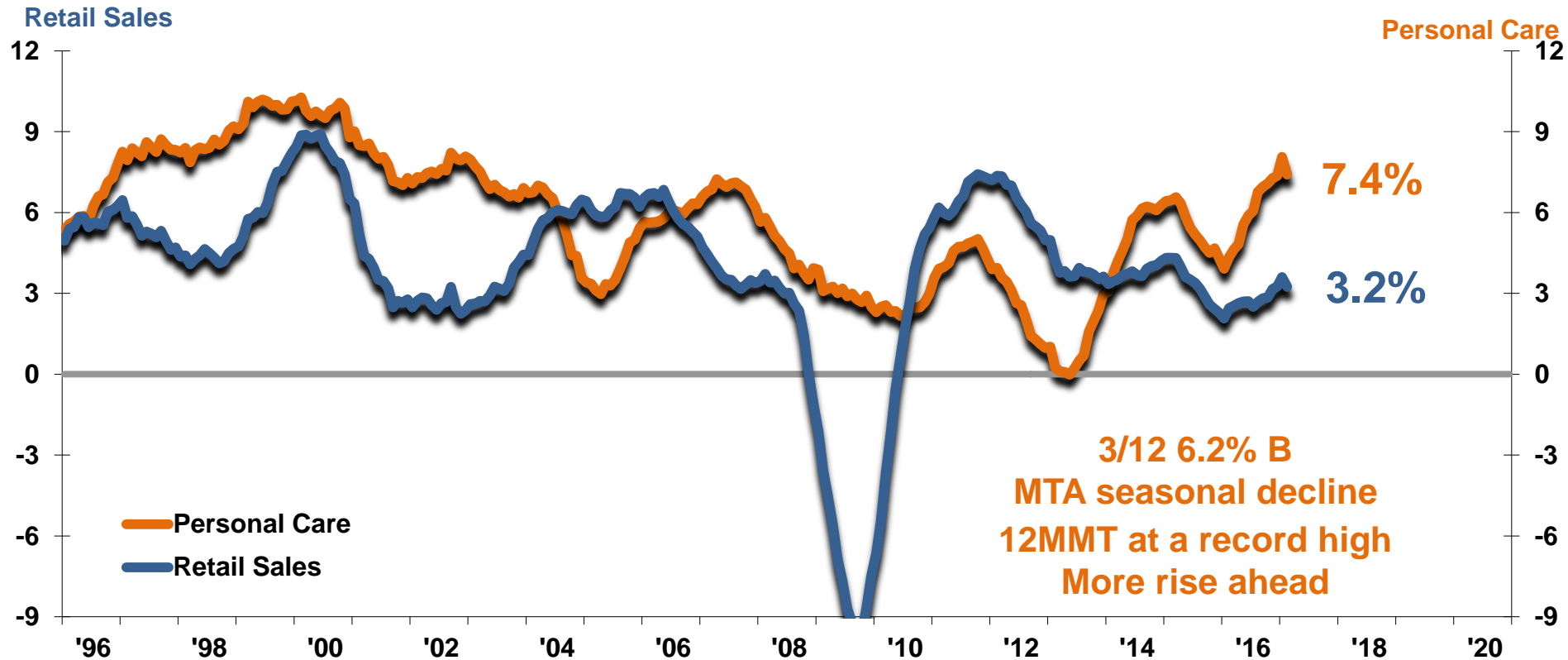


Retail Sales

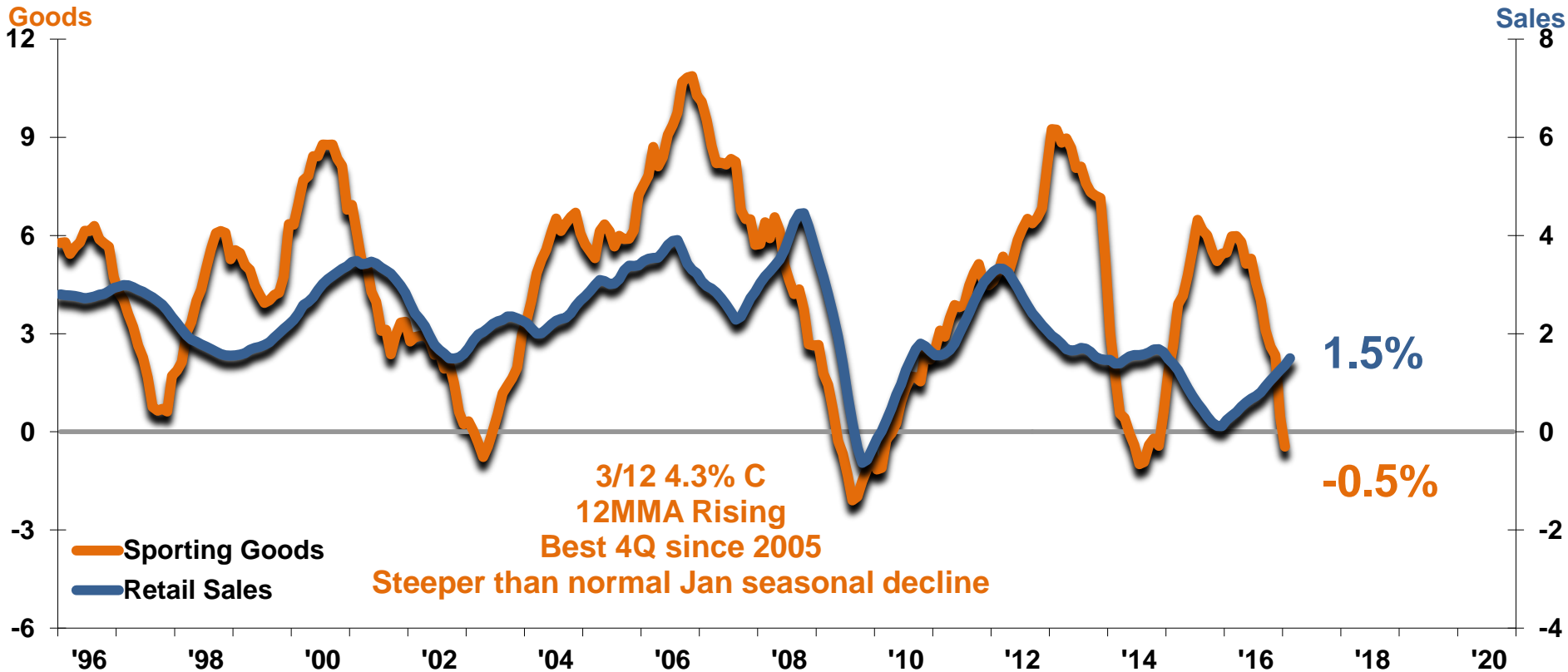
# Grocery Stores Retail