



Welcome to Our Spring Education Series

RESILIENCE

PREPARING FOR THE NEXT DOWNTURN

*Helping you and your clients confront risk
and optimize business performance!*

While you wait for the presentation to begin, use the chat button at the bottom of your screen and share your name, location, weather, or anything else.

Monday, April 27, 2020

The Return of the Economist: The Impact of an Unprecedented COVID-19 Supply Shock



Presenter

Anirban Basu, MPP, MA, JD
Chairman and CEO
Sage Policy Group, Inc.



Moderator

Joel G. Carson
Executive Director
Geoprofessional Business Association

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,

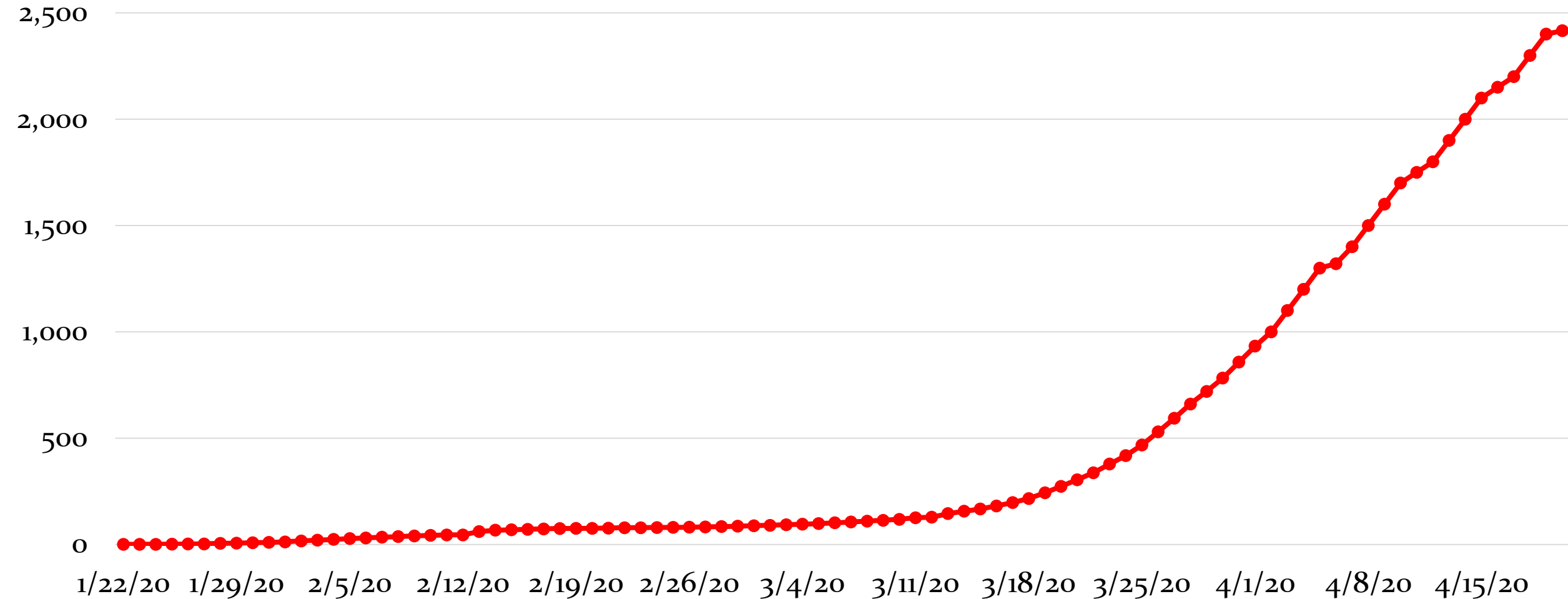
One ring to rule them all, one ring to find them,

One ring to bring them all and in the darkness bind them

Coronavirus COVID-19 Global Cumulative Confirmed Cases

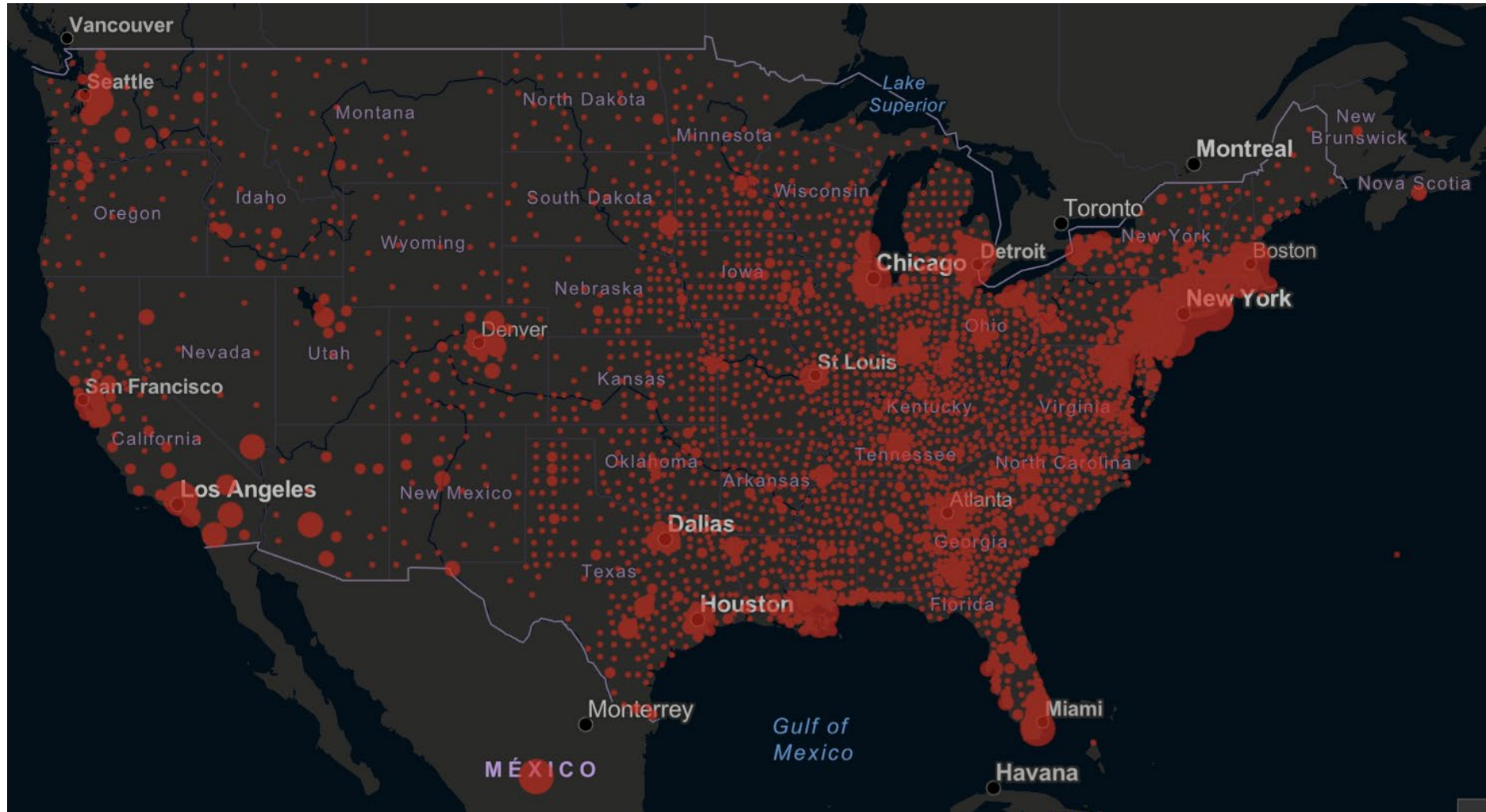
January 22nd – April 20th

Cumulative Confirmed COVID 19 Cases (Thousands)



Coronavirus COVID-19 U.S. Cumulative Confirmed Cases

As of 4/20/2020



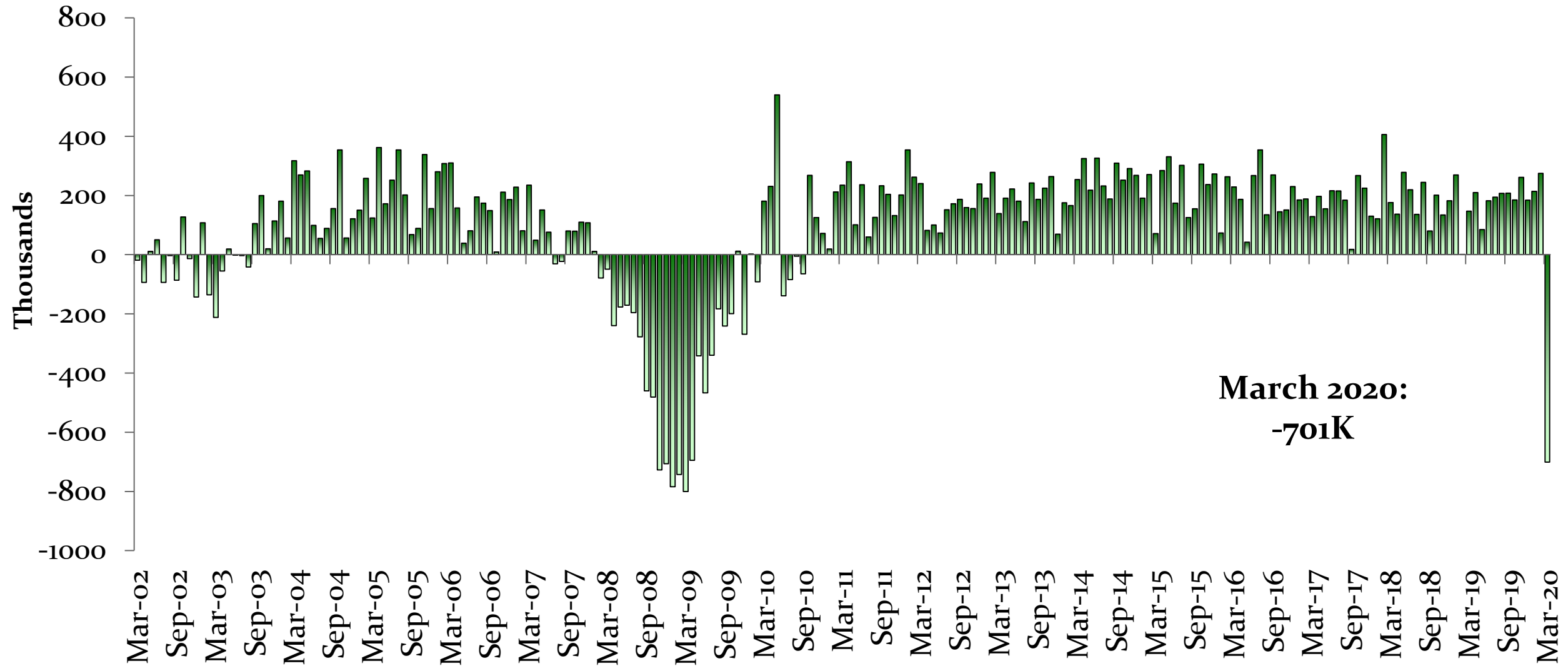
Total Confirmed: 759,786 | Total Deaths: 40,683

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



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

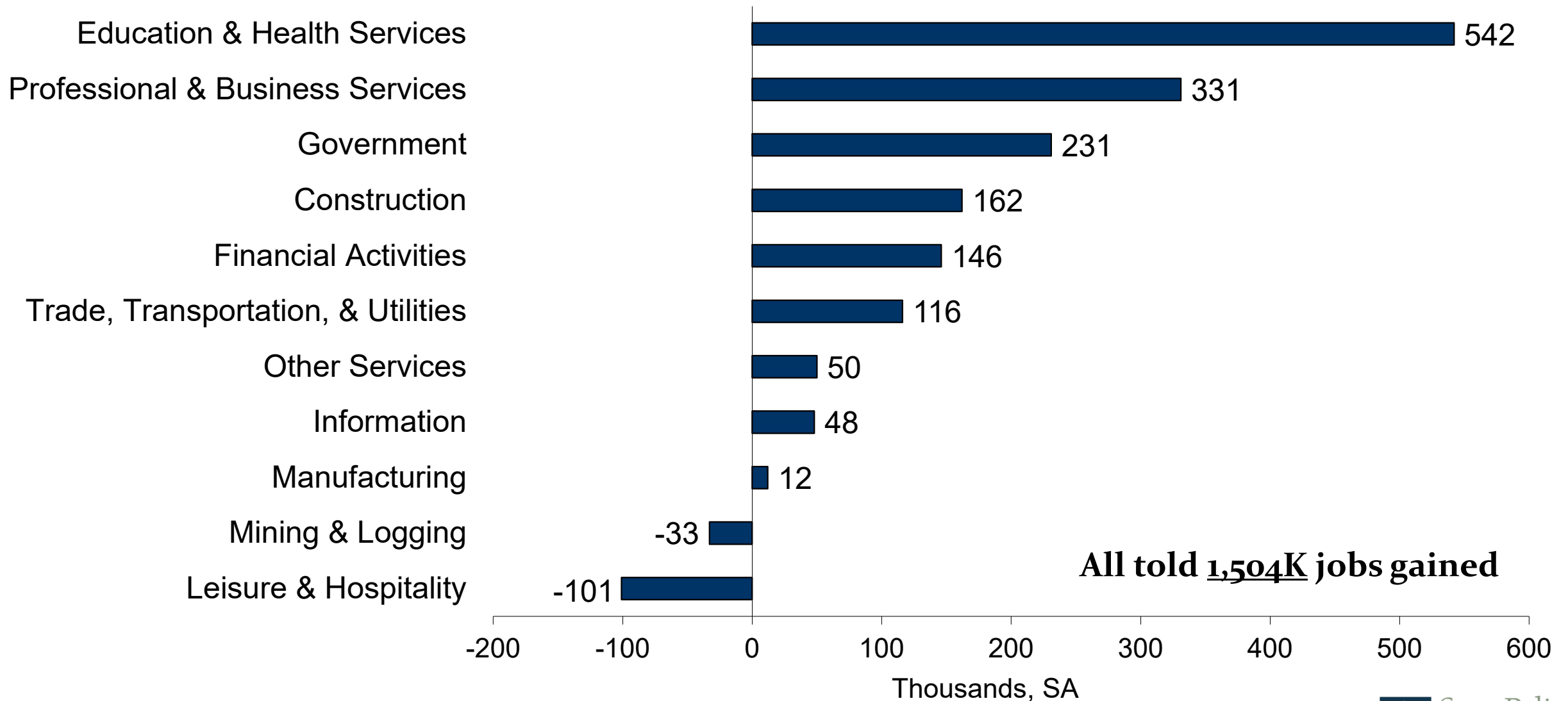
Net Change in U.S. Jobs, March 2002 – March 2020



**March 2020:
-701K**

National Nonfarm Employment

by Industry Sector, March 2019 v. March 2020



Employment Growth, 25 Largest Metros (NSA)

