

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

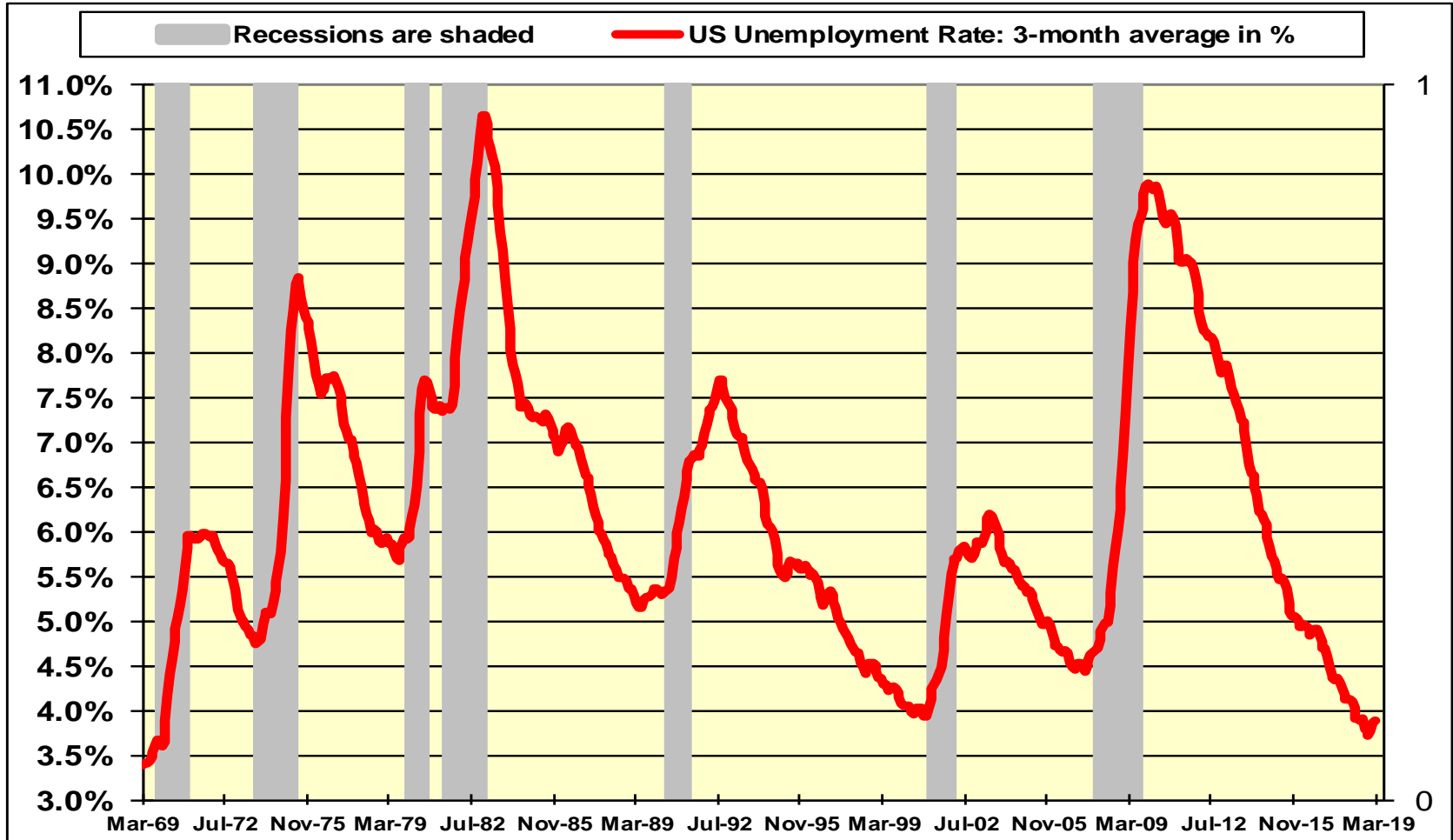
1

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 ...

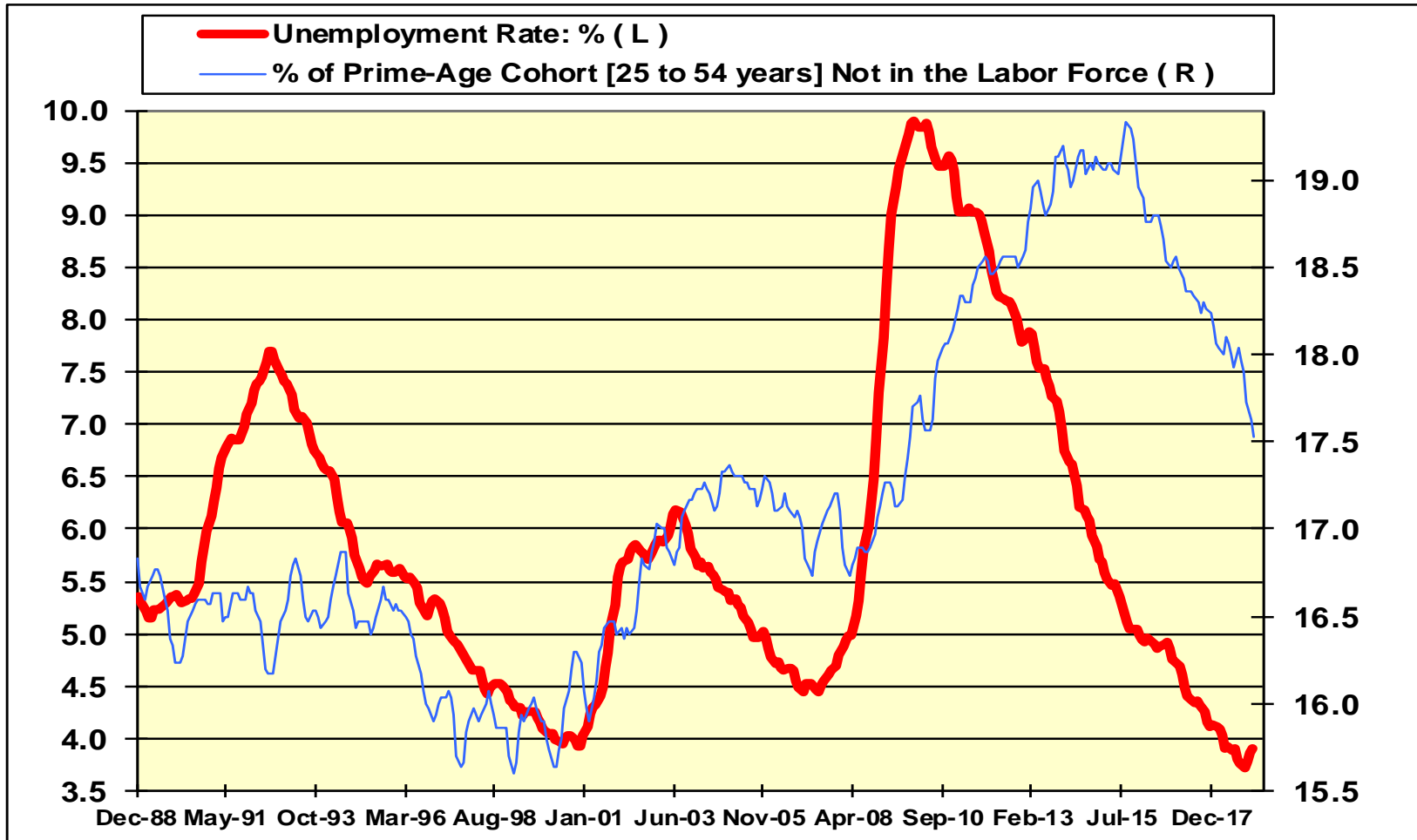
Only 6% of Months of Last 50 Years Show Unemployment Rate of 4% or Lower

source: BLS, NBER, Moody's Analytics



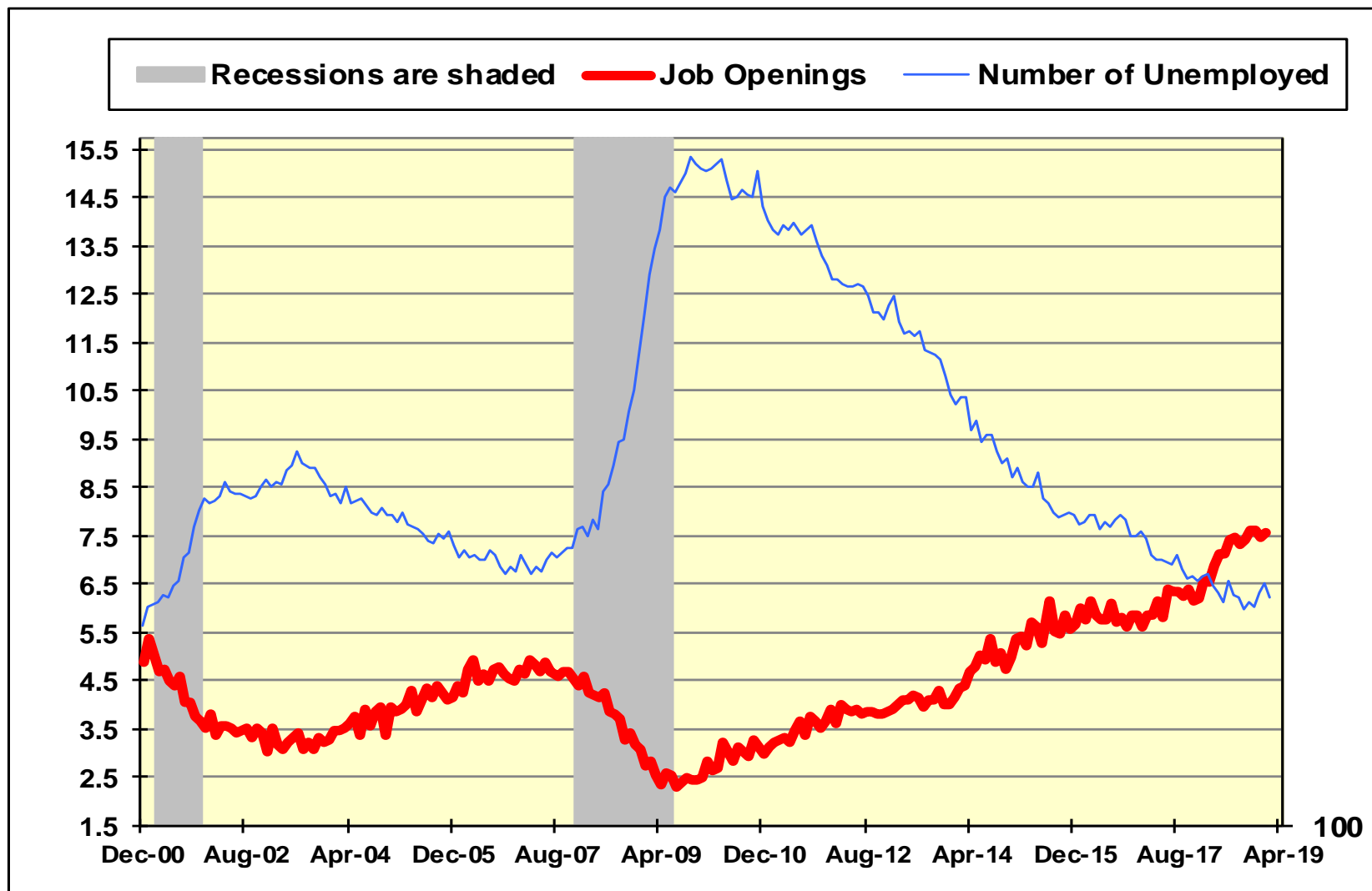
High Percentage of Those Aged 25- to 54-Years Neither Working Nor Looking for Work Implies February's 3.8% Jobless Rate Overstates Job Market Tightness

