

# Return of the Economist



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On Behalf of  
The Future of Maryland  
Manufacturing 2020

January 17<sup>th</sup>, 2020

## Ring Verse

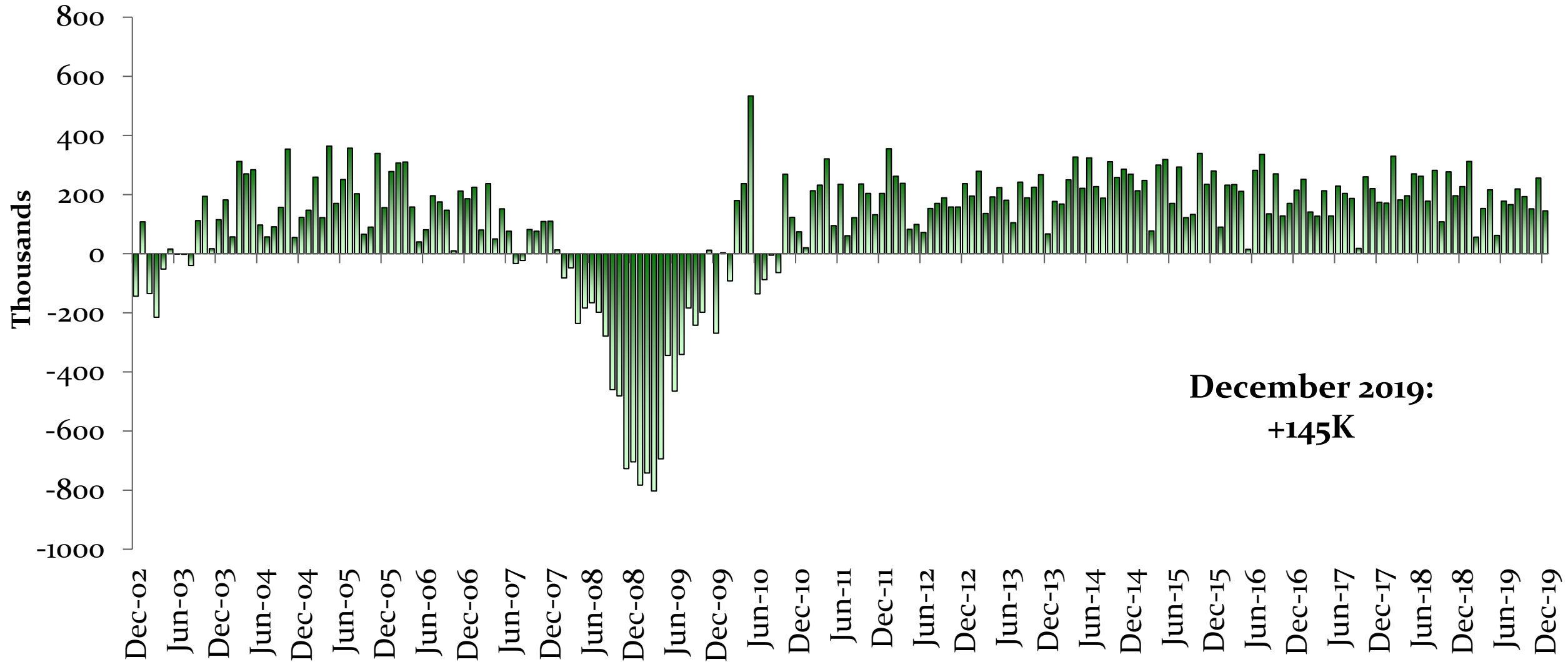
Three Rings for the Elven-kings under the sky,  
*Seven for the Dwarf-lords in their halls of stone,*  
*Nine for Mortal Men doomed to die,*  
*One for the Dark Lord on his dark throne,*  
*In the Land of Mordor where the Shadows lie,*  
*One ring to rule them all, one ring to find them,*  
*One ring to bring them all and in the darkness bind them*

# Nine Reasons for Hope in the Kingdom of Men (& Women)



# I. There is Plenty of Job Growth on Middle Earth (OK, America)

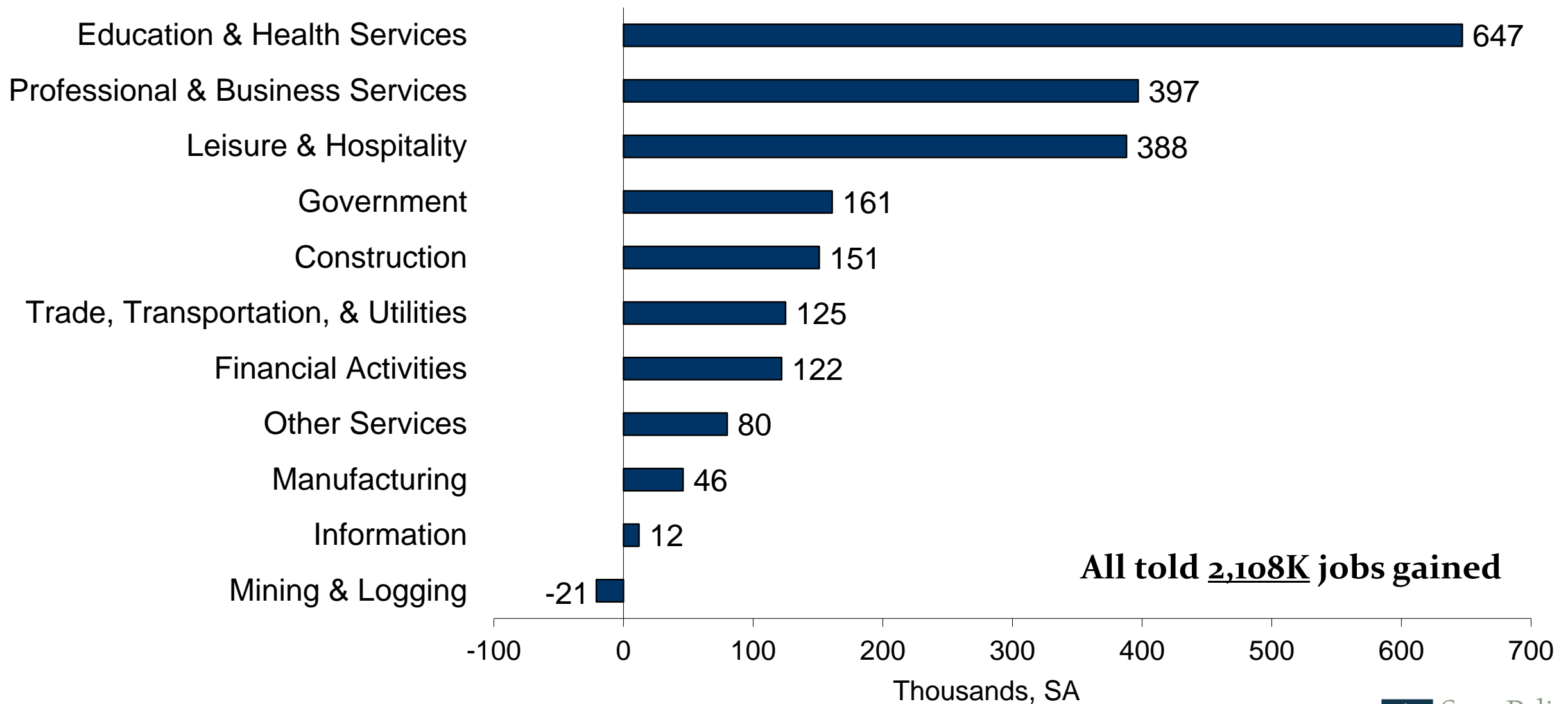
*Net Change in U.S. Jobs, December 2002 – December 2019*



**December 2019:  
+145K**

# National Nonfarm Employment

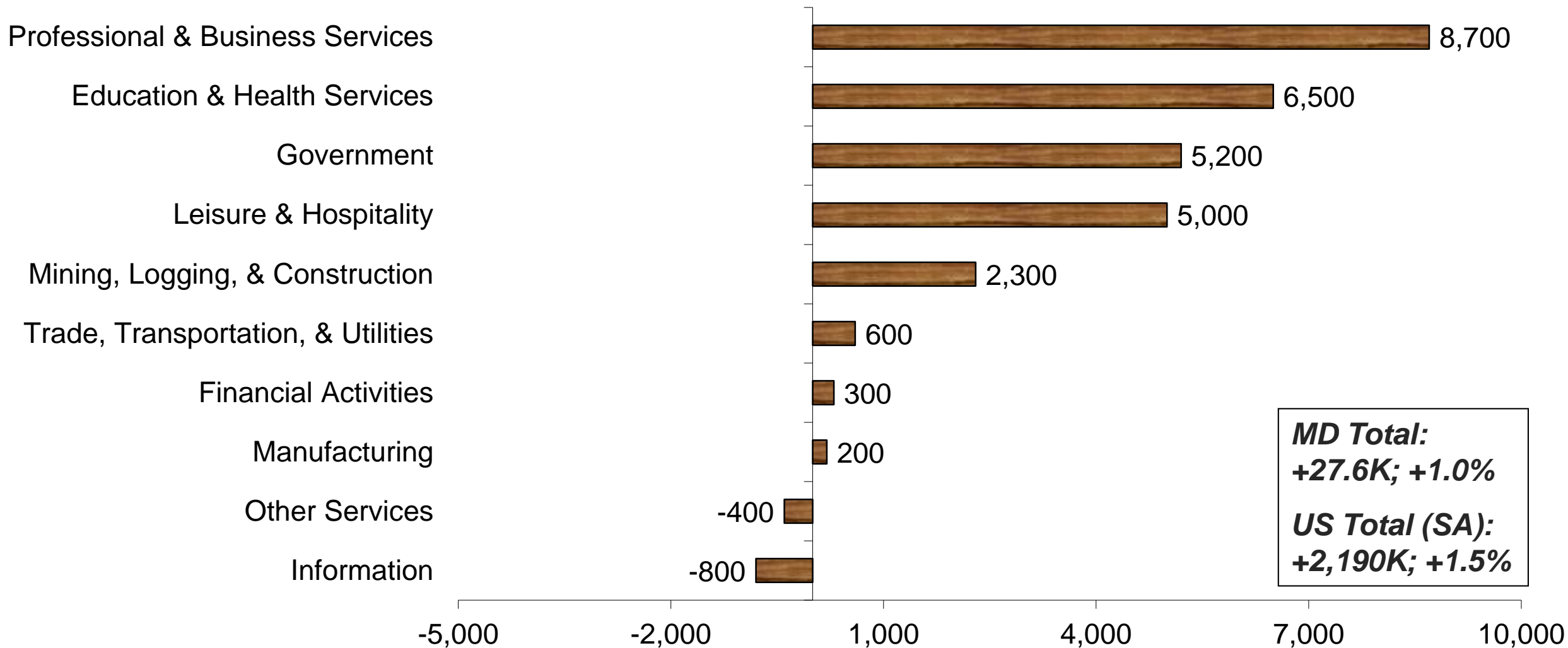
*by Industry Sector, December 2018 v. December 2019*



# Maryland Nonfarm Employment

by Industry Sector Groups (SA)