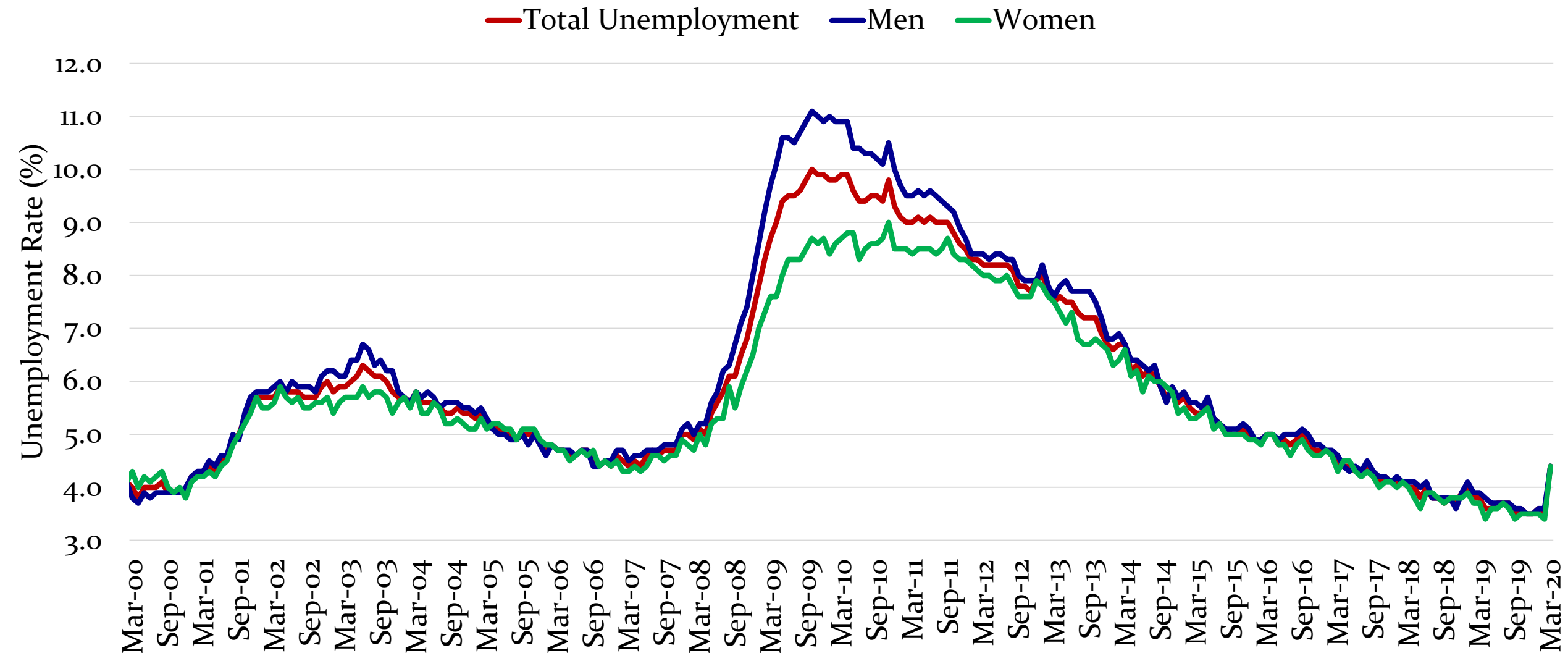
March 2019 v. March 2020 Percent Change

Rank	MSA	%	Rank	MSA	%
1	Phoenix-Mesa-Scottsdale, AZ	2.7	13	Portland-Vancouver-Hillsboro, OR-WA	0.8
2	Denver-Aurora-Lakewood, CO	2.6	13	Riverside-San Bernardino-Ontario, CA	0.8
3	Dallas-Fort Worth-Arlington, TX	2.3	15	Los Angeles-Long Beach-Anaheim, CA	0.7
4	Tampa-St. Petersburg-Clearwater, FL	2.0	16	Miami-Fort Lauderdale-West Palm Beach, FL	0.6
5	Houston-The Woodlands-Sugar Land, TX	1.9	16	San Francisco-Oakland-Hayward, CA	0.6
6	San Antonio-New Braunfels, TX	1.7	18	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	0.4
7	Atlanta-Sandy Springs-Roswell, GA	1.5	19	New York-Newark-Jersey City, NY-NJ-PA	0.1
7	Orlando-Kissimmee-Sanford, FL	1.5	20	Baltimore-Columbia-Towson, MD	0.0
7	Seattle-Tacoma-Bellevue, WA	1.5	20	Boston-Cambridge-Nashua, MA-NH	0.0
10	Charlotte-Concord-Gastonia, NC-SC	1.3	22	Detroit-Warren-Dearborn, MI	-0.1
11	San Diego-Carlsbad, CA	0.9	22	St. Louis, MO-IL	-0.1
11	Washington-Arlington-Alexandria, DC-VA-MD-WV	0.9	24	Chicago-Naperville-Elgin, IL-IN-WI	-0.4
			24	Minneapolis-St. Paul-Bloomington, MN-WI	-0.4

U.S. Year-over-year Percent Change: +1.0%

II. Fewer Idle in the Shire (pre-COVID-19)

U.S. Unemployment Rate, March 2000 – March 2020



Unemployment Rates, 25 Largest Metros (NSA)

February 2020

Rank	MSA	%	Rank	MSA	%
1	Miami-Fort Lauderdale-West Palm Beach, FL	2.3	13	Atlanta-Sandy Springs-Roswell, GA	3.3
2	San Francisco-Oakland-Hayward, CA	2.6	13	St. Louis, MO-IL	3.3
3	Denver-Aurora-Lakewood, CO	2.8	15	Charlotte-Concord-Gastonia, NC-SC	3.4
4	Boston-Cambridge-Nashua, MA-NH	2.9	16	Baltimore-Columbia-Towson, MD	3.5
4	Orlando-Kissimmee-Sanford, FL	2.9	16	Portland-Vancouver-Hillsboro, OR-WA	3.5
6	Seattle-Tacoma-Bellevue, WA	3.0	18	Chicago-Naperville-Elgin, IL-IN-WI	3.6
6	Tampa-St. Petersburg-Clearwater, FL	3.0	19	Detroit-Warren-Dearborn, MI	3.7
6	Washington-Arlington-Alexandria, DC-VA-MD-WV	3.0	19	New York-Newark-Jersey City, NY-NJ-PA	3.7
			21	Houston-The Woodlands-Sugar Land, TX	3.9
9	Minneapolis-St. Paul-Bloomington, MN-WI	3.1	21	Phoenix-Mesa-Scottsdale, AZ	3.9
9	San Antonio-New Braunfels, TX	3.1	23	Riverside-San Bernardino-Ontario, CA	4.0
11	Dallas-Fort Worth-Arlington, TX	3.2	24	Los Angeles-Long Beach-Anaheim, CA	4.1
11	San Diego-Carlsbad, CA	3.2	25	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	4.5

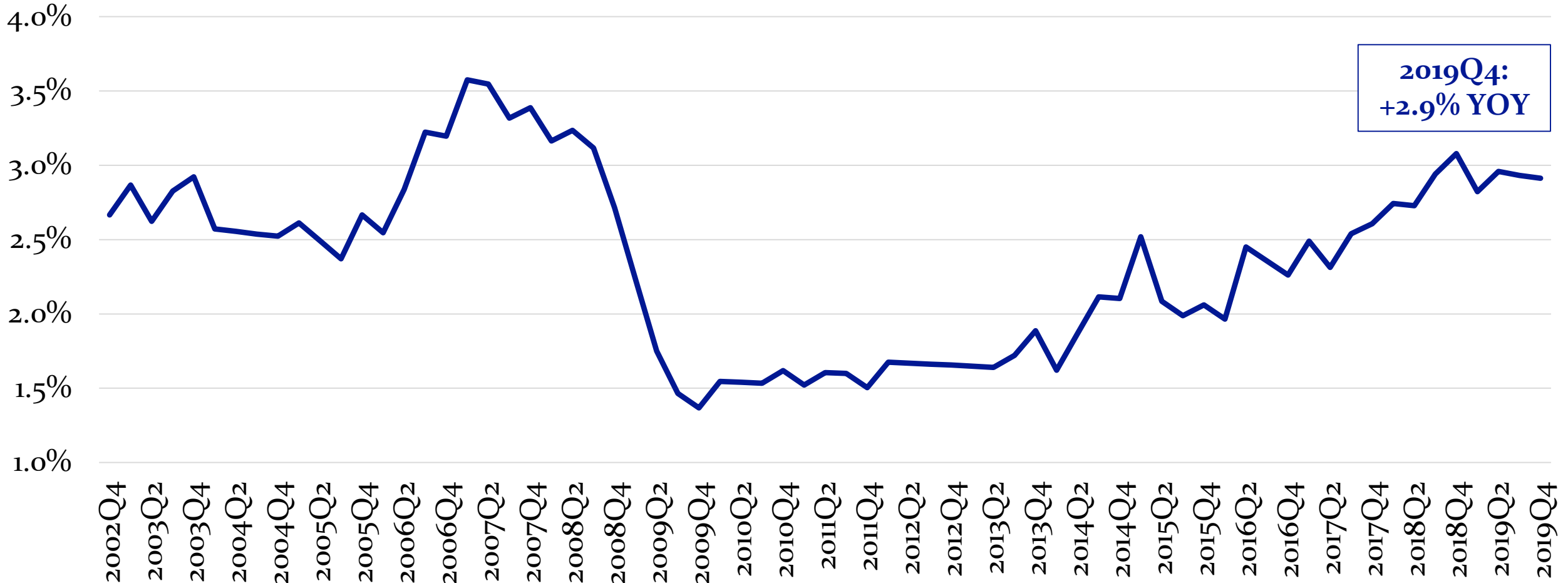
U.S. Unemployment Rate

Feb: 3.5% Mar: 4.4%

III. Gold Aplenty

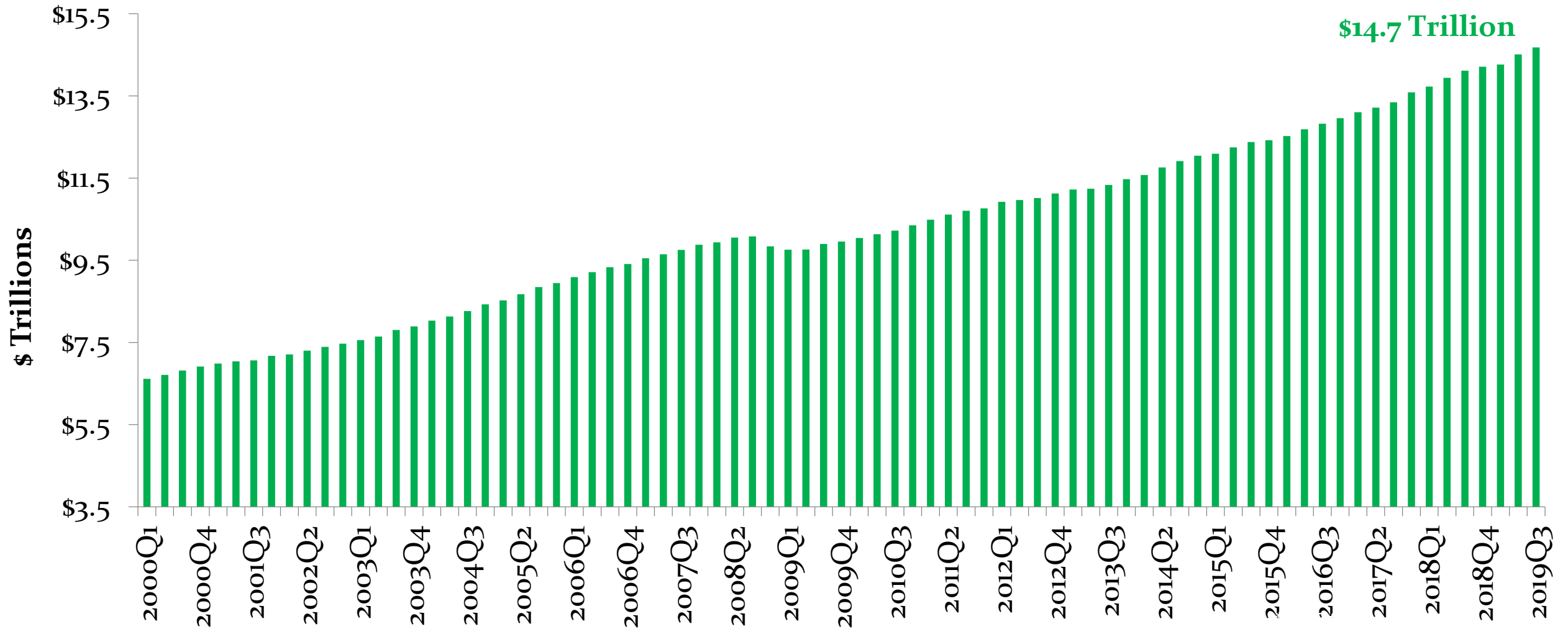
Growth in Wages & Salaries, U.S. Employment Cost Index (ECI), 2002Q4 – 2019Q4

ECI for Wages & Salaries
12-Month % Change



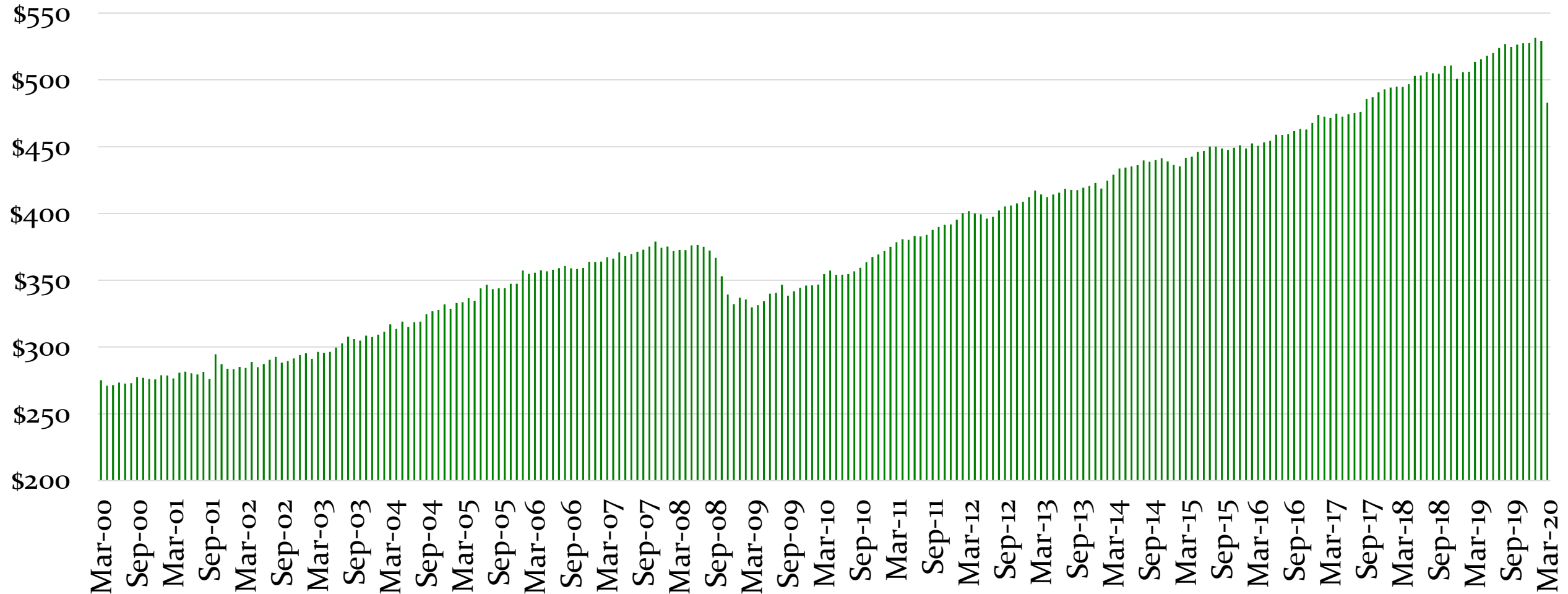
IV. In the Baggins!