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



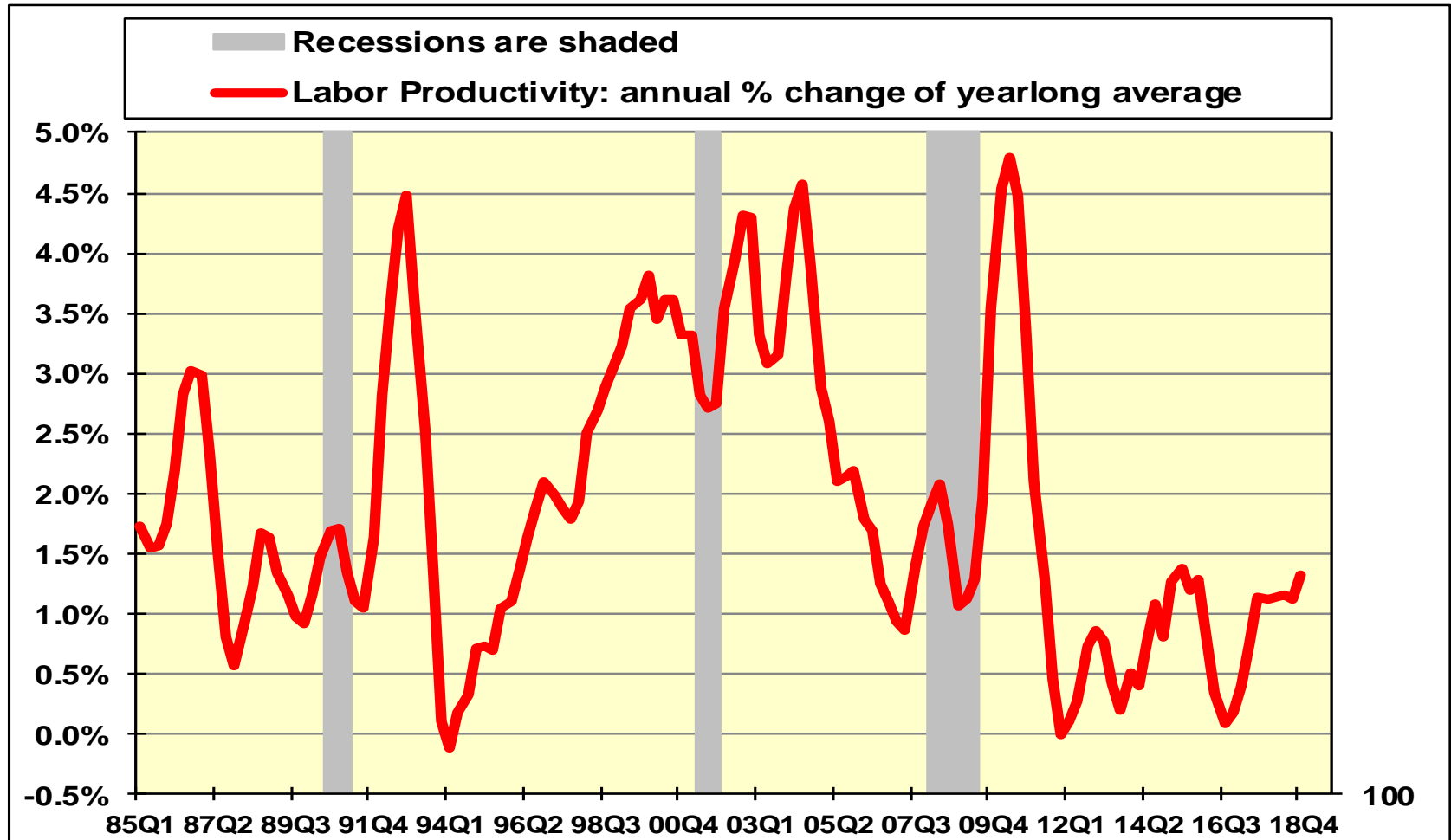
Job Openings Top Number of Unemployed Starting in March 2018

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

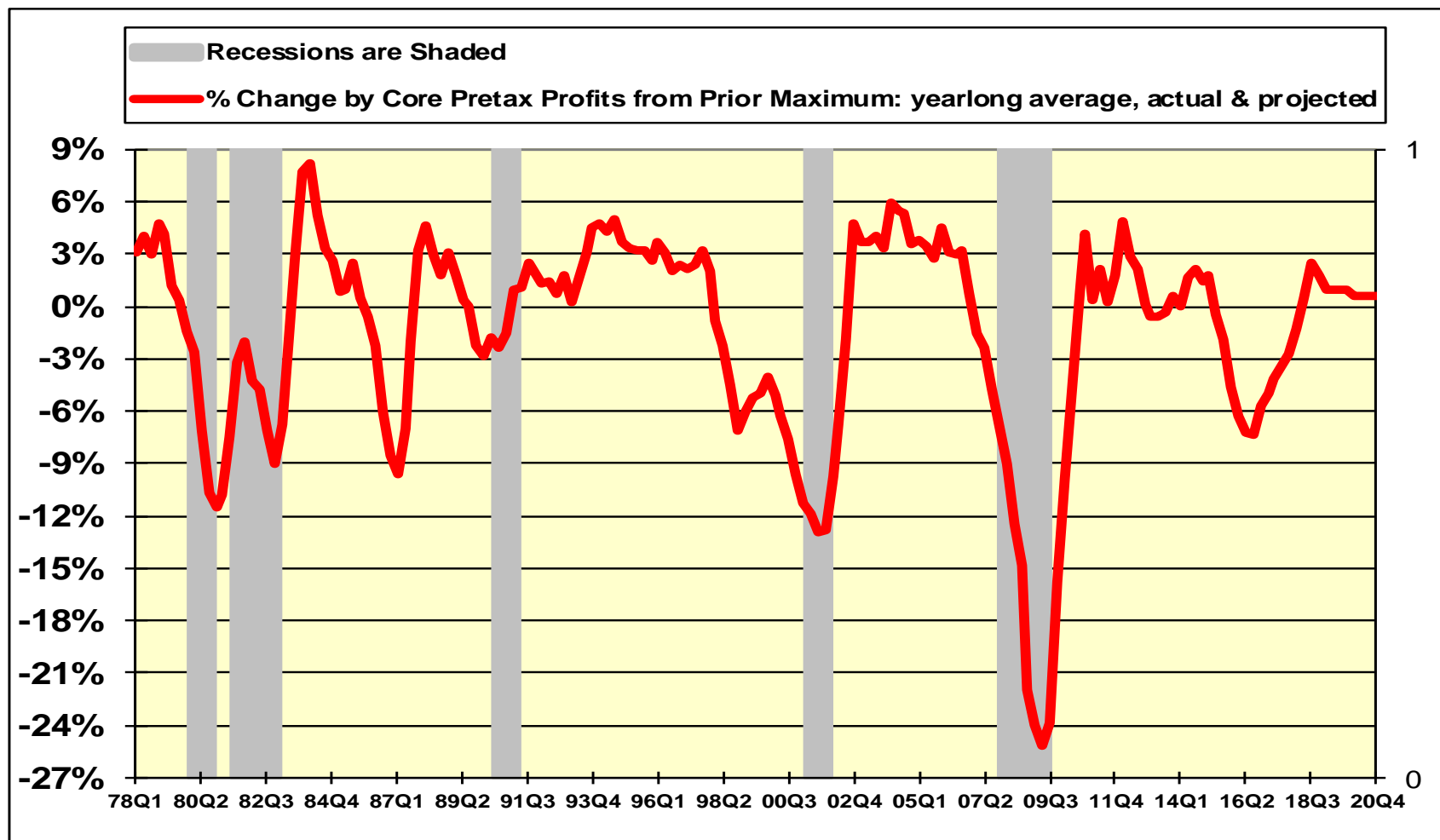


2

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

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

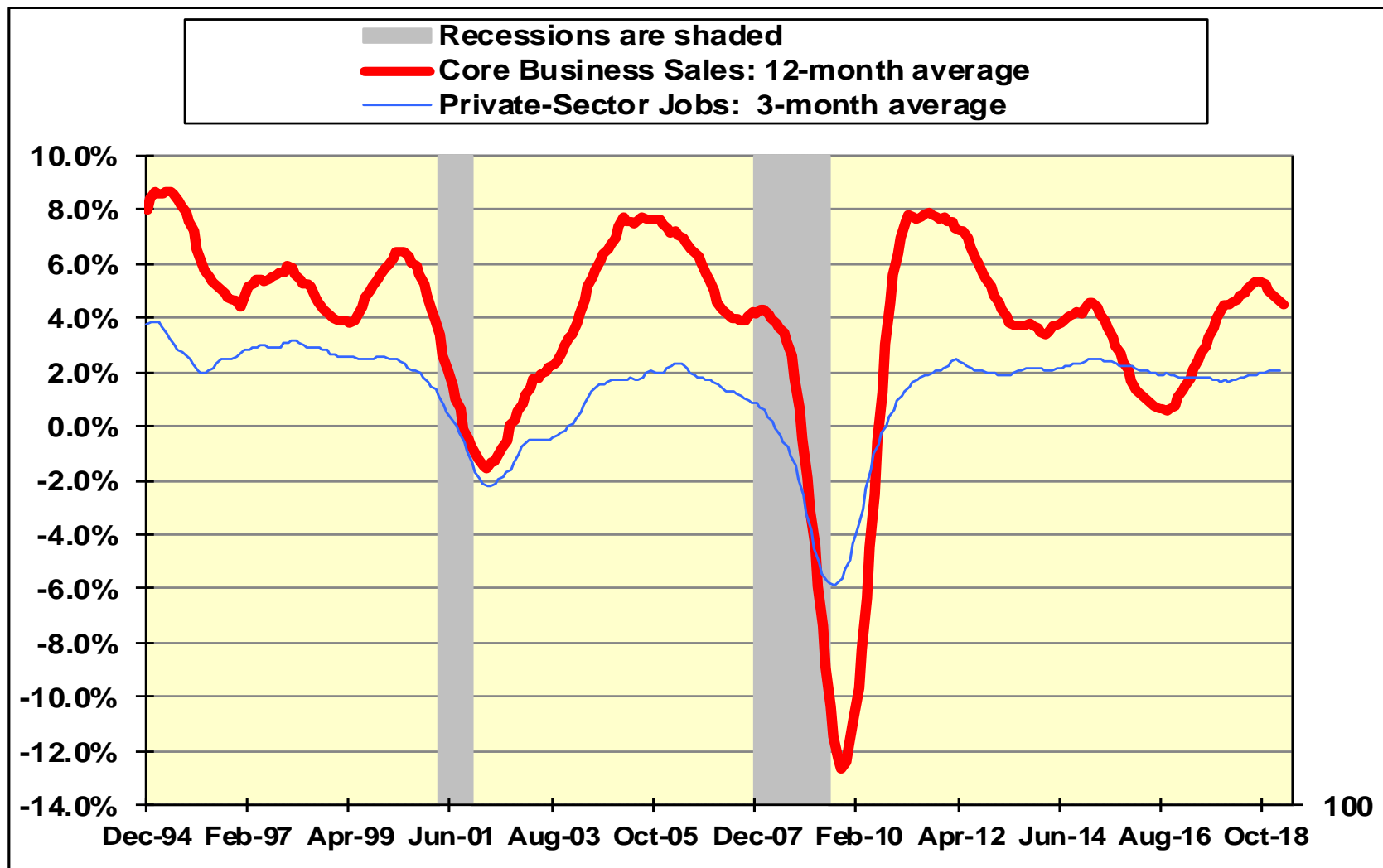
Consensus Earnings per Share Growth Projections for 2019 Show Utilities Topping Seven of the S&P 500's 11 Broad Categories

