

# Does a Soon-to-Be Record Long Economic Recovery Amplify Risk?

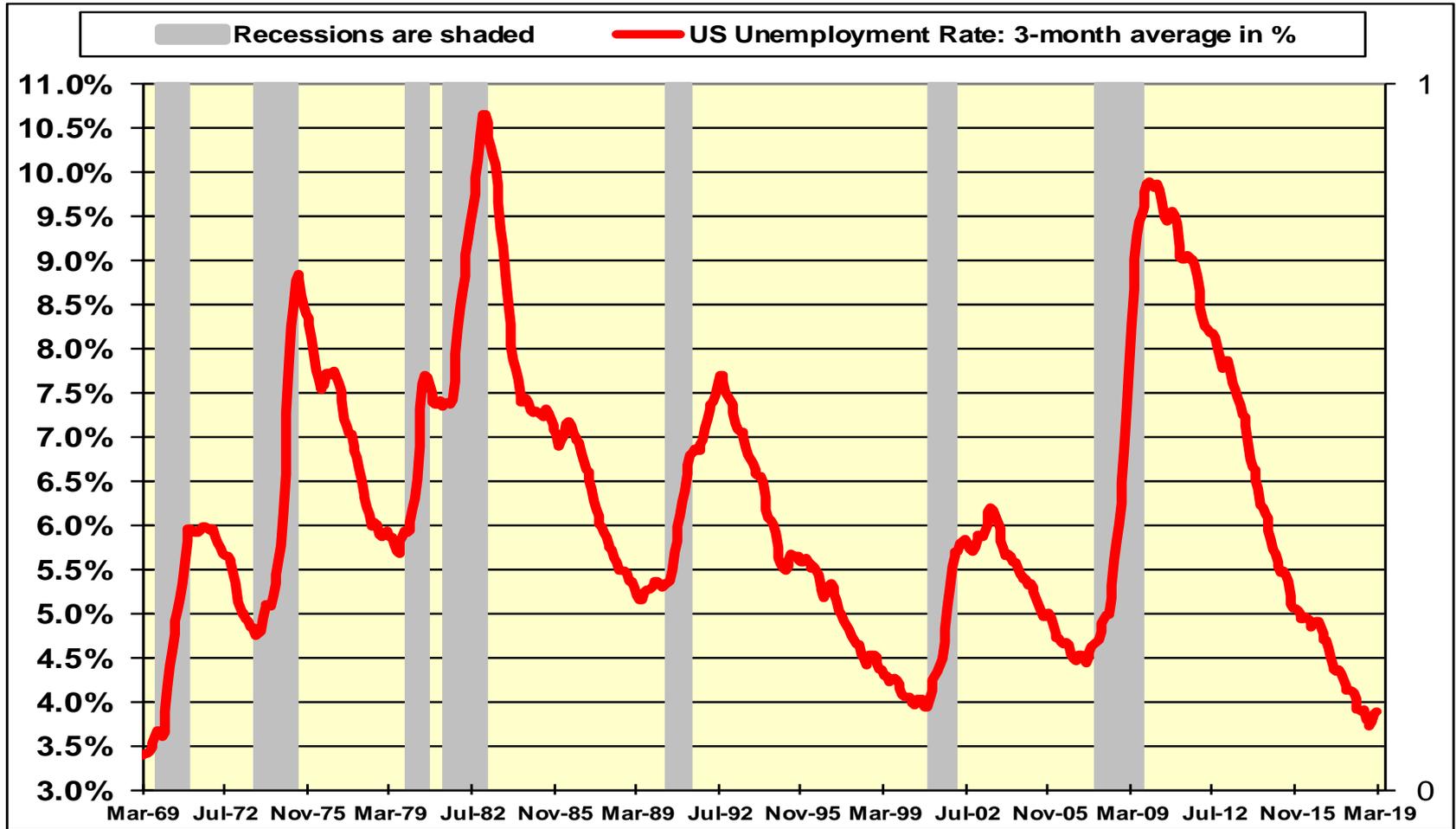
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# Very Low Unemployment Rates Often Precede Recessions

# Recession May Be Near When Unemployment Rate's 3-Month Average Turns Higher Amid a Mature Economic Recovery ...

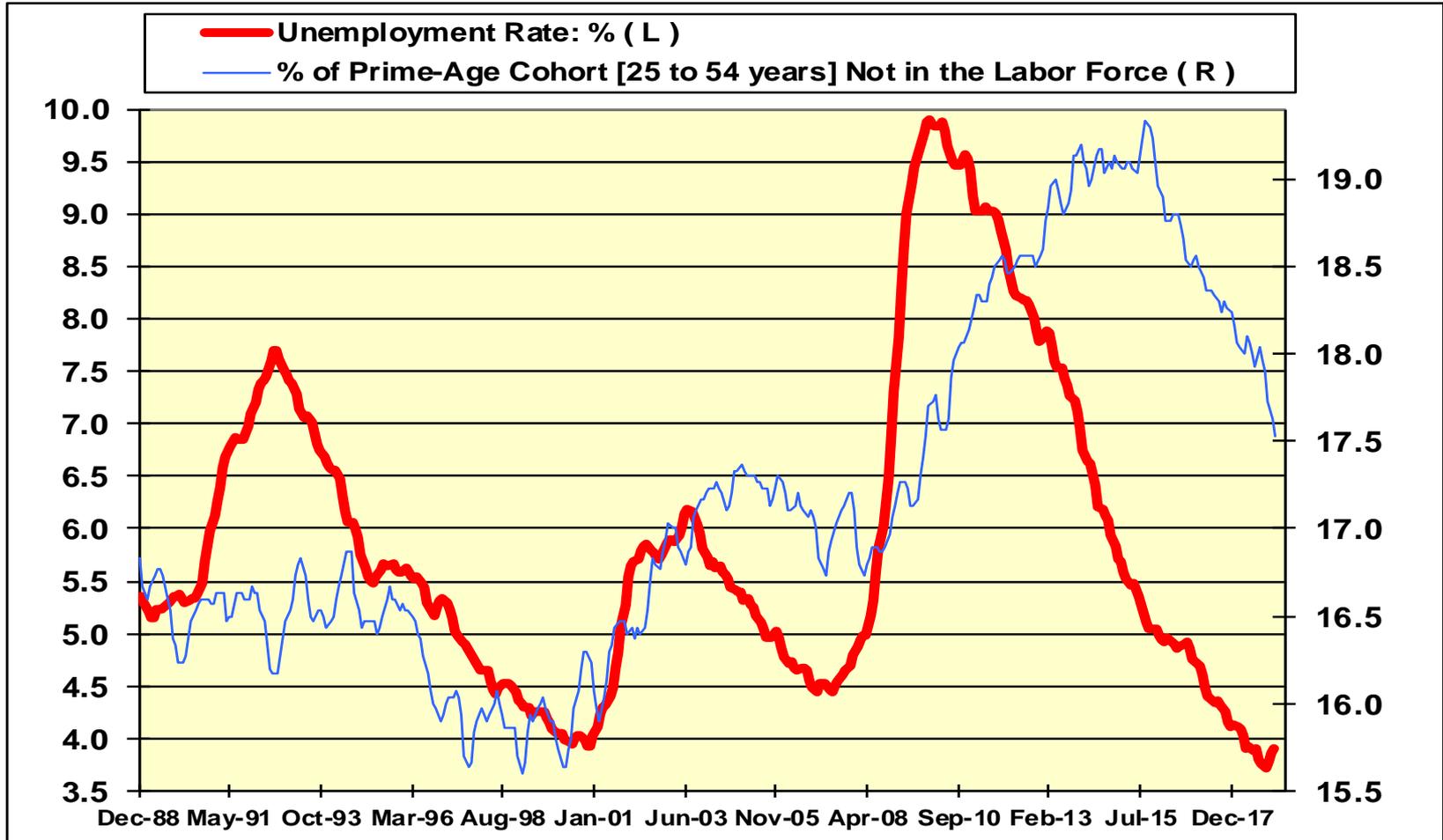
## Only 6% of Months of Last 50 Years Show Unemployment Rate of 4% or Lower

source: BLS, NBER, Moody's Analytics



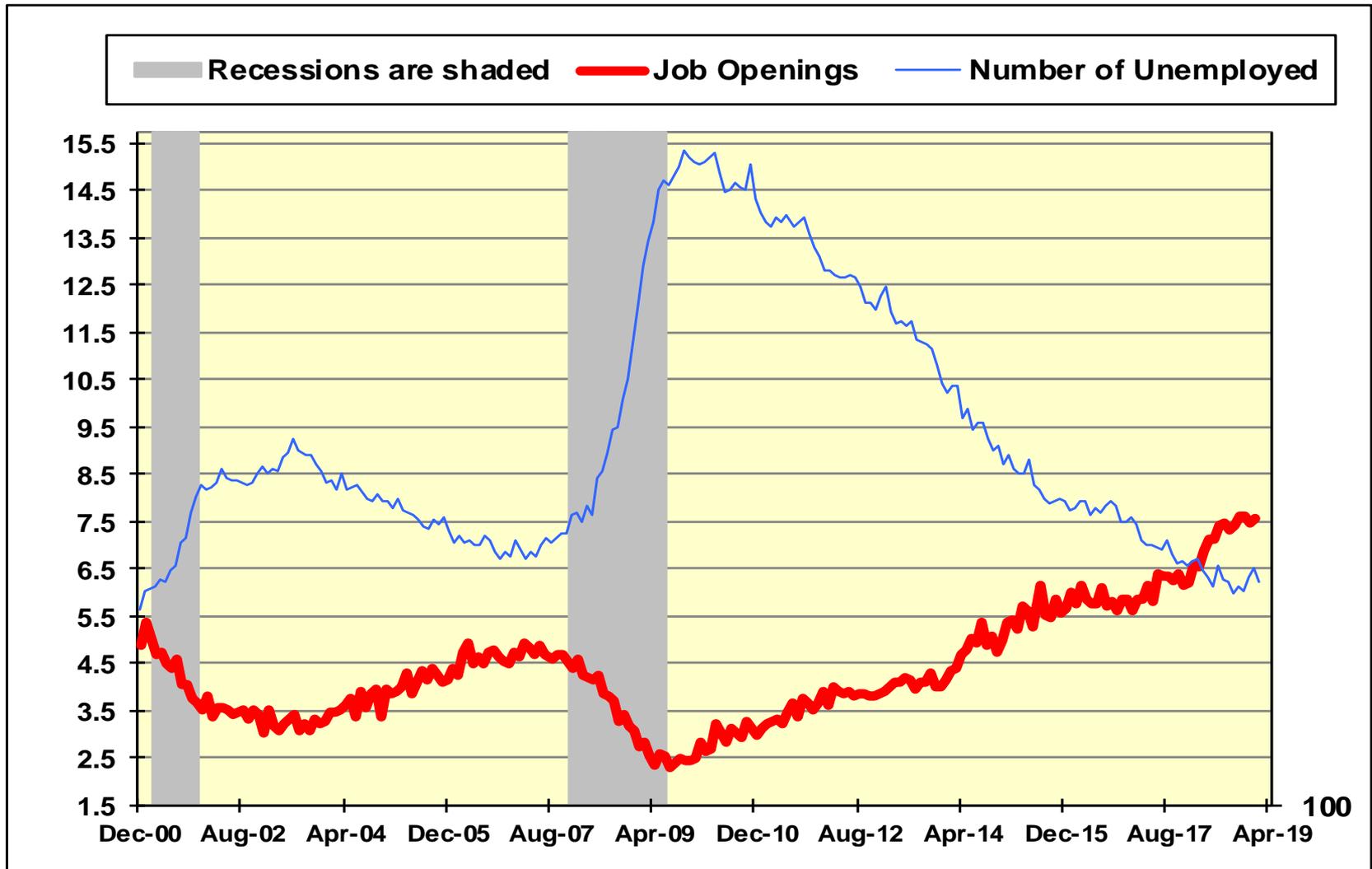
# High Percentage of Those Aged 25- to 54-Years Neither Working Nor Looking for Work Implies February's 3.8% Jobless Rate Overstates Job Market Tightness