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



U.S. Retail Sales, March 2000 – March 2020

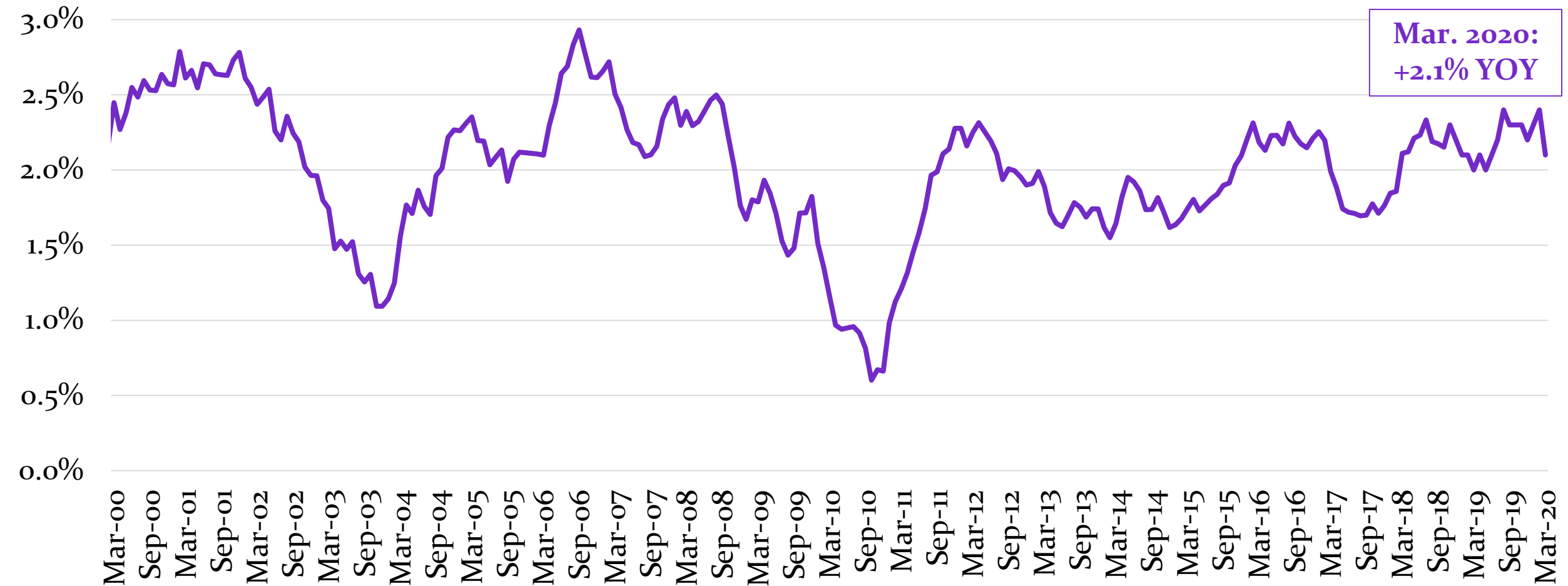
Retail Sales (\$Billions)



V. Your Gold Coins Go Further

Consumer Price Index: All Items Less Food & Energy, March 2000 – March 2020

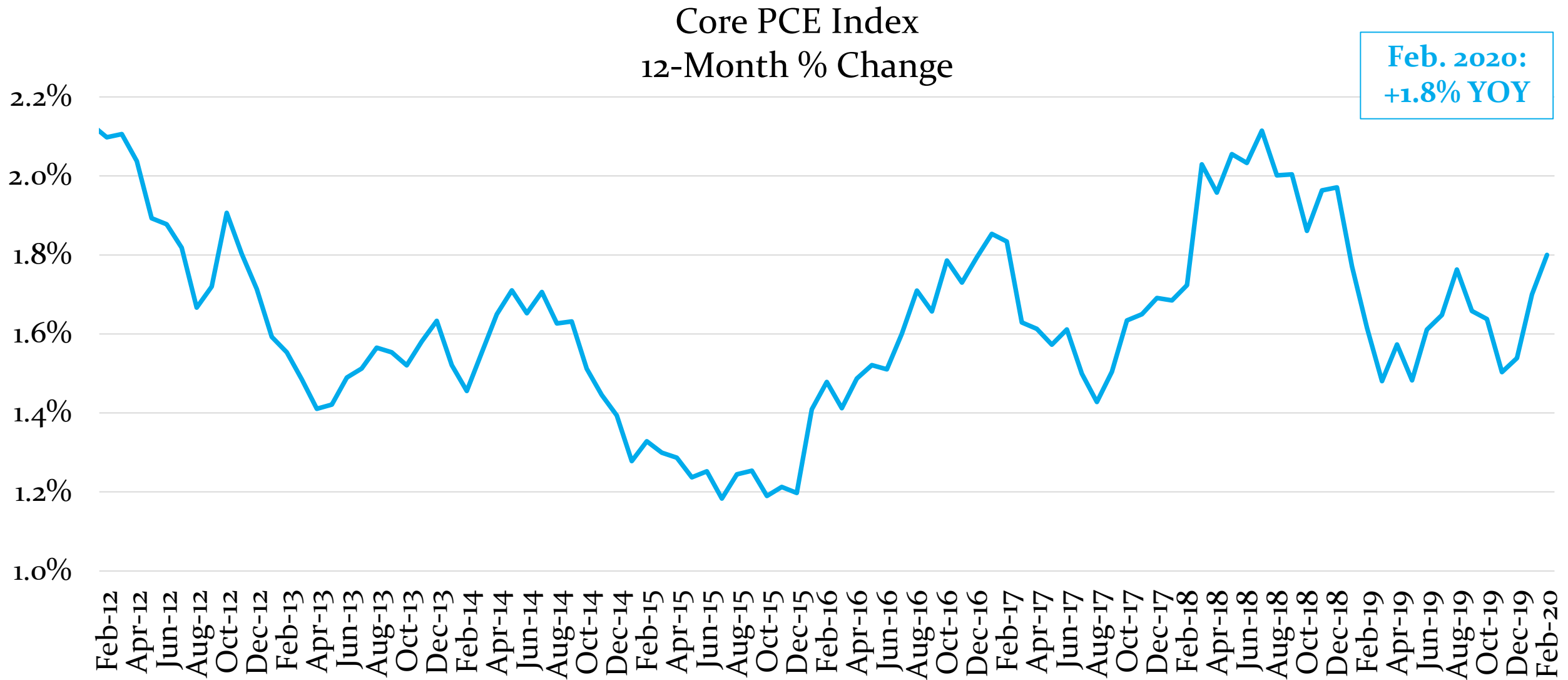
Core CPI (All Items Less Food & Energy)
12-Month % Change



Mar. 2020:
+2.1% YOY

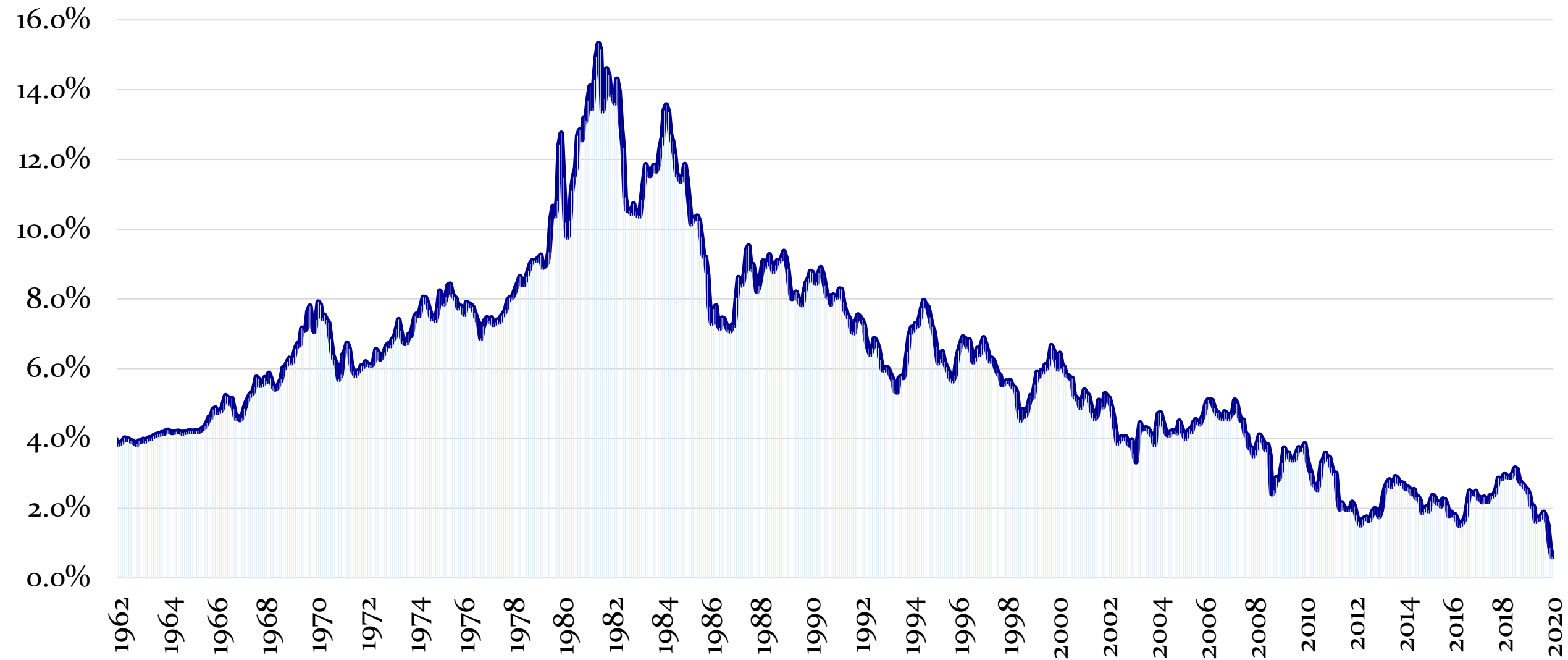
Core PCE Deflator

February 2012 – February 2020



VI. Interest Rates are Hobbit-Sized

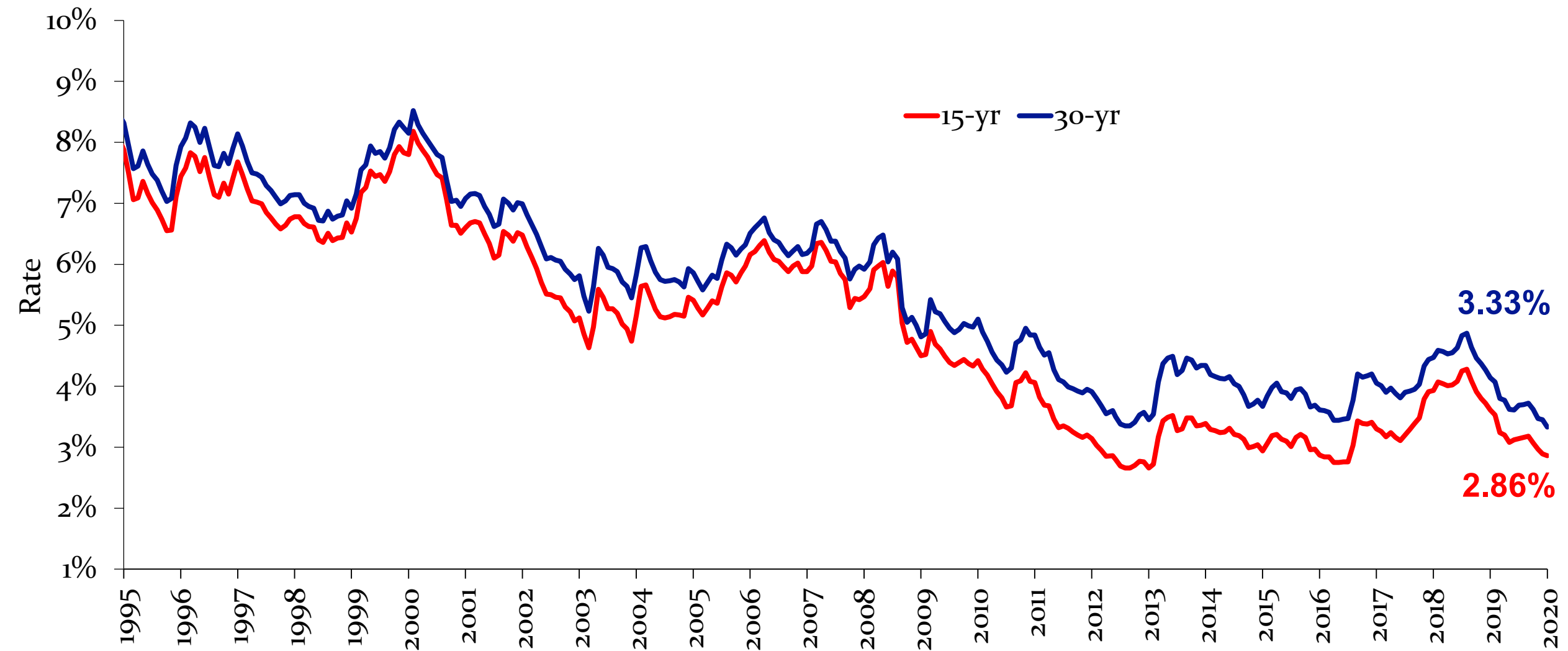
*U.S. 10-Year Treasury Constant Maturity Rate, 1962 – 2020**