year-over-year (yy) % changes

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

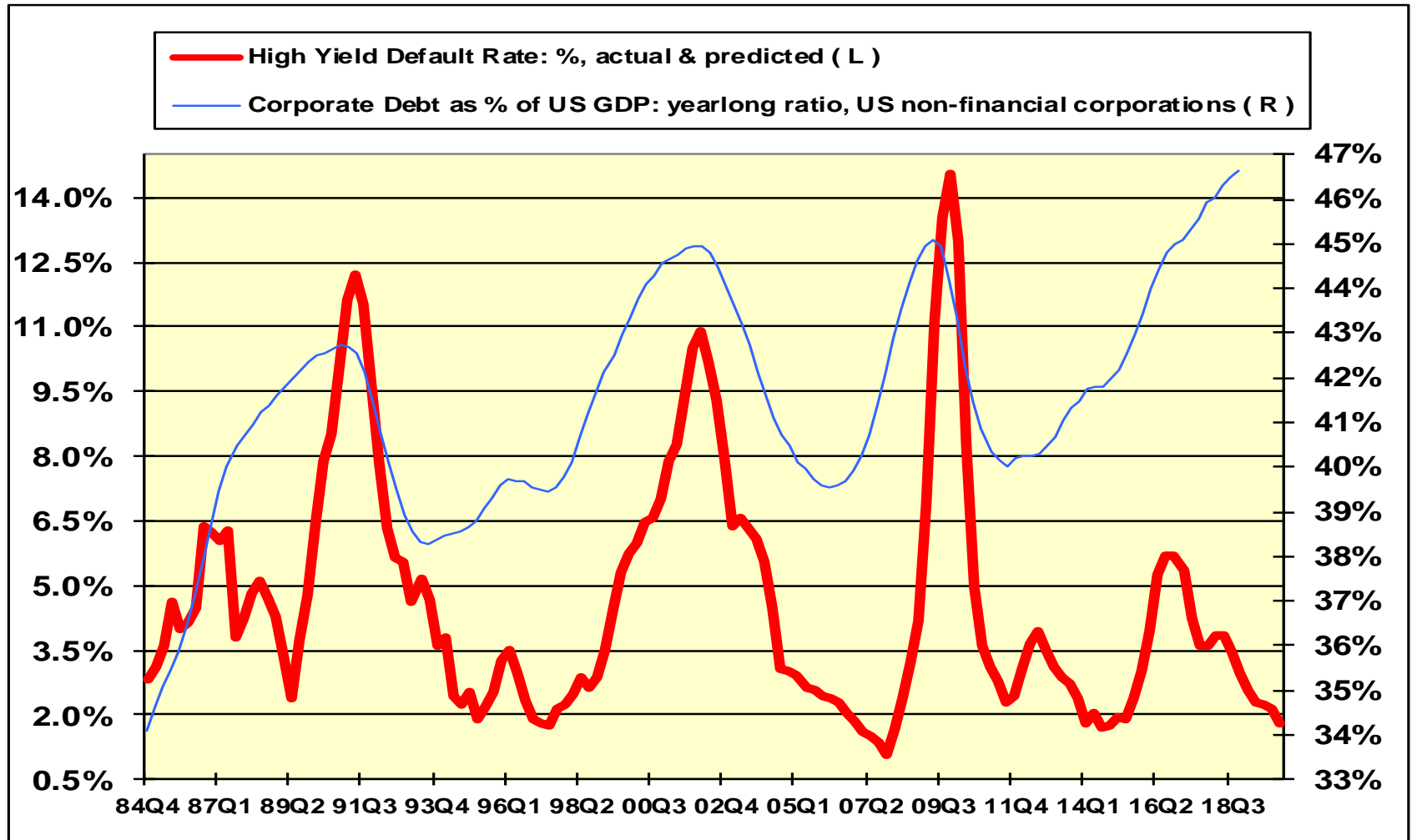


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Profits Growth Is Good for Corporate Credit Quality

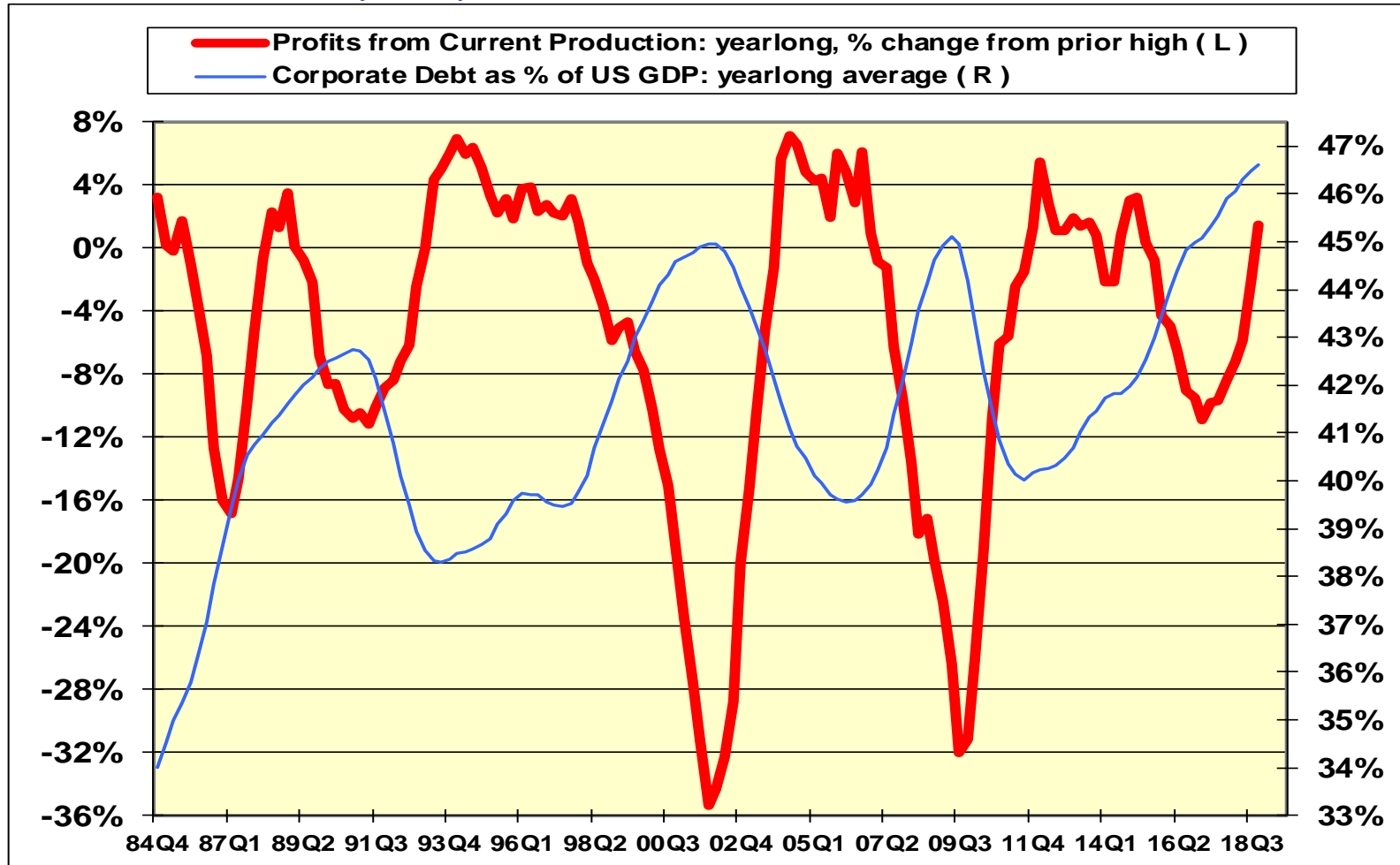
Projected Slide by Default Rate Defies Yet Another Record High Ratio of Nonfinancial-Corporate Debt to GDP

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



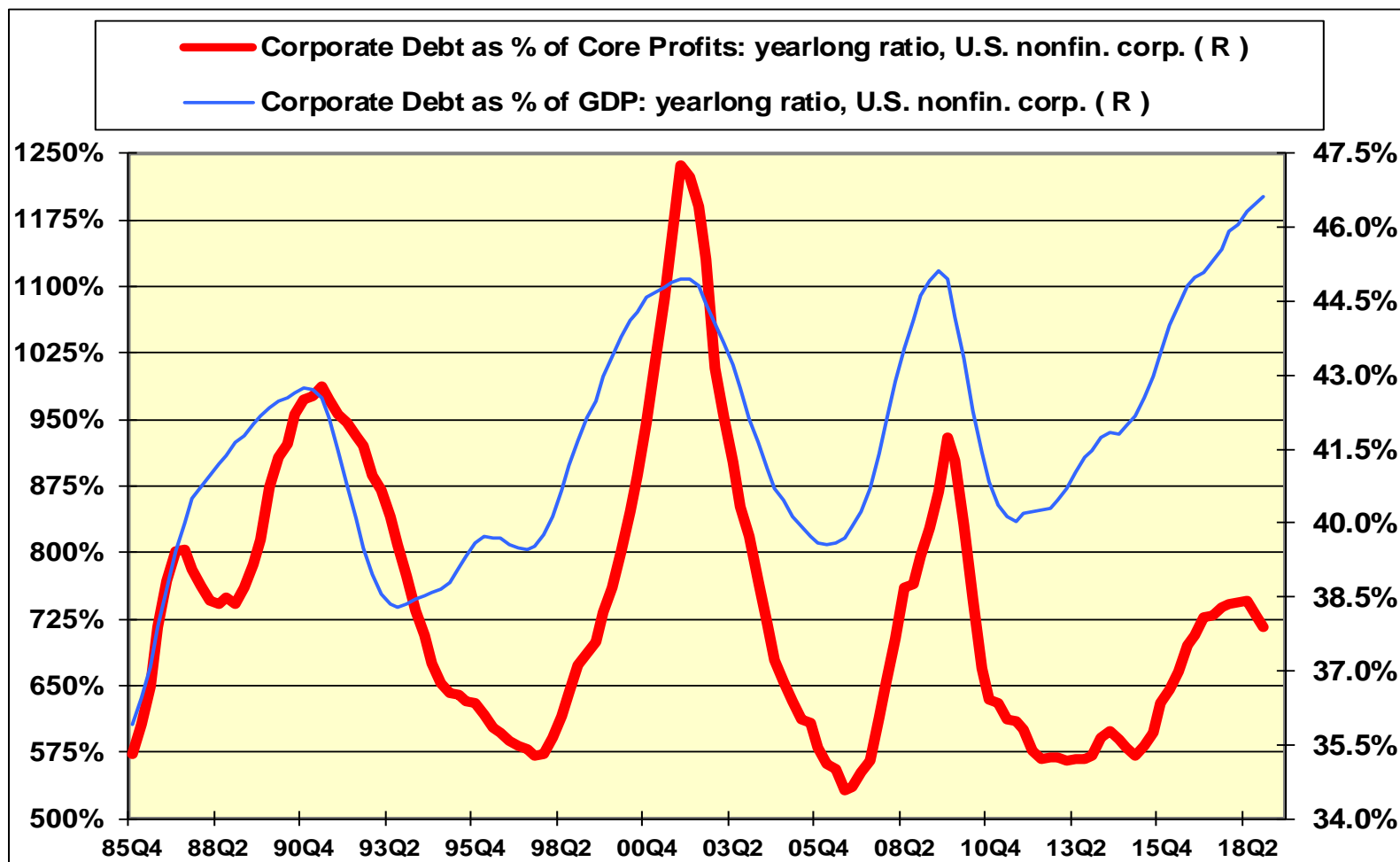
When Corporate Debt to GDP Ratio Set New Highs in 2009, 2001 and 1990, Profits Averaged -24% Less than Their Prior High ... By Contrast, Profits Now Set New Record Highs