Three-month averages; source: BLS, Moody's Analytics



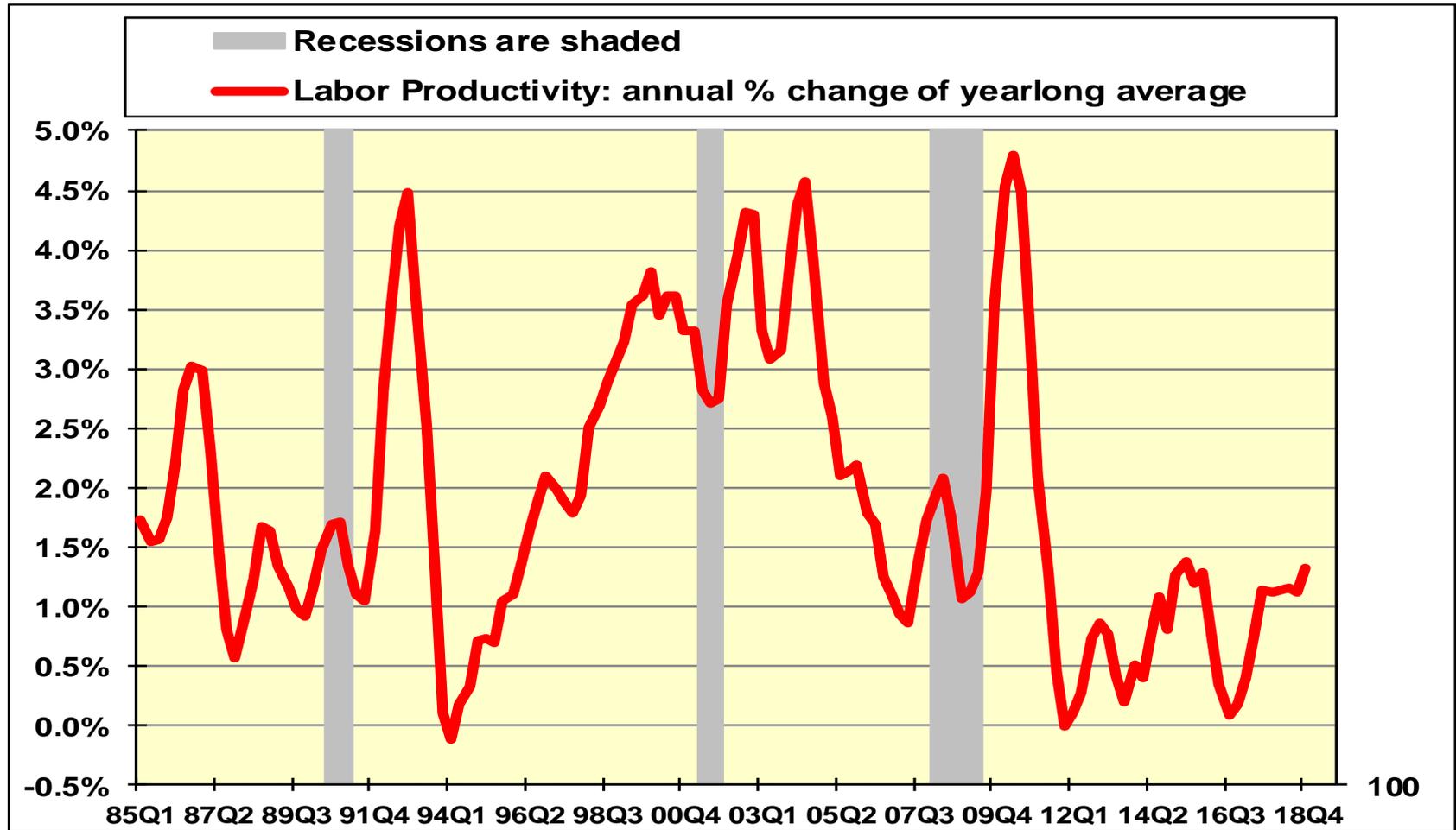
# Job Openings Top Number of Unemployed Starting in March 2018

*in millions of people; source: BLS, Moody's Analytics*



# Faster Labor Productivity Growth Can Compensate for a Shortage of Available Qualified Workers

yy % change of moving yearlong average; source: BLS, Moody's Analytics

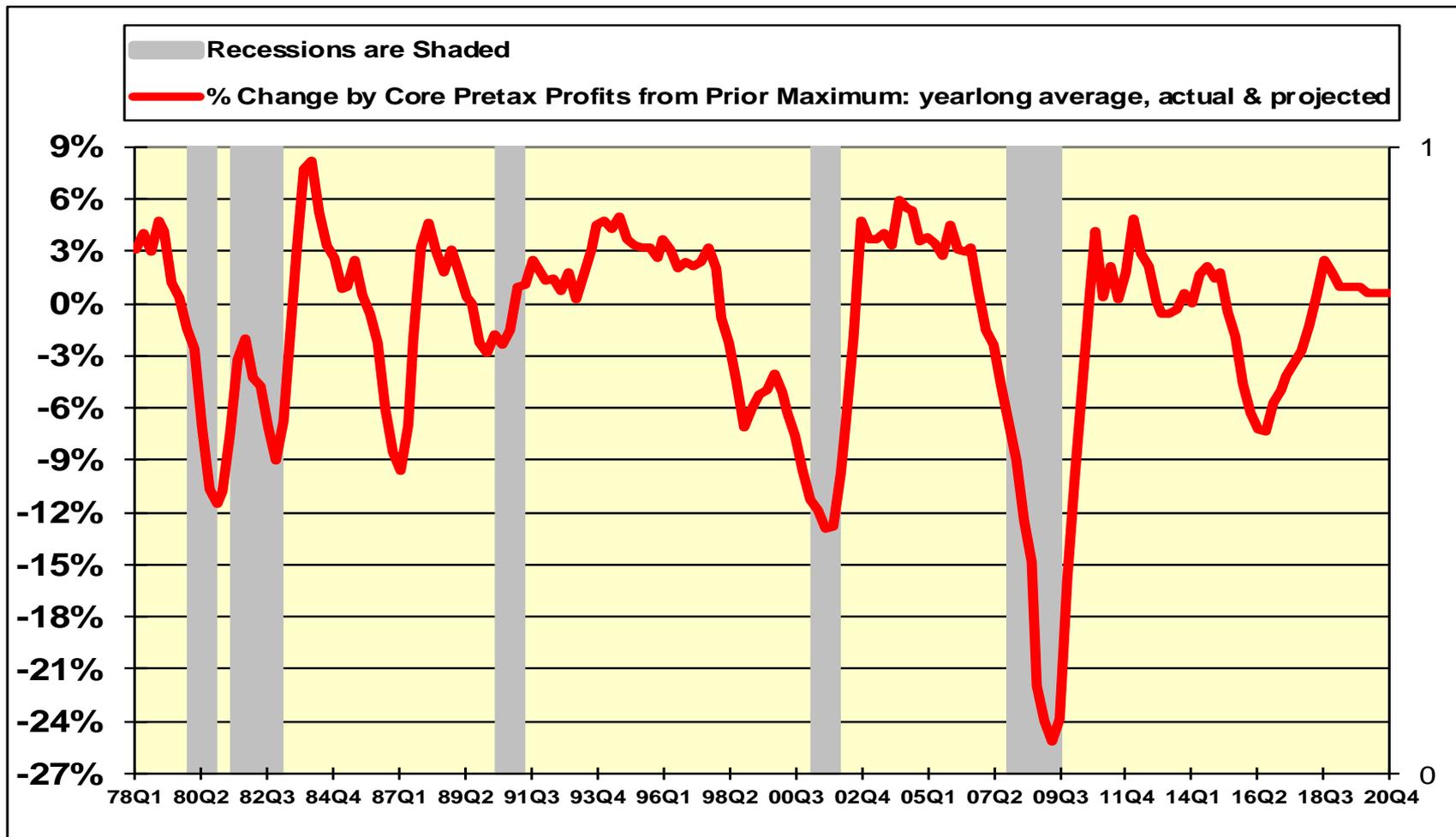


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## Core Profits Have Never Expanded Amid a Recession

# Each of the Last Five Recessions Was Associated with a Contraction by Core Pretax Profits

source: BEA, NBER, Blue Chip Economic Indicators, Moody's Analytics



# First-Quarter 2019's S&P 500 Earnings per Share Is Expected to Incur Its First Year-to-Year Drop since 2016's Second Quarter ...

## 2020's Upbeat View Is At Odds with Above-Average Recession Risk

	<b>Revenues per Share: S&amp;P 500</b>	<b>Earnings per Share: S&amp;P 500</b>
	<i>1</i>	<i>2</i>
<i>Average annual percent changes:</i>		
<b>2010-2011</b>	<b>9.4</b>	<b>27.6</b>
<b>2012-2013</b>	<b>2.5</b>	<b>5.4</b>
<b>2015</b>	<b>-2.5</b>	<b>1.3</b>
<b>2016</b>	<b>1.5</b>	<b>-1.0</b>
<b>2017</b>	<b>5.9</b>	<b>9.8</b>
<b>2018</b>	<b>8.8</b>	<b>20.0</b>
<b>EST 2019</b>	<b>4.9</b>	<b>3.7</b>
<b>EST 2020</b>	<b>5.7</b>	<b>11.6</b>
<i>Yearly percent changes by quarter:</i>		
<b>18Q1</b>	<b>7.8</b>	<b>24.3</b>
<b>18Q2</b>	<b>9.4</b>	<b>24.4</b>
<b>18Q3</b>	<b>7.9</b>	<b>25.4</b>
<b>18Q4</b>	<b>7.2</b>	<b>13.3</b>
<i>Latest quarterly projections:</i>		
<b>EST 19Q1</b>	<b>4.8</b>	<b>-3.9</b>
<b>EST 19Q2</b>	<b>4.5</b>	<b>0.1</b>
<b>EST 19Q3</b>	<b>4.3</b>	<b>1.7</b>
<b>EST 19Q4</b>	<b>4.8</b>	<b>8.3</b>
<i>Sources: FactSet, Bloomberg News, Moody's Capital Markets Research Group</i>		

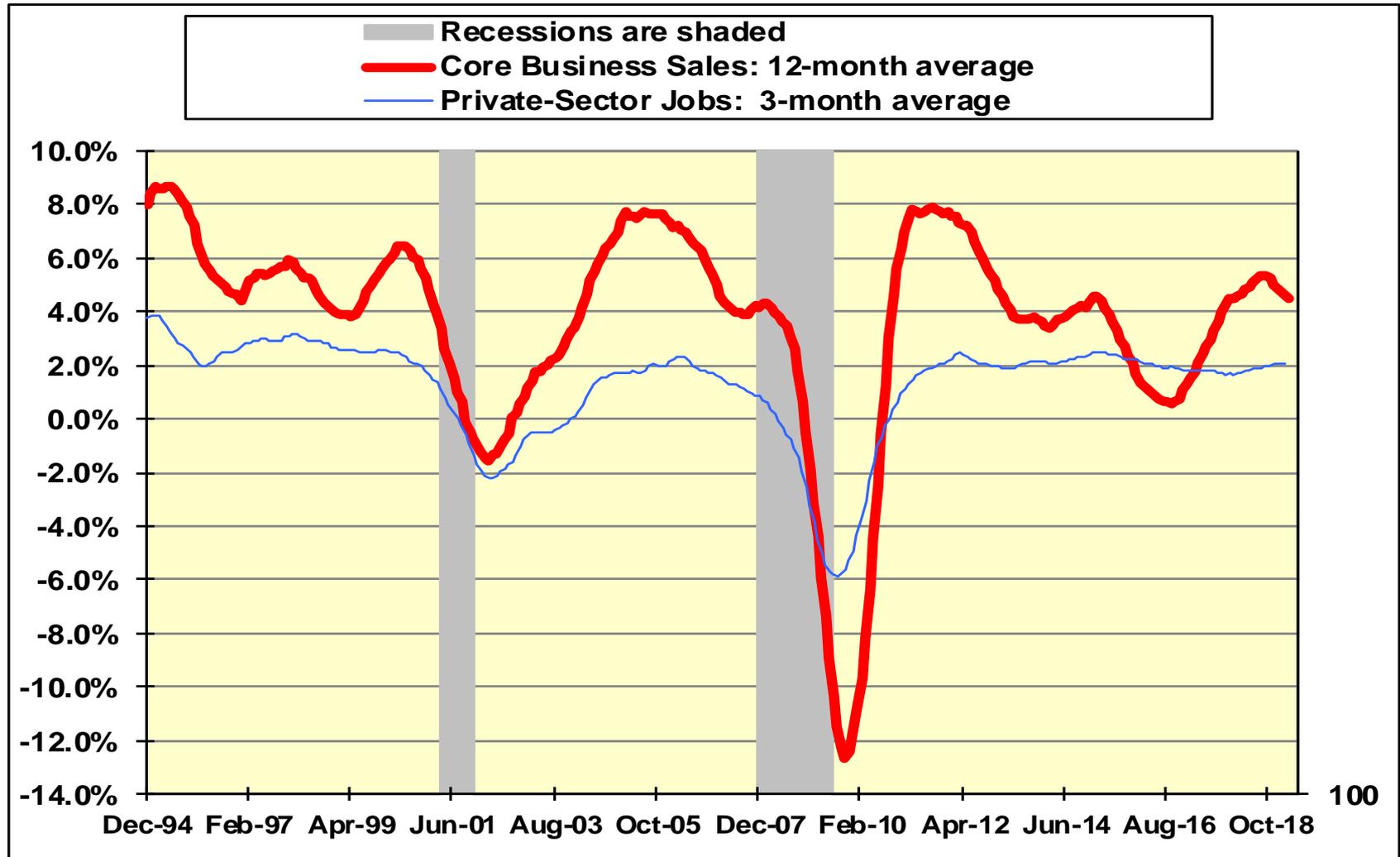
# Consensus Earnings per Share Growth Projections for 2019 Show Utilities Topping Seven of the S&P 500's 11 Broad Categories