**Week ending 4/17/2020*

15-Year & 30-Year Fixed Mortgage Rates

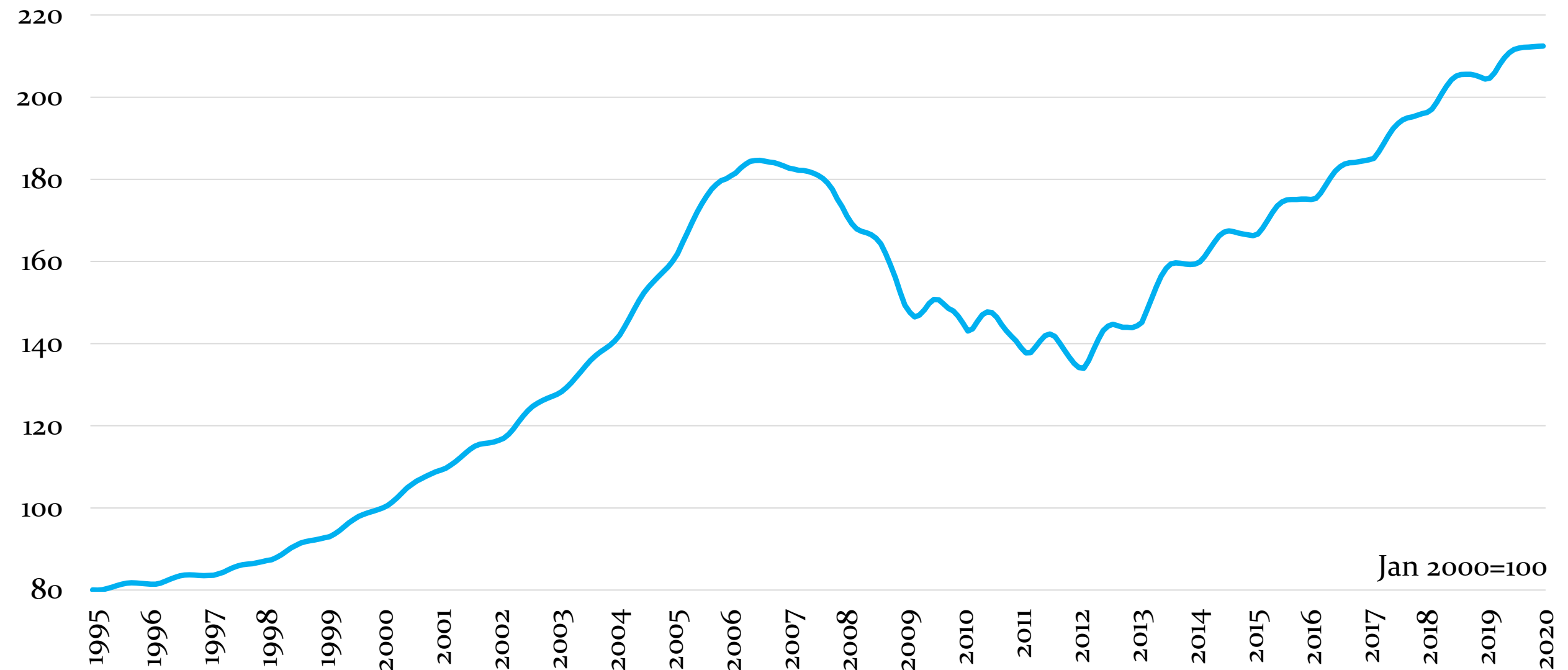
*April 1995 – April 2020**



*Week ending 4/23/2020

VII. Property Values Rise in Middle East

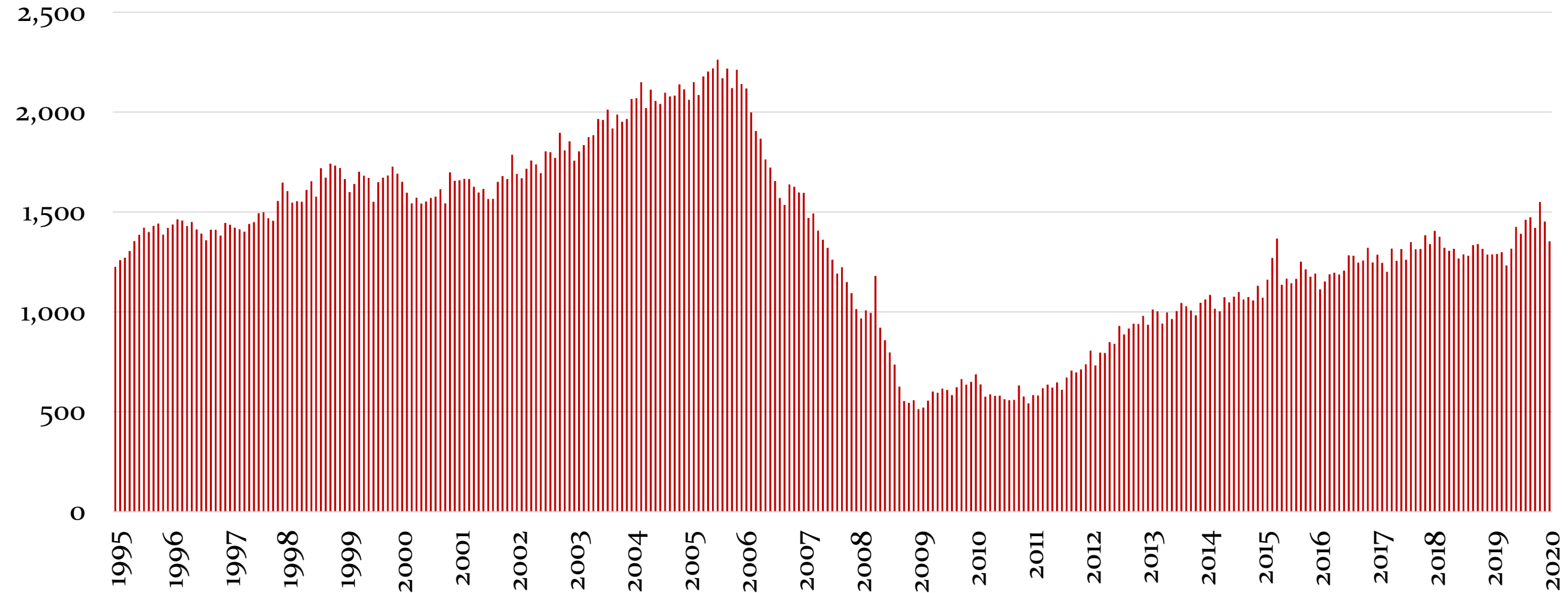
S&P Case-Shiller U.S. National Home Price Index, January 1995 – January 2020



VIII. The Kingdom is Under Construction

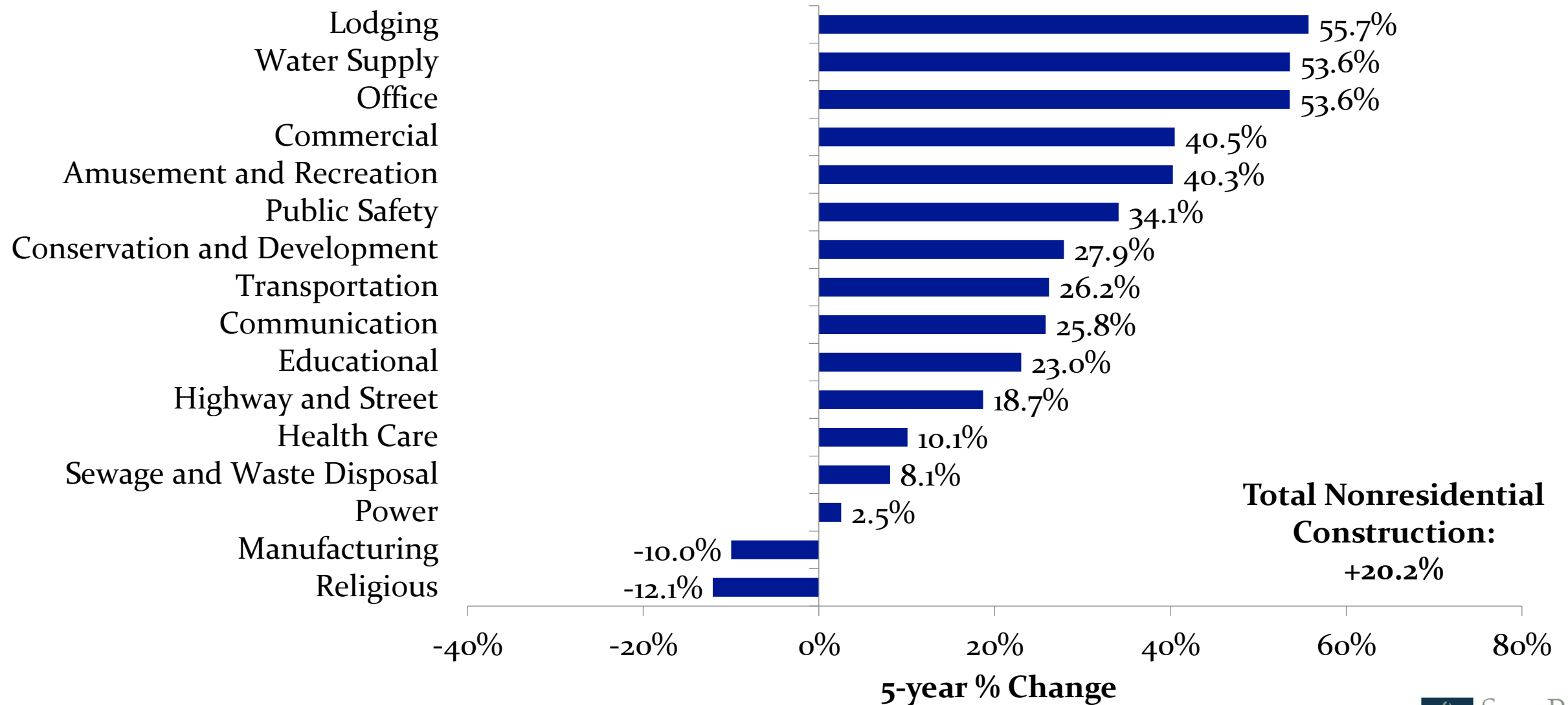
U.S. Residential Building Permits, March 1995 – March 2020

Building Permits (ooos of Units)



National Nonresidential Construction Spending by Subsector

February 2015 v. February 2020

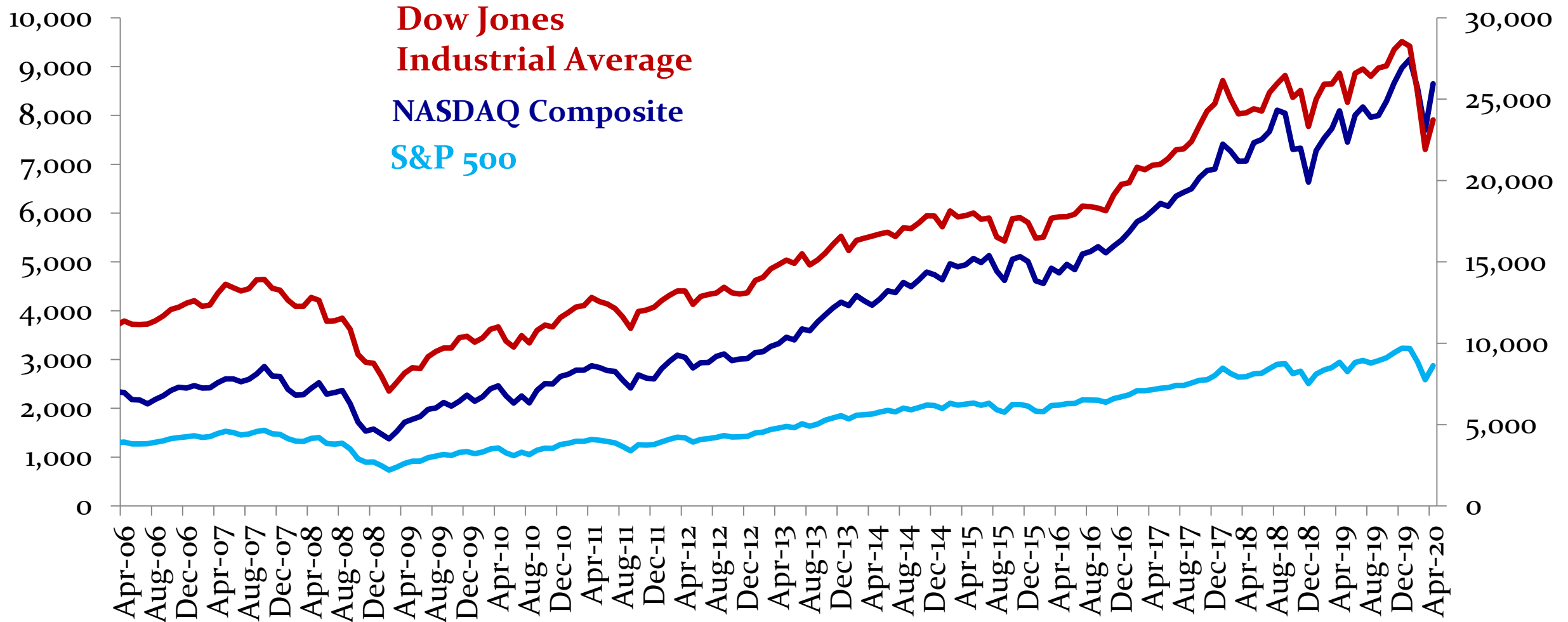


IX. But It Goes to Elven

*U.S. Stock Markets, April 2006 – April 2020**

NASDAQ/S&P

Dow Jones

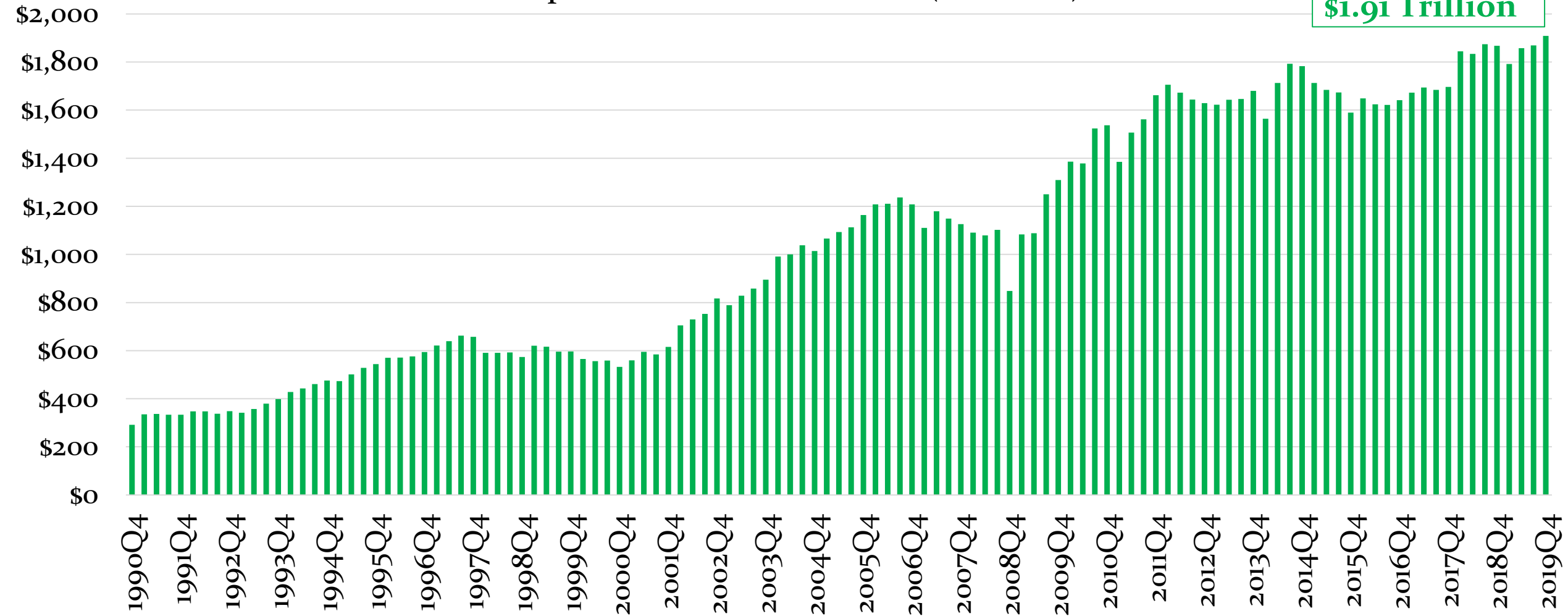


*Week ending 4/17/2020

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

Corporate Profits After Tax* (\$Billions)