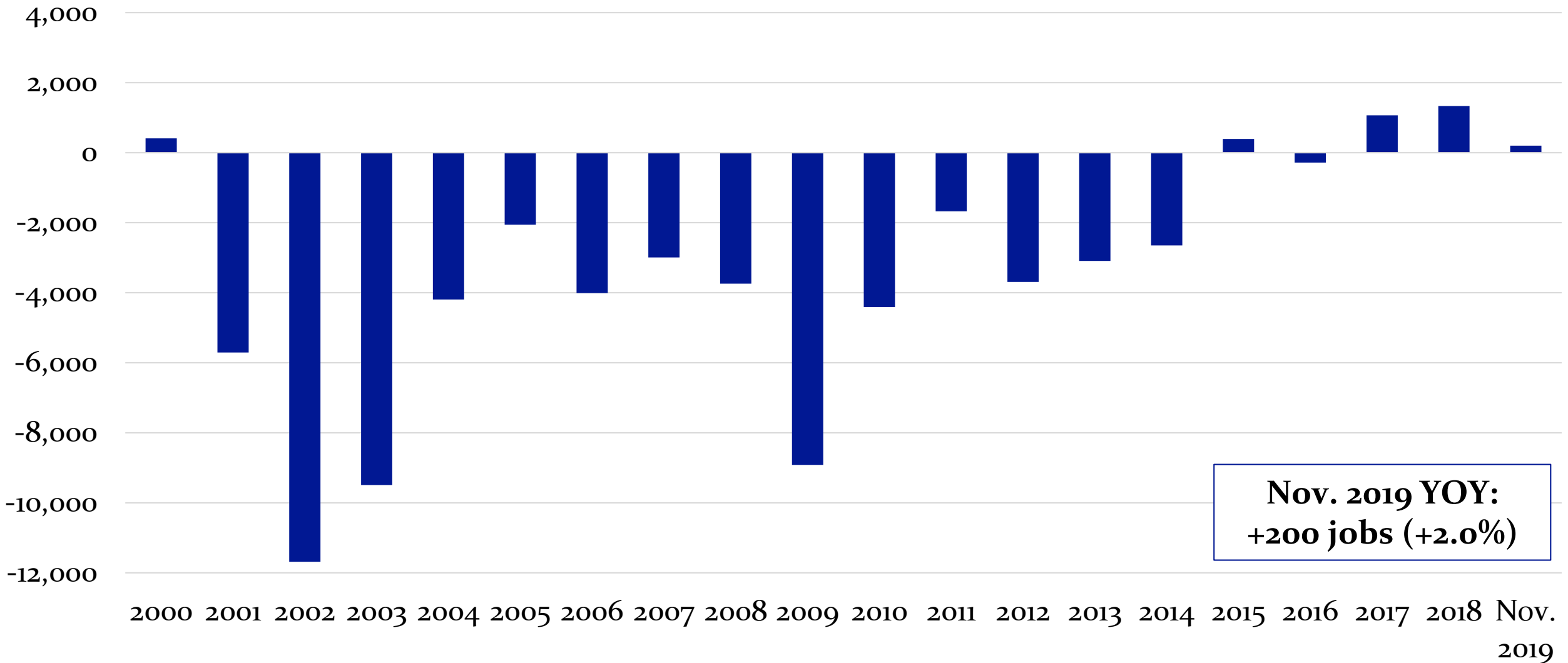
November 2018 v. November 2019 Absolute Change



\*According to the Local Area Unemployment Statistics (LAUS) program MD added 86,408 jobs between November 2018 and November 2019.

# Maryland Manufacturing Employment

*Net Growth, 2000 – 2019*

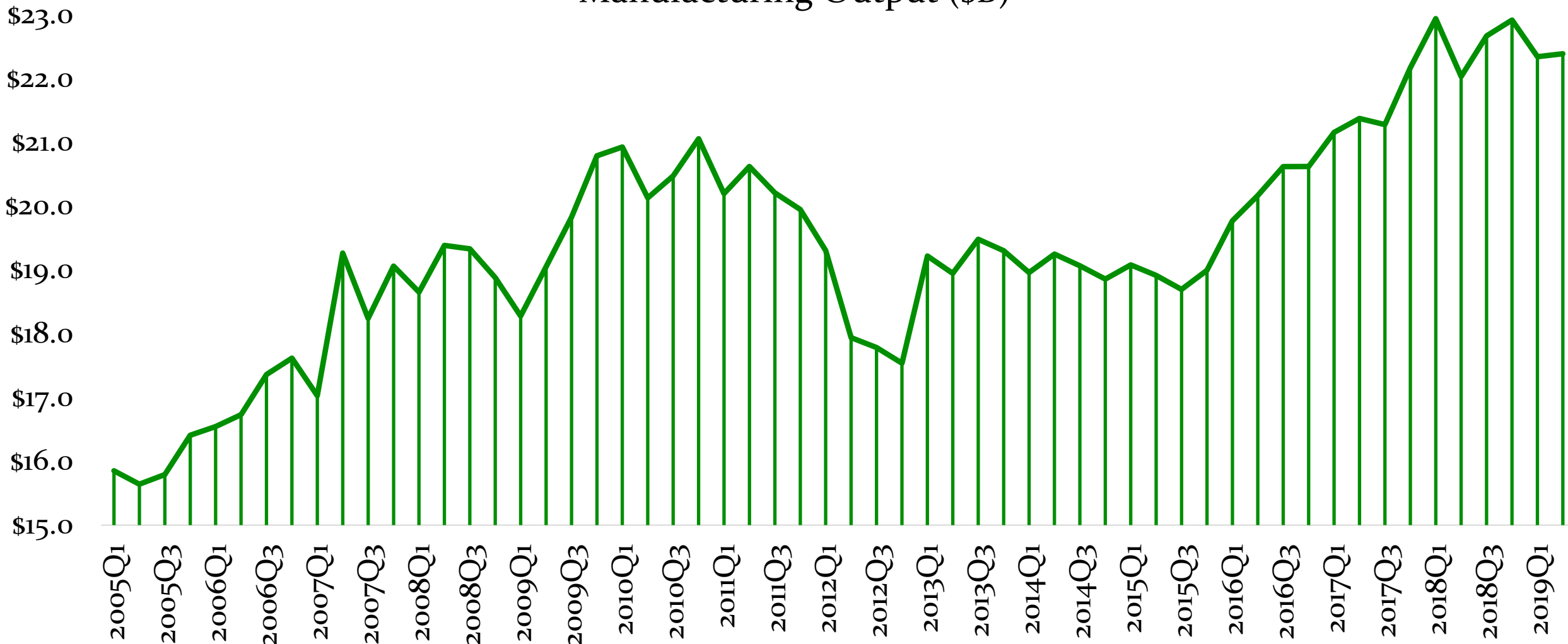


**Nov. 2019 YOY:  
+200 jobs (+2.0%)**

# Maryland Gross Domestic Product: Manufacturing

## 2005Q1 – 2019Q2

Manufacturing Output (\$B)





# Employment Growth, 25 Largest Metros (NSA)

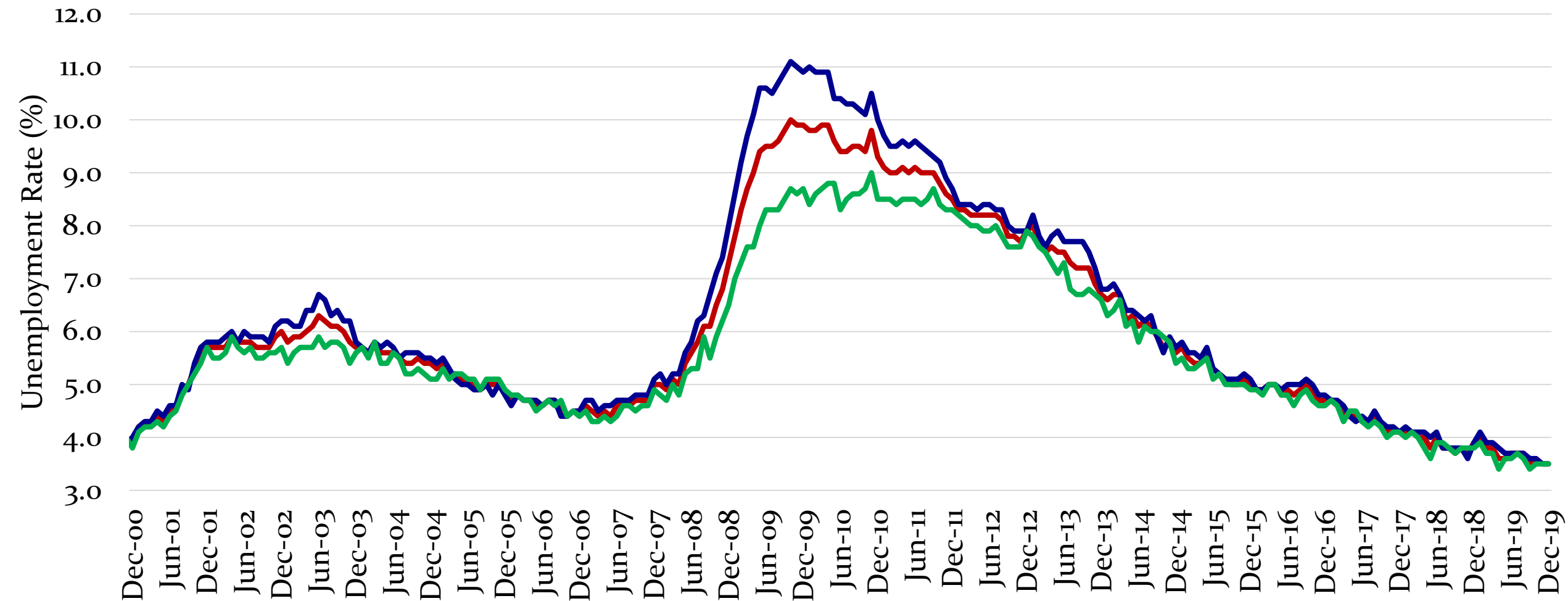
*November 2018 v. November 2019 Percent Change*

Rank	MSA	%	Rank	MSA	%
1	Dallas-Fort Worth-Arlington, TX	3.2	<b>14</b>	<b>Washington-Arlington-Alexandria, DC-VA-MD-WV</b>	<b>1.8</b>
1	San Antonio-New Braunfels, TX	3.2			
3	Seattle-Tacoma-Bellevue, WA	2.9	15	Portland-Vancouver-Hillsboro, OR-WA	1.7
4	Orlando-Kissimmee-Sanford, FL	2.8	<b>16</b>	<b>Baltimore-Columbia-Towson, MD</b>	<b>1.6</b>
5	Houston-The Woodlands-Sugar Land, TX	2.7	16	St. Louis, MO-IL	1.6
6	Phoenix-Mesa-Scottsdale, AZ	2.6	18	Los Angeles-Long Beach-Anaheim, CA	1.5
7	Charlotte-Concord-Gastonia, NC-SC	2.4	18	Miami-Fort Lauderdale-West Palm Beach, FL	1.5
7	Denver-Aurora-Lakewood, CO	2.4	20	Boston-Cambridge-Nashua, MA-NH	1.4
7	San Francisco-Oakland-Hayward, CA	2.4	21	New York-Newark-Jersey City, NY-NJ-PA	1.0
10	San Diego-Carlsbad, CA	2.3	21	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1.0
11	Atlanta-Sandy Springs-Roswell, GA	2.2	23	Chicago-Naperville-Elgin, IL-IN-WI	0.6
11	Tampa-St. Petersburg-Clearwater, FL	2.2	24	Detroit-Warren-Dearborn, MI	-0.3
13	Riverside-San Bernardino-Ontario, CA	2.1	24	Minneapolis-St. Paul-Bloomington, MN-WI	-0.3

## II. Fewer Idle in the Shire

*U.S. Unemployment Rate, December 2000 – December 2019*

— Total Unemployment — Men — Women



# Maryland Unemployment Rates by County

November 2019

Rank	Jurisdiction	%	Rank	Jurisdiction	%
1	Howard County	2.4	13	Baltimore County	3.3
2	Carroll County	2.5	13	Charles County	3.3
3	Montgomery County	2.6	15	Cecil County	3.4
4	Anne Arundel County	2.7	15	Kent County	3.4
4	Calvert County	2.7	15	Prince George's County	3.4
4	Queen Anne's County	2.7	18	Dorchester County	4.2
7	Frederick County	2.8	18	Garrett County	4.2
8	Harford County	2.9	20	Wicomico County	4.4
8	St. Mary's County	2.9	21	Allegany County	4.6
8	Talbot County	2.9	21	Baltimore City	4.6
11	Caroline County	3.2	23	Somerset County	5.5
11	Washington County	3.2	24	Worcester County	8.5