*year-over-year (yy) % changes*

	<b>Projected 2019 Revenues per Share</b>	<b>Projected 2019 Earnings per Share</b>	<b>2018 Revenues per Share</b>	<b>2018 Earnings per Share</b>
	1	2	3	4
<b>Utilities</b>	<b>3.2</b>	<b>6.8</b>	<b>3.0</b>	<b>12.8</b>
<b>Industrials</b>	<b>4.2</b>	<b>8.0</b>	<b>7.8</b>	<b>17.0</b>
<b>Consumer Discretionary</b>	<b>4.7</b>	<b>7.3</b>	<b>8.6</b>	<b>17.5</b>
<b>Financials</b>	<b>4.4</b>	<b>7.2</b>	<b>4.0</b>	<b>21.8</b>
<b>Communication Services</b>	<b>11.0</b>	<b>5.7</b>	<b>18.5</b>	<b>24.3</b>
<b>Health Care</b>	<b>12.2</b>	<b>4.8</b>	<b>7.5</b>	<b>15.1</b>
<b>Real Estate</b>	<b>3.7</b>	<b>2.4</b>	<b>13.4</b>	<b>9.0</b>
<b>Information Technology</b>	<b>2.0</b>	<b>1.5</b>	<b>8.9</b>	<b>14.0</b>
<b>Consumer Staples</b>	<b>3.2</b>	<b>1.2</b>	<b>3.6</b>	<b>8.9</b>
<b>Materials</b>	<b>1.4</b>	<b>-3.7</b>	<b>15.7</b>	<b>29.3</b>
<b>Energy</b>	<b>-4.7</b>	<b>-11.9</b>	<b>17.9</b>	<b>112.4</b>
<b>S&amp;P 500</b>	<b>4.9</b>	<b>3.7</b>	<b>8.8</b>	<b>20.0</b>
<i>source: FactSet, Moody's Analytics</i>				

# 2015-2016's Slowdown by Core Business Sales and Profits Recession Were Mitigated by 2016's Averages of 0.40% for Fed Funds and 1.64% for the 10-Year Treasury Yield

*year-over-year % changes; source: Census Bureau, BLS, NBER, Moody's Analytics*

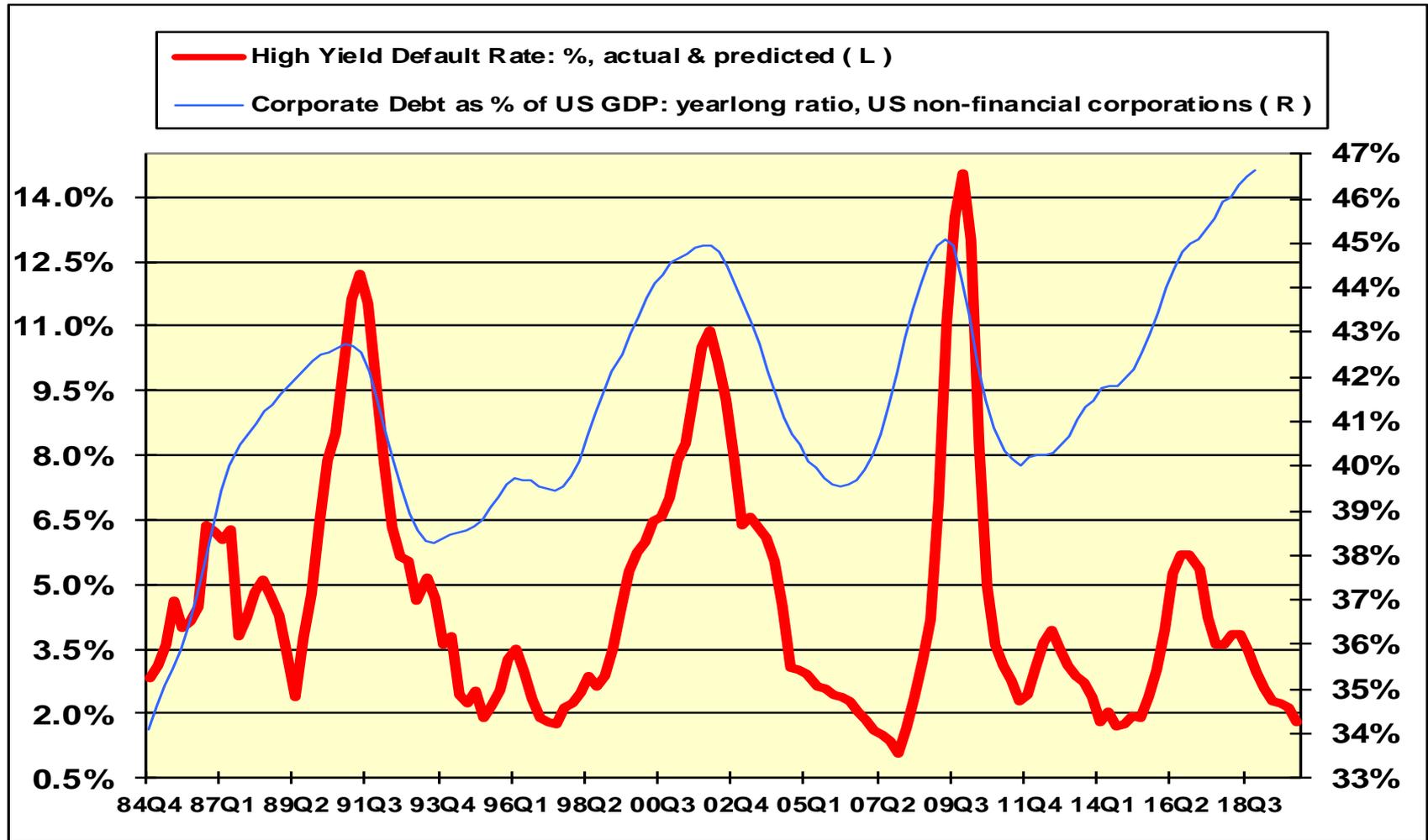


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## Profits Growth Is Good for Corporate Credit Quality

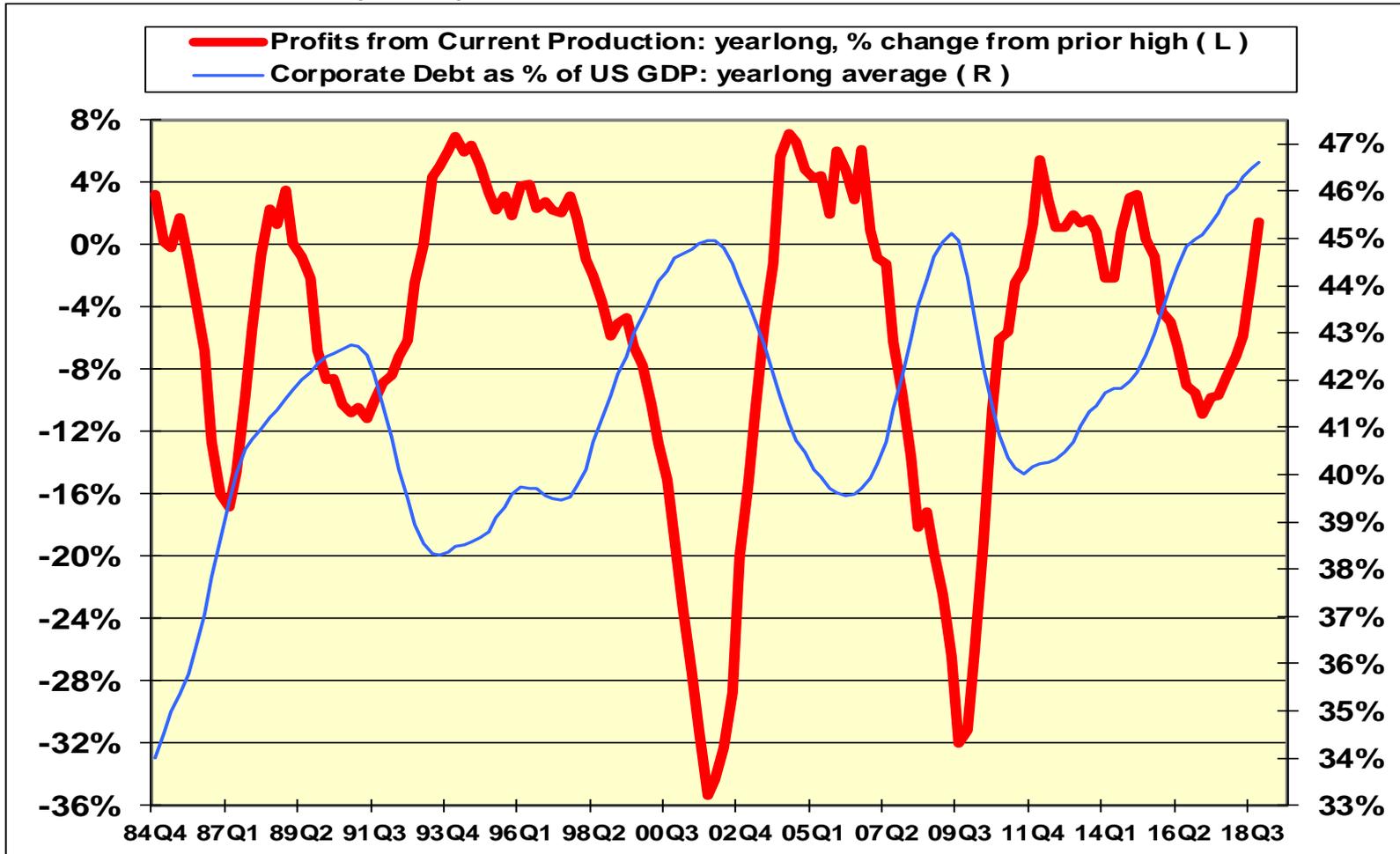
# Projected Slide by Default Rate Defies Yet Another Record High Ratio of Nonfinancial-Corporate Debt to GDP