source: Federal Reserve, BEA, Moody's Analytics



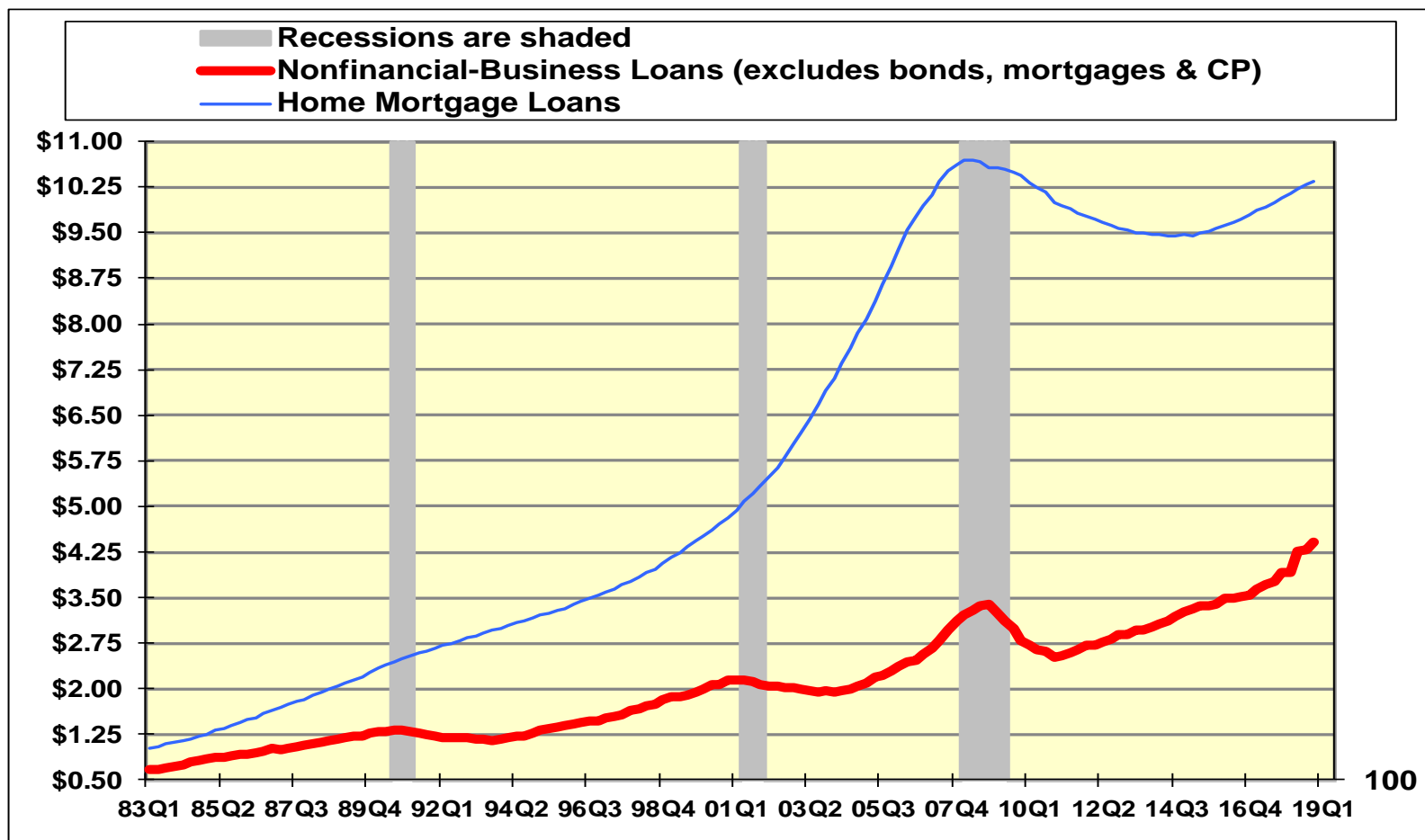
Corporate Leverage Appears Much Lower When Compared to Core Profits As Opposed to GDP

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

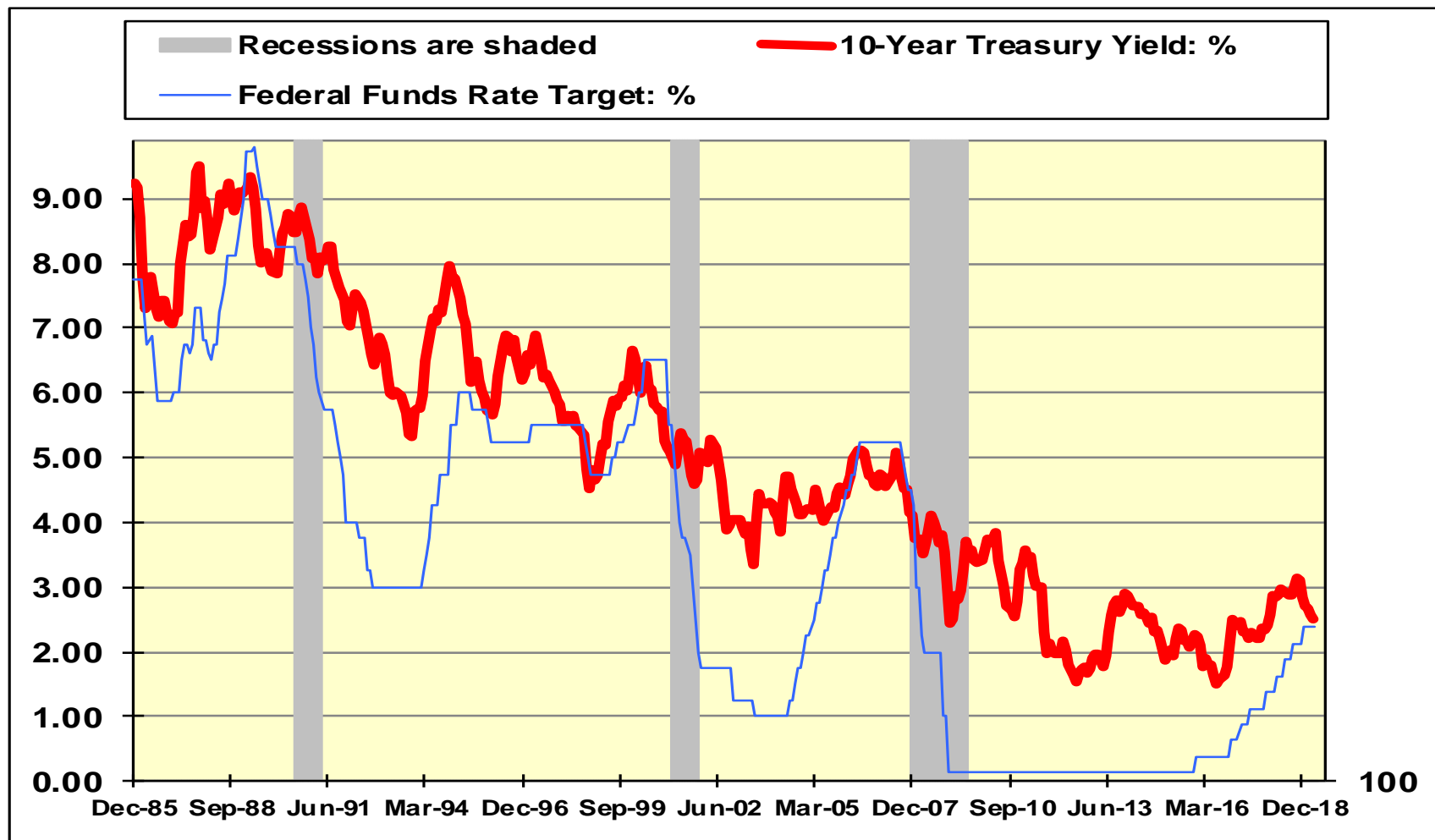


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3% 10-Year Treasury Yield
Was Too Burdensome for
Highly Leveraged World
Economy

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

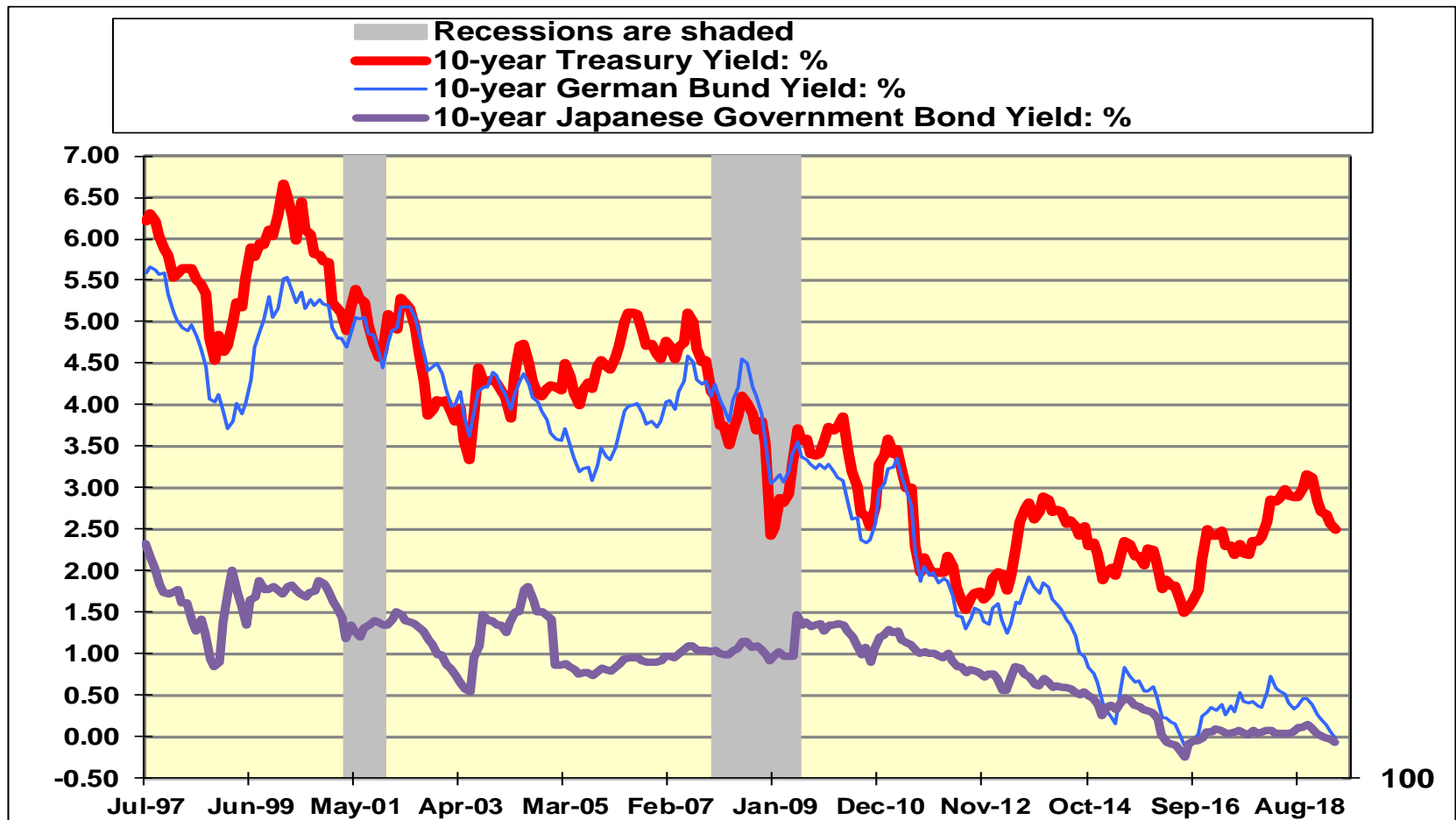
source: Federal Reserve, NBER, Moody's Analytics