Sales



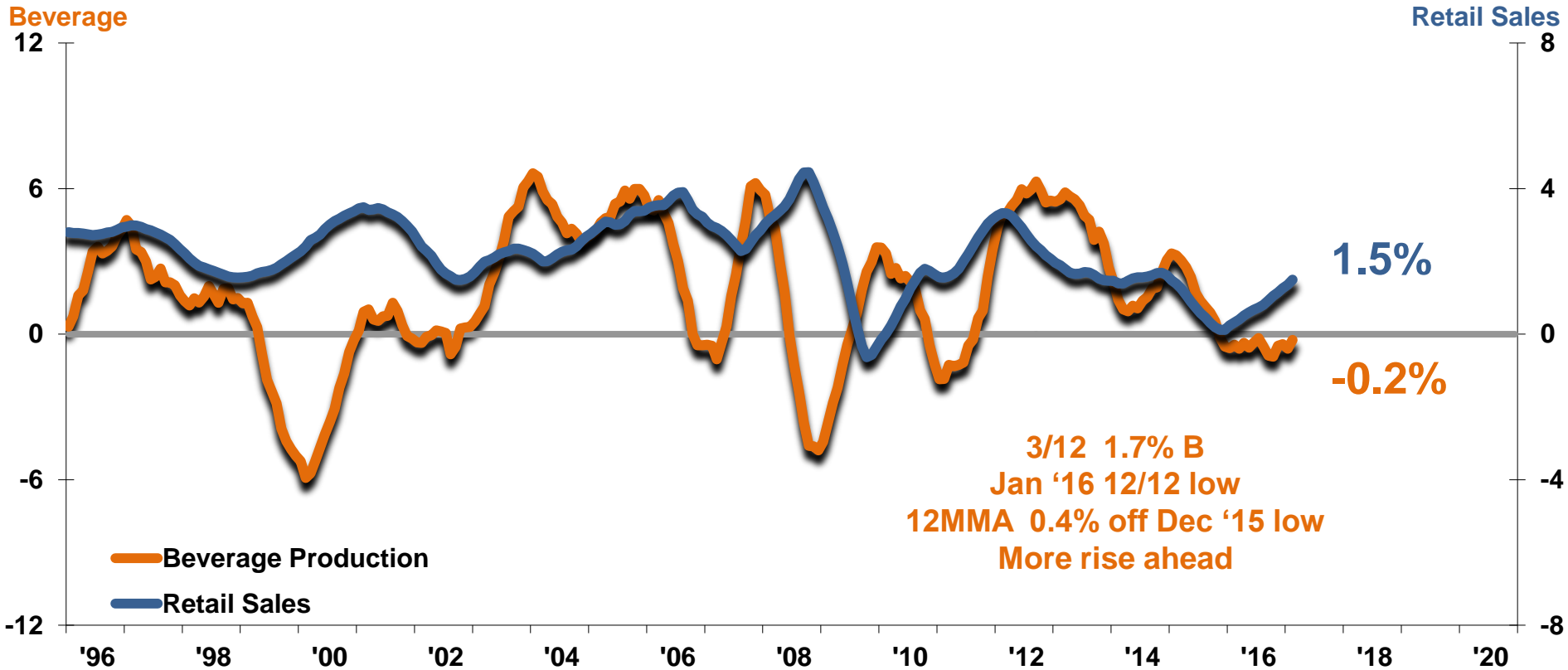
# Total Retail Sales (not deflated) to US Health & Personal Care Retail