source: Moody's Investors Service, Federal Reserve, BEA, Moody's Analytics



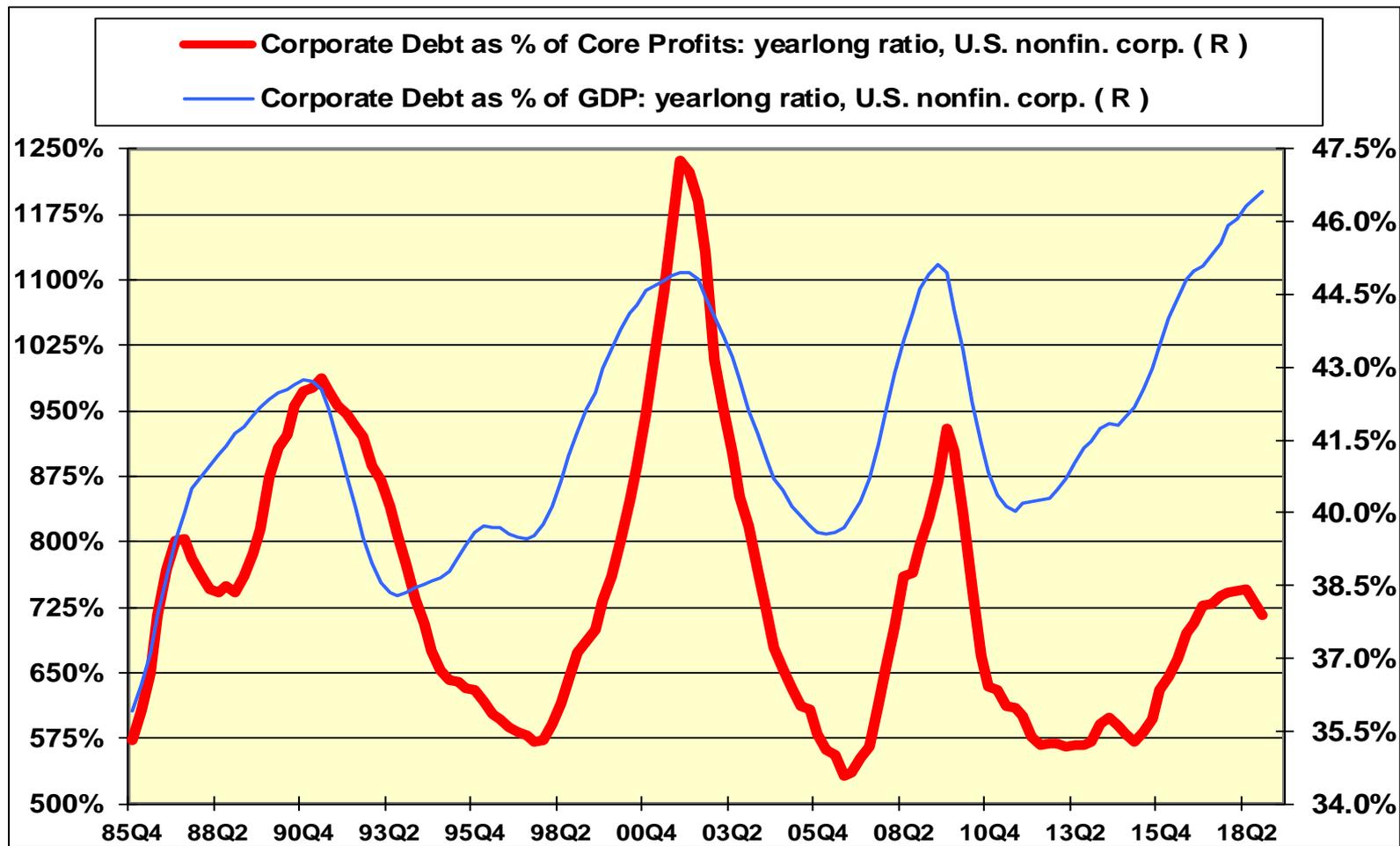
# When Corporate Debt to GDP Ratio Set New Highs in 2009, 2001 and 1990, Profits Averaged -24% Less than Their Prior High ... By Contrast, Profits Now Set New Record Highs

source: Federal Reserve, BEA, Moody's Analytics



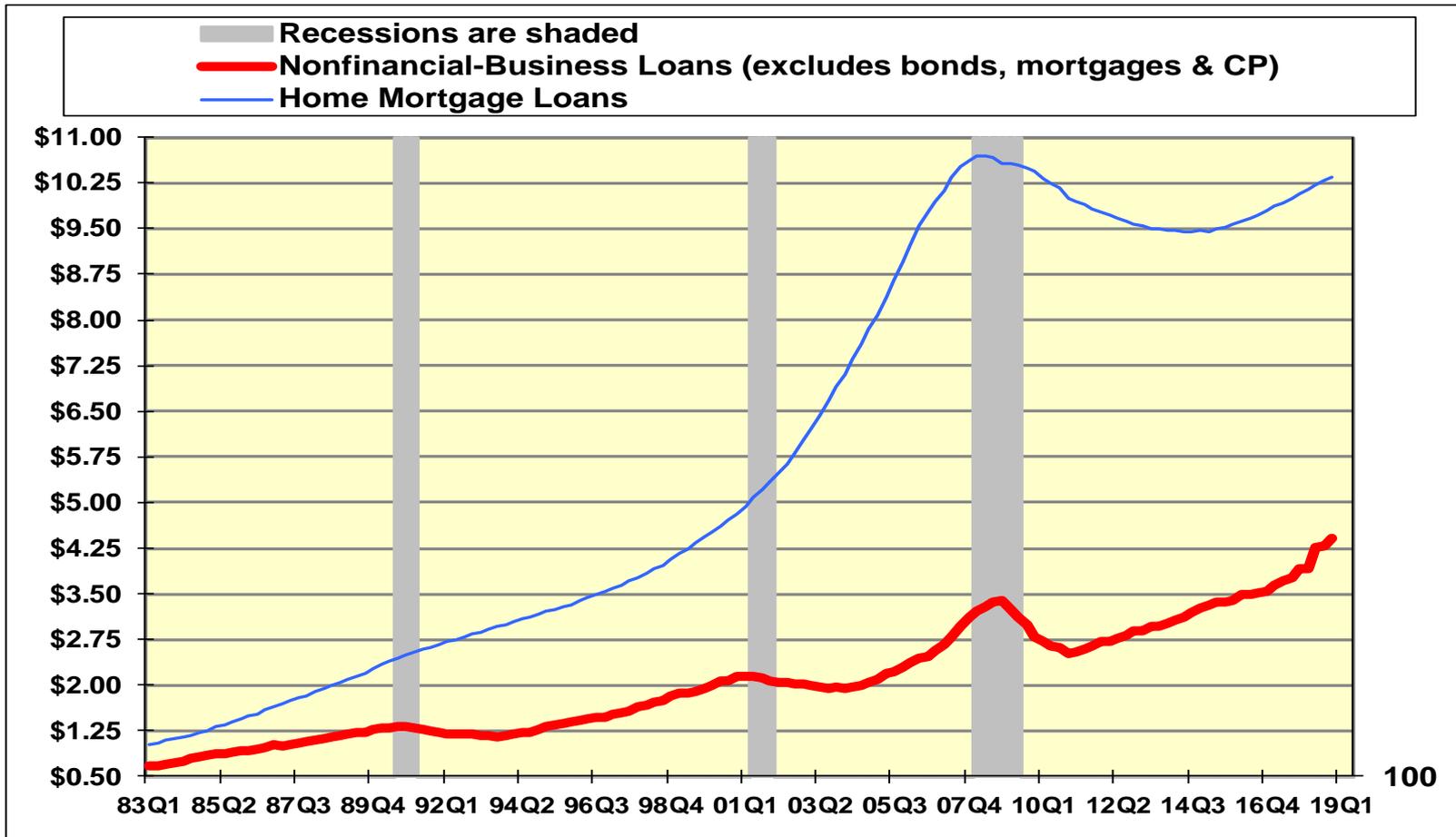
# Corporate Leverage Appears Much Lower When Compared to Core Profits As Opposed to GDP

source: Federal Reserve, BEA, Moody's Analytics



# Business Loan's 7.9% Average Annual Increase of Last Five Years Trails Home Mortgage Debt's 13.5% Annual Surge of 5-Years-Ended June 2006

source: Federal Reserve, BEA, Moody's Analytics

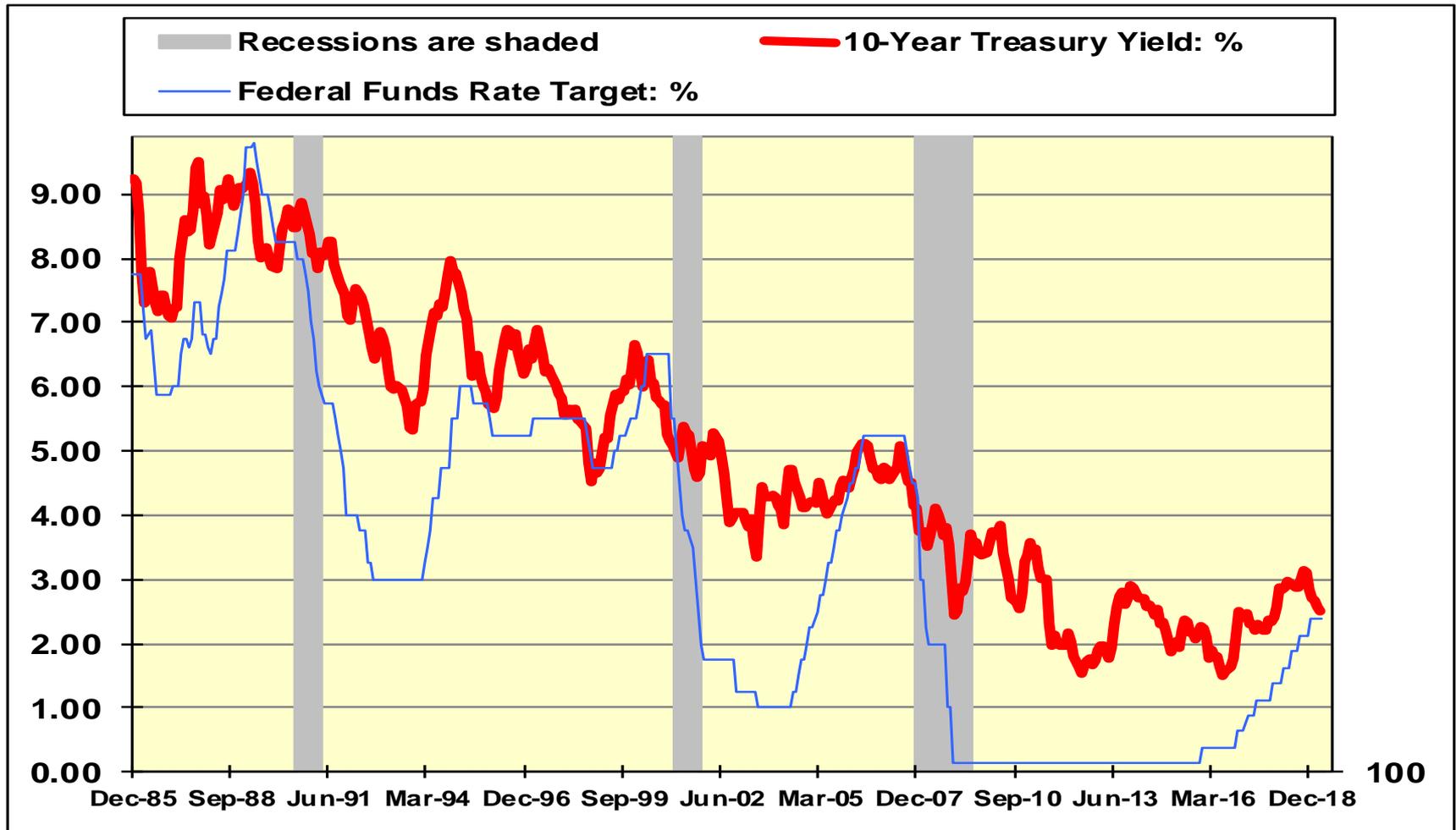


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3% 10-Year Treasury Yield  
Was Too Burdensome for  
Highly Leveraged World  
Economy

# Latest Drop by 10-Year Treasury Yield Increases Odds of Fed Rate Cut ... Prolonged Treasury Yield Curve Inversion Lifts Recession Risk