Why Are Ten-Year Government Bond Yields So Low

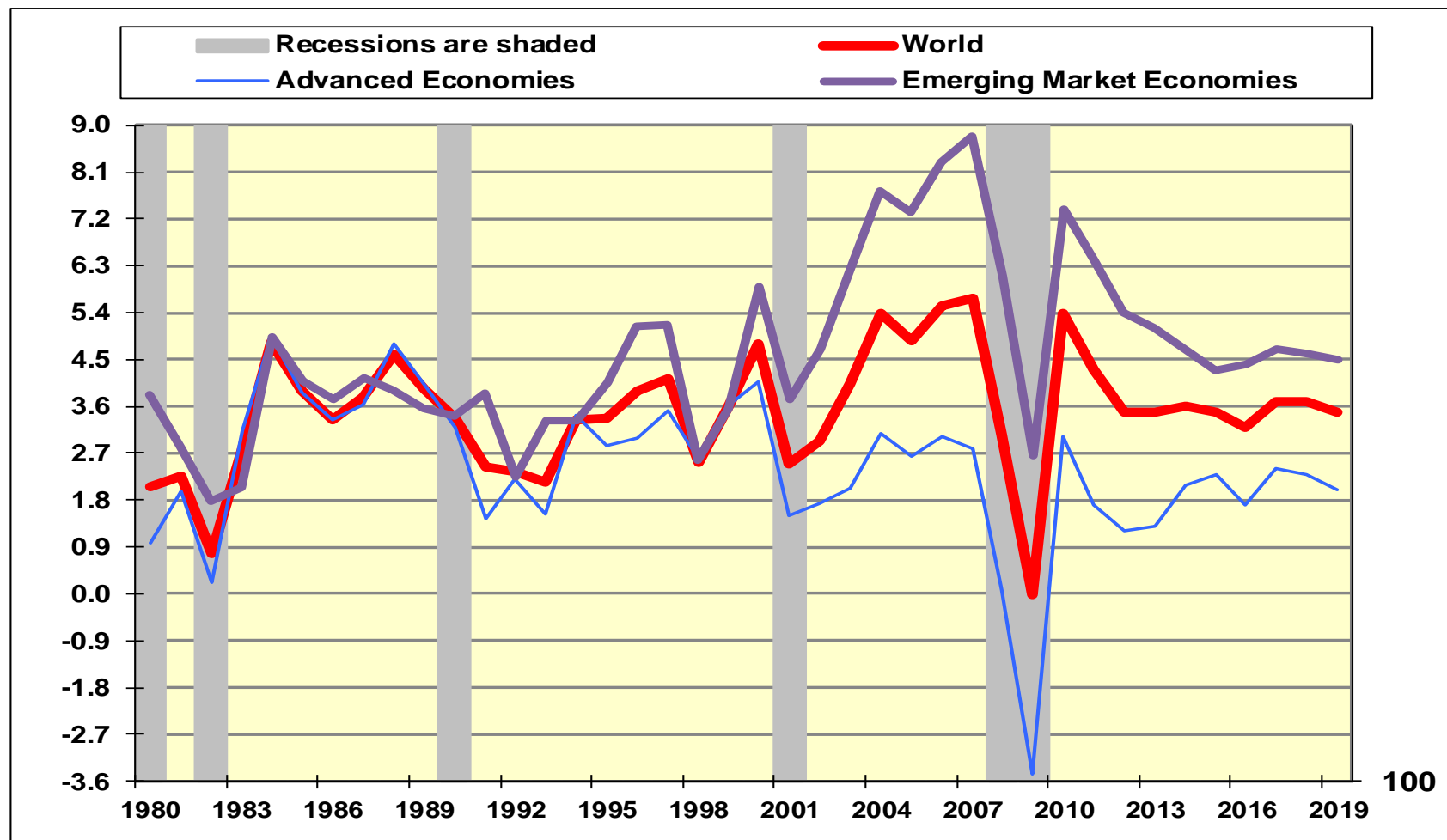
Recent US Treasury Yield of 2.50% Was Far Above Germany's -0.03%, Japan's -0.08%, the UK's 1.05%, and Canada's 1.70%

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



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

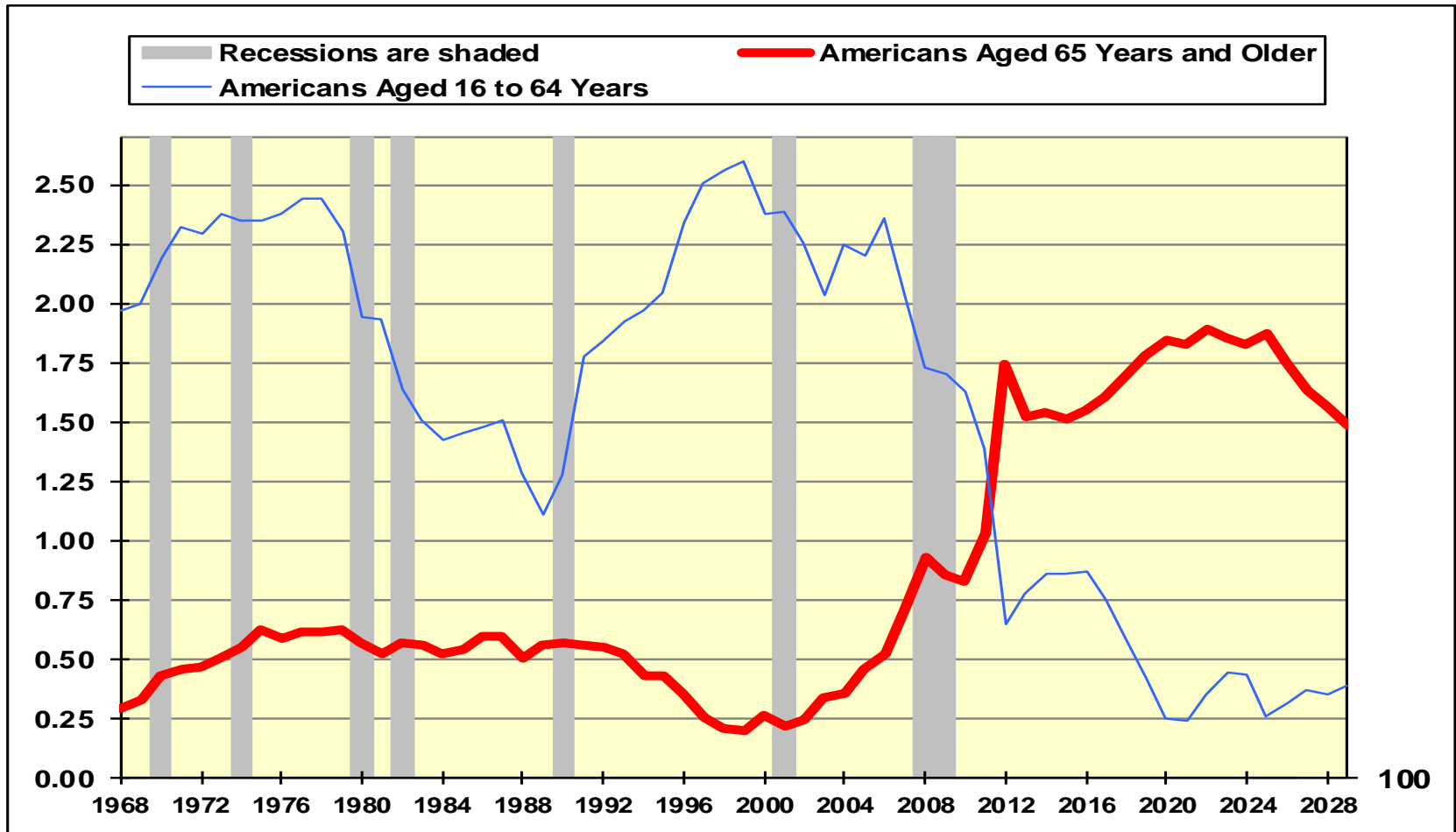
Selected Countries by Median Age and Percent of Population At Least 65 Years of Age as of 2017

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	WORLD	30	8.7
Greece	45	20.4	Iran	30	5.4
European Union	43	19.8	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
Russia	40	14.2	Pakistan	24	4.5
United States	38	15.4	Philippines	24	4.8
China	37	10.6	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