\$1.91 Trillion



*With IVA and CCAdj

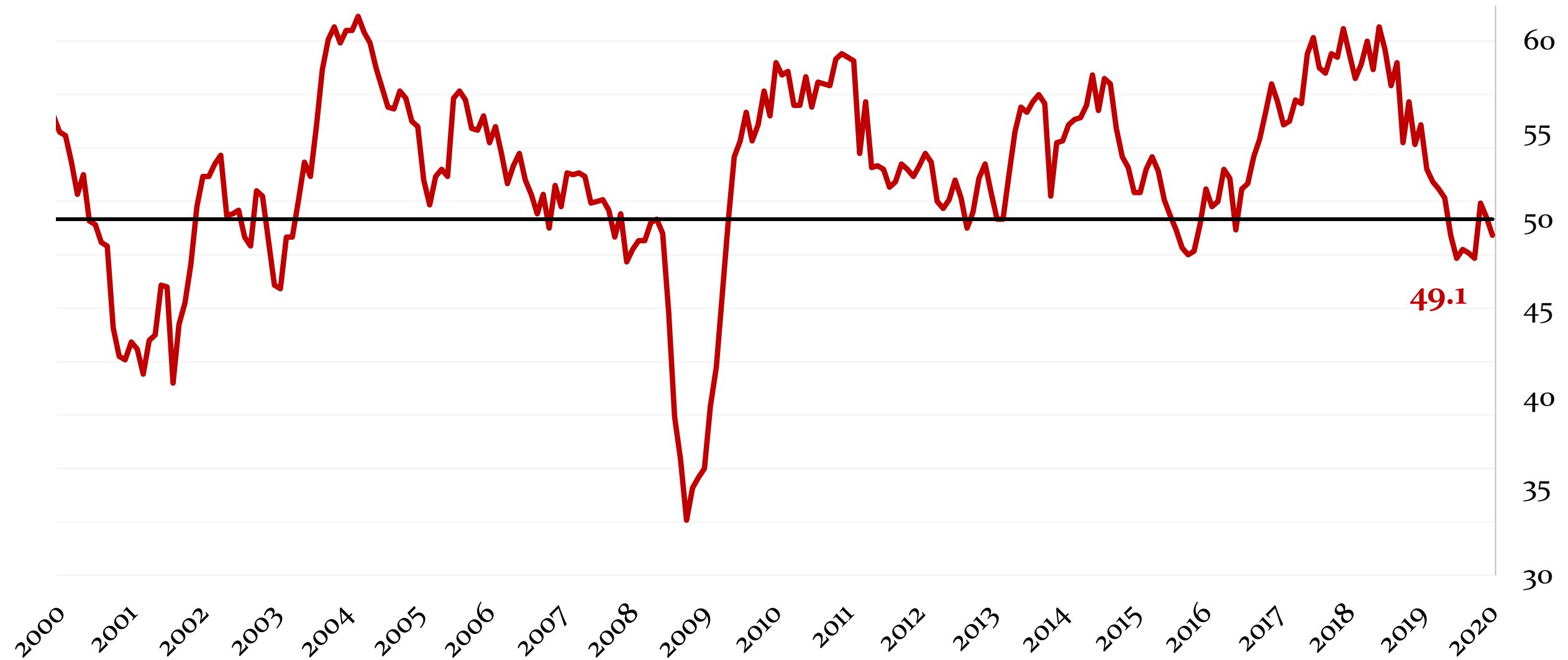
Source: U.S. Bureau of Economic Analysis

Seven Factors Dwarfing Hope



I. Manufacturing Doth Decline

Institute of Supply Management: Purchasing Managers Index (PMI), 2000 – 2020



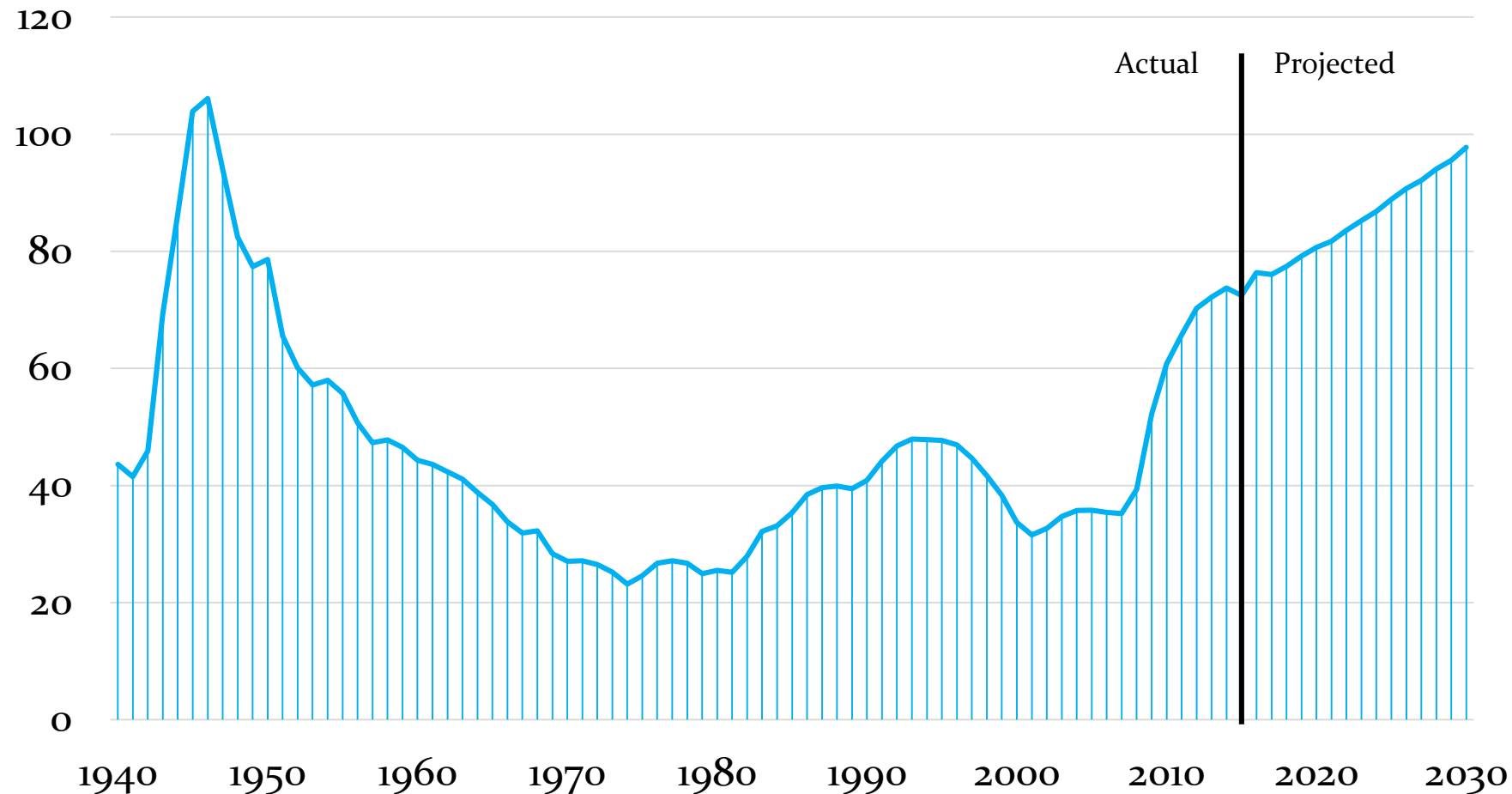
*A reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting.

Source: Institute of Supply Management; Quandl.com

II. A Tower of National Debt

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

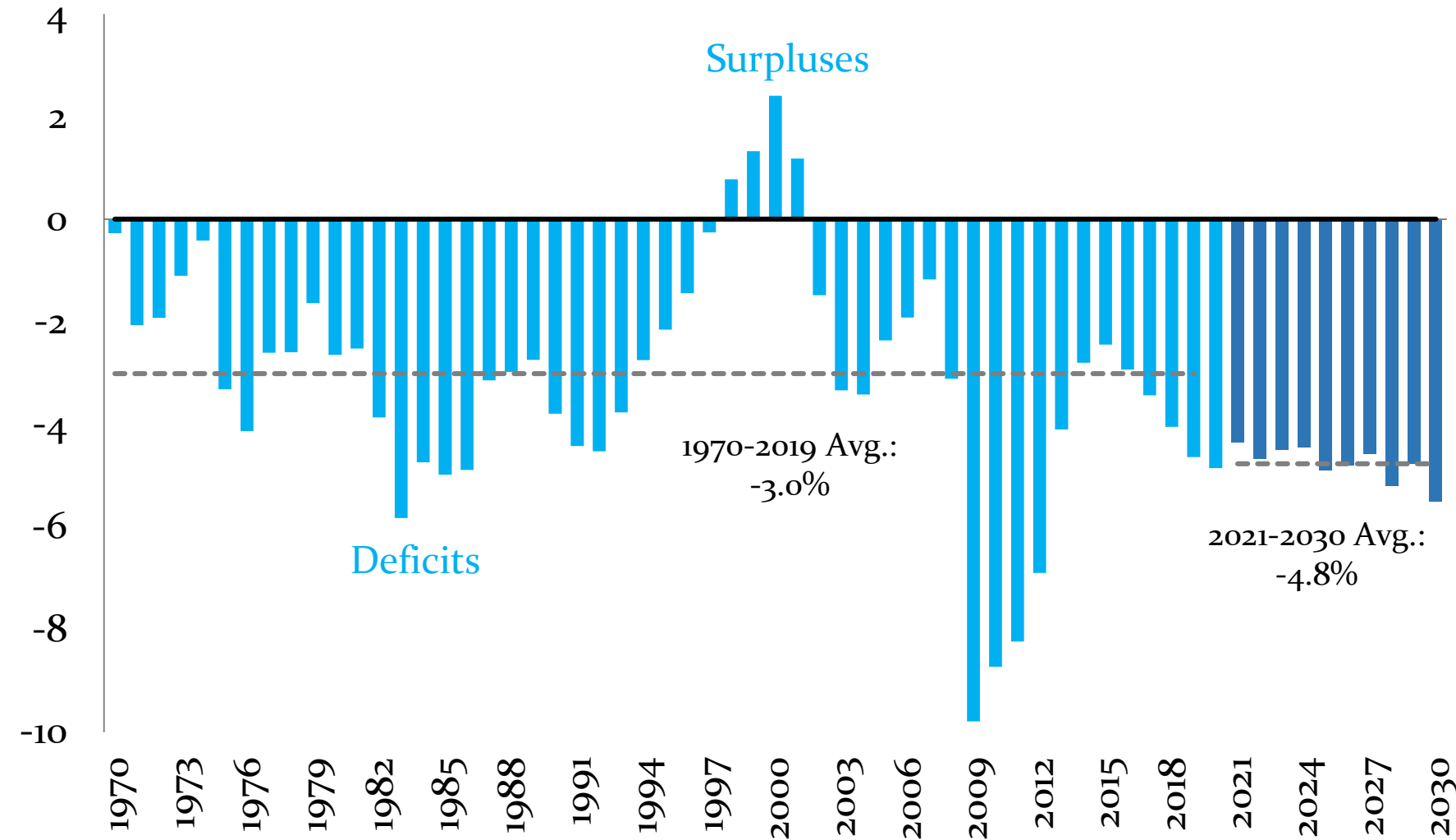
Federal Debt Held by the Public (% of GDP)



- Relative to the size of the economy, federal debt in 2020 is projected to be nearly twice its average over the past 50 years.
- Sometime in the early 2030's, debt is projected to reach a higher level than it has at any point since just after World War II.

Source: Congressional Budget Office (CBO), Baseline Budget Projections as of March 6, 2020
These budget projections reflect legislation, administrative actions, and regulatory changes through March 6, 2020. They are based on the economic forecast that CBO completed on January 7, 2020, and do not account for changes to the nation's economic outlook and fiscal situation arising from the recent and rapidly evolving public health emergency related to the novel coronavirus.

U.S. Federal Deficit, % of GDP

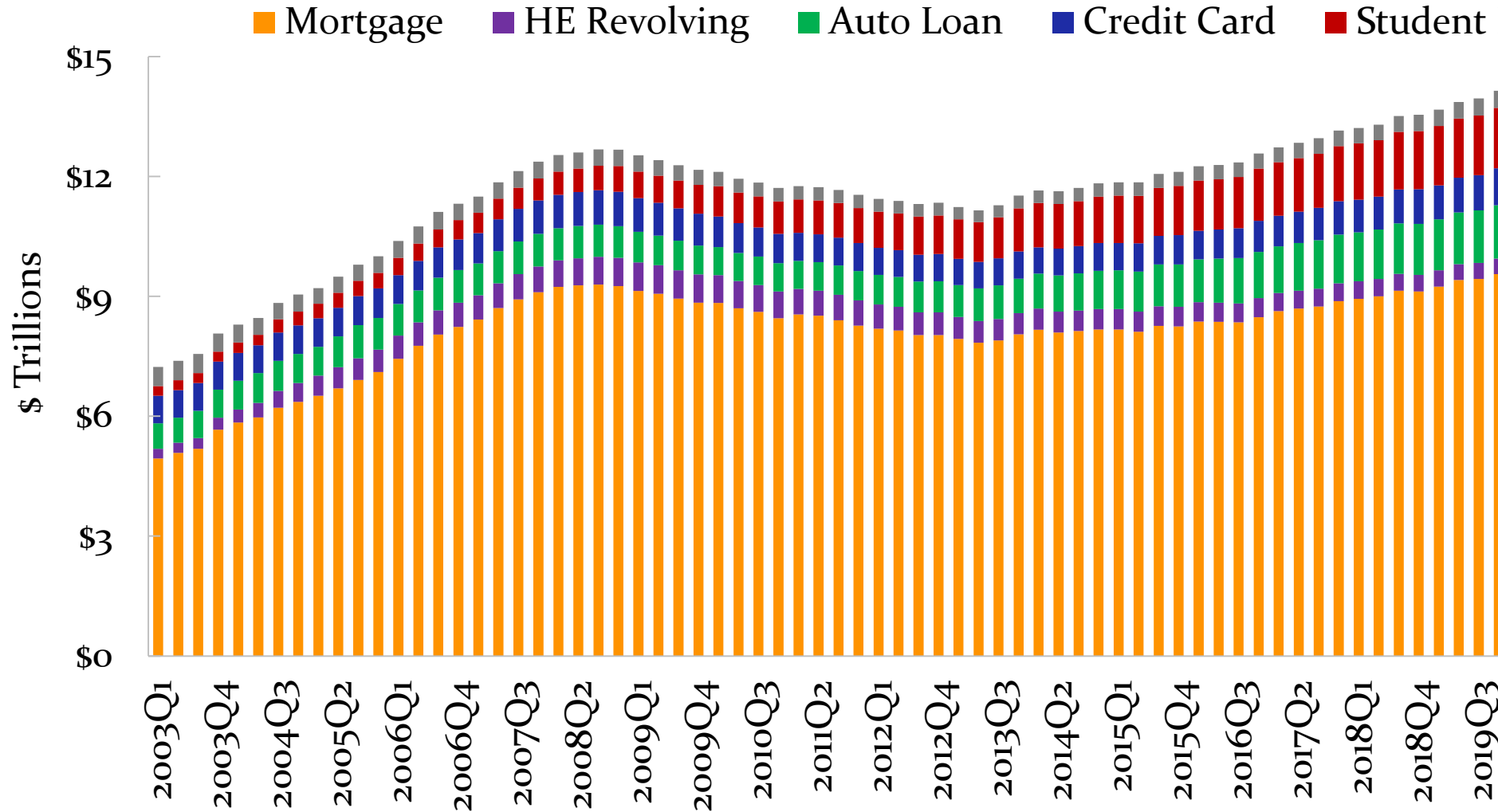


- Over the 2021–2030 period, deficits are projected to average 4.8% of GDP, totaling \$13.1 trillion.
- Over the past 50 years, deficits averaged just 3.0% of GDP.

Source: Congressional Budget Office (CBO), Baseline Budget Projections as of March 6, 2020
These budget projections reflect legislation, administrative actions, and regulatory changes through March 6, 2020. They are based on the economic forecast that CBO completed on January 7, 2020, and do not account for changes to the nation's economic outlook and fiscal situation arising from the recent and rapidly evolving public health emergency related to the novel coronavirus.