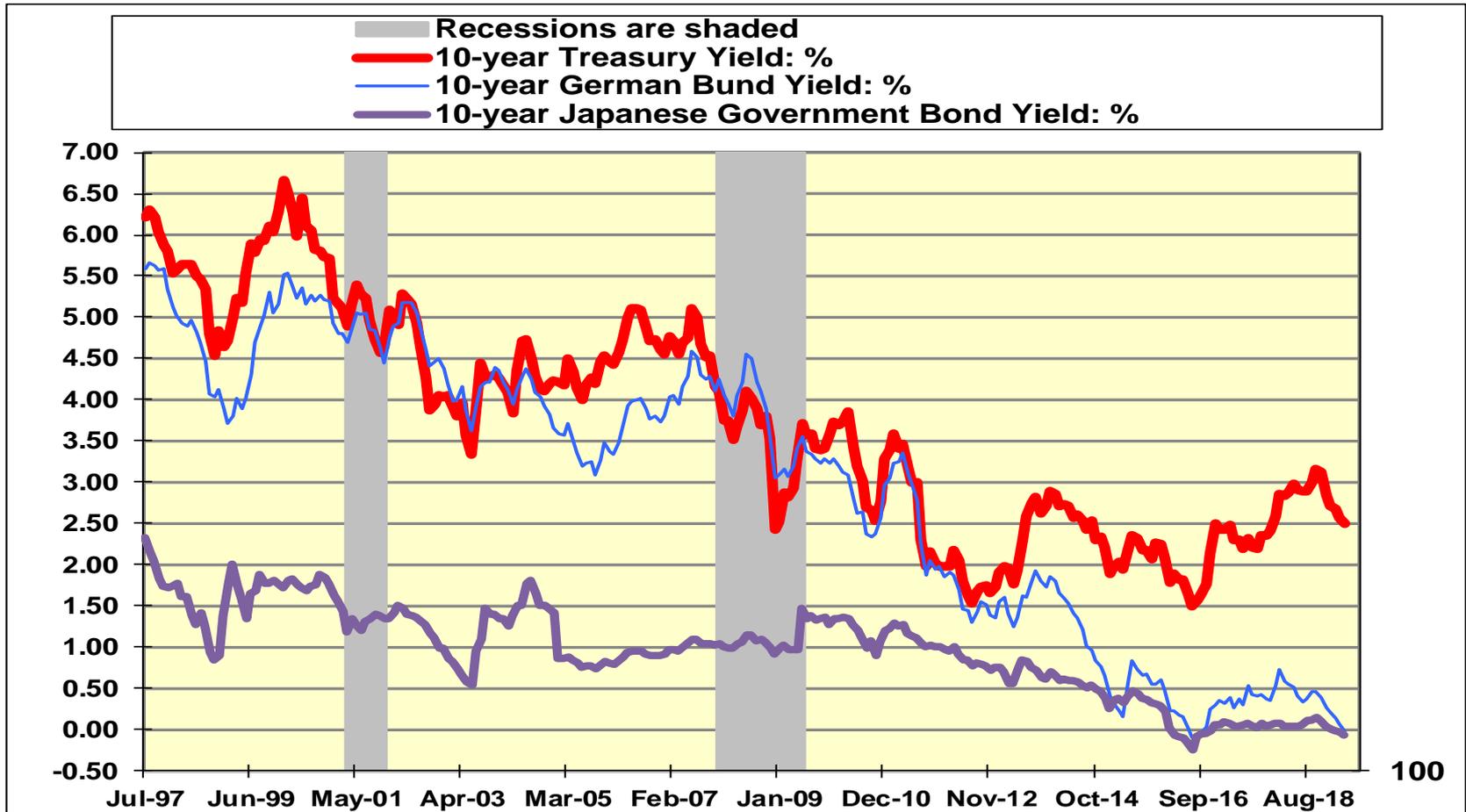
source: Federal Reserve, NBER, Moody's Analytics



# Why Are Ten-Year Government Bond Yields So Low

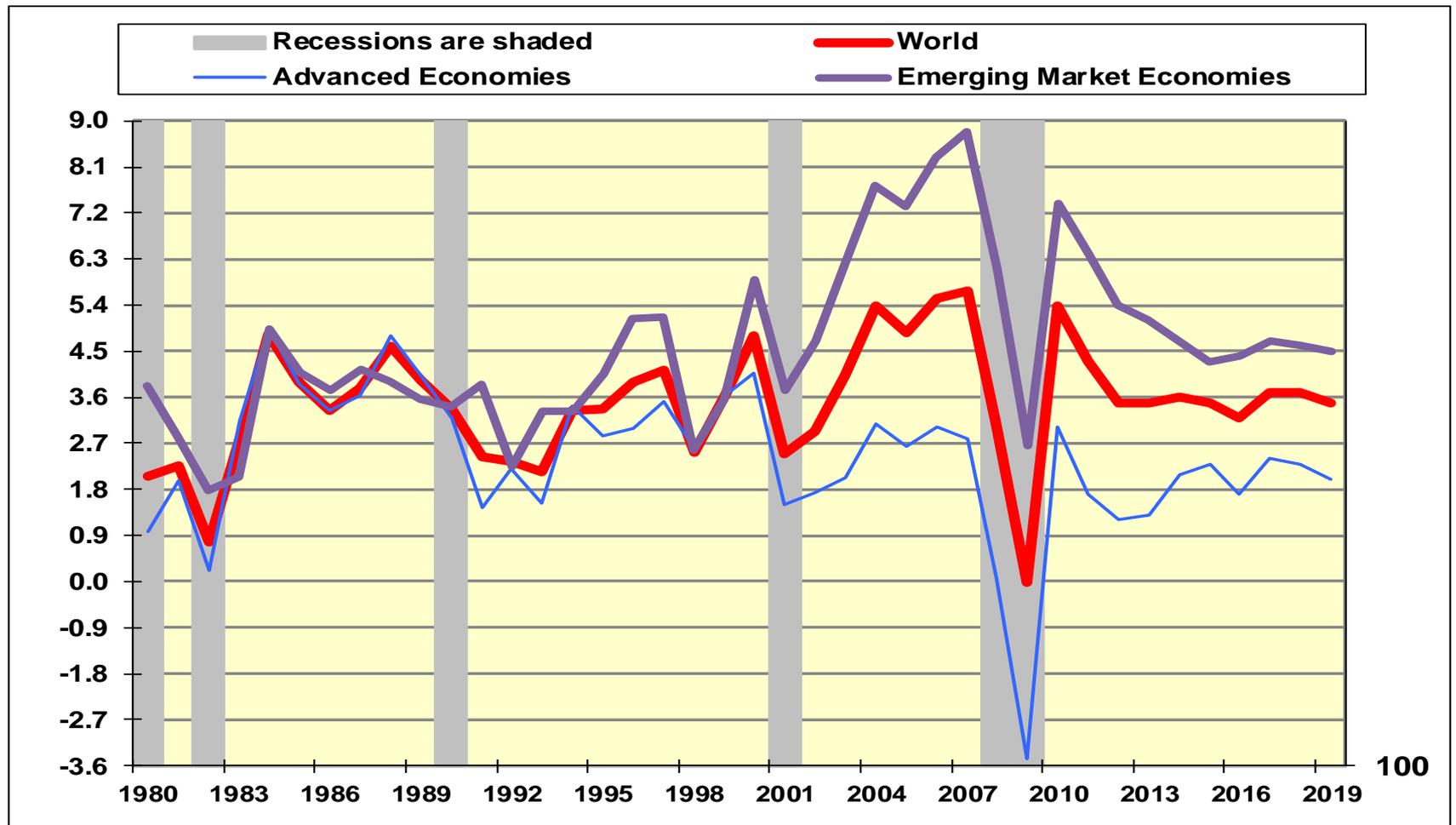
## Recent US Treasury Yield of 2.50% Was Far Above Germany's -0.03%, Japan's -0.08%, the UK's 1.05%, and Canada's 1.70%

*in %; source: Bloomberg, Moody's Analytics*



# Deceleration by Average Annual World Growth from 2003-2007's 5.1% to 2014-2018's 3.7% Included Slowdowns by Emerging Market Growth from 7.7% to 4.7% and Advanced Economy Growth from 2.7% to 2.3% yy % change; source: IMF, NBER, Moody's Analytics

yy % change; source: IMF, NBER, Moody's Analytics



# Ageing Populations Help Contain the Economic Growth, Price Inflation, and Interest Rates of Advanced Economies

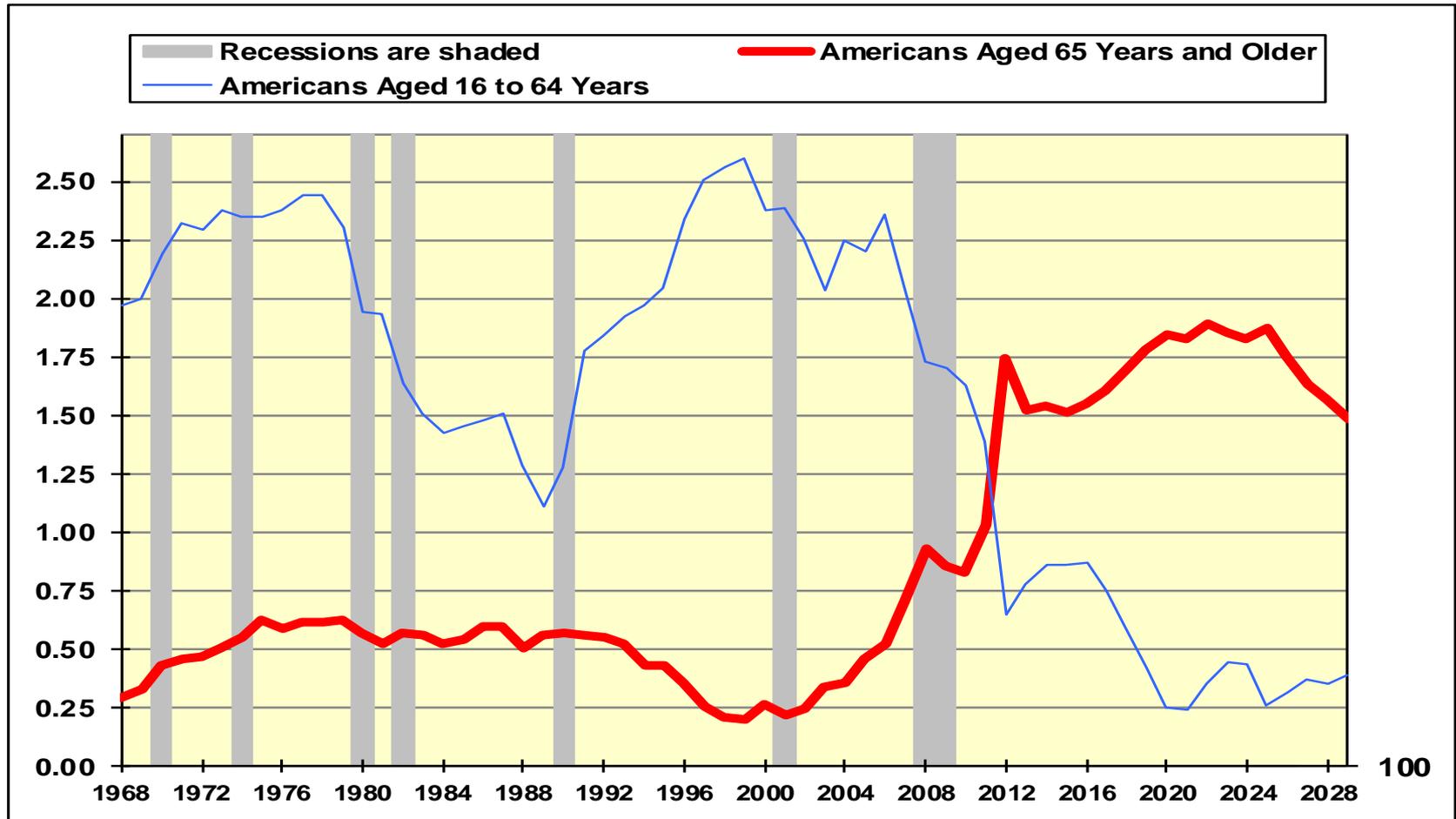
Selected Countries by Median Age and Percent of Population At Least 65 Years of Age as of 2017

source: CIA, World Bank, Moody's Analytics

Country Name	Median Age: in years	% of Population 65 Years and Older	Country Name	Median Age: in years	% of Population 65 Years and Older
	1	2		1	2
Japan	46	27.0	Vietnam	32	7.1
Germany	48	21.5	Turkey	31	8.2
Italy	46	23.0	<b>WORLD</b>	<b>30</b>	<b>8.7</b>
Greece	45	20.4	Iran	30	5.4
<b>European Union</b>	<b>43</b>	<b>19.8</b>	Indonesia	30	5.3
Canada	42	17.0	Venezuela	29	6.6
South Korea	42	13.9	Mexico	28	6.9
France	41	19.7	India	28	6.0
Taiwan	41	n/a	Saudi Arabia	28	3.3
United Kingdom	41	18.5	South Africa	27	5.3
<b>Russia</b>	<b>40</b>	<b>14.2</b>	Pakistan	24	4.5
<b>United States</b>	<b>38</b>	<b>15.4</b>	Philippines	24	4.8
<b>China</b>	<b>37</b>	<b>10.6</b>	Iraq	20	3.2
Ireland	37	13.9	Yemen	20	2.9
North Korea	34	9.5	Afghanistan	19	2.6
Brazil	32	8.6	Nigeria	18	2.8