**Maryland: 3.6%**

# National Association of Manufacturers (NAM) Outlook Survey: Primary Current Business Challenges

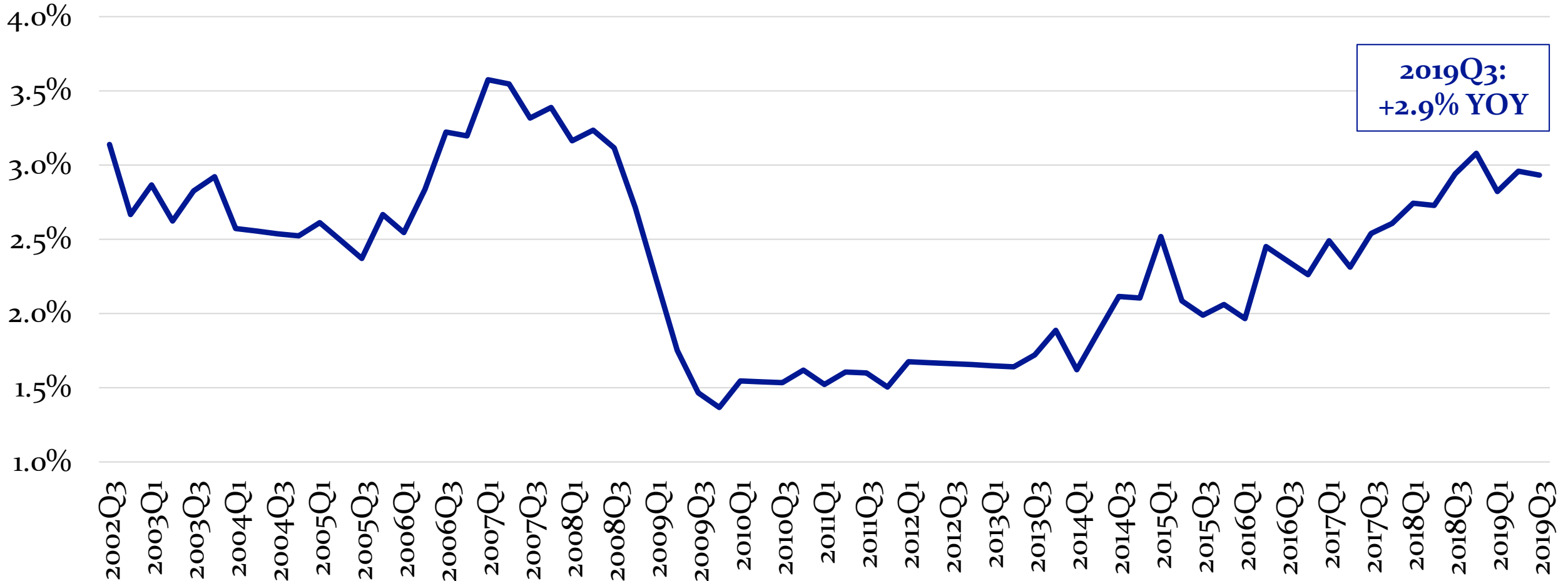
## % of Respondents Citing as a Primary Challenge



# III. Gold Aplenty

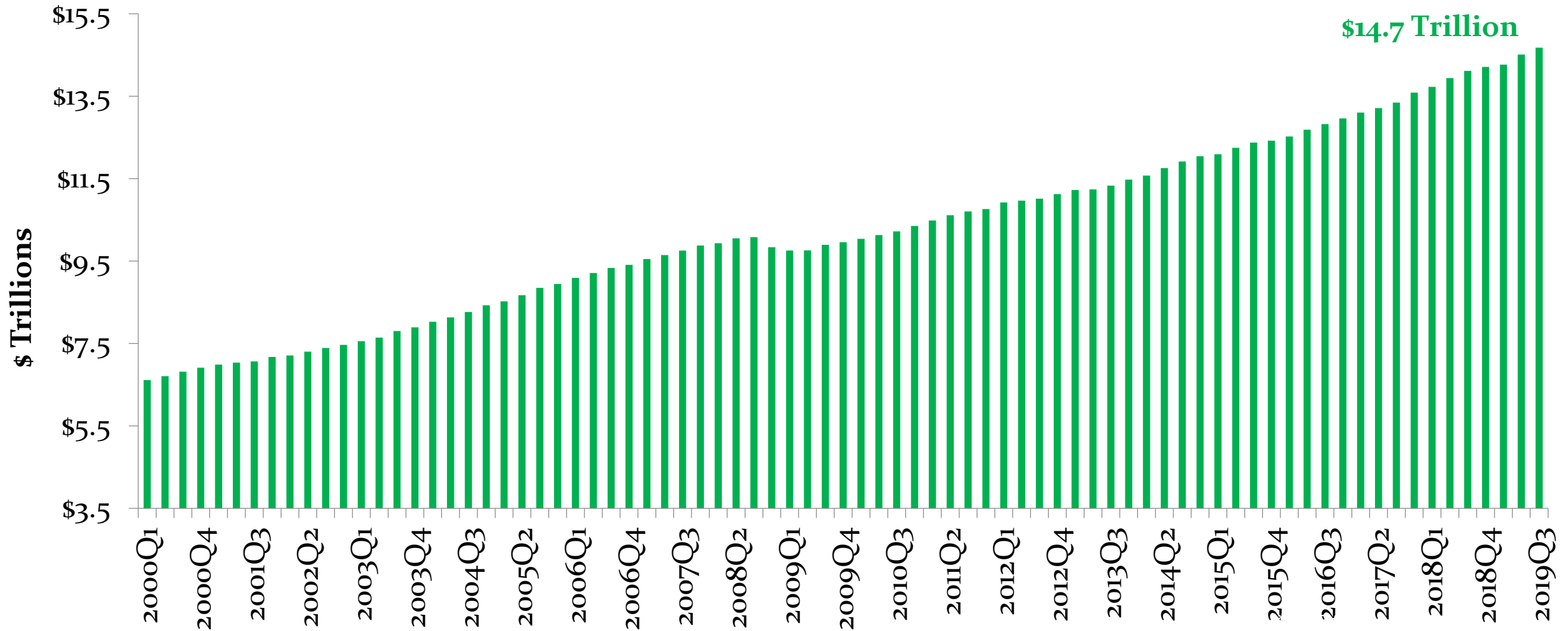
*Growth in Wages & Salaries, U.S. Employment Cost Index (ECI), 2002Q3 – 2019Q3*

ECI for Wages & Salaries  
12-Month % Change



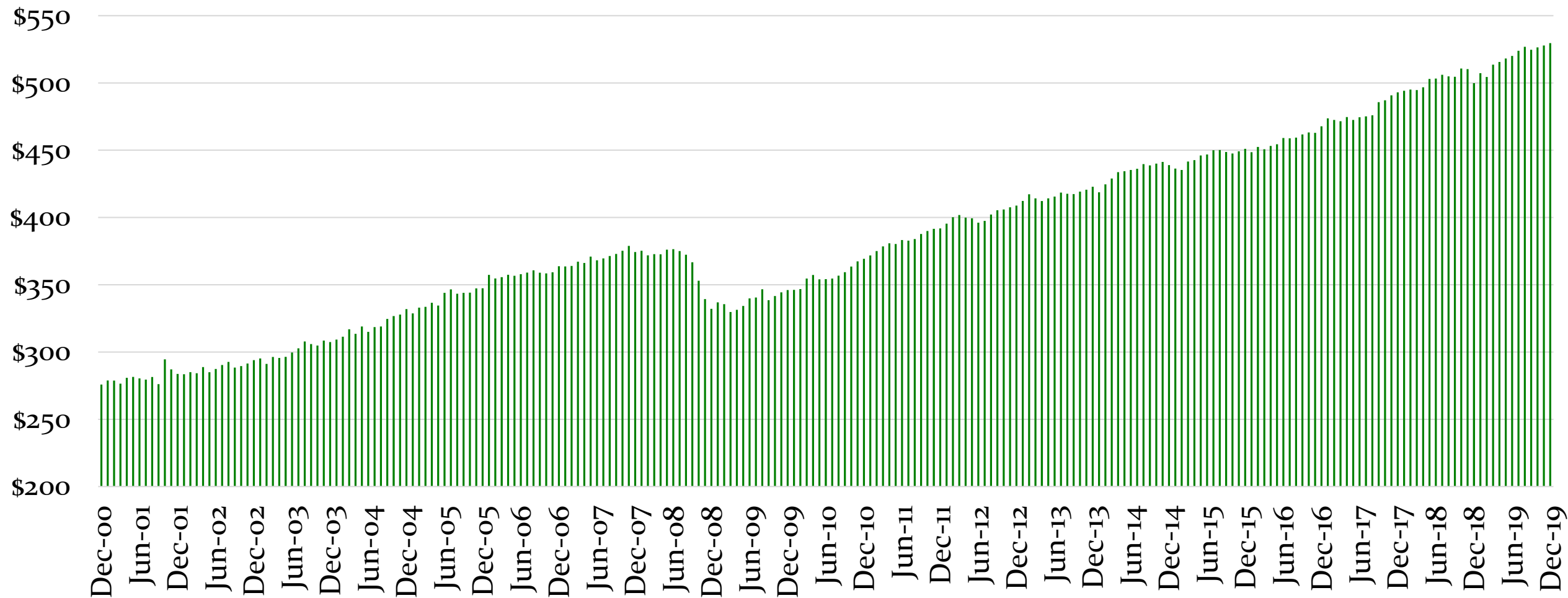
# IV. In the Baggins!

*U.S. Consumer Spending (Personal Consumption Expenditures), 2000Q1 – 2019Q3*



# U.S. Retail Sales, December 2000 – December 2019

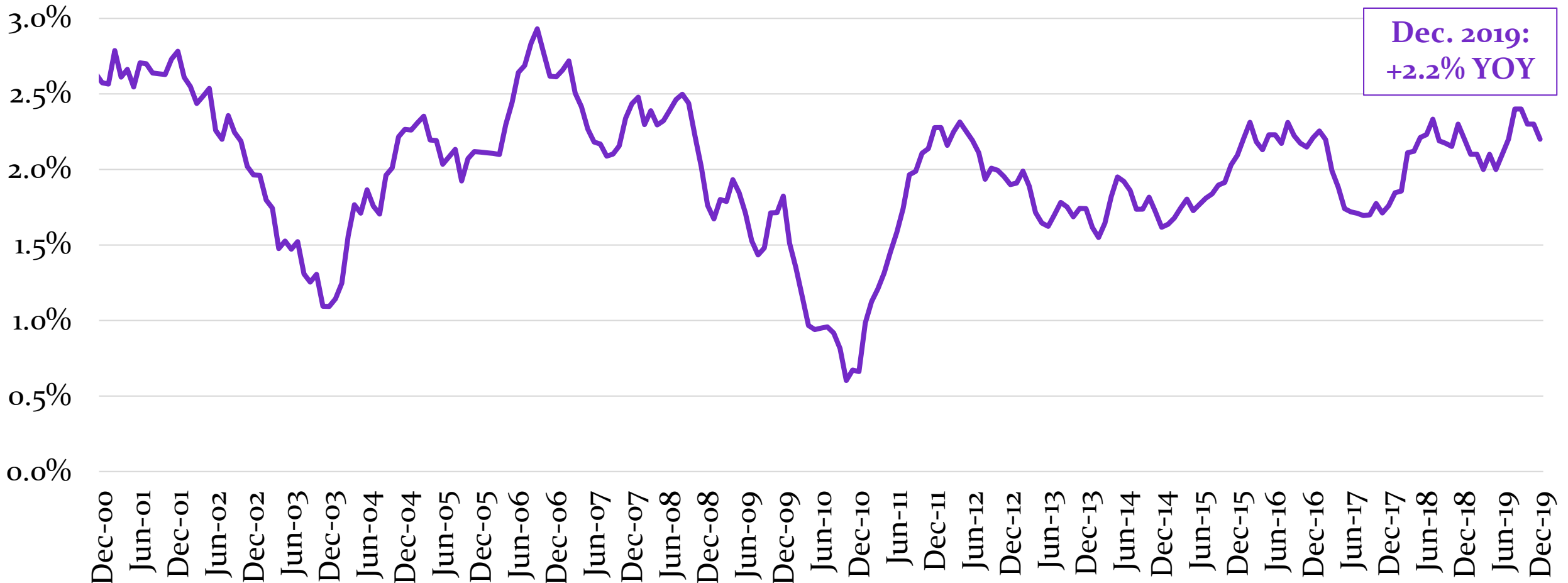
Retail Sales (\$Billions)



# V. Your Gold Coins Go Further

*Consumer Price Index: All Items Less Food & Energy, December 2000 – December 2019*