Stores



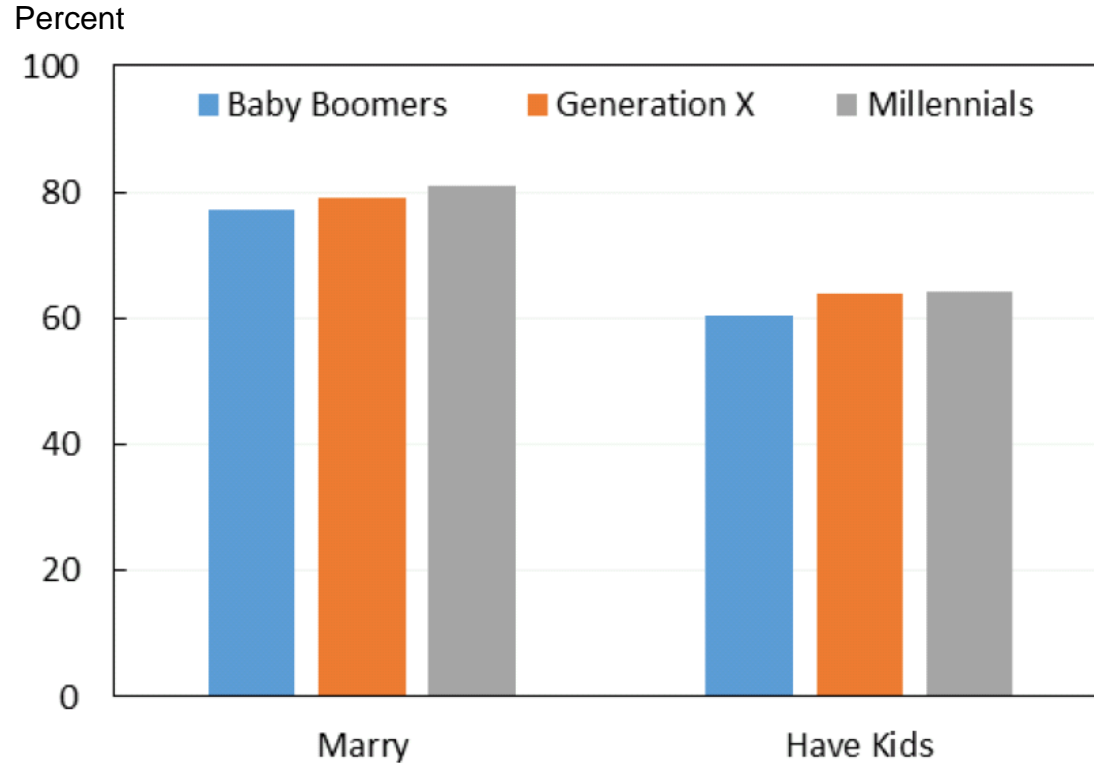
# US Total Retail Sales (deflated) to US Sporting Goods Retail Stores