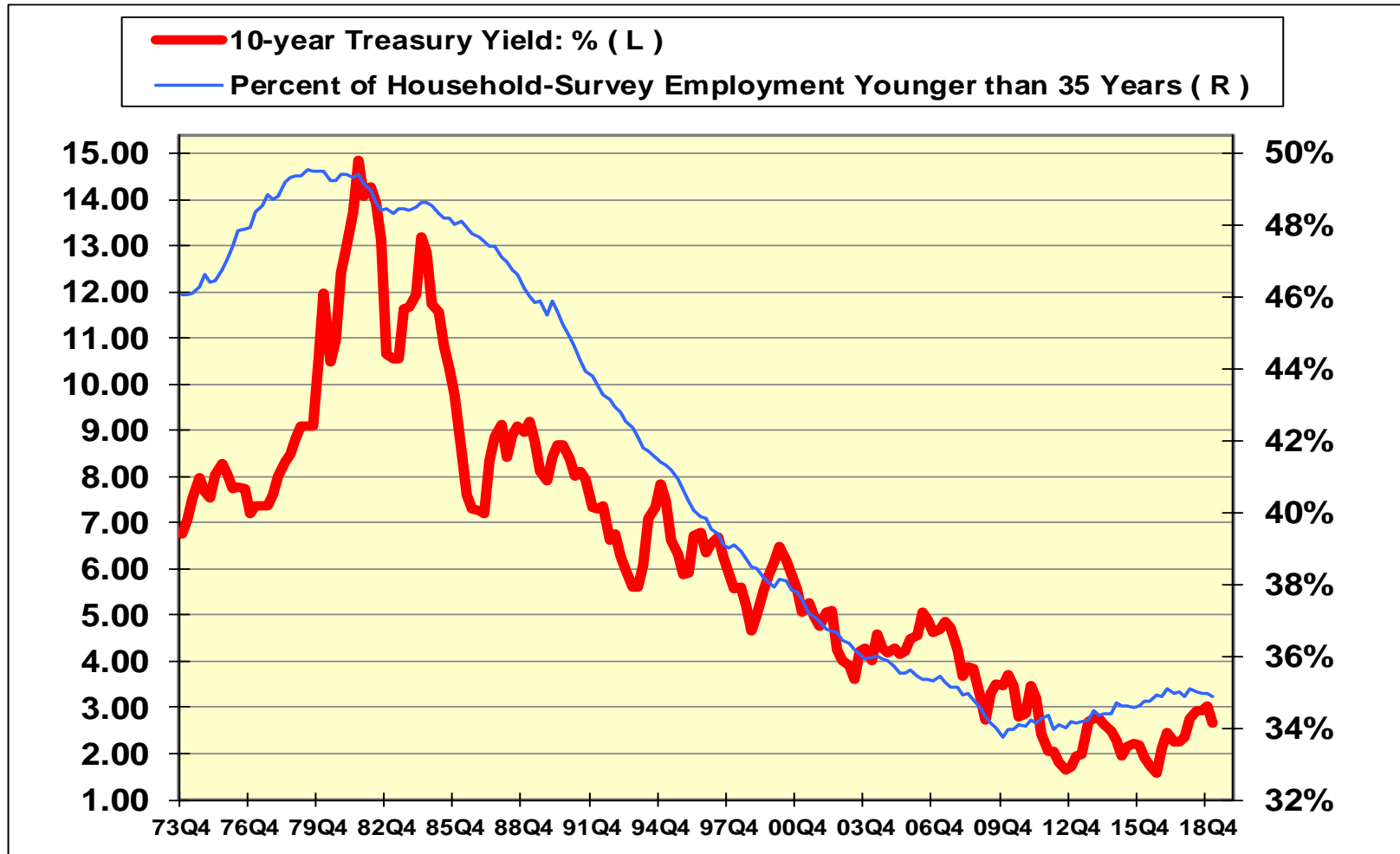
When US Real GDP and Consumer Spending Last Grew Faster than 4% Annually During 1998-2000, the US' "16- to 64-Years of Age" Cohort Expanded by 2.5-million per Year ... It Now Rises by 250,000 Annually

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



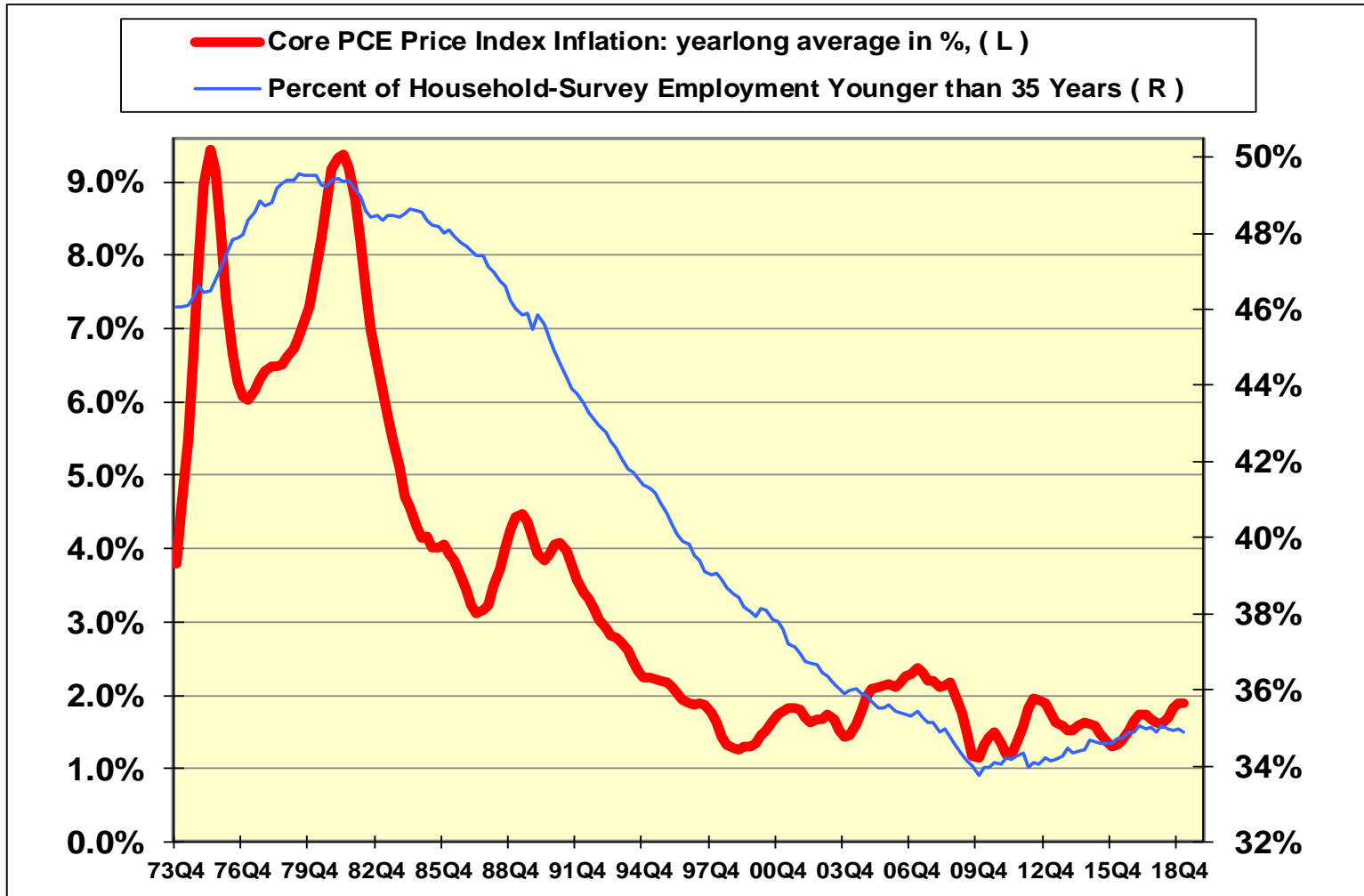
Younger U.S. Workforce Was Joined by Higher 10-Year U.S. Treasury Yield