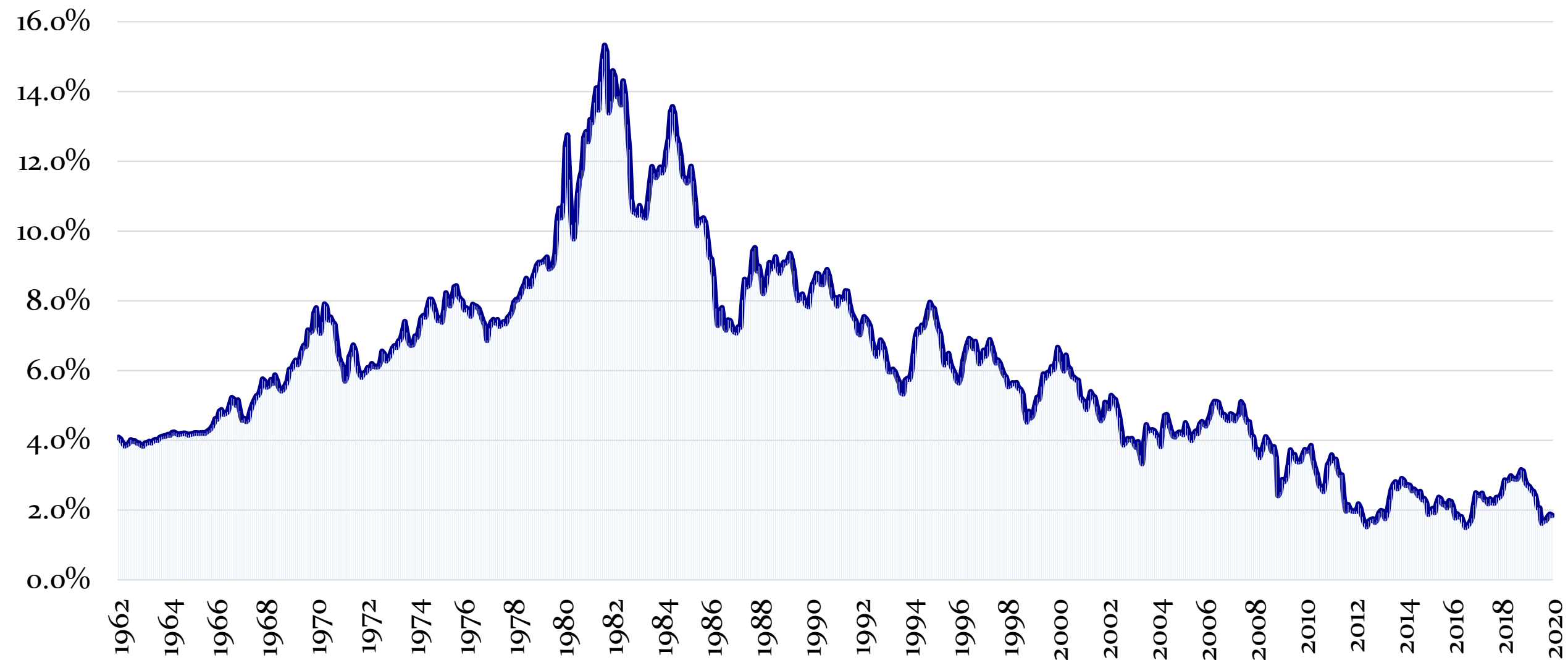
Core CPI (All Items Less Food & Energy)  
12-Month % Change





# VI. Interest Rates are Hobbit-Sized

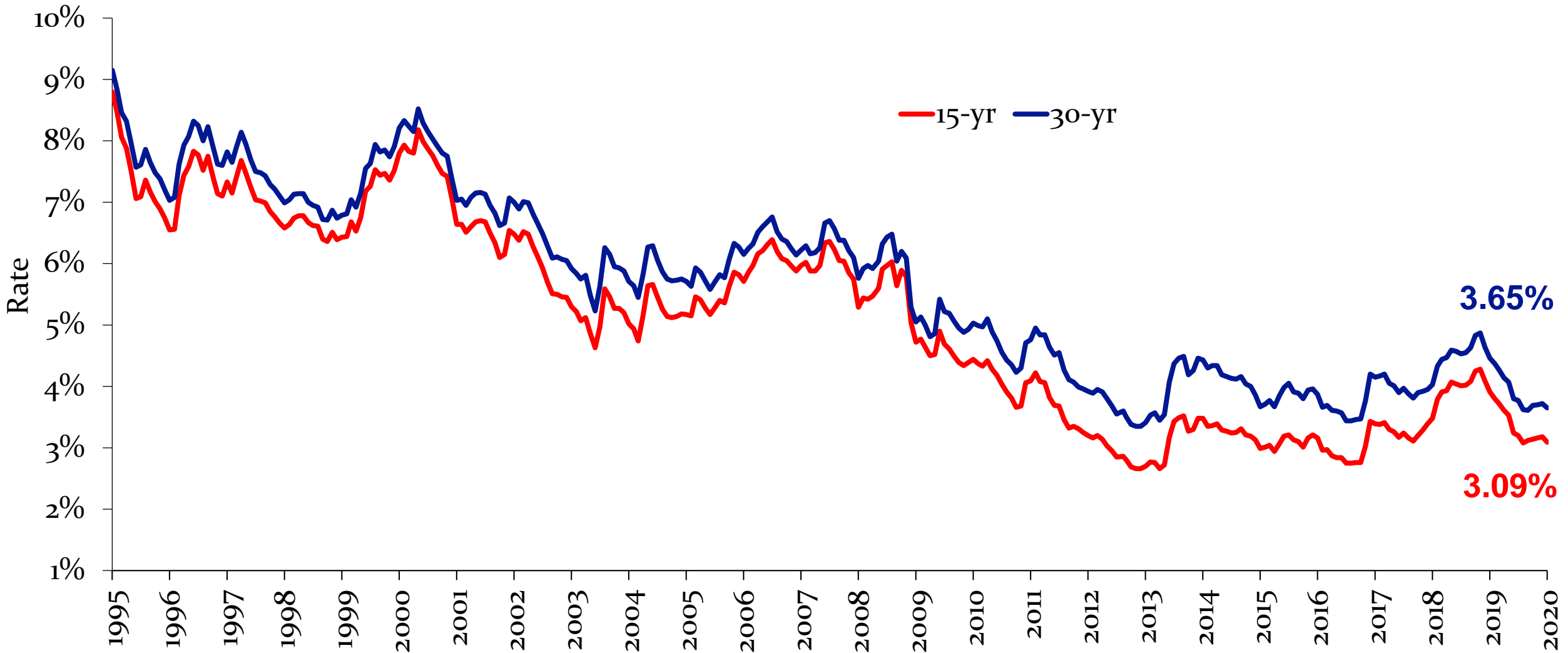
*U.S. 10-Year Treasury Constant Maturity Rate, 1962 – 2020*



*\*Week ending 1/10/2020*

# 15-Year & 30-Year Fixed Mortgage Rates

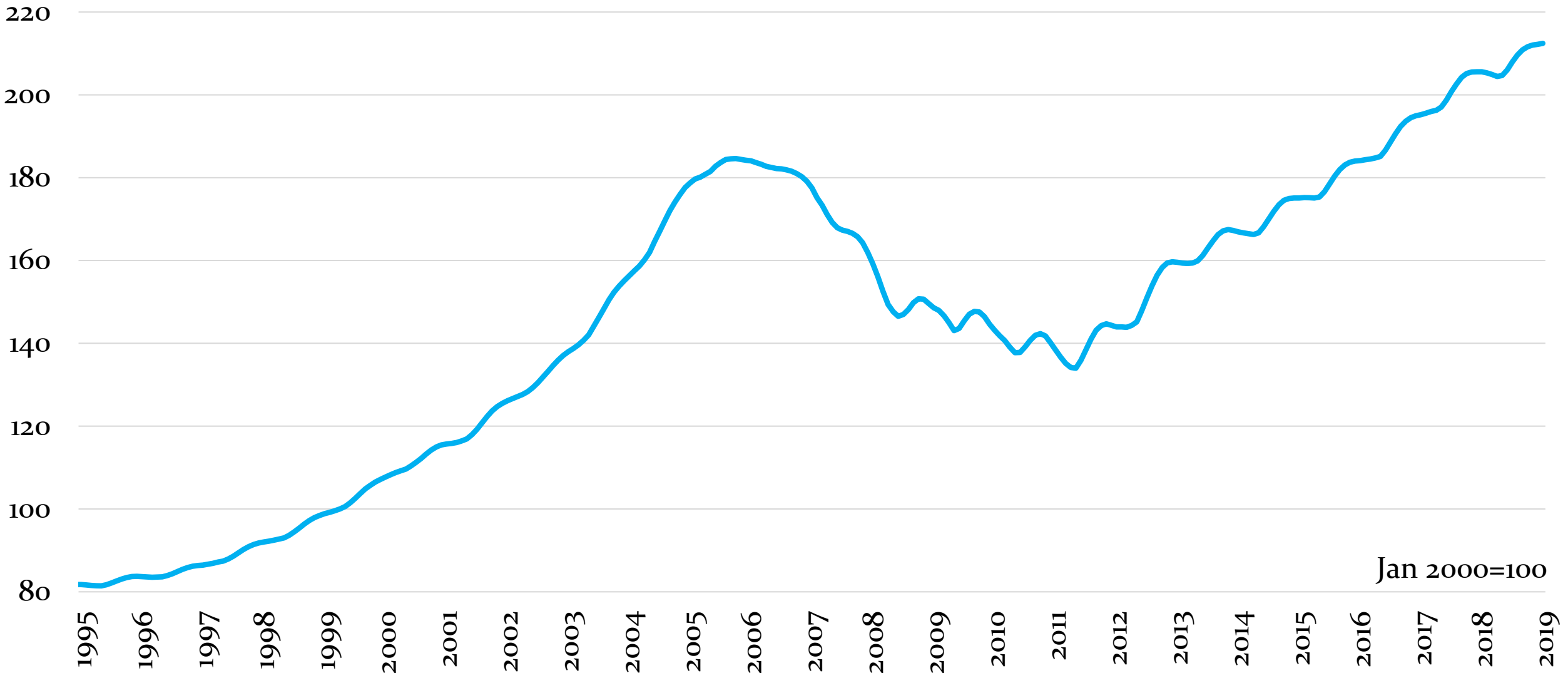
January 1995 – January 2020\*



\*Week ending 1/16/2020

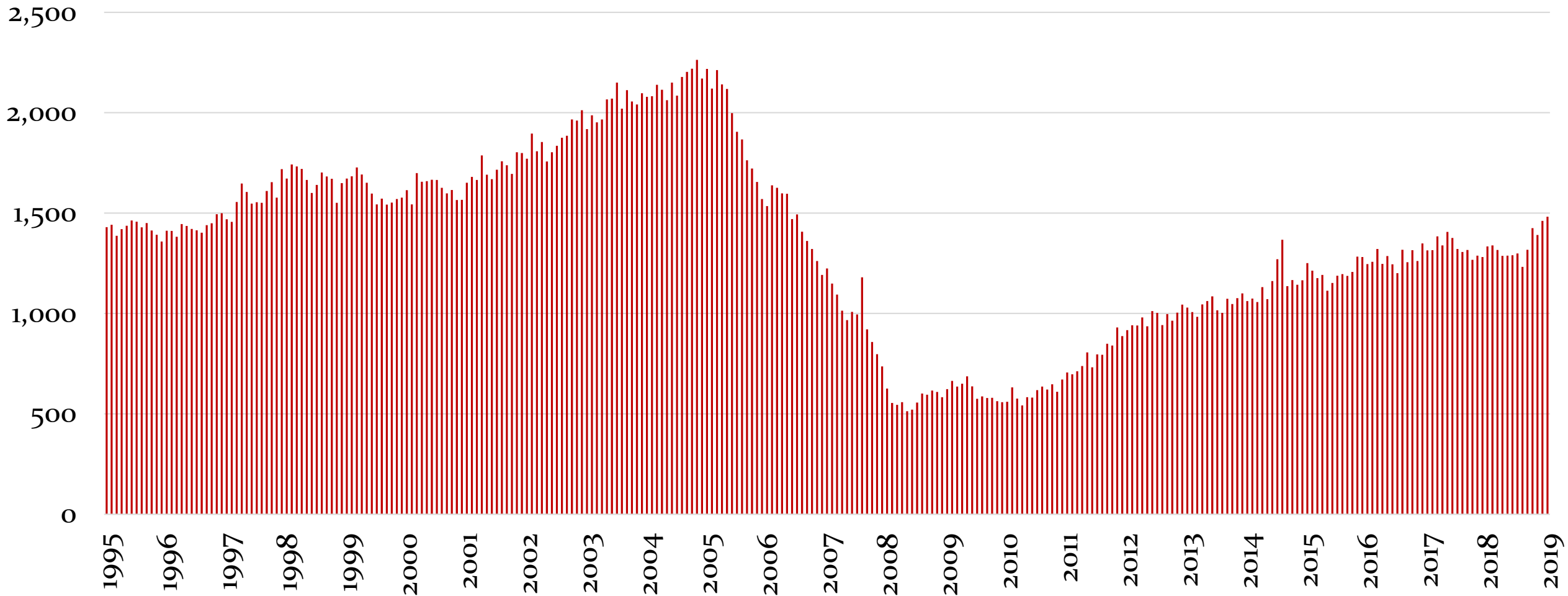
# VII. Property Values Rise in Middle East

*S&P Case-Shiller U.S. National Home Price Index, October 1995 – October 2019*



# VIII. The Kingdom is Under Construction U.S. Building Permits, *November 1995 – November 2019*

Building Permits (oos of Units)