# US Total Retail Sales (deflated) to US Beverage Production Index

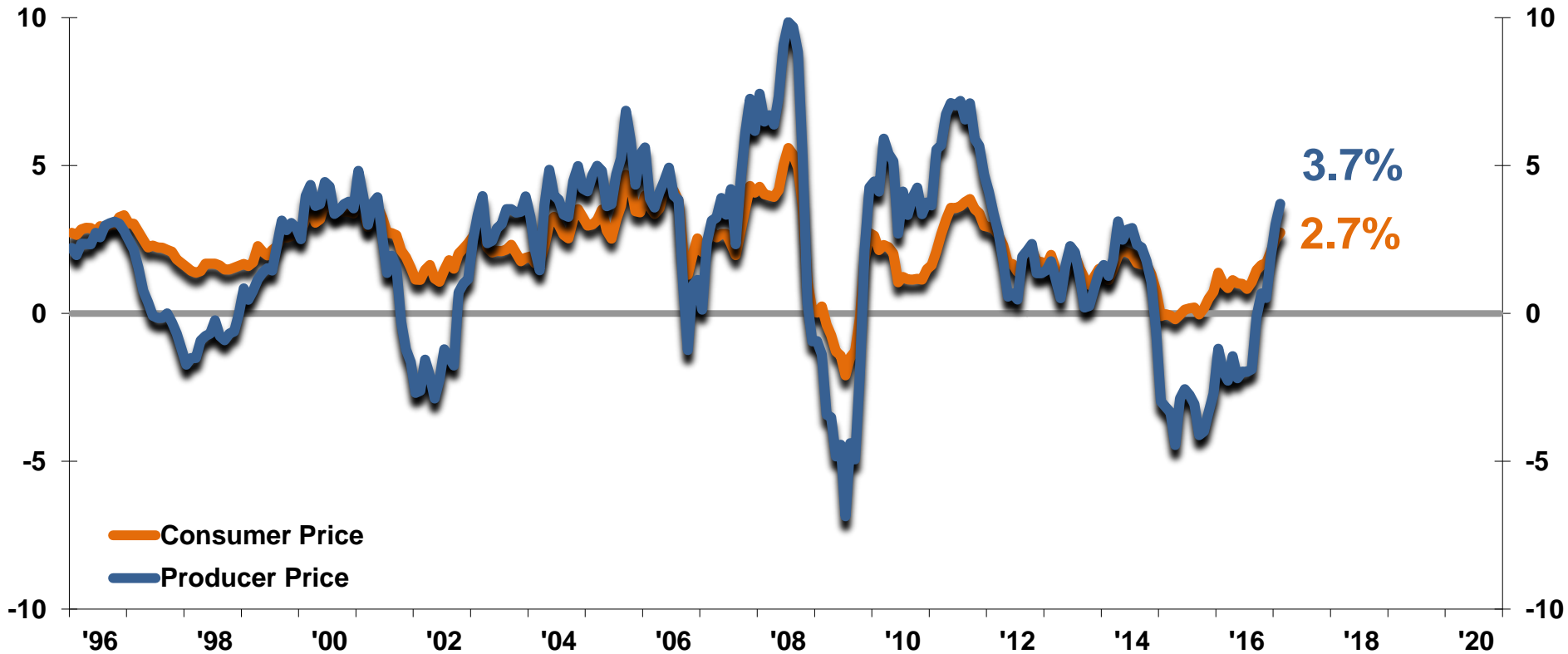


# Percent Who Think They Will Marry and Have Kids



Source: Monitoring the Future, 1976-2011; CEA calculations.