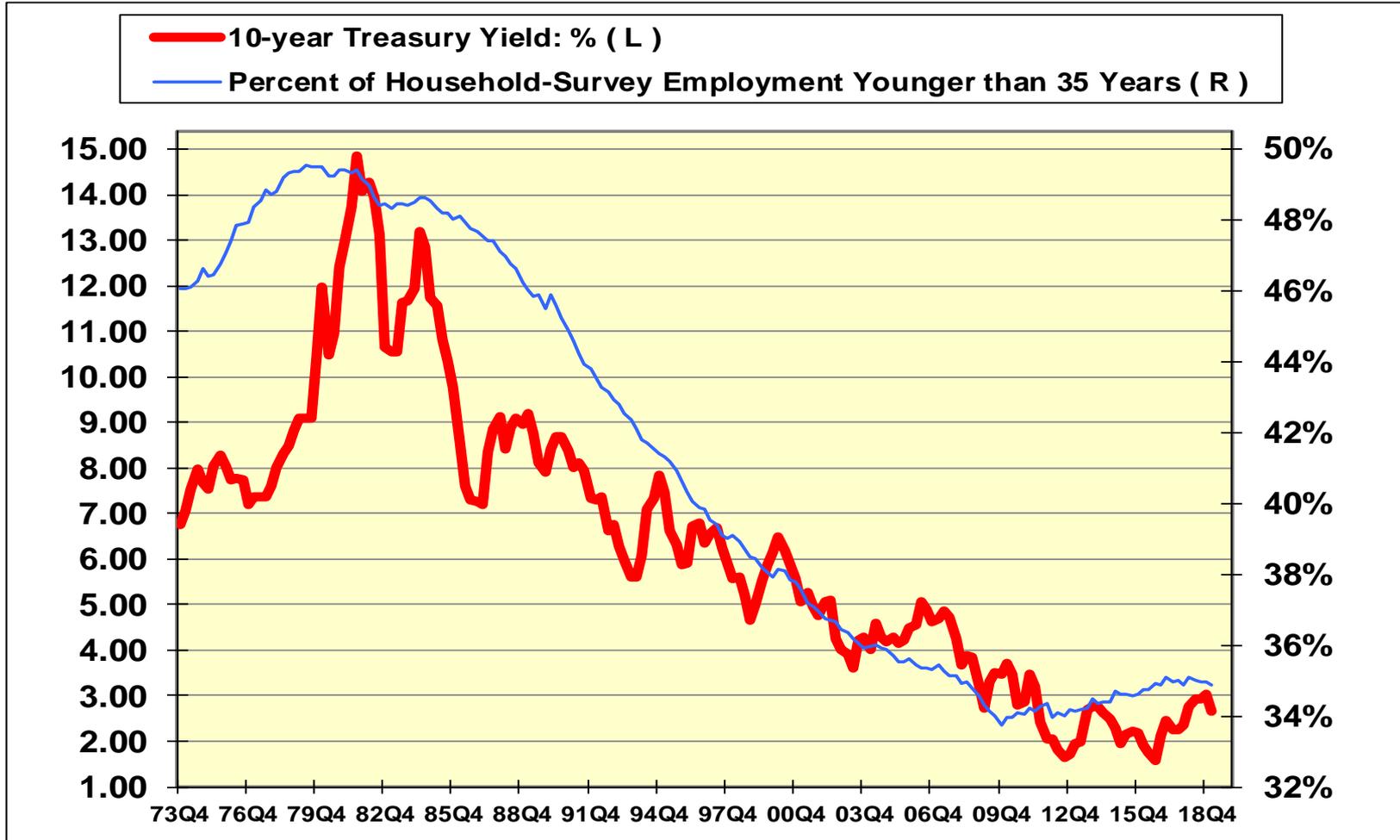
# When US Real GDP and Consumer Spending Last Grew Faster than 4% Annually During 1998-2000, the US' "16- to 64-Years of Age" Cohort Expanded by 2.5-million per Year ... It Now Rises by 250,000 Annually

*actual & predicted annual increases in millions; source: Census Bureau, NBER, Moody's Analytics*



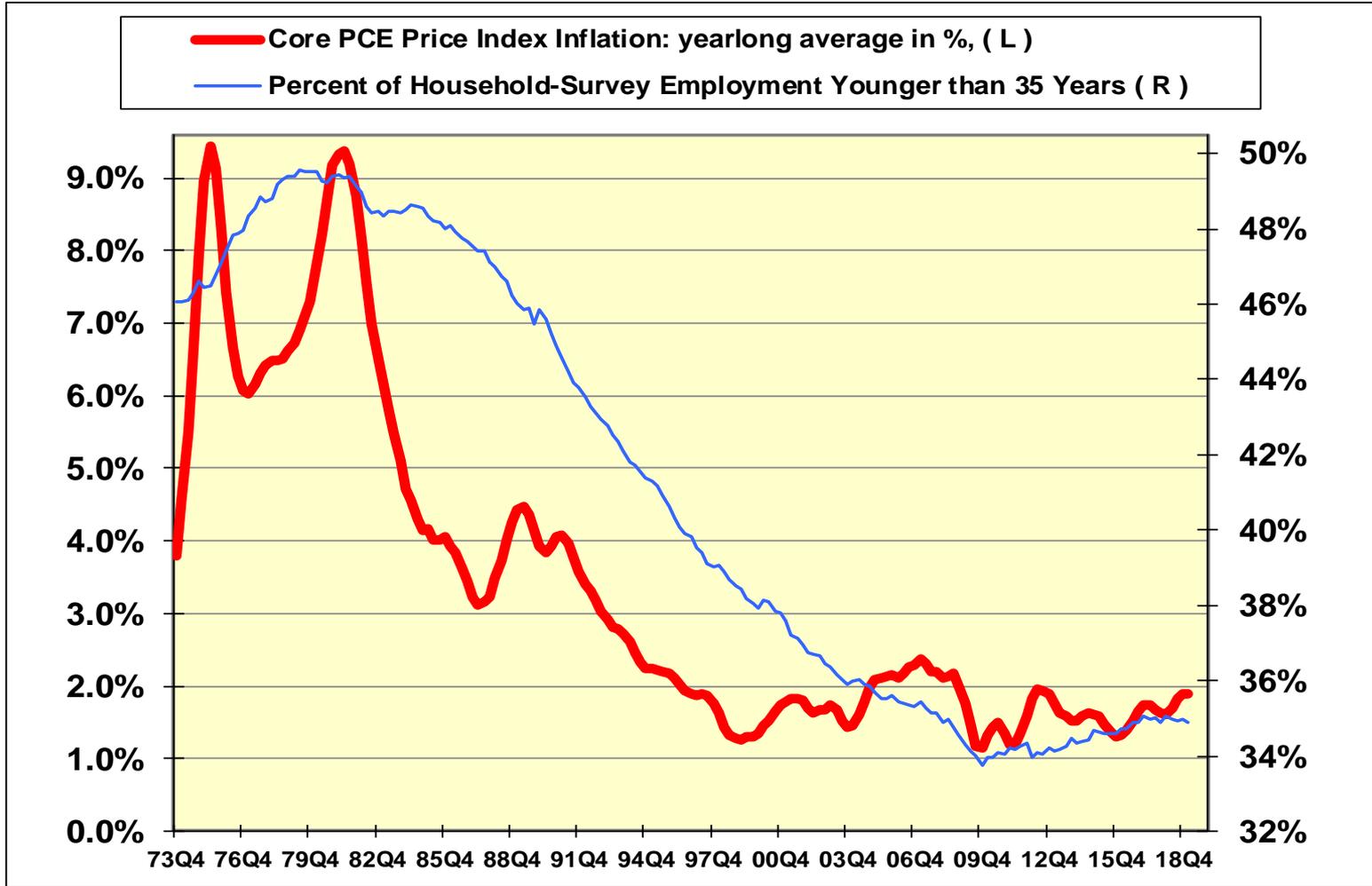
# Younger U.S. Workforce Was Joined by Higher 10-Year U.S. Treasury Yield

source: Census Bureau, Federal Reserve, Moody's Analytics



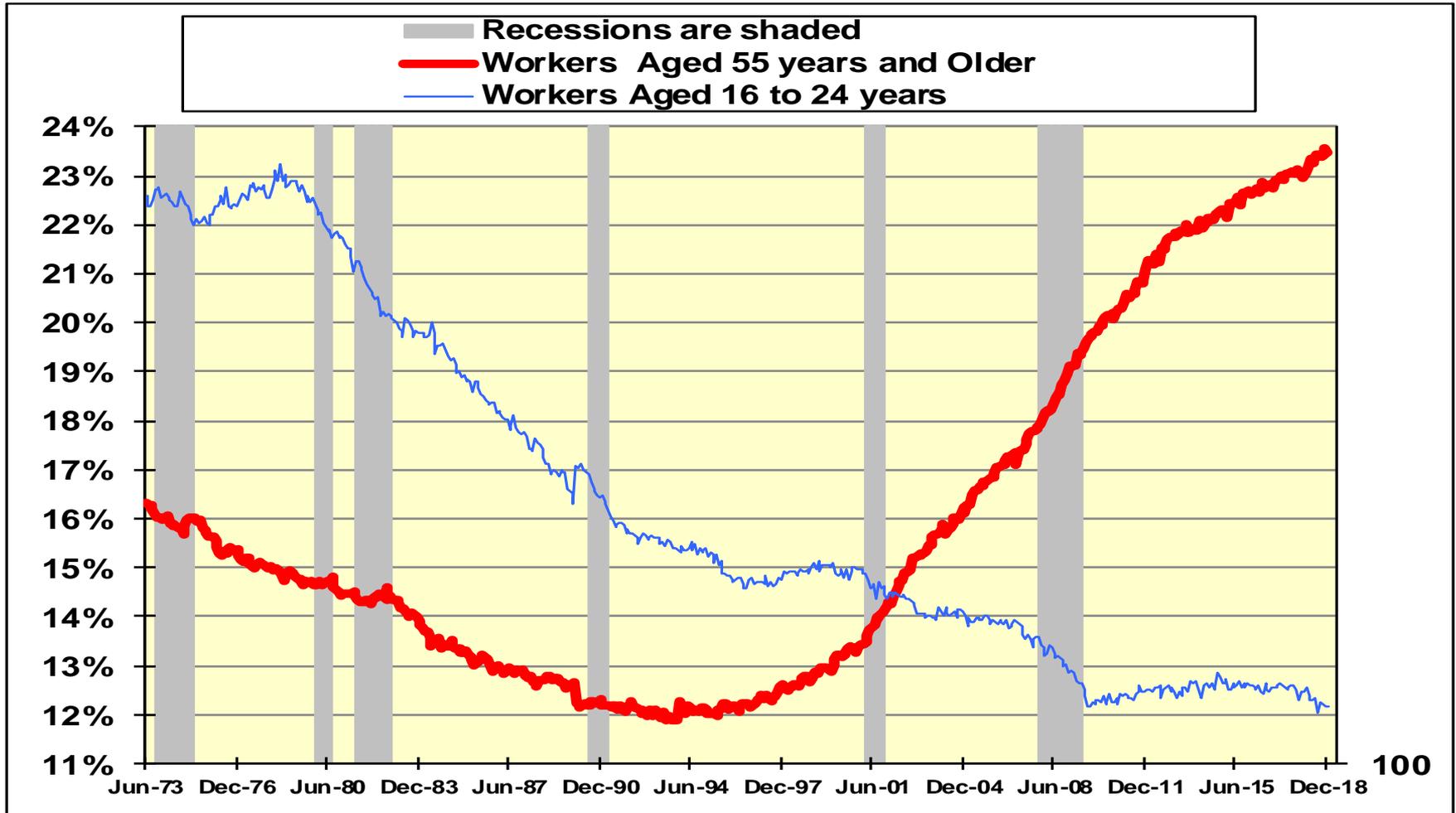
# Older Workforces Reduce Inflation Risk