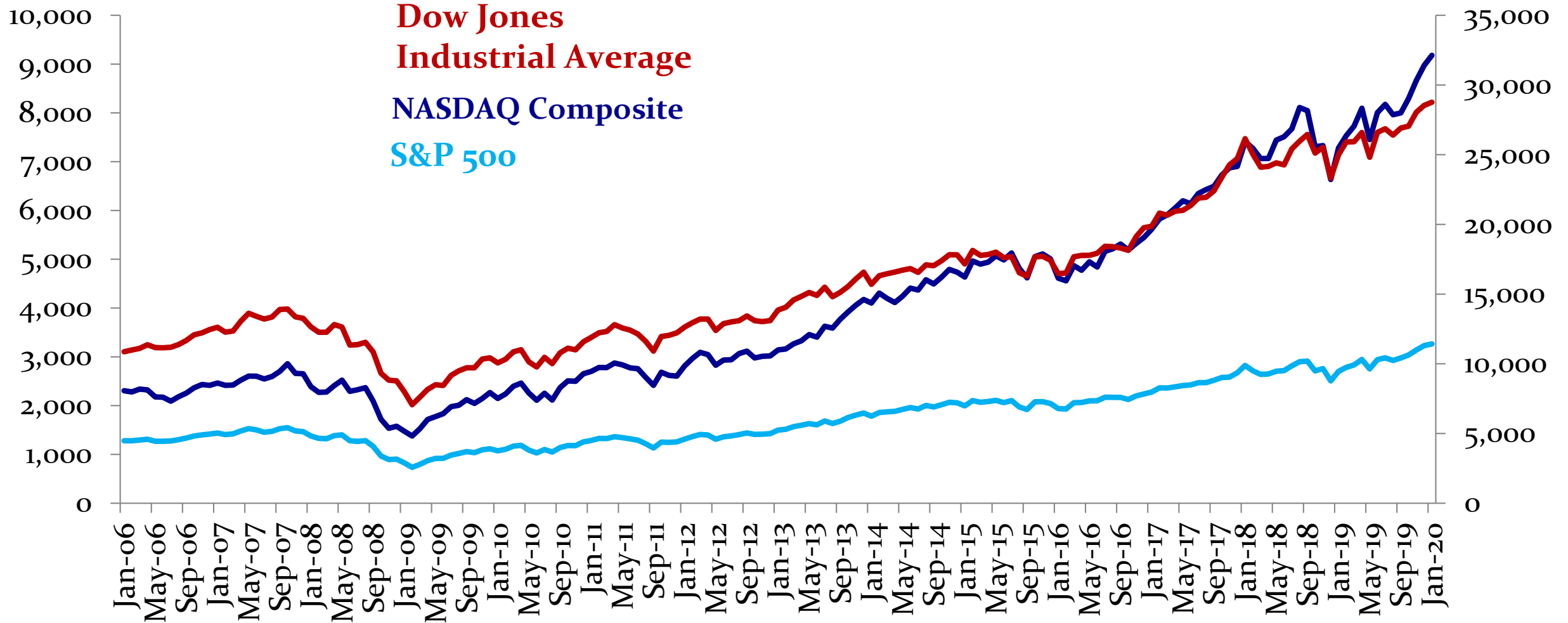


# IX. But It Goes to Elven

*U.S. Stock Markets, January 2006 – January 2020\**

NASDAQ/S&P

Dow Jones

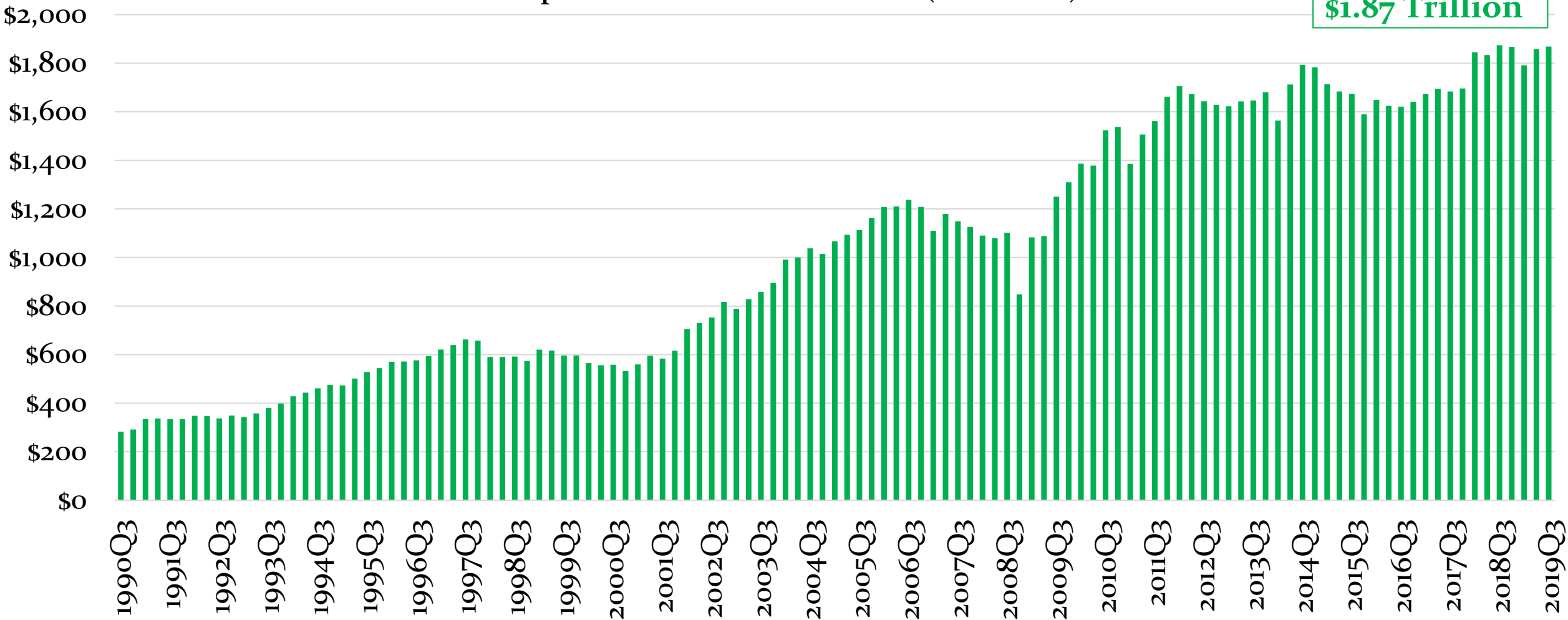


\*Week ending 1/10/2020

# U.S. Corporate Profits After Tax\*, 1990 – 2019

Corporate Profits After Tax\* (\$Billions)

**\$1.87 Trillion**



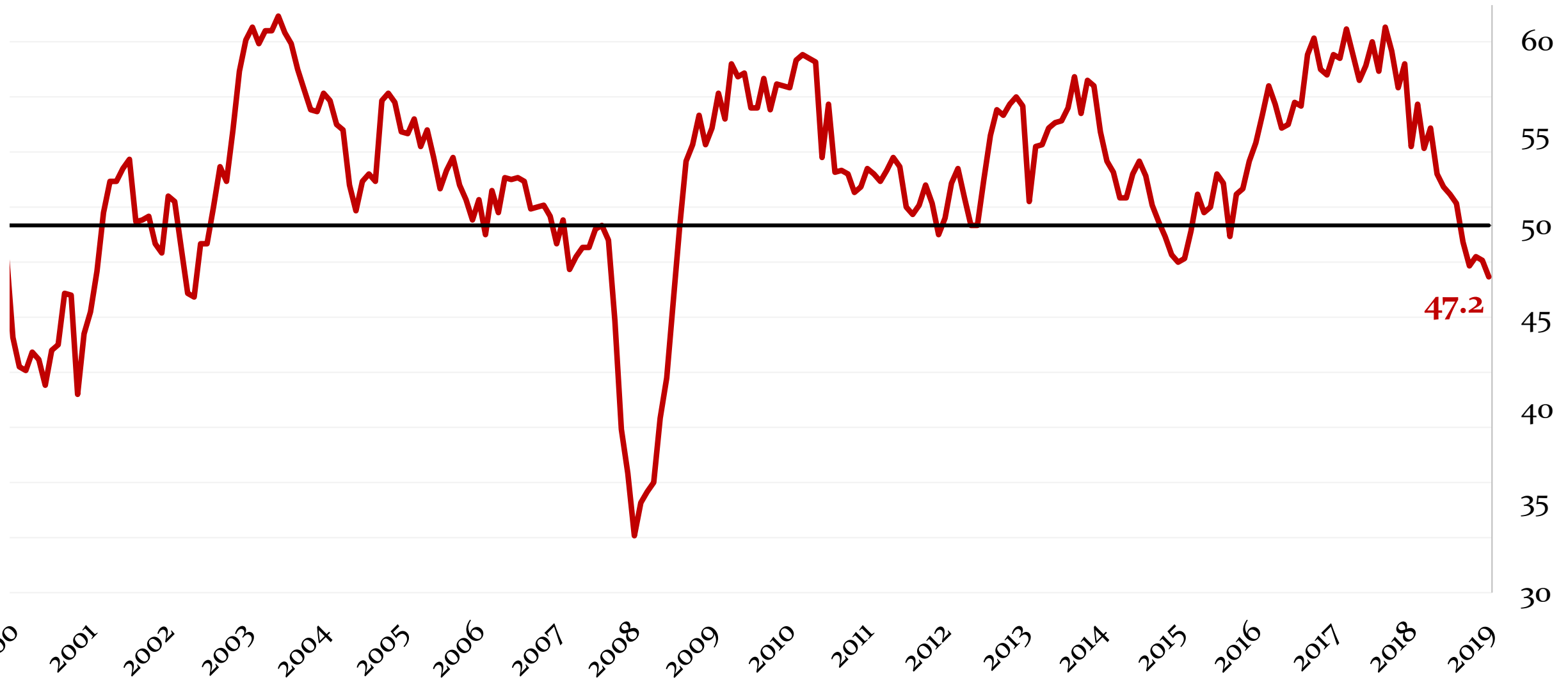
\*With IVA and CCAdj

# Seven Factors Dwarfing Hope



# I. Manufacturing Doth Decline

*Institute of Supply Management: Purchasing Managers Index (PMI), 2000 – 2019*



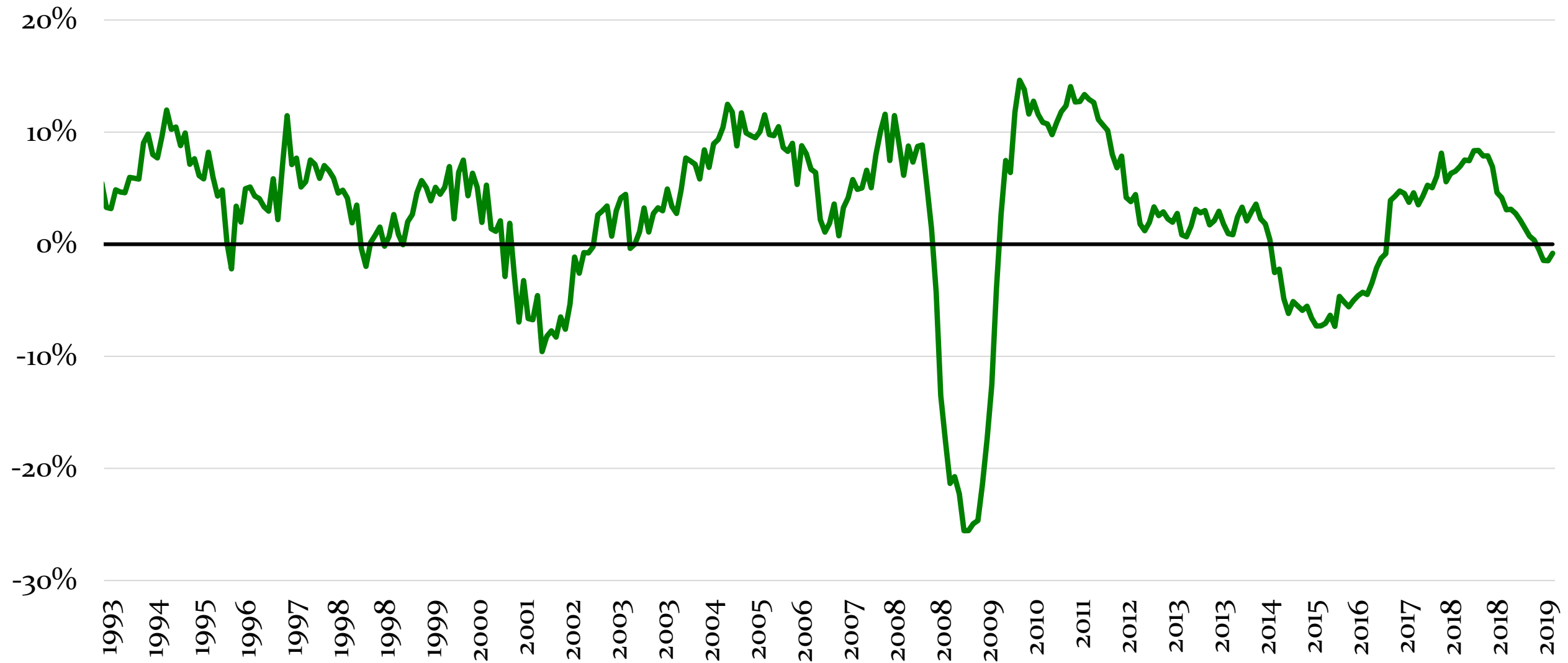
*\*A reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting.*