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



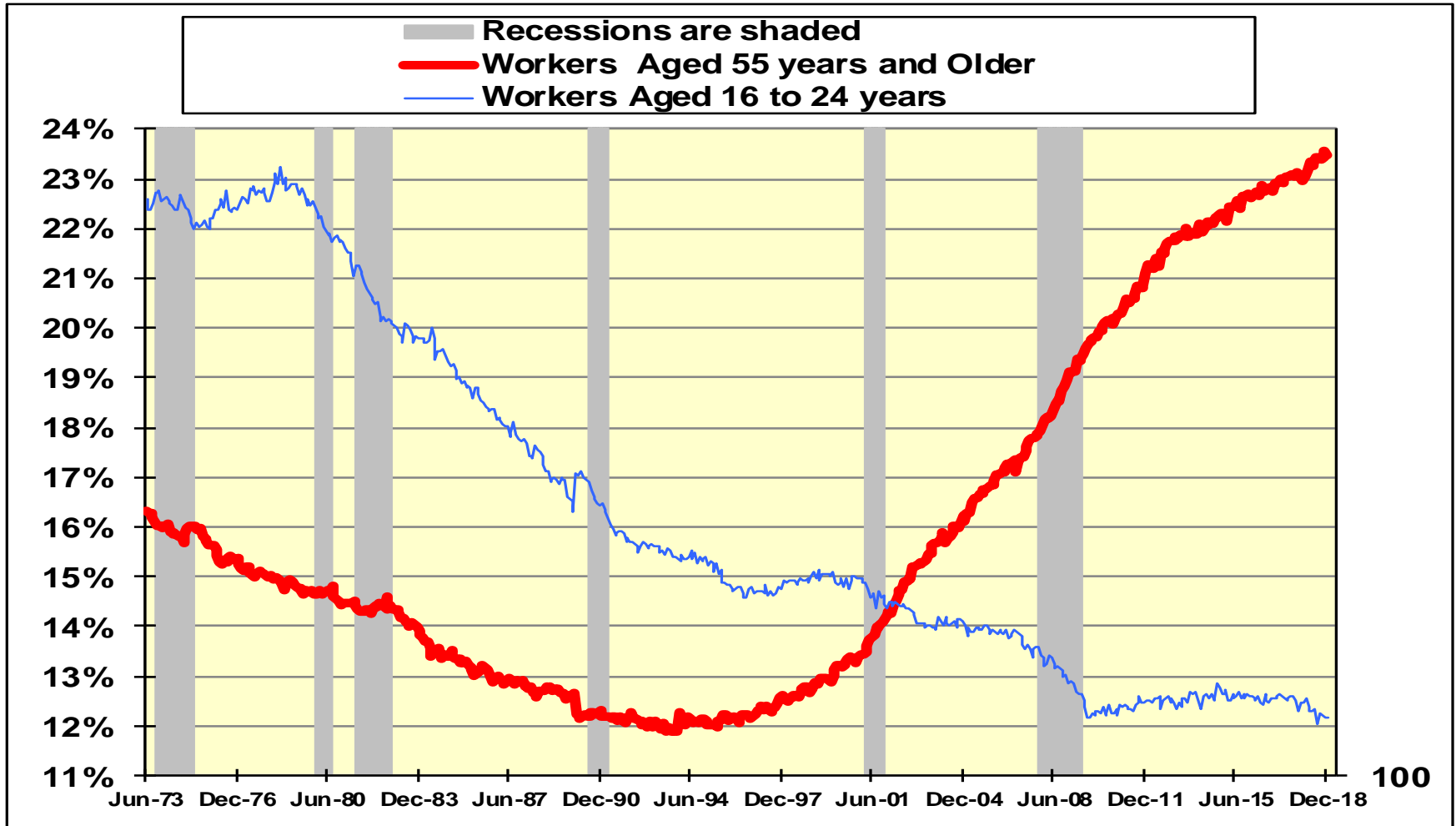
Older Workforces Reduce Inflation Risk

source: Census Bureau, BLS, Moody's Analytics



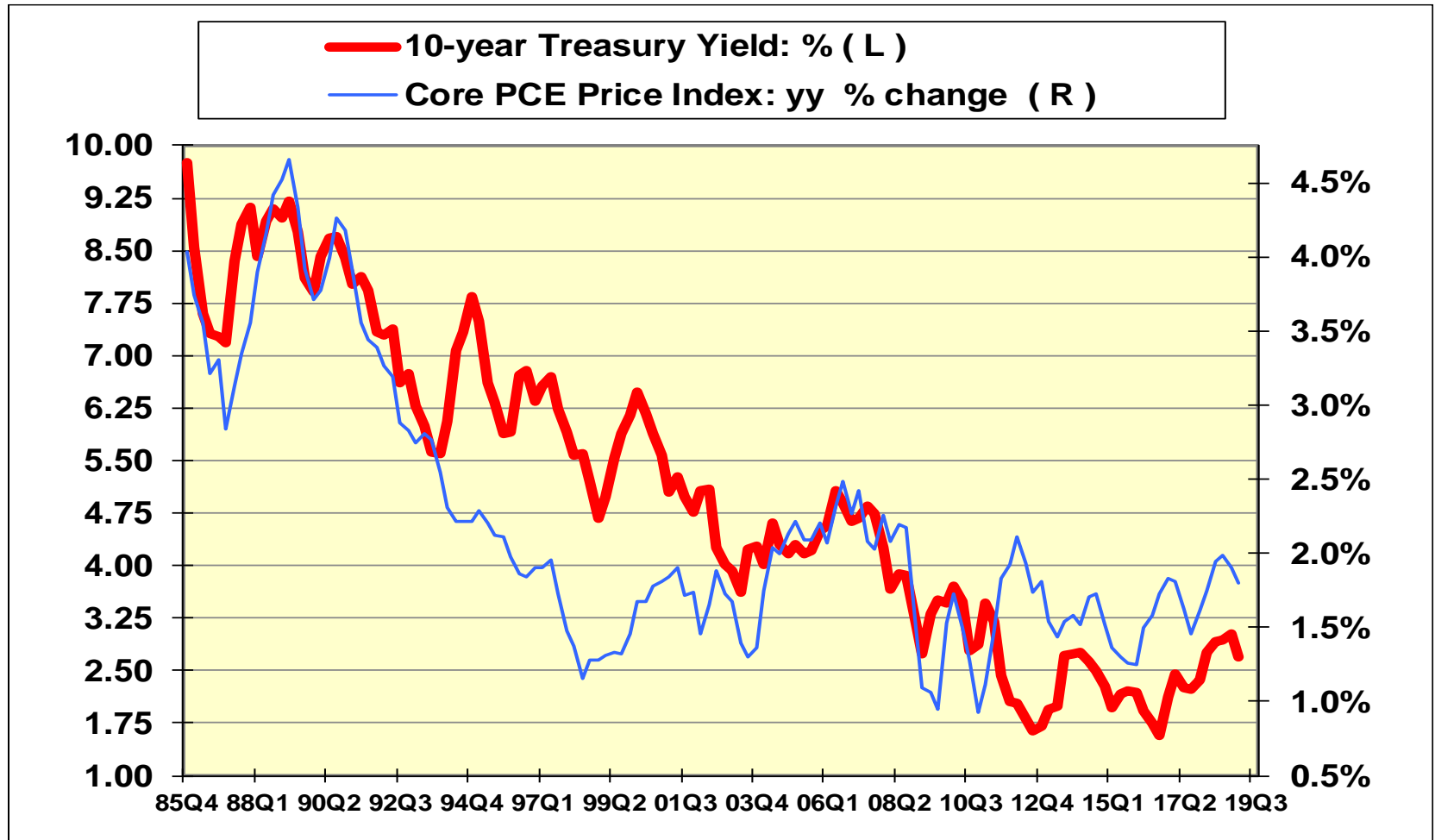
Record High 23.5% of U.S. Household Survey Employment Is At Least 55 Years of Age

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

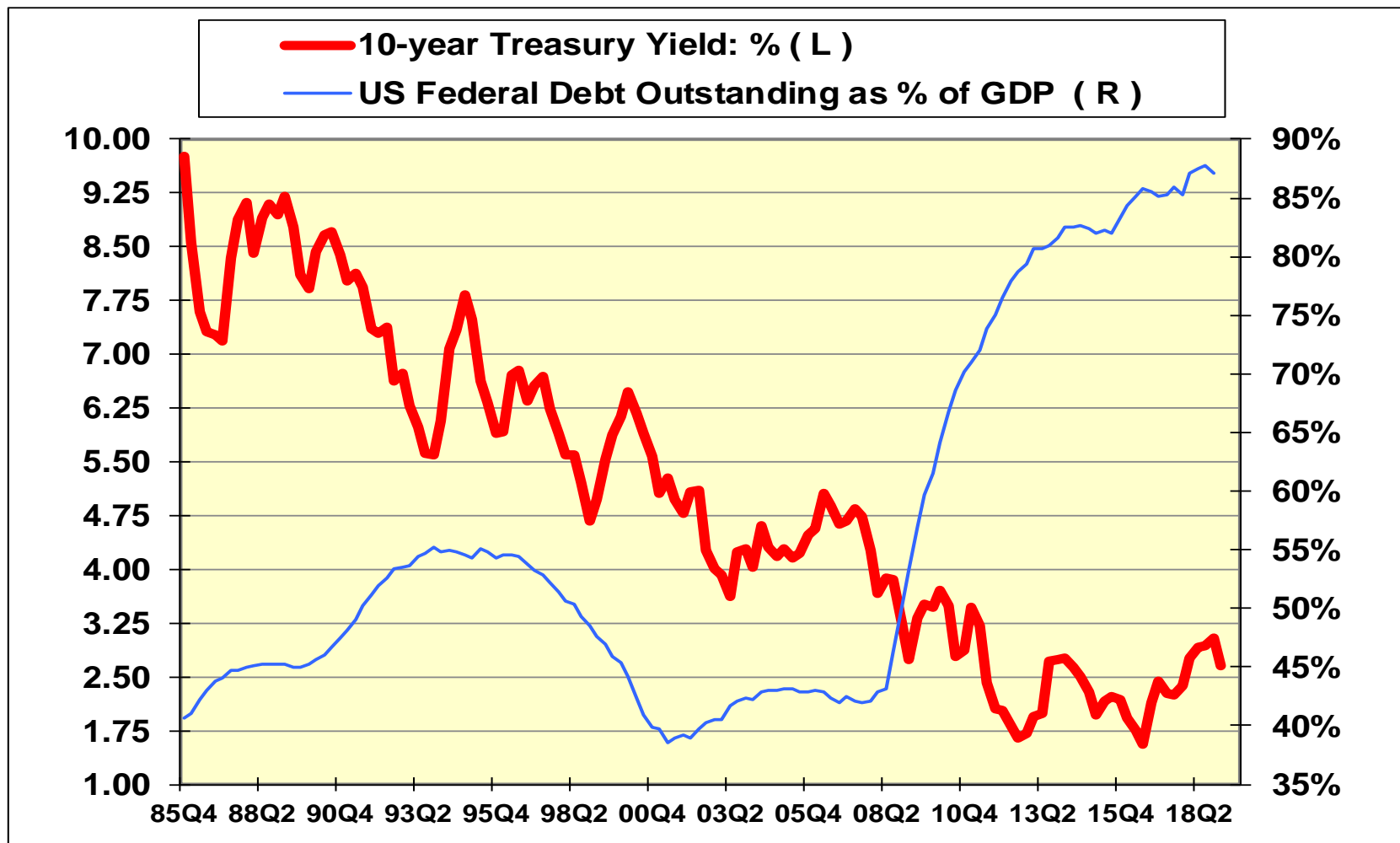


Consensus Prediction for 2020's 10-Year Treasury Yield Seems Too High Given Forecast of Slowdown by U.S. Real GDP Growth from 2019's 2.3% to 1.9% for 2020

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

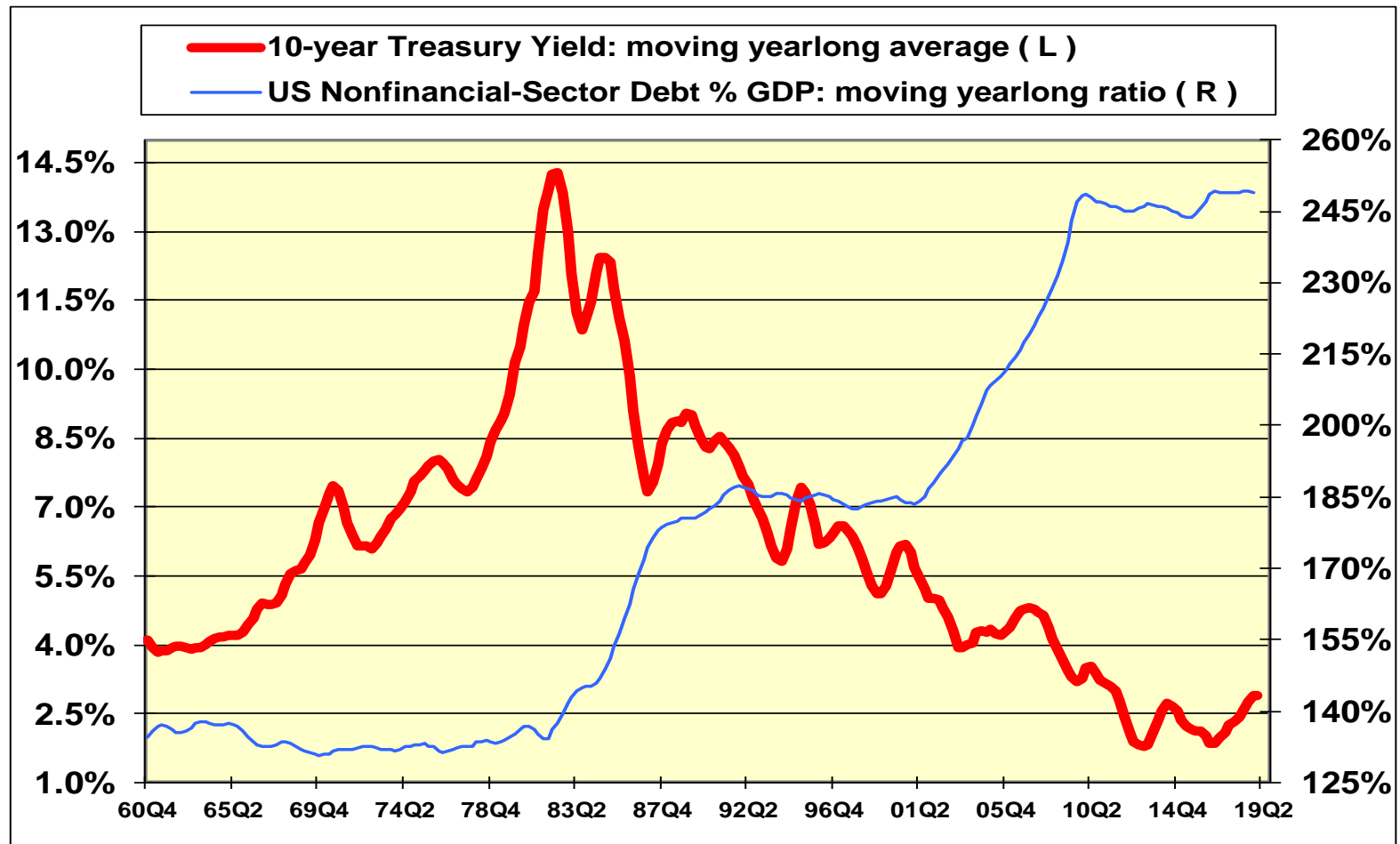
Treasury Bond Yields Do Not Always Move in the Direction Taken by the Ratio of Federal Debt to GDP