source: Census Bureau, BLS, Moody's Analytics



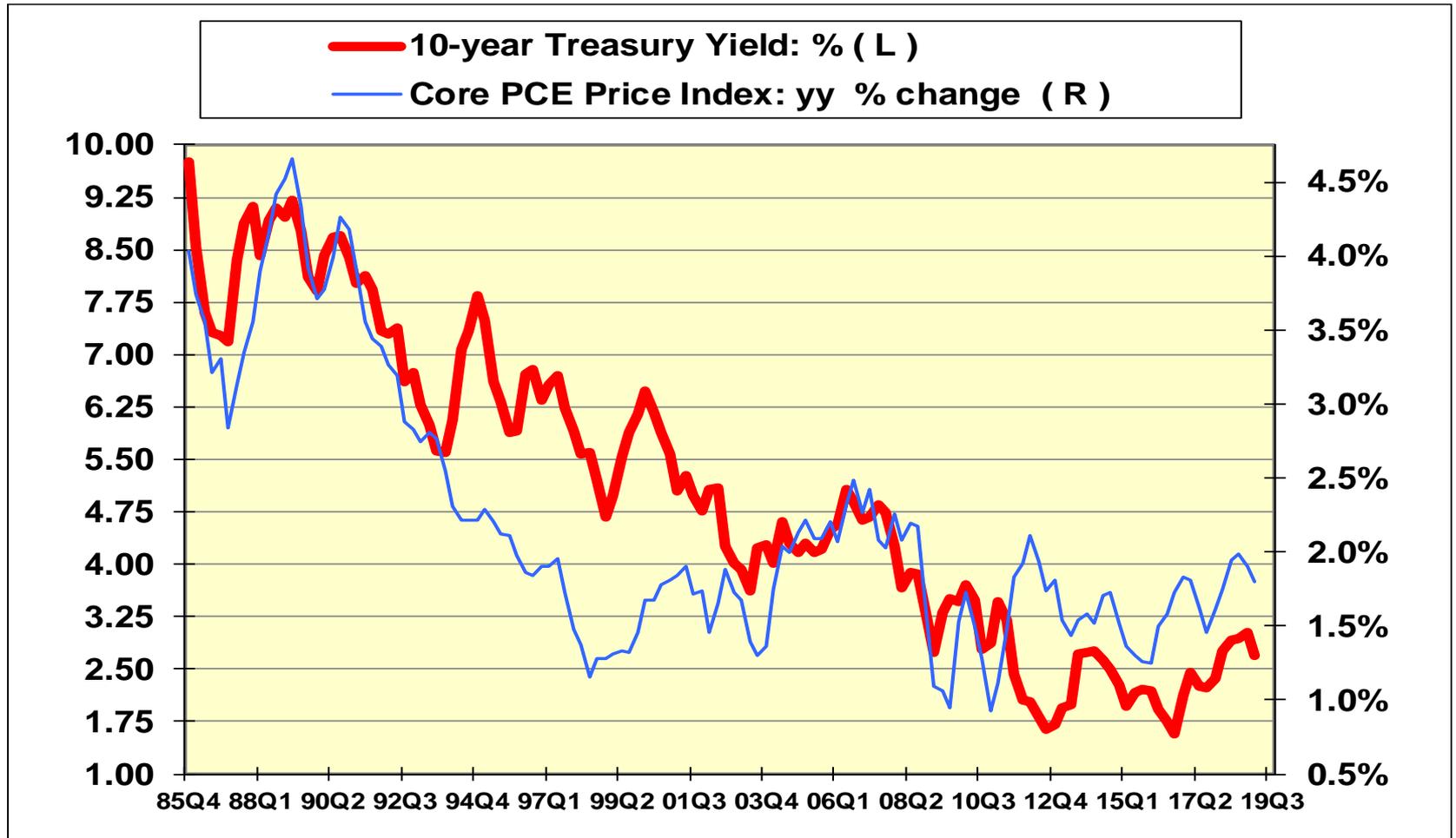
# Record High 23.5% of U.S. Household Survey Employment Is At Least 55 Years of Age

source: BLS, NBER, Moody's Analytics



# Expected Containment of Core Inflation Will Prevent an Extended Climb by Treasury Bond Yields

source: Federal Reserve, BLS, Moody's Analytics

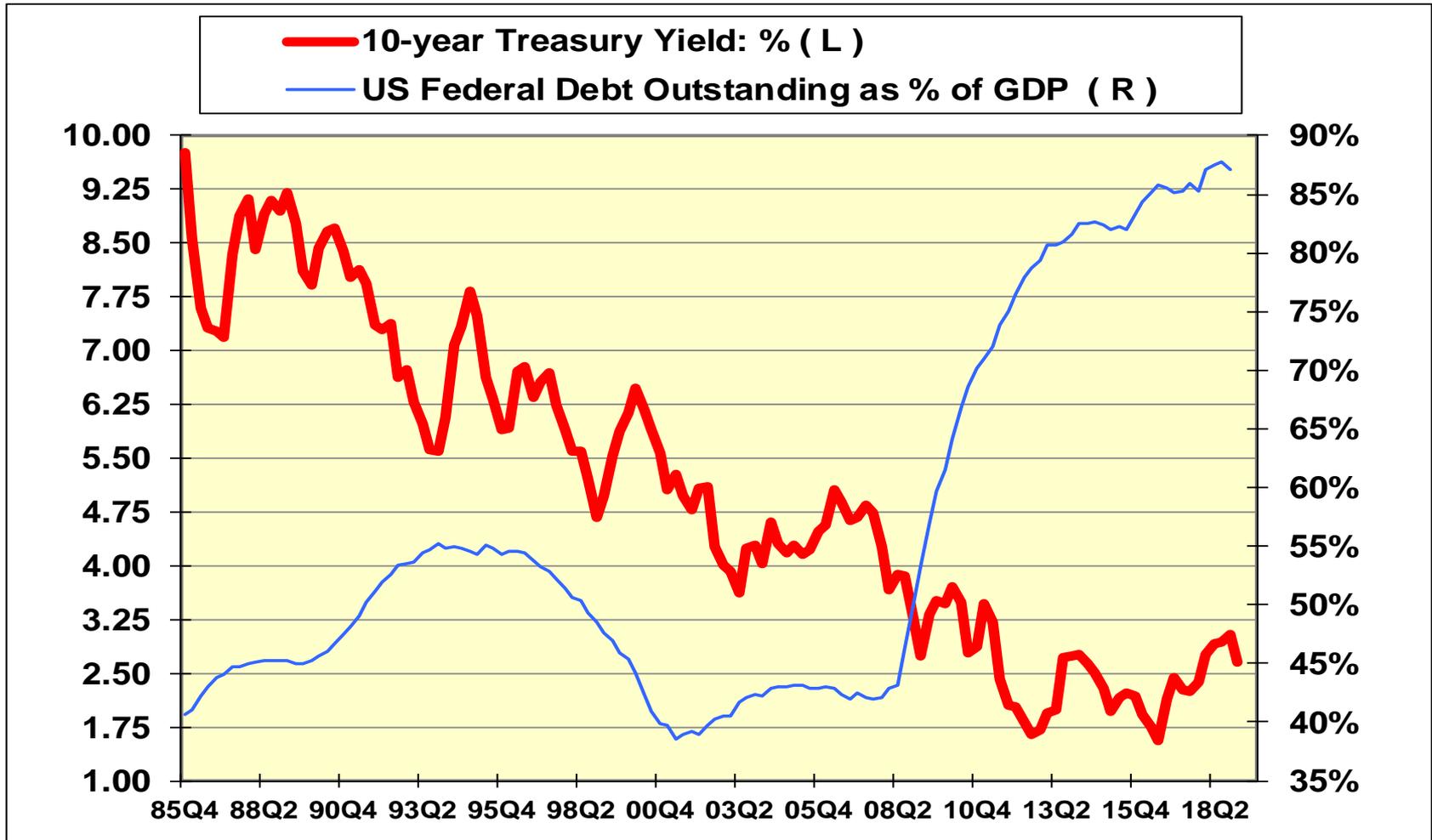


## Consensus Prediction for 2020's 10-Year Treasury Yield Seems Too High Given Forecast of Slowdown by U.S. Real GDP Growth from 2019's 2.3% to 1.9% for 2020

	Average of Lowest 10 Forecasts	10-year Treasury Yield: %	Average of Highest 10 Forecasts
	1	2	3
<b>18Q1</b>		<b>2.76</b>	
<b>18Q2</b>		<b>2.92</b>	
<b>18Q3</b>		<b>2.93</b>	
<b>18Q4</b>		<b>3.03</b>	
<b>19Q1</b>		<b>2.65</b>	
<i>Blue Chip Consensus Forecasts as of late March 2019:</i>			
<b>19Q2</b>	<b>2.4</b>	<b>2.7</b>	<b>2.9</b>
<b>19Q3</b>	<b>2.4</b>	<b>2.7</b>	<b>3.0</b>
<b>19Q4</b>	<b>2.4</b>	<b>2.8</b>	<b>3.1</b>
<b>20Q1</b>	<b>2.4</b>	<b>2.8</b>	<b>3.2</b>
<b>20Q2</b>	<b>2.3</b>	<b>2.8</b>	<b>3.3</b>
<b>2017</b>		<b>2.3</b>	
<b>2018</b>		<b>2.9</b>	
<b>2019</b>	<b>2.6</b>	<b>2.7</b>	<b>3.1</b>
<b>2020</b>	<b>2.3</b>	<b>2.8</b>	<b>3.3</b>
Source for forecasts: Blue Chip Financial Forecasts, April 1, 2019			

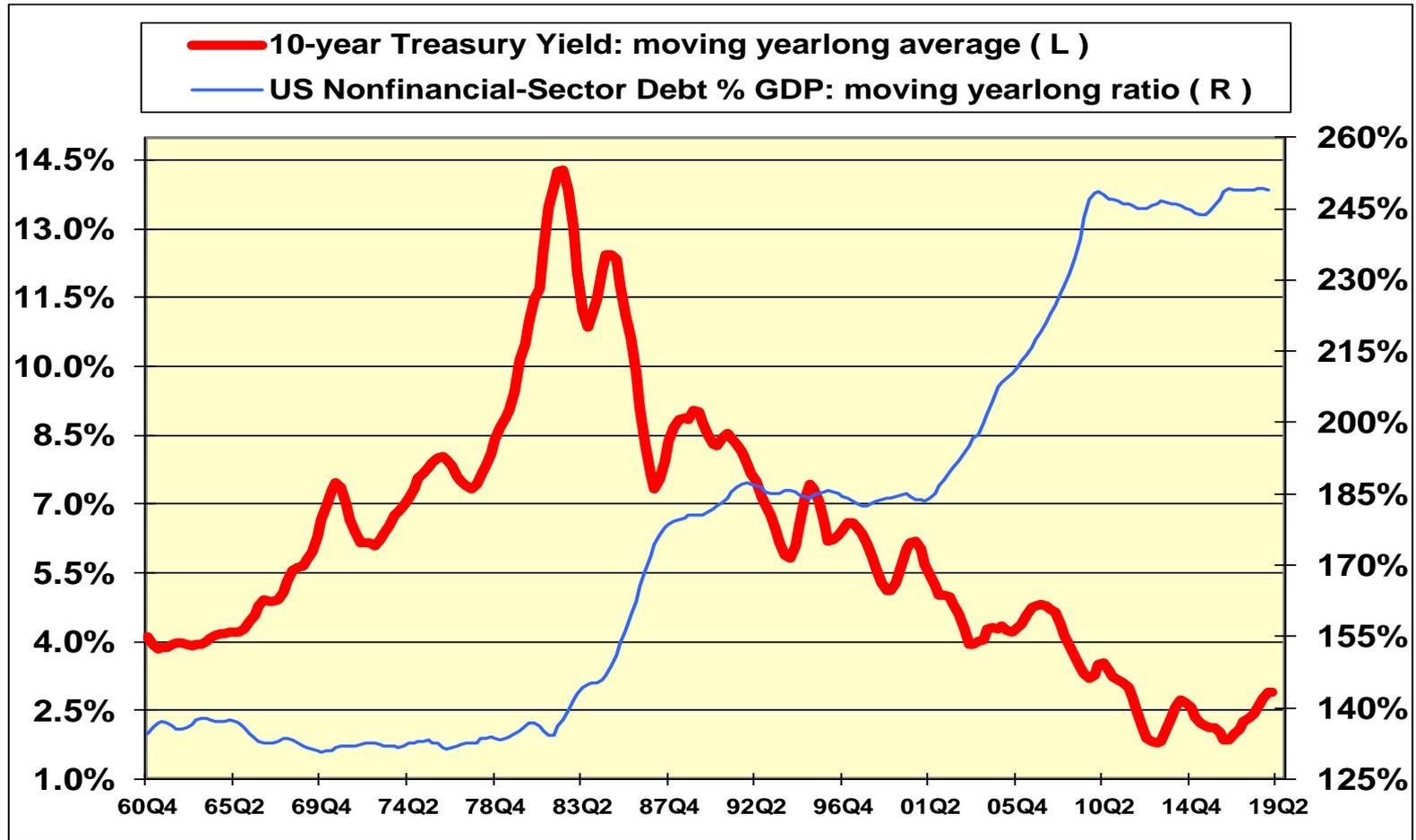
# Treasury Bond Yields Do Not Always Move in the Direction Taken by the Ratio of Federal Debt to GDP