Source: Institute of Supply Management; Quandl.com



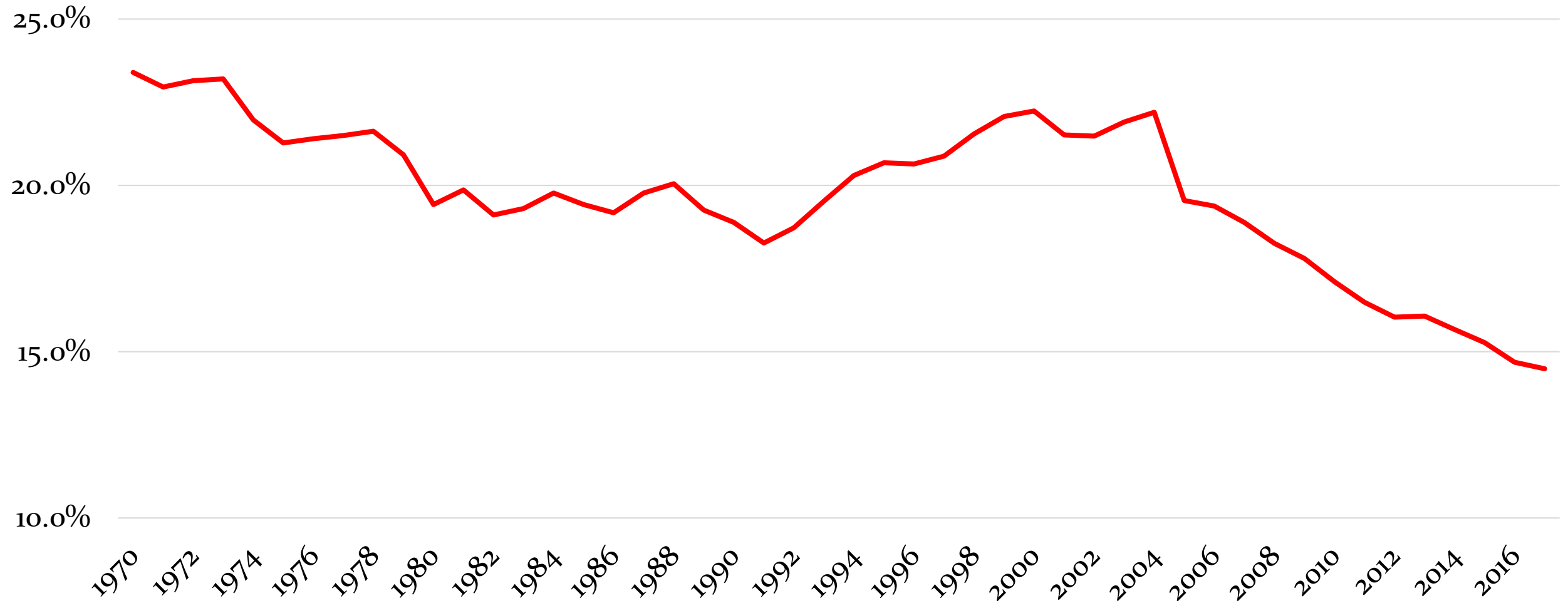
# Value of U.S. Manufacturers' Shipments

*12-Month % Change, 1993 – 2019*



# U.S. Share of Global Manufacturing Value Added, 1970–2017

US % of World (Calculated in constant 2010 USD)

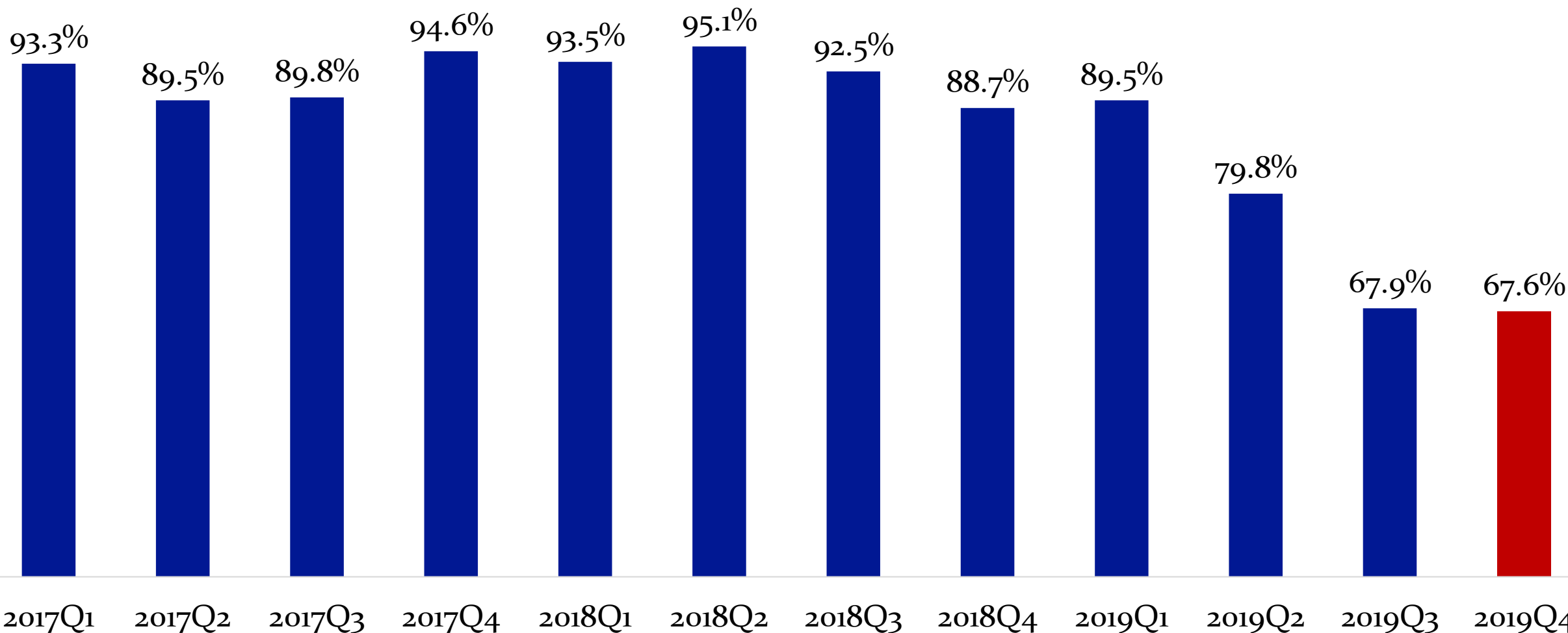


# Economic Opportunity & the Opioid Epidemic

- A newly published study by researchers at the University of Pennsylvania, Yale, Harvard, and Massachusetts General Hospital finds that counties where auto plants close see significant spikes in fatal opioid overdoses within five years;
- The study looked at the counties where manufacturing represented the greatest share of local employment between 1999 and 2016, largely in the Midwest and South;
- Compared to counties where auto plants had not closed, opioid overdose deaths were 85% higher among working-age adults in communities where an auto plant had closed within the past five years;
- In a news release, the study's lead author stated: "Major economic events, such as plant closures, can affect a person's view of how their life might be in the future. These changes can have a profound effect on a person's mental well-being, and could consequently influence the risk of substance use...Our findings confirm the general intuition that declining economic opportunity may have played a significant role in driving the opioid crisis."

# National Association of Manufacturers (NAM) Outlook Survey: Current Business Outlook

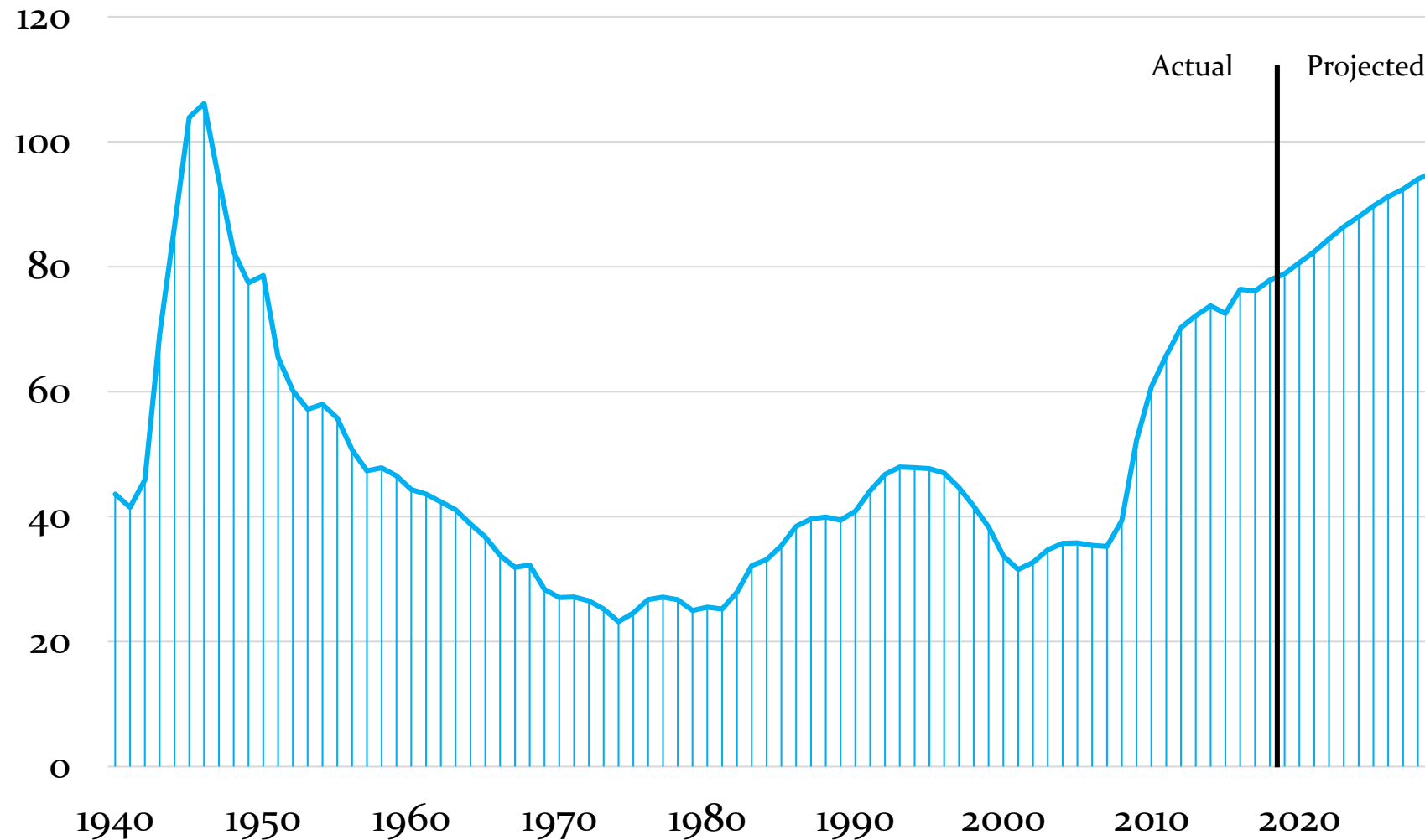
% of Respondents Characterizing Outlook as Somewhat or Very Positive