III. A Mountain of Consumer Debt, Too

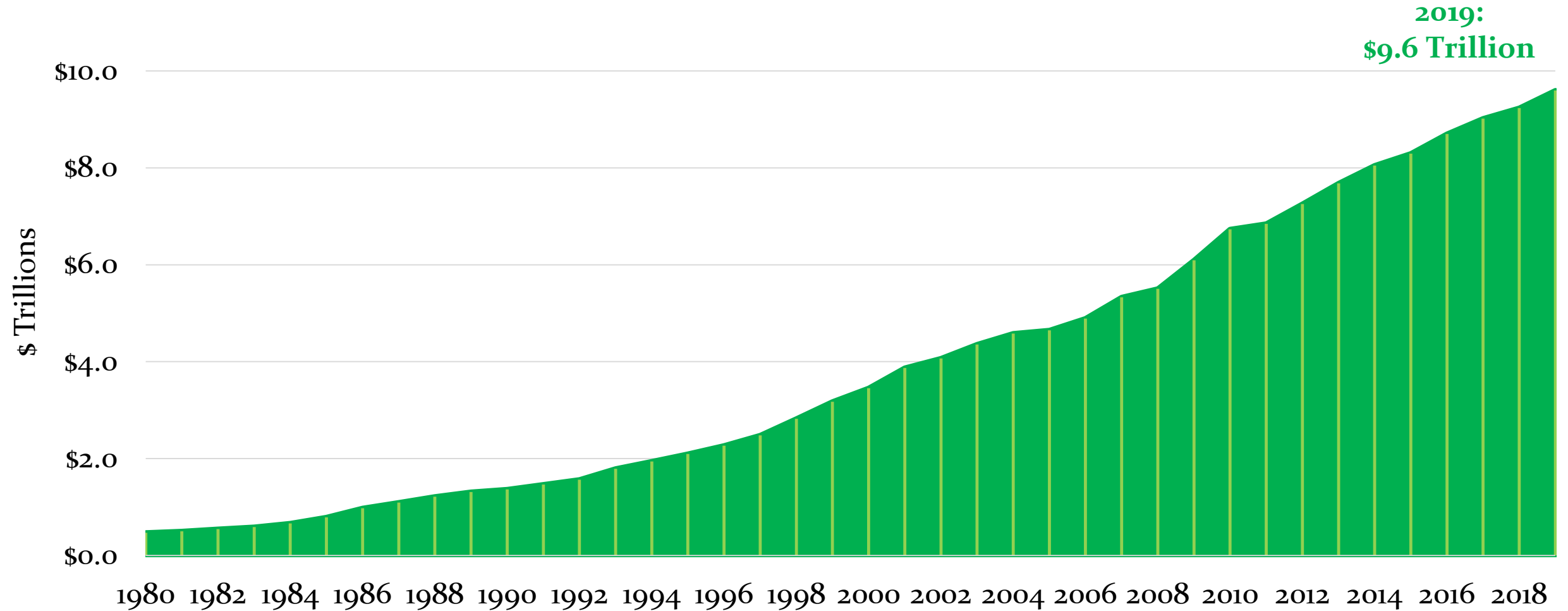
Total U.S. Household Debt, 2003 – 2019



Debt balances have been rising steadily for 5 years and are now \$1.5 trillion higher than the previous peak in 2008Q3 of \$12.7 trillion. Overall household debt is 26.8% above the 2013Q2 trough.

IV. How Did It Come to This?

U.S. Corporate Bond Debt Outstanding, 1980 – 2019

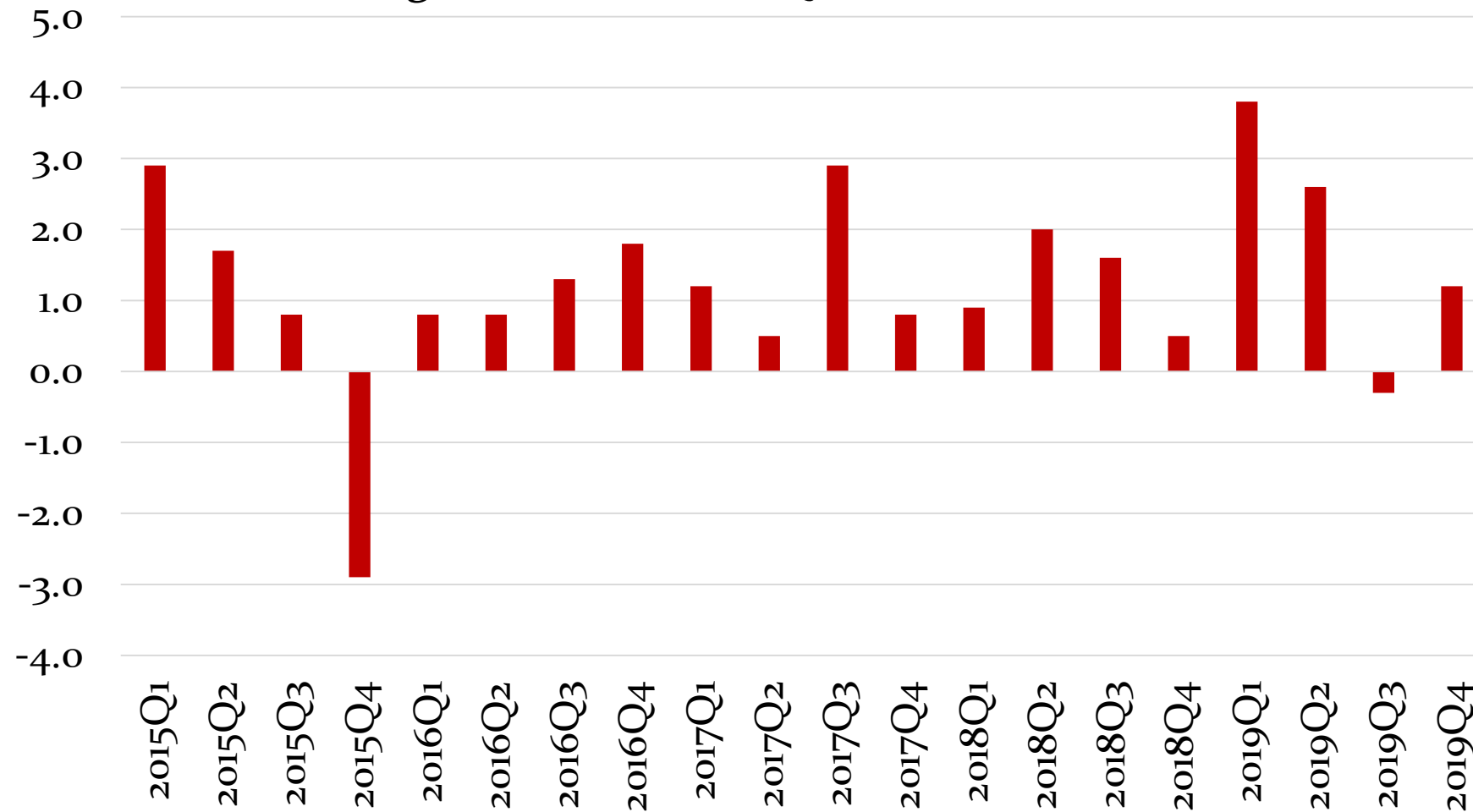


Global Debt Reaches All Time Highs (IIF)

- According to the International Institute of Finance (IIF), global debt—including household, government, and corporate—reached a record high of **\$255 trillion in 2019**;
- At over **322% of GDP**, global debt is now 40 percentage-points (\$87 trillion) higher than at the onset of the 2008 financial crisis;
- 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

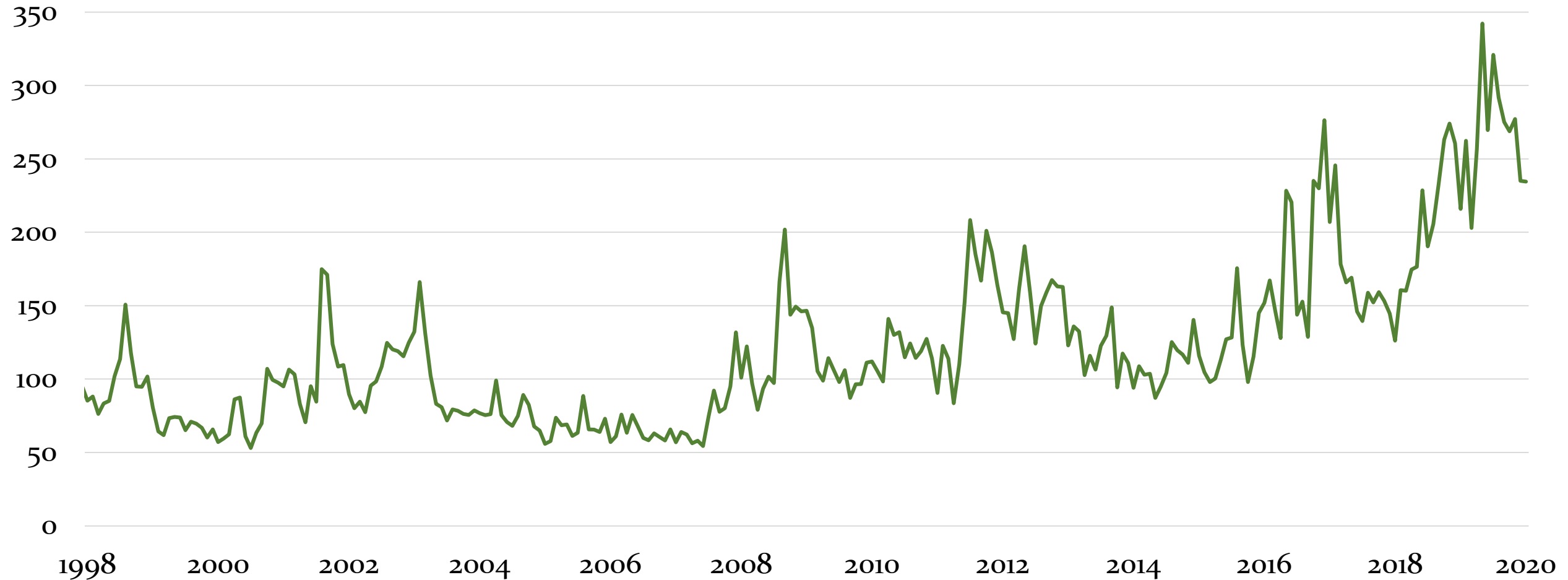


- In 2019Q3 nonfarm business sector labor productivity fell by 0.3%—the first decline since 2015.
- U.S. productivity has risen at an average rate of 1.3% since 2007, compared with a 2.1% average since the end of WWII.

VI. Uncertainty Across the Realm:

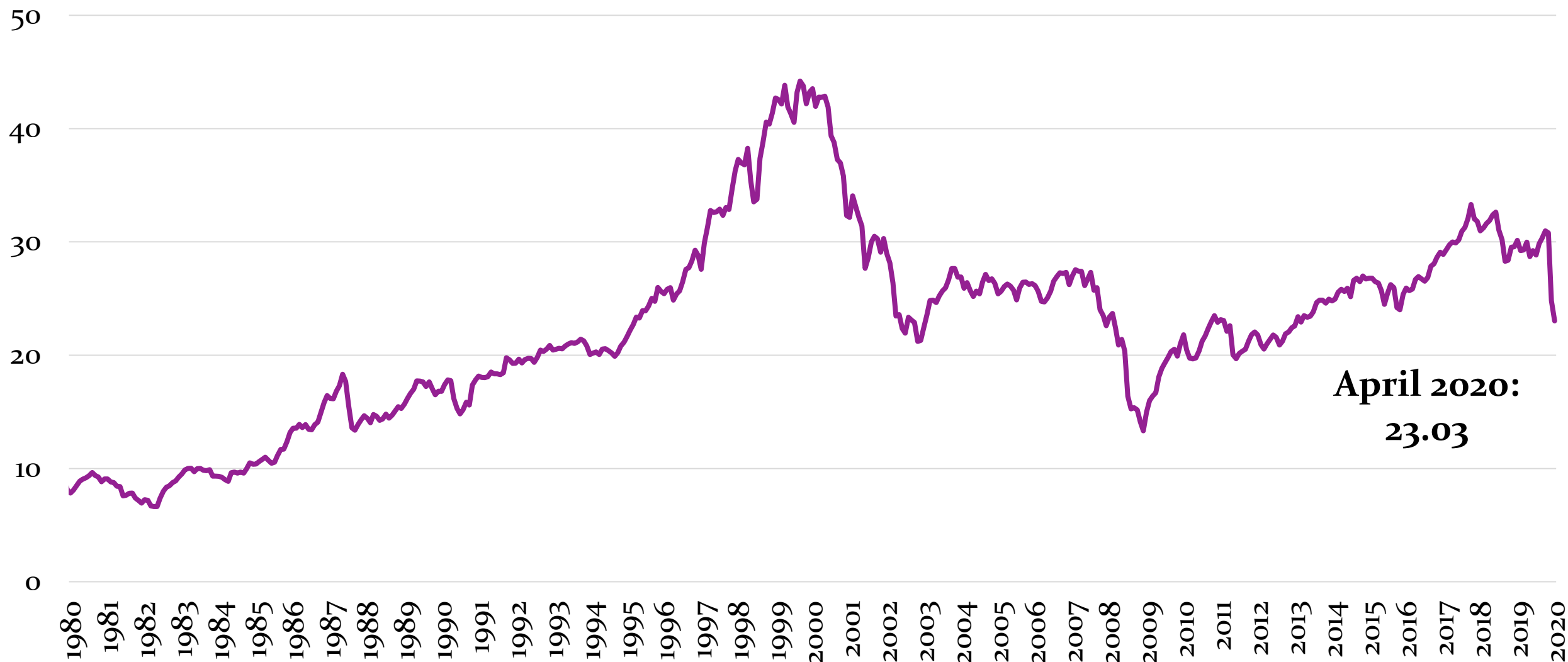
Global Economic Policy Uncertainty Index, 1998 – 2020

Global Economic Policy Uncertainty Index



VII. The Eye is on Asset Prices:

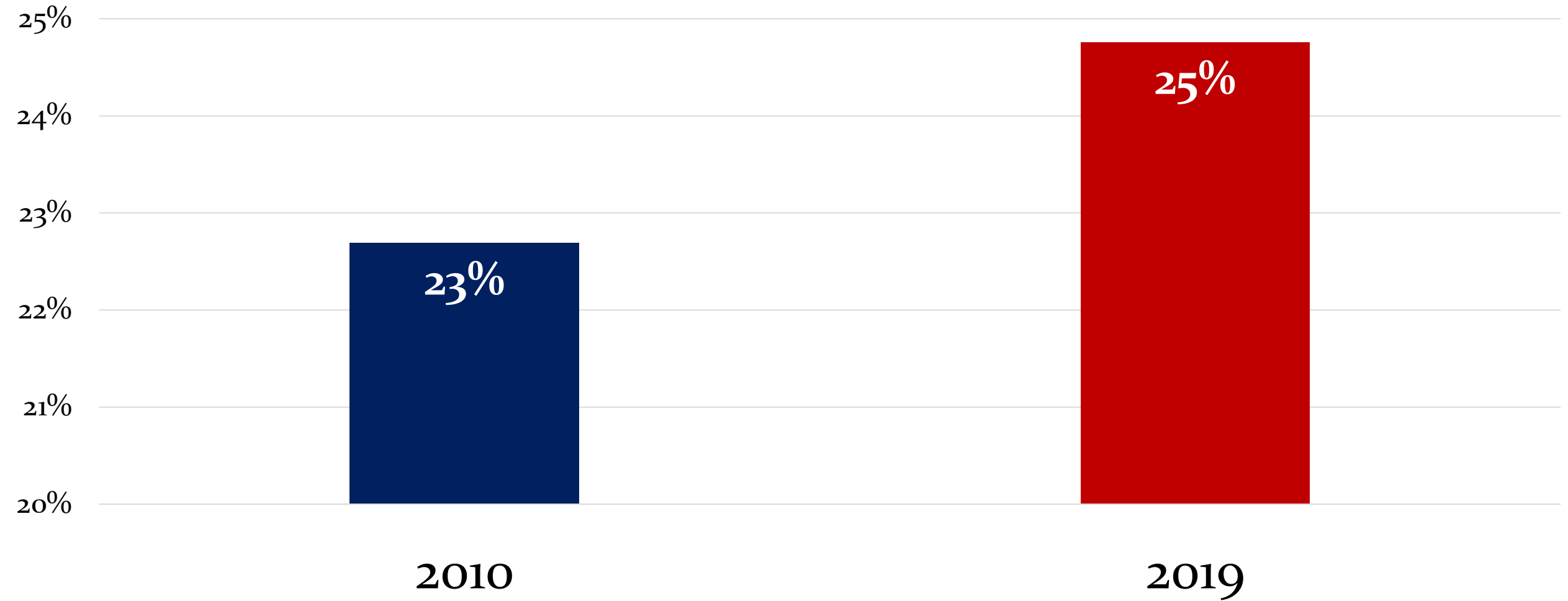
Shiller Price-Earnings Ratio, 1980 – 2020