source: Federal Reserve, Moody's Analytics



# Elevated Ratio of U.S. Nonfinancial-Sector Debt to GDP Helps Rein In Benchmark Interest Rates

source: Federal Reserve, BEA, Moody's Analytics

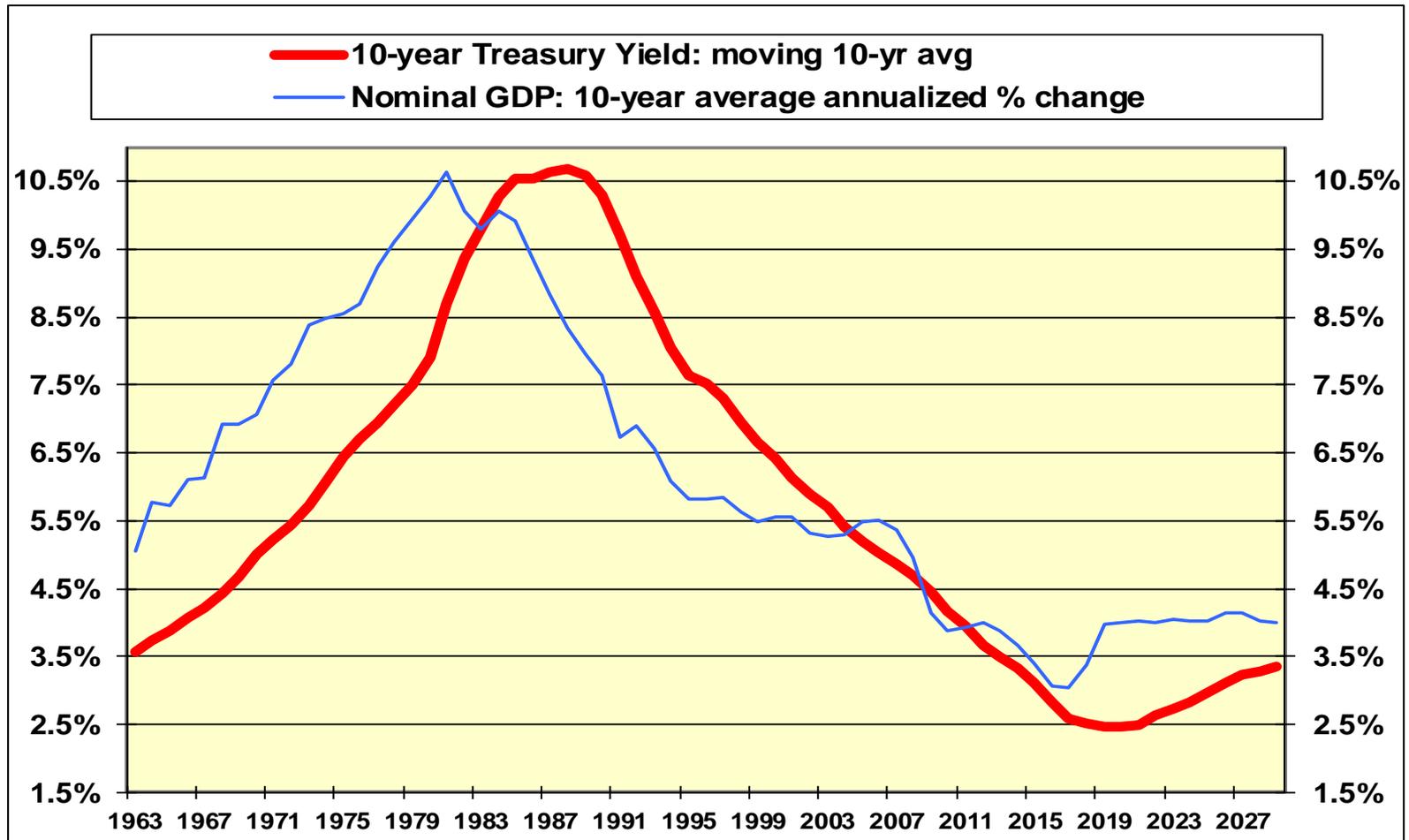


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## Consensus Sees Mild Growth and Modest Returns from Capital through 2019

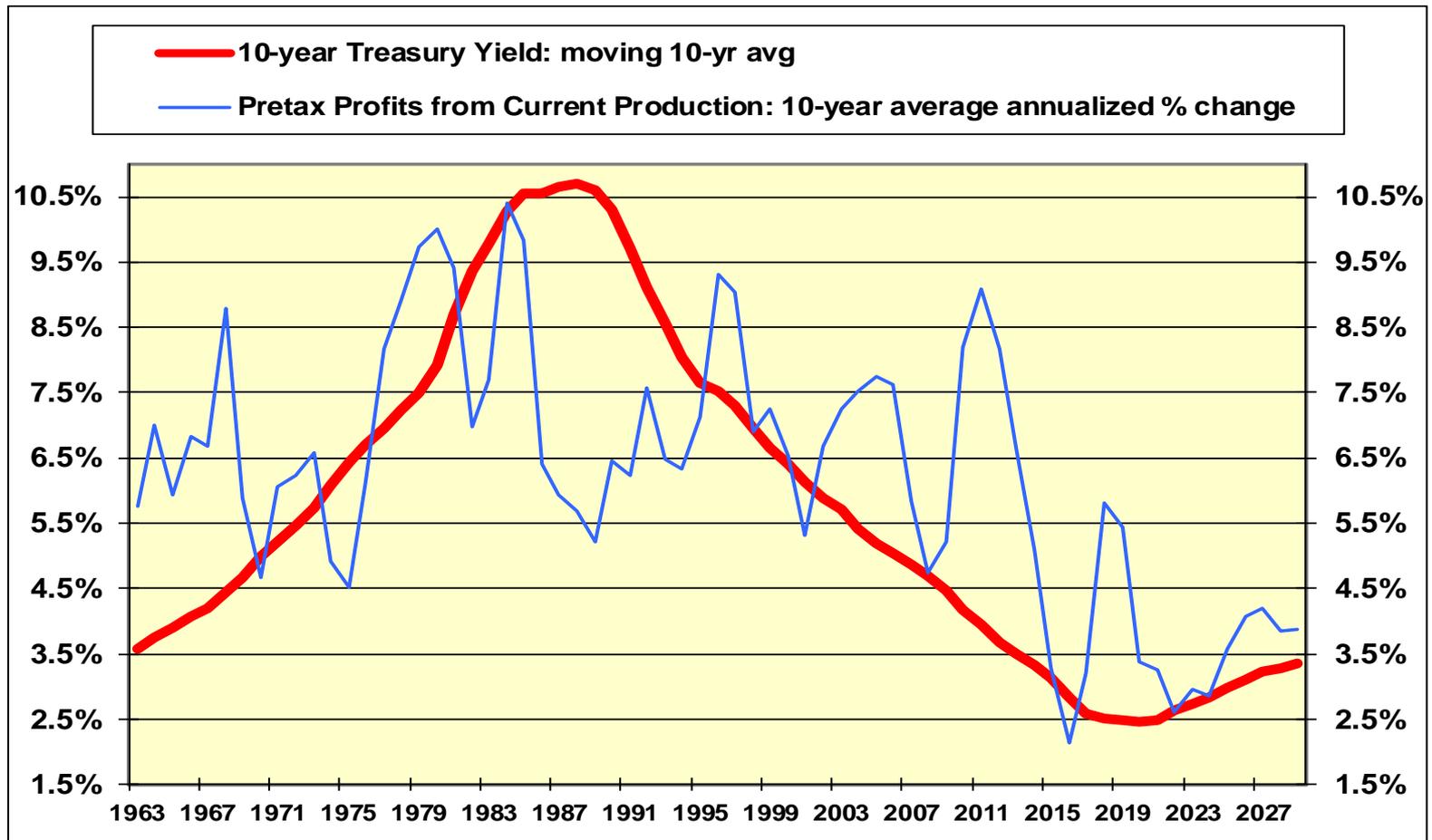
# Latest Blue Chip Consensus Puts Averages for Next 10 Years at 4.0% for Nominal GDP Growth and 3.40% for 10-year Treasury Yield

*10-year observations, actual & predicted*  
*source: Blue Chip Economic Indicators, Moody's Analytics*



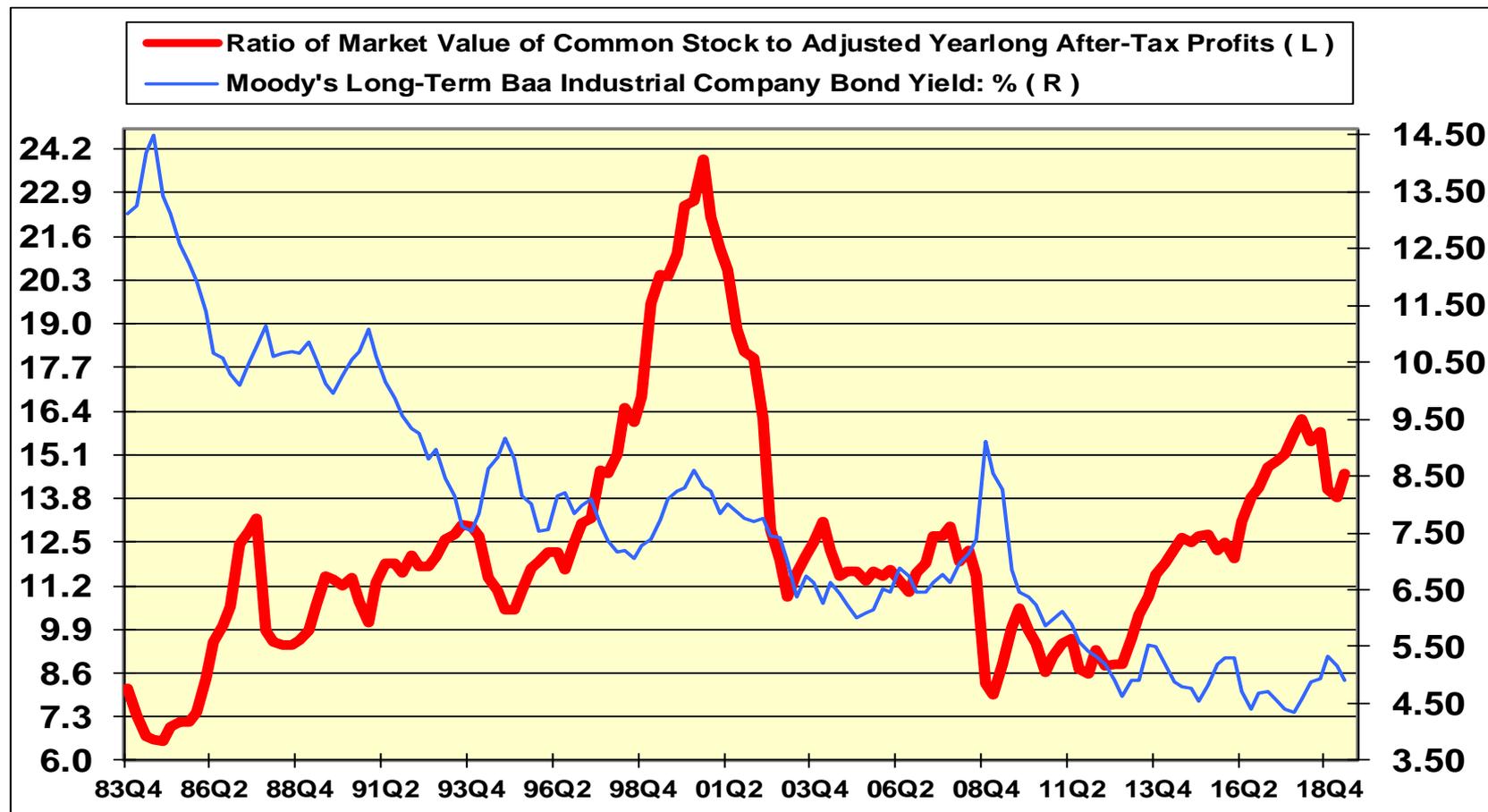
# Blue Chip Consensus Predicts 3.9% Annual Average Rise for Core Pretax Profits Through 2029 Will Join 3.4% 10-year Treasury Yield

10-year observations, actual & predicted  
source: Blue Chip Economic Indicators, BEA, Moody's Analytics



# Ratio of Common Equity's Market Value to After-Tax Core Profits – or Aggregate P:E Ratio -- Tends to be Higher the Lower Is the Long-Term Baa Industrial Company Bond Yield

source: BEA, Wilshire Index, Moody's Analytics



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