## II. A Tower of National Debt

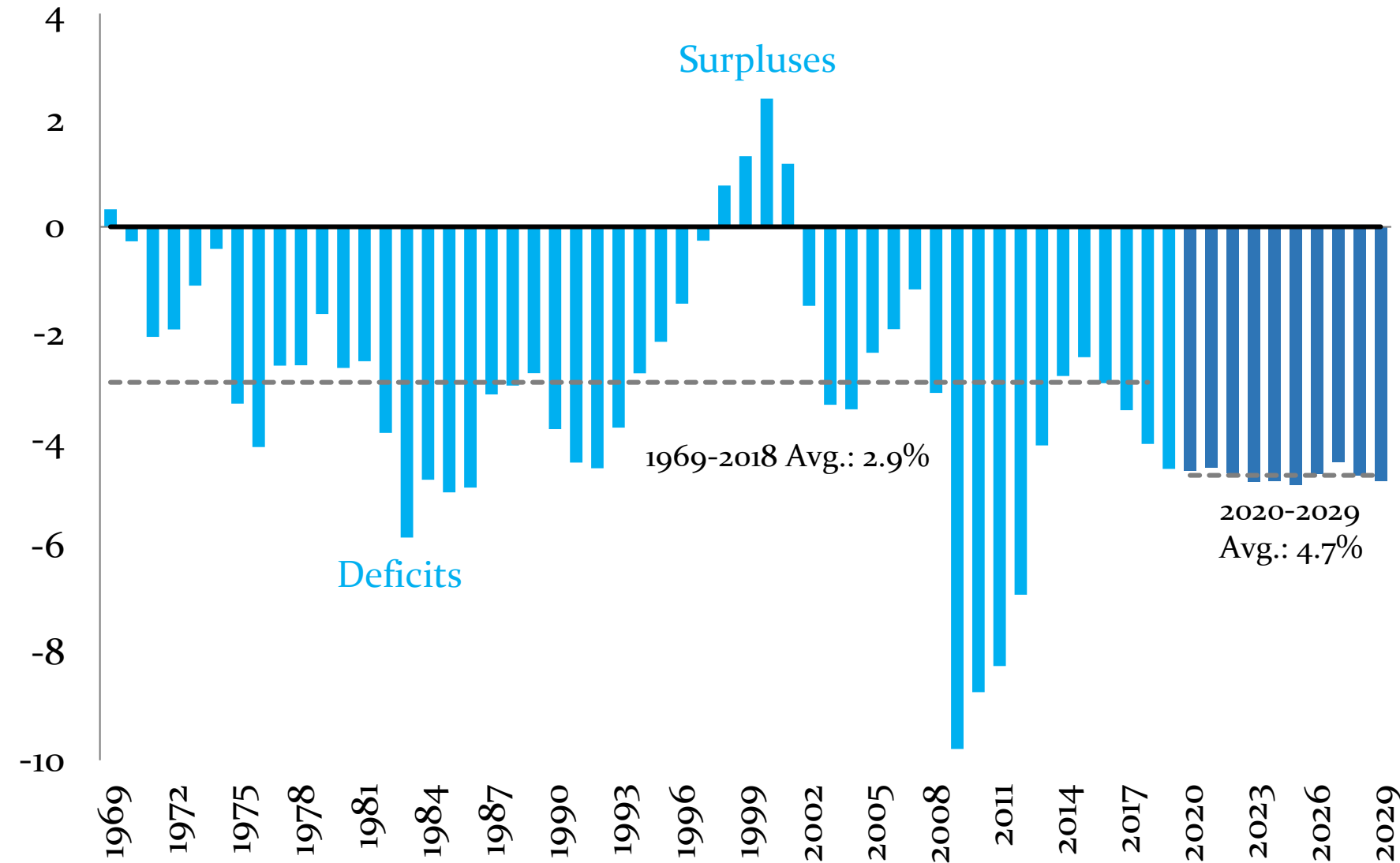
### *U.S. Federal Debt Held by the Public, % of GDP*

Debt Held by the Public (% of GDP)



- Relative to the size of the economy, federal debt in 2019 is projected to be nearly twice its average over the past 50 years.
- At the end of 2029, debt is projected to reach a higher level than it has at any point since just after World War II.

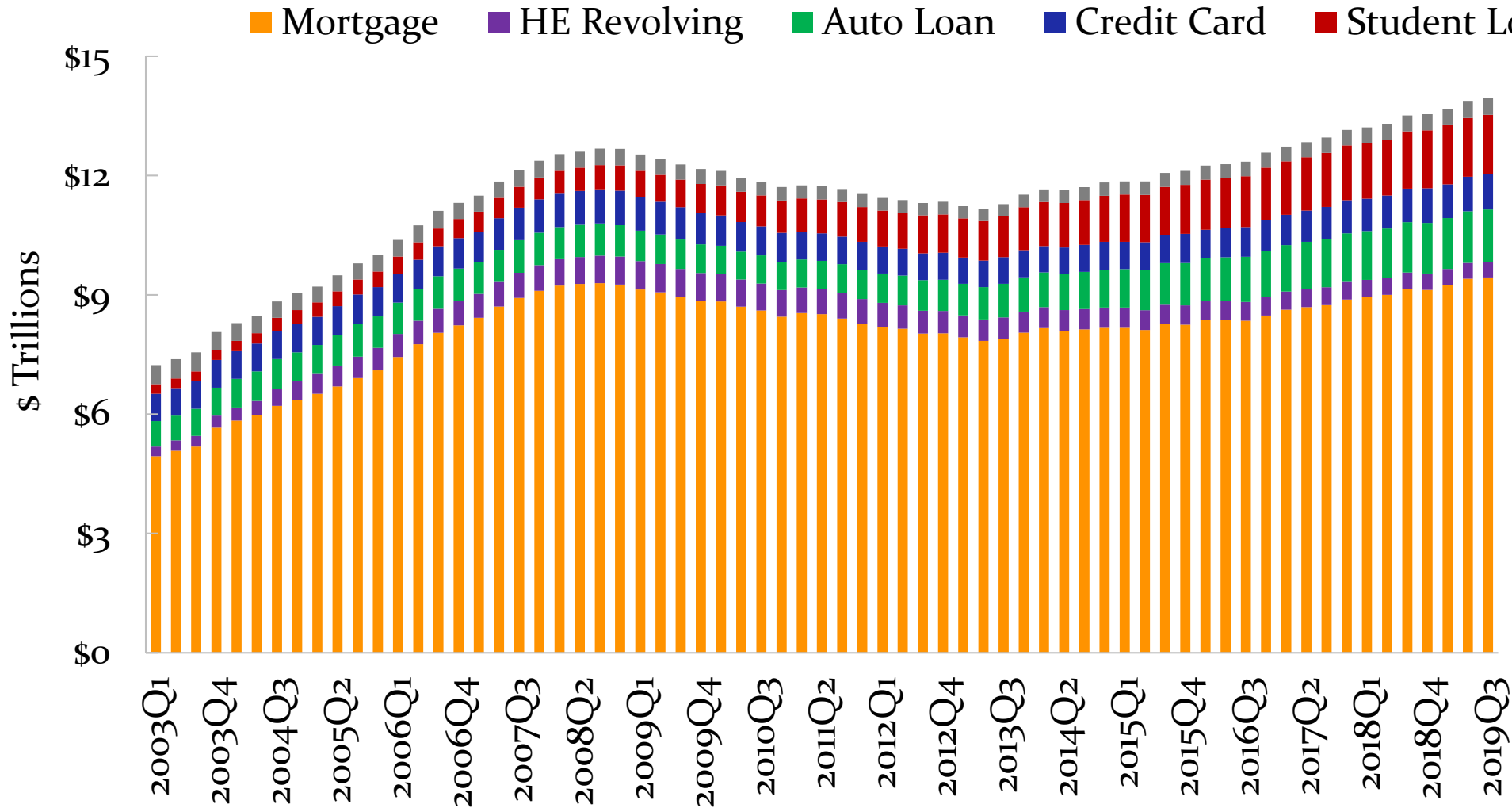
# U.S. Federal Deficit, % of GDP



- Over the 2020–2029 period, deficits are projected to average 4.7% of GDP, totaling \$12.2 trillion.
- Over the past 50 years, deficits averaged just 2.9% of GDP.

# III. A Mountain of Consumer Debt, Too

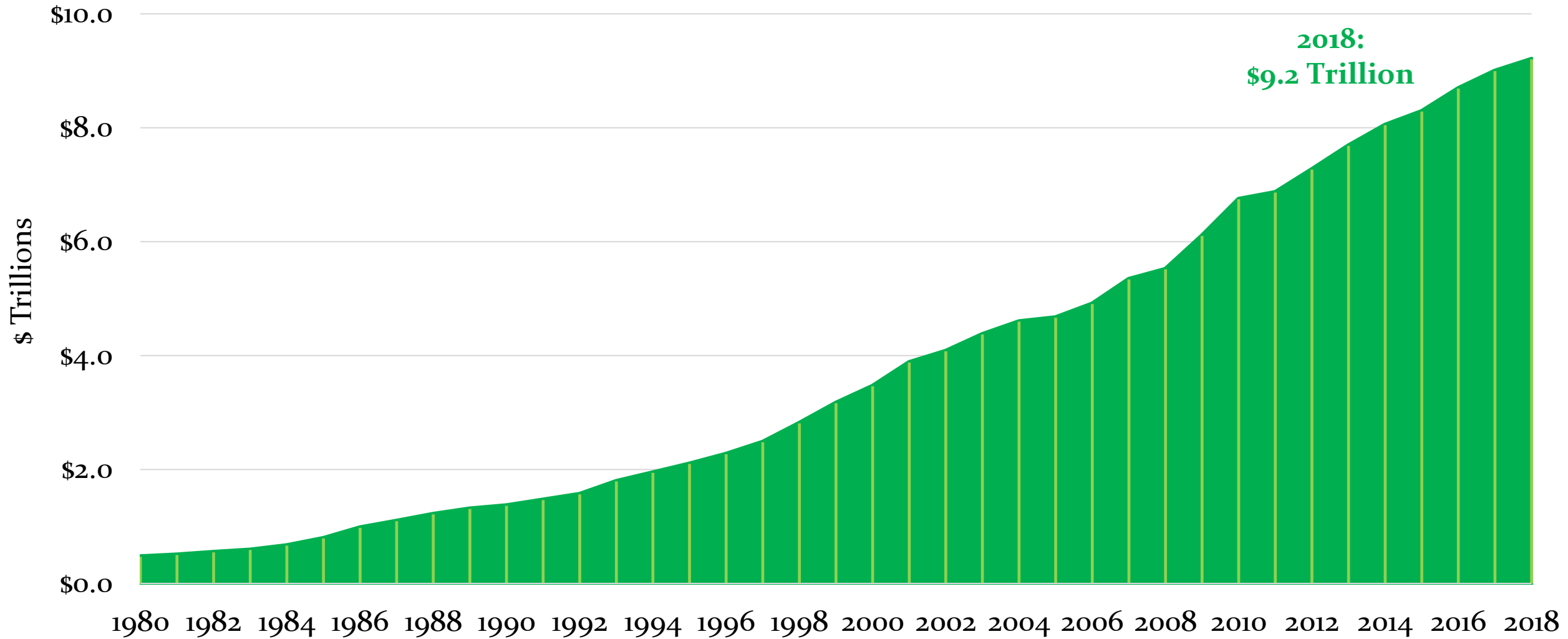
*Total U.S. Household Debt, 2003 – 2019*



Debt balances have been rising steadily for 5 years and are now \$1.3 trillion higher than the previous peak in 2008Q3 of \$12.7 trillion. Overall household debt is 25.1% above the 2013Q2 trough.