# US Consumer Price Index to US Producer Price Index

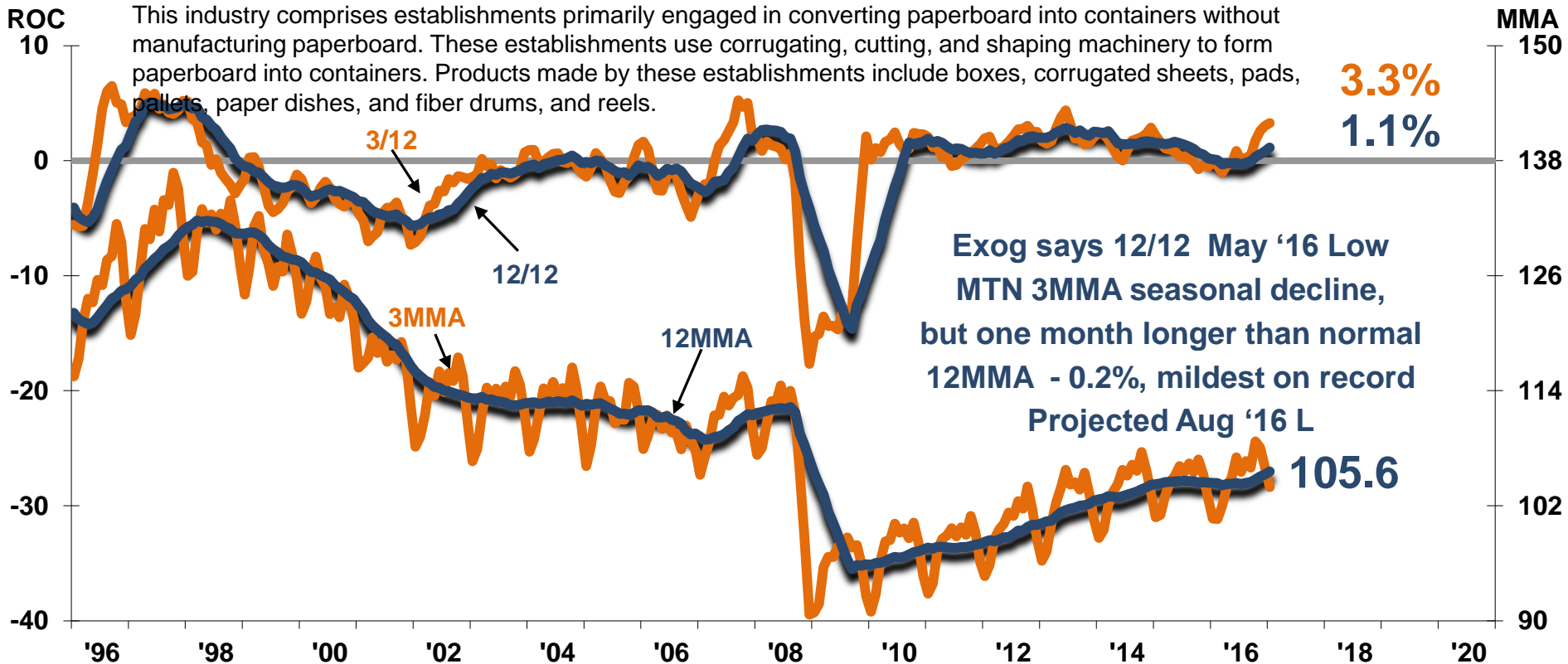


# US Paperboard Containers Production Index

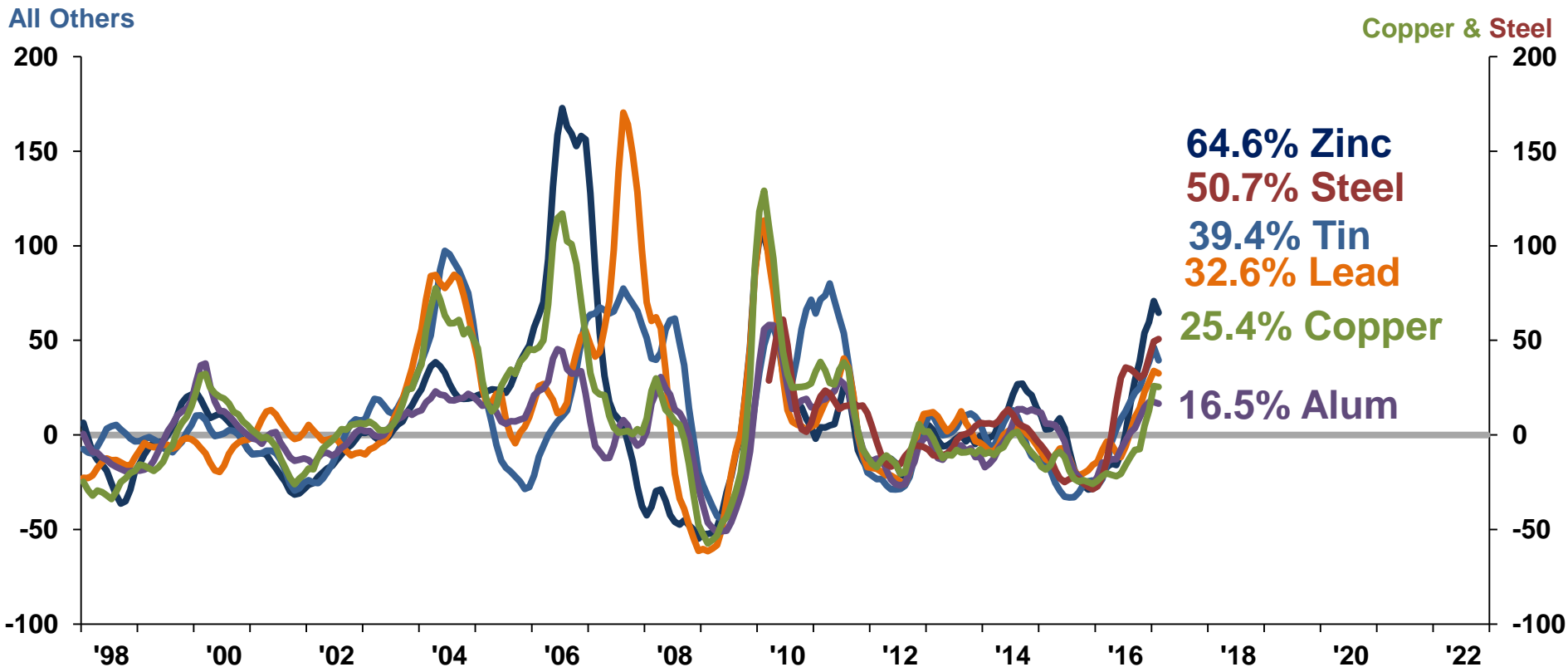
32221 Paperboard Container Manufacturing

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.

**3.3%**  
**1.1%**



# Commodity Prices





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

- 1. Reset expectations – these are the good old day!**
- 2. Look for capacity constraints throughout your company.**

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

- 1. Have a discussion regarding willingness to take on risk.**
- 2. Make the necessary changes in people, process, leadership.**



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