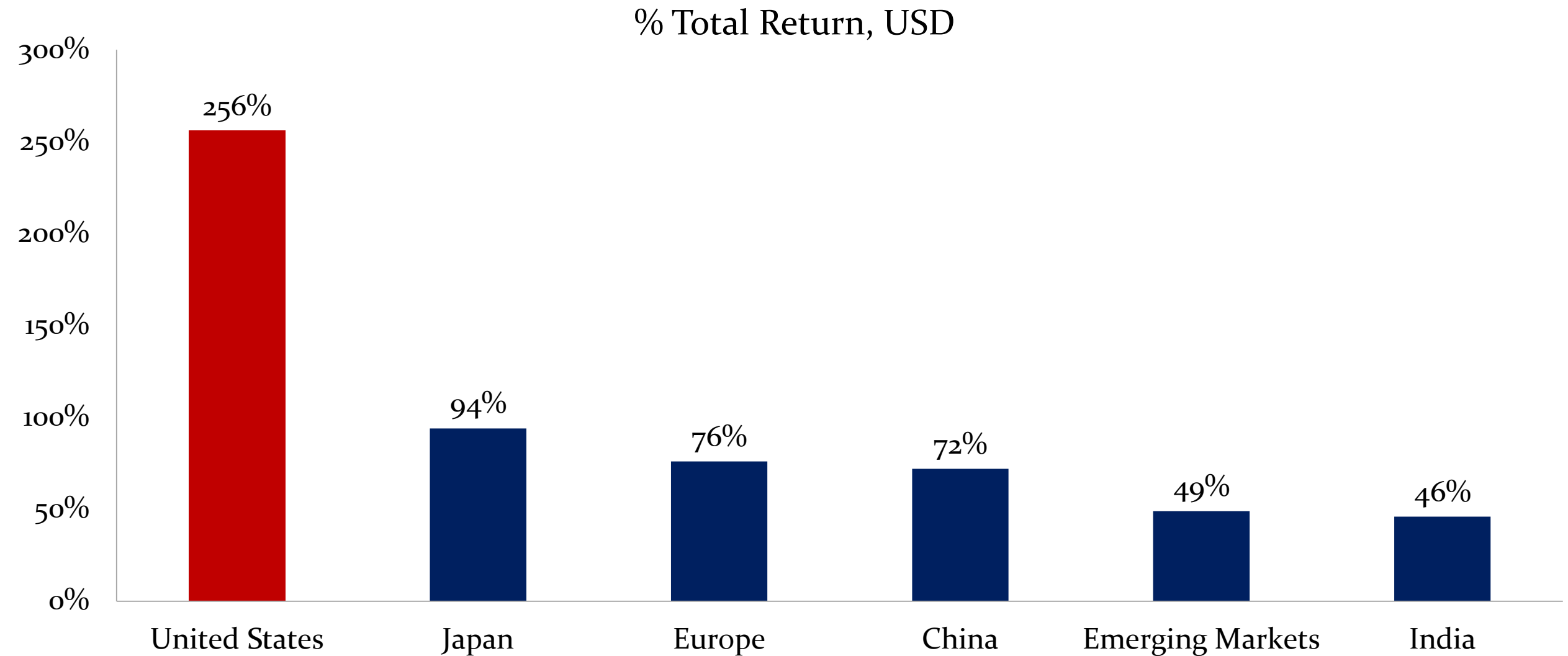
**April 2020:
23.03**

U.S. Share of Global GDP, 2010 v. 2019

U.S. Share of Global GDP (current USD)



Stock Market Returns by Country, 2010 – 2019



Three Things that Make COVID-19 Different, Economically



I. A Supply Shock of a Caliber Unknown in Modern Times

Containment measures	Supply	Demand
Quarantines	Factory closures	Loss of confidence
Travel bans and restrictions	Cutbacks in service provisions	Business and tourism travels
Closure of public places	Supply chain disruption	Education and entertainment services

Global Economy was Already Fragile

- At the beginning of March International Monetary Fund (IMF) Managing Director Kristalina Georgieva indicated in a news briefing that global spread of the novel coronavirus had crushed hopes for stronger growth in 2020.
- Already, trade wars had pushed global growth in 2019 to its lowest rate since a 0.7% contraction in 2009.
- The IMF now projects that as a result of the pandemic, the global economy will contract sharply by -3% in 2020, much worse than during the 2008-09 financial crisis.
- The downgraded forecast represents a 6.3 percentage-point drop from the 3.3% growth the IMF had estimated for 2020 in January.

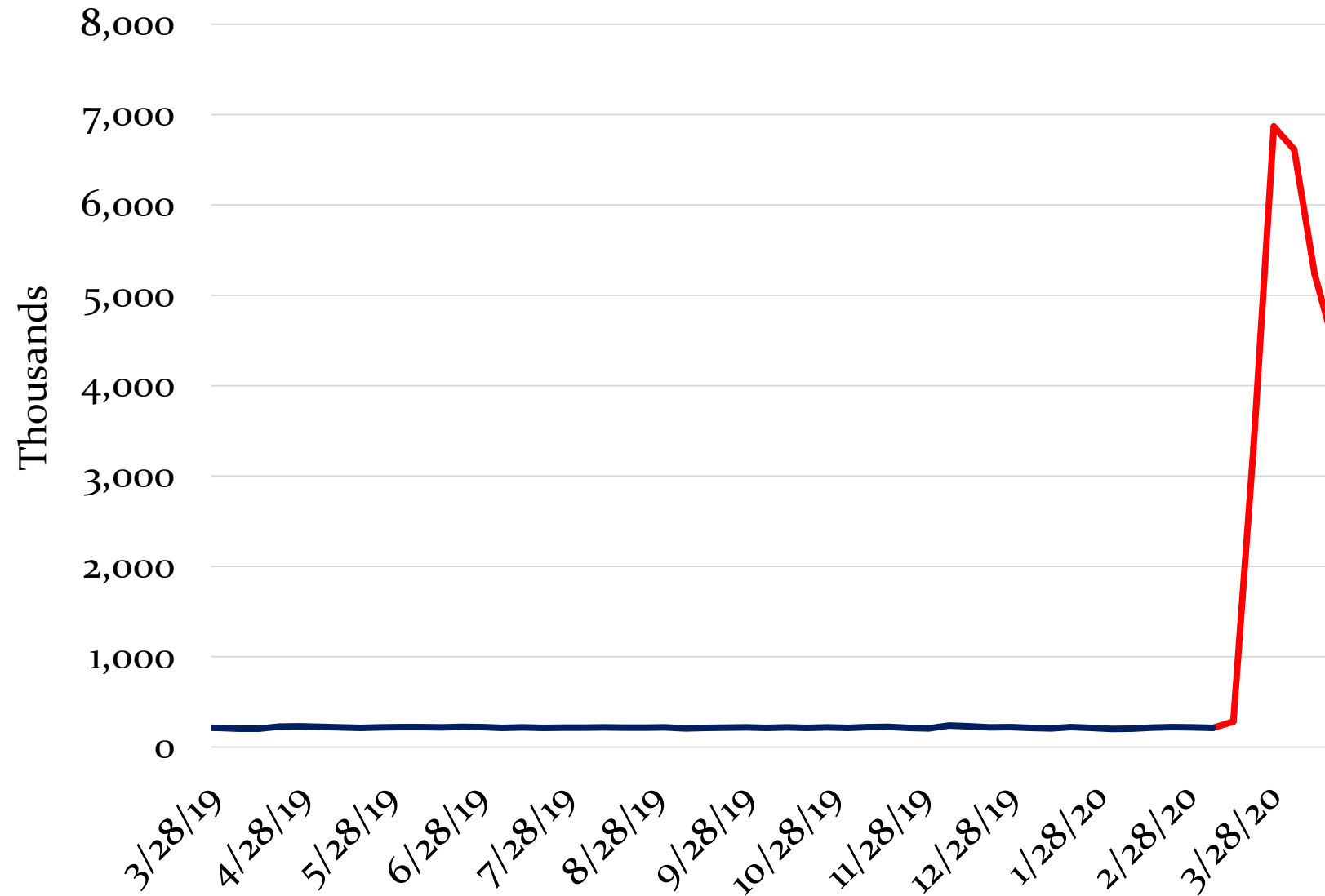
Growing Downside Risks

- Many economists now forecast that Covid-19 will inflict greater economic pain in America than they had previously expected.
- Forecasts for the U.S. in 2020Q2:
 - Morgan Stanley: 37.9% decline in GDP
 - Goldman Sachs: 34% decline in GDP
 - Conference Board; 33.3% decline in GDP
 - Bank of America Corp: 30% decline in GDP
 - JPMorgan Chase & Co.: 25% decline in GDP
- By comparison, during the worst quarter of the Great Recession in late 2008, the economy shrank by 8.4%.
- Oxford Economics now expects the world economy to contract about 2.8% this year, a bigger decline than even that witnessed in amid the financial crisis in 2009.

Which Workers Face the Highest Unemployment Risk?

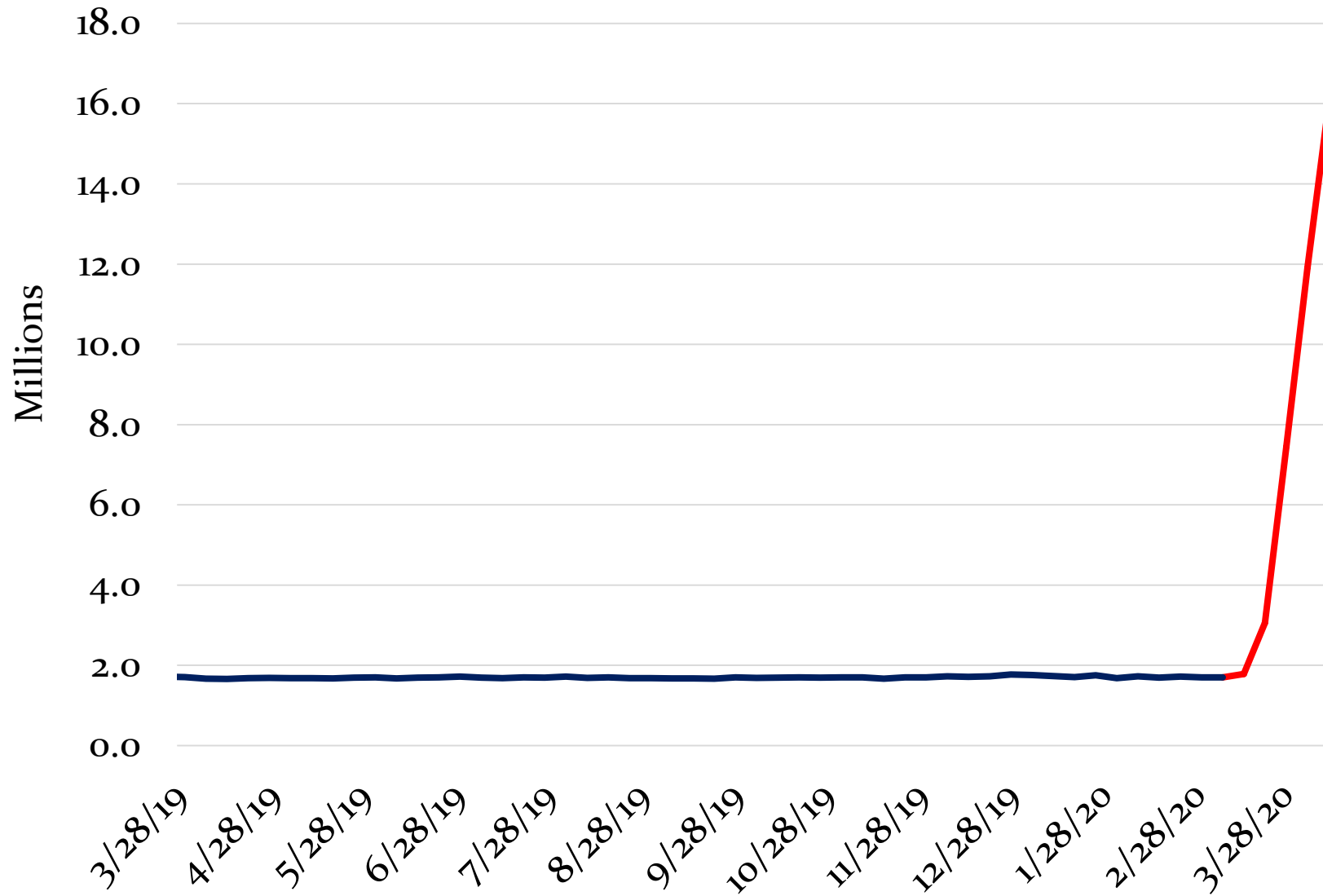
	Total Employment	Share of Total Employment
All Occupations	144,731,220	-
Employed in Occupations at “Low Risk” of Layoff	77,944,910	54%
Employed in “Essential” Occupations	24,840,280	17%
Employed in Occupations Possible to Work from Home	48,204,920	33%
Employed in Other Salaried Occupations	4,899,710	3%
Employed in Occupations at “High Risk” of Layoff	66,786,310	46%
Food Preparation and Serving-Related Occupations	13,374,170	9%
Sales and Related Occupations	10,443,460	7%
Production Occupations	8,313,750	6%
Installation, Maintenance and Repair Occupations	5,628,890	4%
All Other “High-Risk” Occupations	29,026,040	20%

U.S. Unemployment Insurance Initial Weekly Claims, 2019–2020



- In the week ending April 18th, the advance figure for seasonally adjusted initial claims was **4,427,000**, a decrease of 810,000 from the previous week.
- Initial claims remain at the highest levels in the history of the seasonally adjusted series.