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

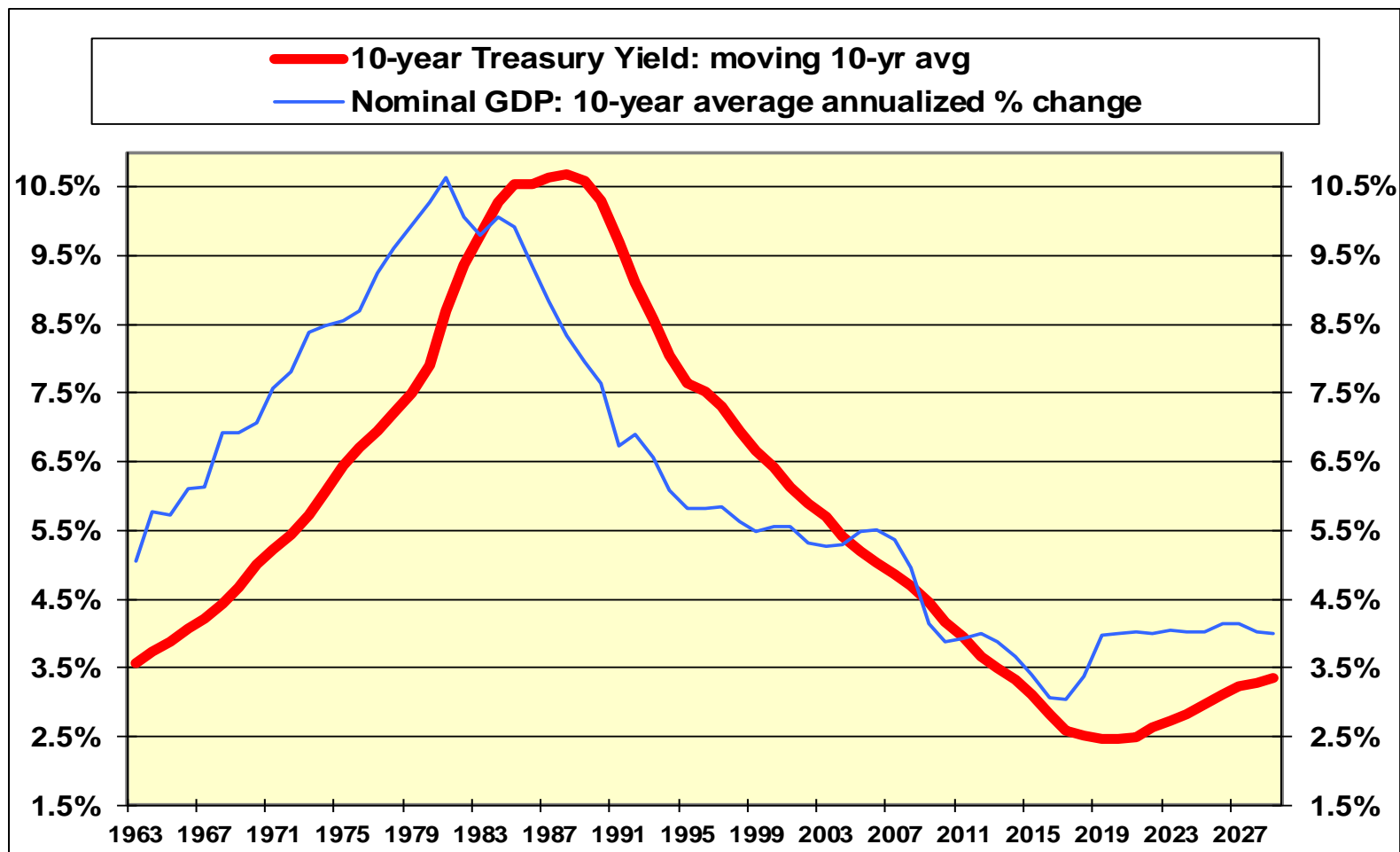


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Consensus Sees Mild Growth and Modest Returns from Capital through 2019

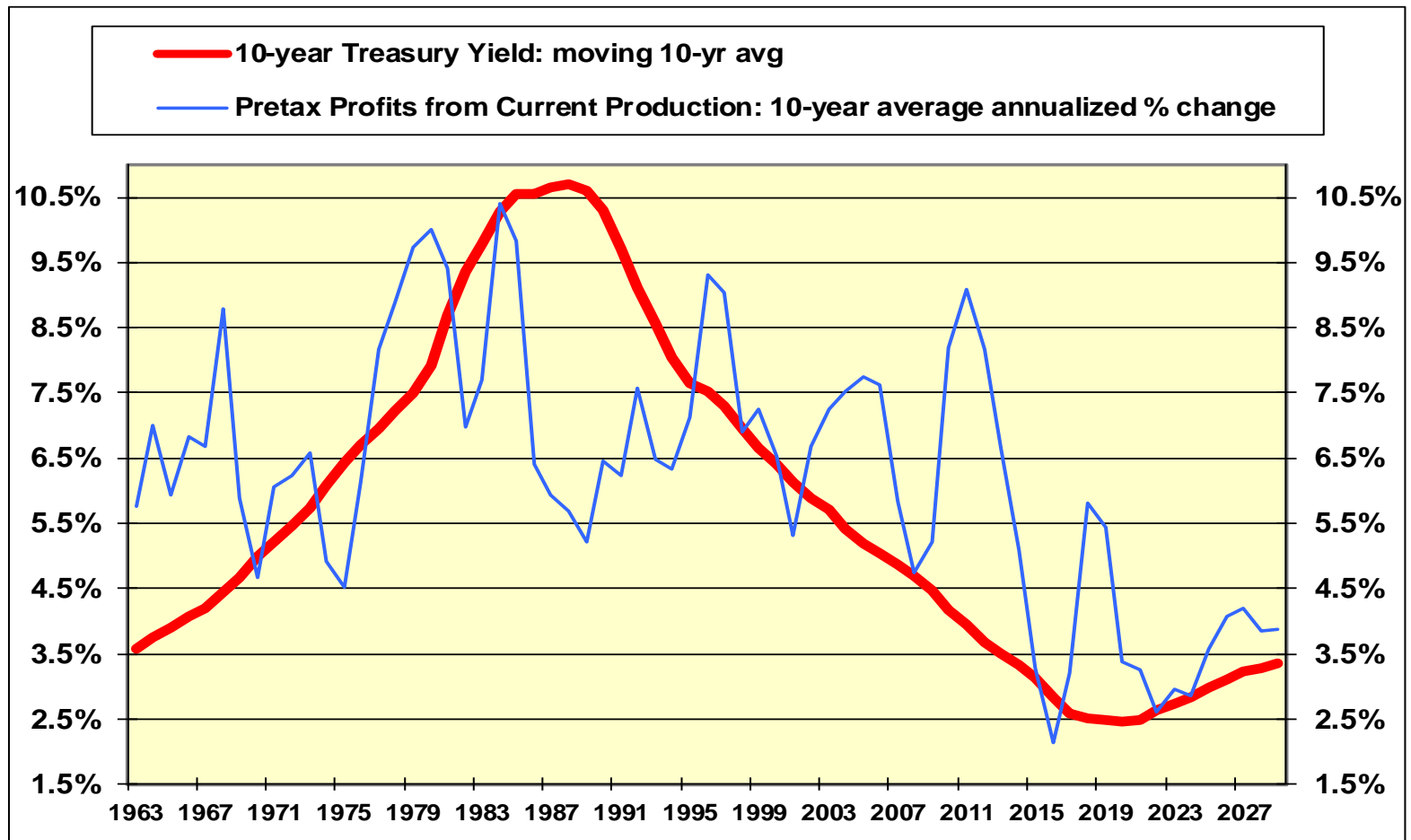
Latest Blue Chip Consensus Puts Averages for Next 10 Years at 4.0% for Nominal GDP Growth and 3.40% for 10-year Treasury Yield

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



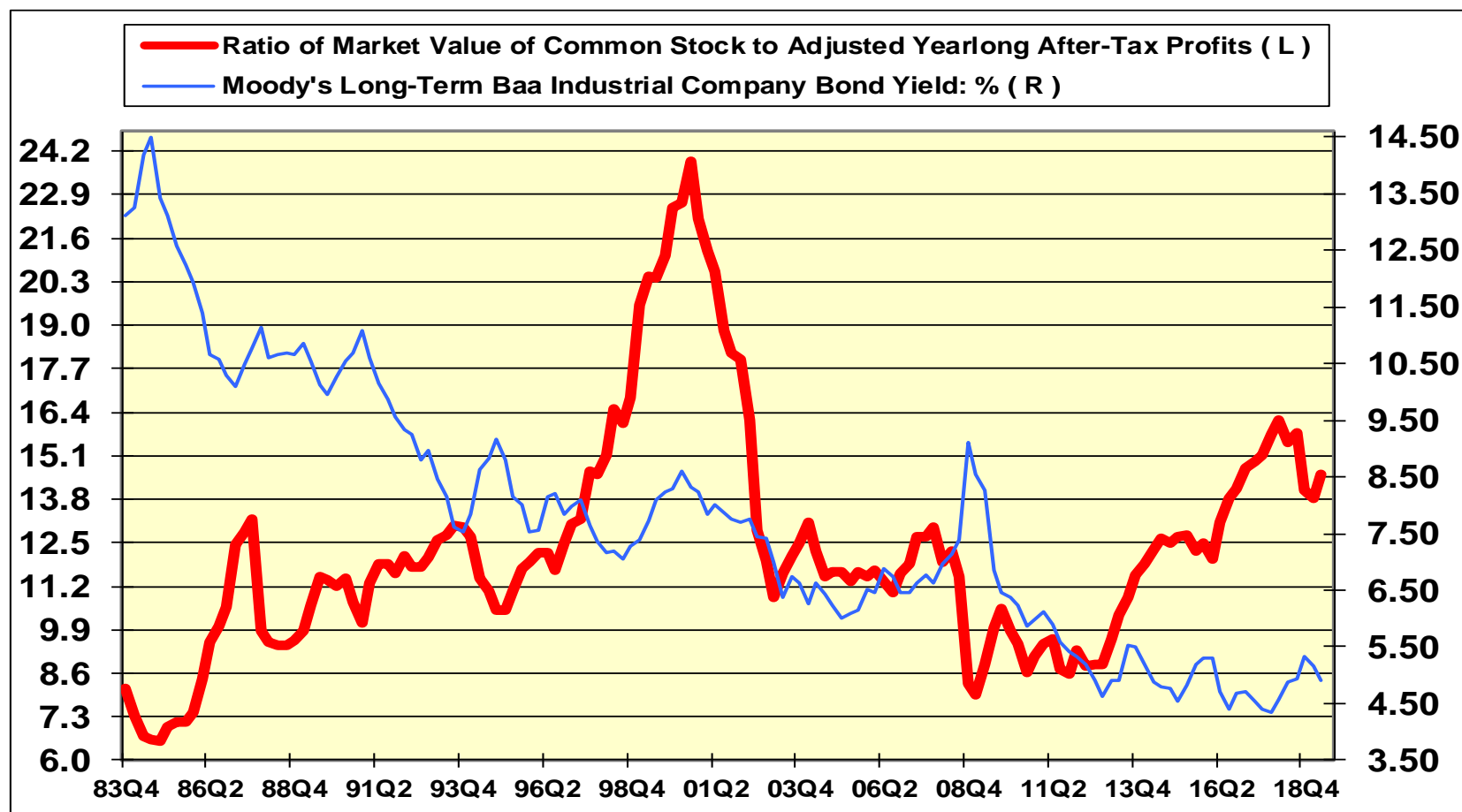
Blue Chip Consensus Predicts 3.9% Annual Average Rise for Core Pretax Profits Through 2029 Will Join 3.4% 10-year Treasury Yield

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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