# IV. How Did It Come to This?

*U.S. Corporate Bond Debt Outstanding, 1980 – 2018*



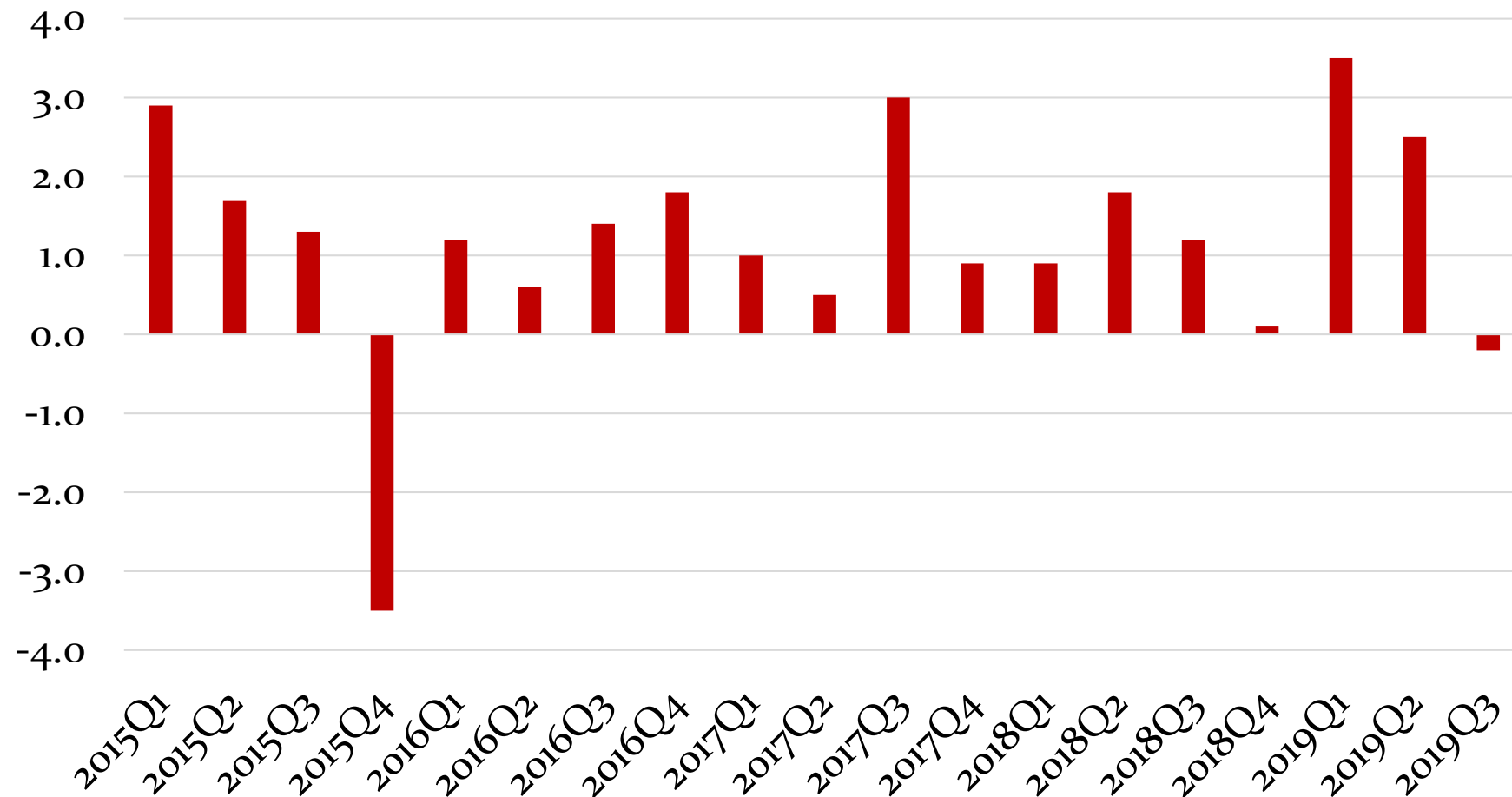


# Global Debt Reaches All Time Highs (IIF)

- According to the International Institute of Finance (IIF), global debt reached a record high of over \$250 trillion in the first half of 2019;
- Global debt—including household, government, and corporate—is now forecast to surpass **\$255 trillion** by the end of 2019, representing **320% of global GDP**;
- In 2016 the IMF warned of risks to the global economy:
  - *“sheer size of debt could set the stage for an unprecedented private deleveraging process that could thwart the fragile economic recovery”*

# V. Entish: U.S. Nonfarm Business Sector: *Labor Productivity Growth, 2000–2019*

Nonfarm Business Sector Labor productivity  
% Change From Previous Quarter at Annual Rate

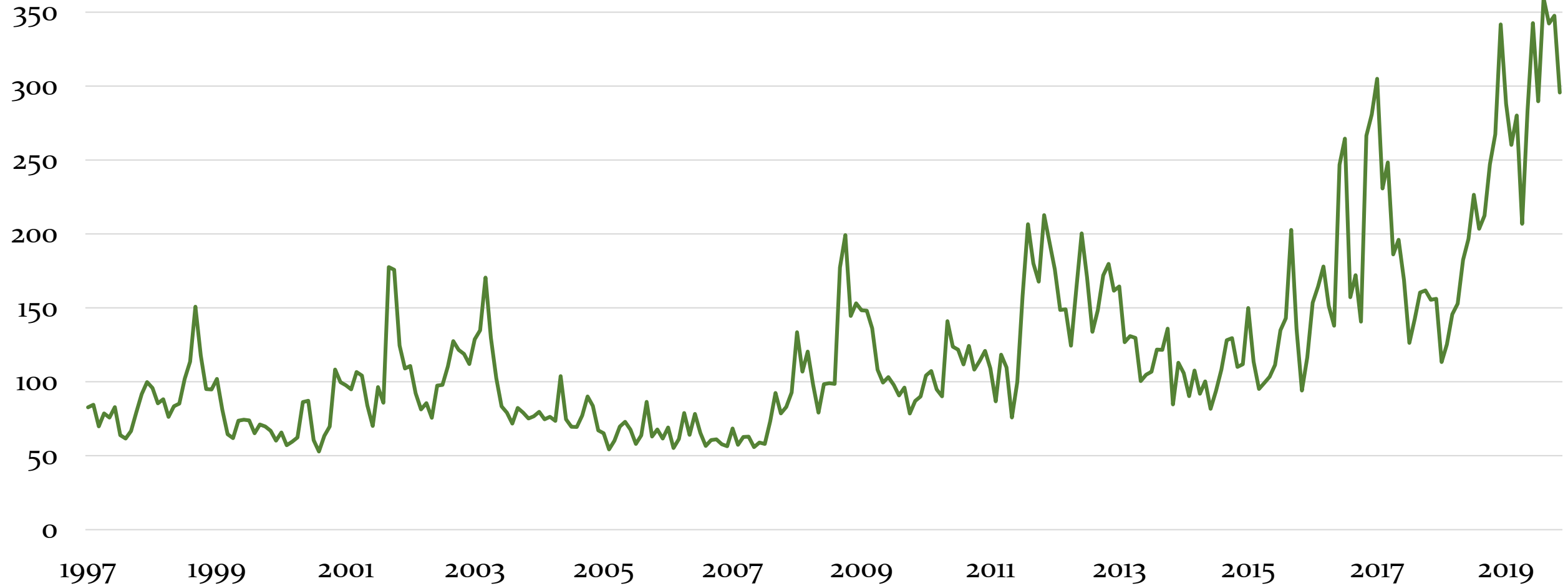


- In 2019Q3 nonfarm business sector labor productivity fell by 0.2%—the first decline since 2015.
- U.S. productivity has risen at an average rate of 1.3% since 2007, compared with a 2.1% average since the end of WWII.

# VI. Uncertainty Across the Realm:

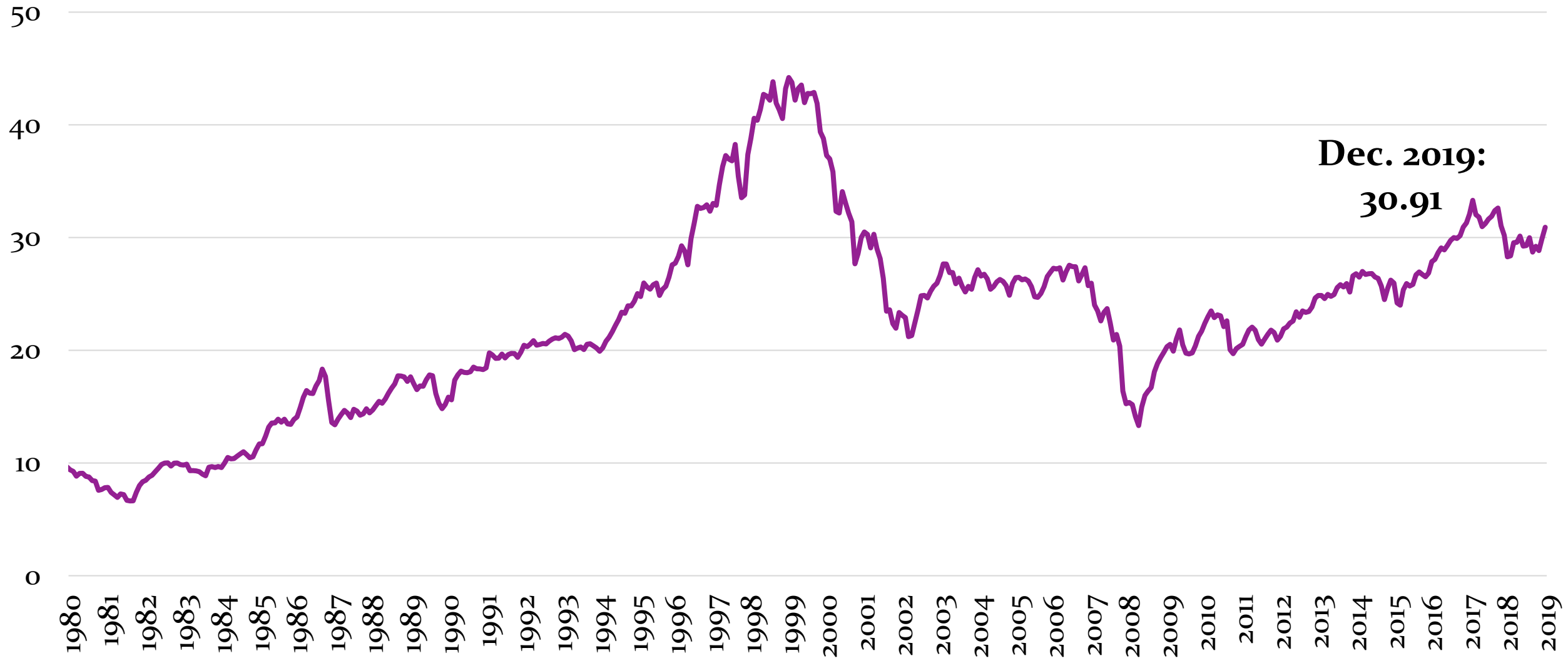
*Global Economic Policy Index, 1997 – 2019*

## Global Economic Policy Uncertainty Index



# VII. The Eye is on Asset Prices:

## *Shiller Price-Earnings Ratio, 1980 – 2019*



# Three Things that Defied Prediction

1. **Impossibly low inflation** – How could one have seen this coming in the context of the lowest unemployment rate in 50 years, lackluster productivity growth, a robust consumer spending sector and the lengthiest expansion in American history?
2. **Incredibly low interest rates** – How can global indebtedness be so high, and global interest rates so low?
3. **The Strength of the U.S. Economy Itself**- How can the U.S. economy have been performing so well, and financial markets booming so splendidly in the context of fragmenting global trade, slower immigration, Brexit, impeachment, global warming, and other phenomena that one would think would be bad for domestic economic outcomes?

Maybe, we're not wrong?



Photo: Warner Bros; getwallpapers.com

# Emerging Technologies in Manufacturing: Are Humans & Machines Better Together?

- The fourth industrial revolution, or “Industry 4.0” is the current shift taking place in manufacturing.
- At the heart of the latest industrial revolution is what GlobalData describes as “enhanced human-machine interaction to drive interconnectivity, information transparency and autonomous decision making.”
- Technological innovations are contributing to the new data-driven, agile, and automated environment in manufacturing.
- GlobalData’s Disruptor Tech Database identifies five key technologies that define the paradigm shift in Industry 4.0. They are:
  - Big data and analytics (BDA),
  - Industrial internet of things (IIoT)
  - Cloud computing
  - Additive manufacturing (3D printing)
  - Augmented reality (AR)
- Other emerging technologies impacting manufacturing include advanced robotics, digital twinning, simulation, cybersecurity, artificial intelligence (AI) and blockchain.

# Emerging Technologies in Manufacturing: Are Humans & Machines Better Together?

- These new technologies are being applied throughout multiple steps of the manufacturing process, including: R&D, resources planning & sources, operations technology monitoring & machine data, labor augmentation & management, machining/production & assembly, quality assurance, warehousing, and transport & supply chain management.
- The rise of new technologies will likely drive the creation of more hybrid jobs, where manufacturing employees will need a combination of advanced production, IT and problem-solving skills in order to succeed.
- This could open up new avenues for manufacturers to recruit and retain tech-savvy millennials, who may have an easier time embracing a more technology-driven workplace.

# The One



# Forecast

- Risk of recession over the next 18 months is arguably more elevated than at any period since 2007 – second half of the year appears tenuous as elections approach;
- U.S. manufacturing and agricultural activity still sluggish, though first stage trade agreement with China could set the stage for resurgence, especially in US farm sector;
- Ultimately, this may turn out to be merely a soft landing (like 2016), but businesses should be raising cash, determining if line of credit is large enough, considering staffing models, and ensuring the good graces of bankers and insurers. Households should consult trusted financial advisors.