U.S. Unemployment Insurance Continued Claims, 2019–2020

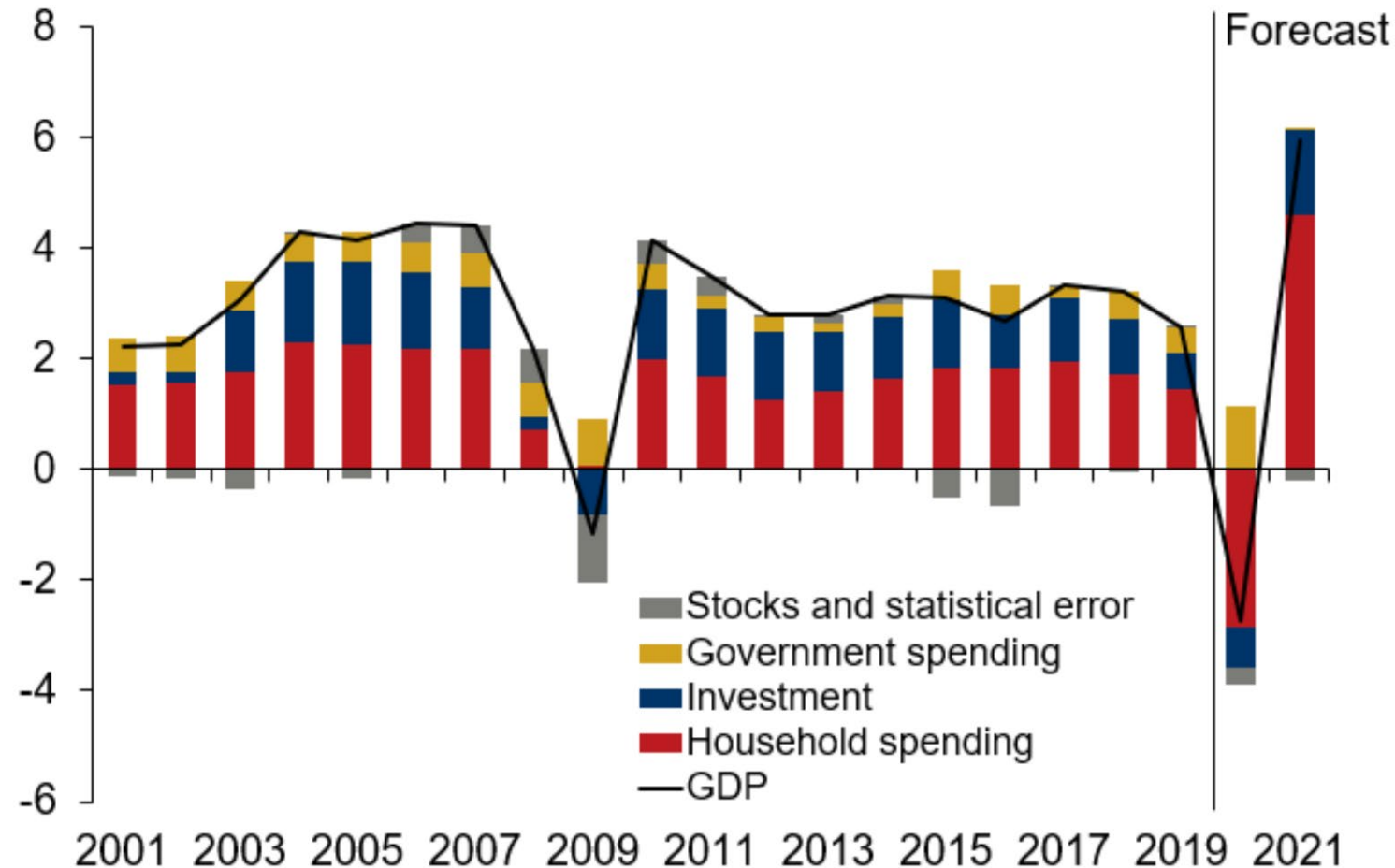


- In the week ending April 11th, the advance figure for seasonally adjusted insured unemployment was **15,976,000**, an increase of 4,064,000 from the previous week.
- This marks the highest level of insured unemployment in the history of the series.

Oxford Economics Global Outlook: Coronavirus Outbreak to Cut Global Growth to New Lows

World: GDP - components

Contribution to annual GDP growth - percentage points

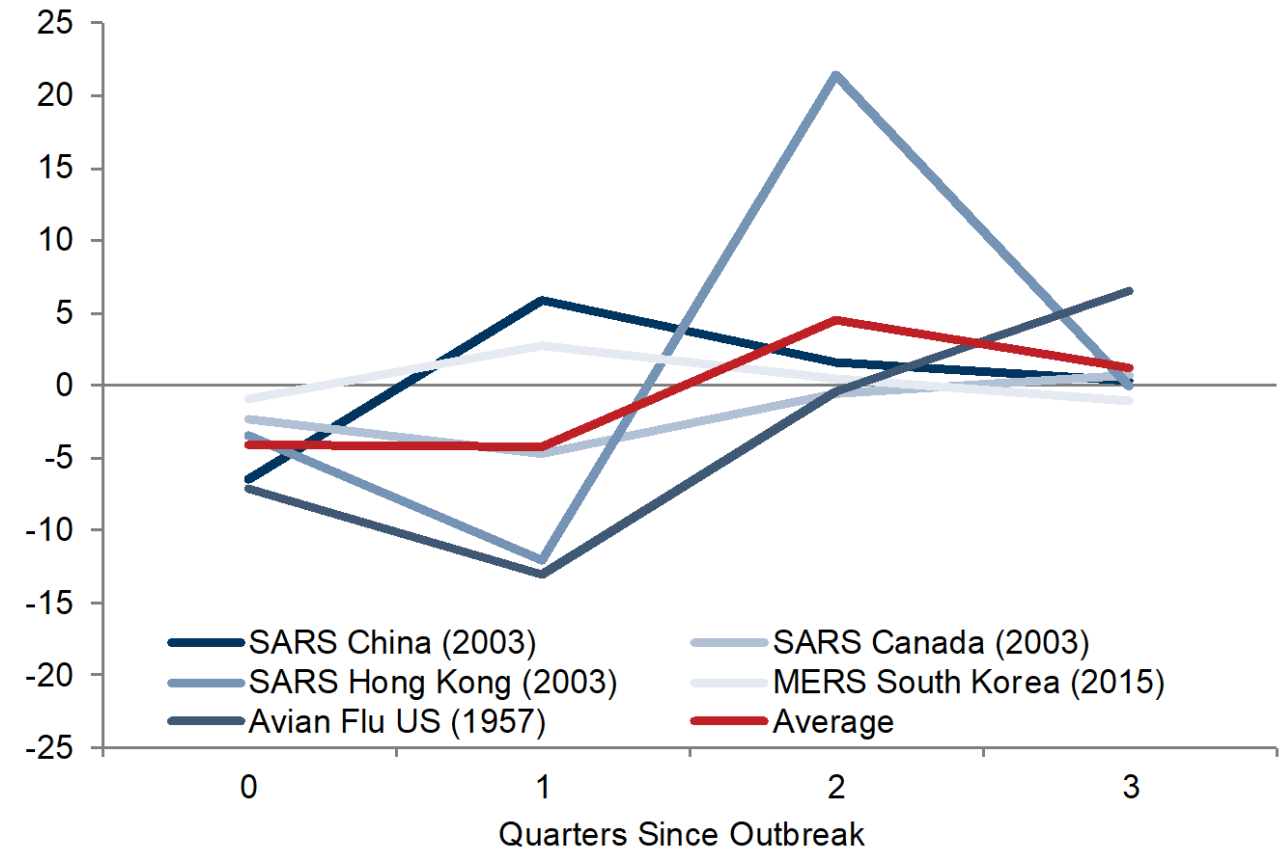


- Oxford Economics forecasts global GDP to contract by 7% in the first half of 2020.
- They now project a contraction of 2.8% for 2020 as a whole, down from the pre-outbreak forecast of 2.5% growth.

II. Economic Impact of Past Pandemics – This One Will be Worse

- Goldman Sachs analyzed GDP changes during other pandemics, including the 2003 SARS episodes in China, Hong Kong, and Canada, the 1957 Avian Flu in the U.S., and the 2015 MERS episode in South Korea.
- The average episode saw a GDP hit of 4-5% in the 1-2 quarters after the outbreak, though the variation was substantial.

Real GDP growth minus average growth over year before outbreak, pp



III. The Cure is Just Oh, So Different: U.S. Government Response

- On March 27 President Trump signed a \$2 trillion economic recovery package into law.
- The bipartisan legislation, known as the CARES Act offers relief to state and local governments, individuals, small and large businesses, and hospitals.
- Among the deal's key provisions:
 - **Direct payments of \$1,200** to most American adults, among other payments.
 - **Extended/expanded unemployment insurance benefits:** 4 months of full pay; raises the maximum benefit by \$600 a week (on top of usual \$200-\$550 depending on the state).
 - **More than \$150 billion for the health care system**, including for hospitals, research, treatment and the Strategic National Stockpile to raise supplies of equipment.
 - **\$150 billion to state and local governments** to address spending shortages related to the coronavirus pandemic.
 - **\$510 billion in loans and loan guarantees for large businesses**; this money comes with strings attached.
 - **\$377 billion in the form of loans and grants for small businesses.**

The One



Forecast

- Recession has already begun globally and in United States – I still expect short and vicious;
- Best positioned people work in the public sector – greater job stability – private sector workforce will be hammered – unemployment will soon be greater than 20 percent;
- Our collective expectations as economists are still adjusting to the downside;
- When it commences, recovery from this crisis will be sharp, profound, and most welcome – interest rates low, pent-up demand high, need to rebuild inventories, and people anxious to meet again, go to restaurants, see a movie, watch the Orioles, and engage in other most wonderful of human activities.

Thank You

Please follow me on Twitter -- @sageanirban

Please look for updates of information at
www.sagepolicy.com.

Please contact us when you require economic
research & policy analysis.



Questions?

Surveys & PDHs

- After the webinar, registered participants for this “live” presentation will receive an e-mail with a short survey to complete and a certificate for Professional Development Hours (PDHs).
- This presentation will be placed on GBA’s website for on-demand viewing.
** PDHs are not available for on-demand viewing.*

Upcoming Webinars

- **Tuesday, April 28th 12:00PM - 1:30PM Eastern**
Planning, Preparing and Executing for the Looming Recession
Lee James, CPA, CBI, CMC®, F.GBA
- **Wednesday, April 29th 12:00PM - 1:30PM Eastern**
Negotiate It! How to Crush Your Fears, Develop Your Negotiation Muscle, and Gain Power in the Workplace
Lynn Price, J.D.
- **Thursday, April 30th 12:00PM - 1:30PM Eastern**
Recession Tune-up (Overhaul)
Guy Marcozzi, P.E., LEED AP BD+C, F.ASCE
- **Friday, May 1st 12:00PM - 1:30PM Eastern**
Gripped by COVID-19 - An Economic and Geopolitical Outlook Past the Media Headlines
Bernard Baumohl

www.geoprofessional.org/event/gba-2020-virtual-spring-conference-and-education-series/

Resources

www.geoprofessional.org/resources/



October 2019

Preparing for the Next Recession Now

U.S. economic history is punctuated by recessions. The 2008-2009 recession was the United States' worst economic downturn since the 1930s and is now remembered as "the Great Recession." Nonetheless, some geoprofessional firms avoided major loss of profit; a few even thrived. But those that were not prepared – those that simply hoped for the best – experienced extremely negative impacts.

No one knows when the next recession will arrive, but most economists agree that another recession is certain. Most also agree that we're closer to the next recession than the last one. What does that mean for geoprofessionals?

Those that were not prepared experienced extremely negative impacts.

History suggests that a recession affects the general economy by six to twelve months before the consulting-engineering industry is affected. Accordingly, if history repeats – as it often does – consulting-engineering-firm leaders would have little excuse for not seeing a recession on the way and failing to take appropriate, proactive measures.

Are you preparing to prepare, or just hoping for the best?

PREPARE FOR THE NEXT RECESSION NOW

Be ready for the next recession by preparing now, while you still have the luxury of time. Consider implementing some of the following measures.

Create or Update Your Strategic Plan

If you already have a strategic plan in place, when was the last time you reviewed, challenged, and updated it? Now is the time to analyze the plan, ensure the conditions you considered when you established or last updated it still apply, integrate new ideas linked to present conditions and possible future conditions, and prepare your financials and your culture for any needed changes.

Ask yourself if your market mix is viable in a declining/recessionary economy. If you are not appropriately diversified in markets, services, and geography, begin making the needed

Ask yourself if your market mix is viable in a declining/recessionary economy.



**GEOPROFESSIONAL
BUSINESS
ASSOCIATION**

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A publication of the Geoprofessional Business Association

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GBA NEWS

GBA Director Spotlight — Ken Johnston (GZA GeoEnvironmental)

Volunteers that serve on the GBA Board of Directors dedicate significant time and energy providing leadership to our Association. Not all our Board Members take the same path to leadership. In this spotlight, read about Ken Johnston's path to leadership as he took a road less traveled.

Read about Ken Johnston's road less traveled:

[READ MORE](#)

2020 Virtual Spring Conference

Although we are not meeting in Florida for our 2020 Spring Conference; the show must go on. We are ready to deliver, important elements of the Conference virtually including Committee Meetings, the Annual Business Meeting, and conference presentations by noted experts, authors, and leaders.

Business Meeting

GBA will host its annual Business Meeting during which our current President Arthur G. Hoffmann, P.E., D.G.E. and our President-Elect Kenneth R. Johnston will share their thoughts on GBA and its role in helping members manage risk and optimize performance during these challenging times. This is also the time where we officially elect and transition to our new Board of Directors.

Please plan on attending this important meeting on Friday, April 24, 2020 at 2:00 PM Eastern Time.

Register Now for this meeting: [Annual Business Meeting](#)

Peer Groups Provide Support in Troubled Times

GBA Peer Review Committee

GBA's Peer Review program has for decades provided member firms the business perspective they need in times of relative normality. In the fall of 2018, GBA's Peer Review Committee launched a related program (Peer Groups) designed to provide continuity and sustain a network for confidential peer perspective on business best practices among participants. The first Peer Group (5 executives from firms with little competitive overlap) was launched and remains engaged, especially





**GEOPROFESSIONAL
BUSINESS
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CASE HISTORY

NUMBER **67**

PROJECT MANAGEMENT

The Client

A constructor-in-charge

The Project

A one-story, light-manufacturing building

Assignment of the GBA-Member Firm

Perform a geotechnical-engineering study to evaluate subgrade soil conditions for floor slab support and perform soil-fill-compaction testing during grading.

Background

A development company retained the GBA-Member Firm to perform a geotechnical-engineering study for a 100-acre site intended for use as an industrial park. As part of the study, the Member Firm advanced geotechnical borings at locations throughout the site and performed laboratory testing on soil samples from the borings. The firm

Testing indicated that some of the site soils were highly plastic, the Member Firm's project manager noted this condition in her report.

also advanced borings at specific building sites. Testing indicated that some of the site soils were highly plastic and so could exhibit significant shrink/swell characteristics in response to changes in their moisture content. The Member Firm's project manager noted this condition in her report and advised that special requirements would have to be met for building construction. Grading at the building sites required both excavation and fill placement.

Five months later, the development company retained the Member Firm again, this time to provide construction-materials engineering and testing (COMET) services: observe grading and perform concrete

Construction Included the building shell only; the floor slab would be constructed later to meet the needs of the eventual occupant.

testing during construction of foundations for a speculative, one-story light-industrial building. Construction included the building shell only; the floor slab would be constructed later to meet the needs of the eventual occupant.

A manufacturer purchased the building shell about 3 years later and hired a con-

structor-in-charge to complete building construction. The manufacturer required a minimum modulus-of-subgrade reaction, k , of 200 pci for the building's floor slab. Noting that some of the subgrade soils exhibited significant tension cracks, some as deep as 5 feet, the constructor-in-charge contacted the Member Firm, seeking its opinion about the soil's suitability to achieve a k of 200 pci.

The Member Firm assigned a project manager who had not been involved with the services previously performed for the development company. The project manager

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prepared a plate load test proposal whose general conditions included a provision limiting the Member Firm's professional-negligence liability to \$50,000 or the fee, whichever was higher. The constructor-in-charge signed the proposal and the Member Firm conducted the test.

Results of the plate load test indicated a k of 150 pci, requiring the floor slab's thickness to be increased to 10 inches in some areas. The Member Firm's project manager noted in his report that desiccation caused the tension cracks that constructor-in-charge personnel had observed. He recommended that the soils, to be acceptable, should be reworked and recompact (no depth indicated) and that the constructor-in-charge should place a layer of crushed stone over the exposed subgrade soils to help reduce drying. The project manager also wrote that he had had the plate load test performed in areas where the soils had been scarified, moistened, and recompact specifically for the test.

The constructor-in-charge accepted the Member Firm's report and then retained

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