



# DEMOGRAPHY

**U.S ECONOMY:**

**LATE-CYCLE DYNAMICS AND**

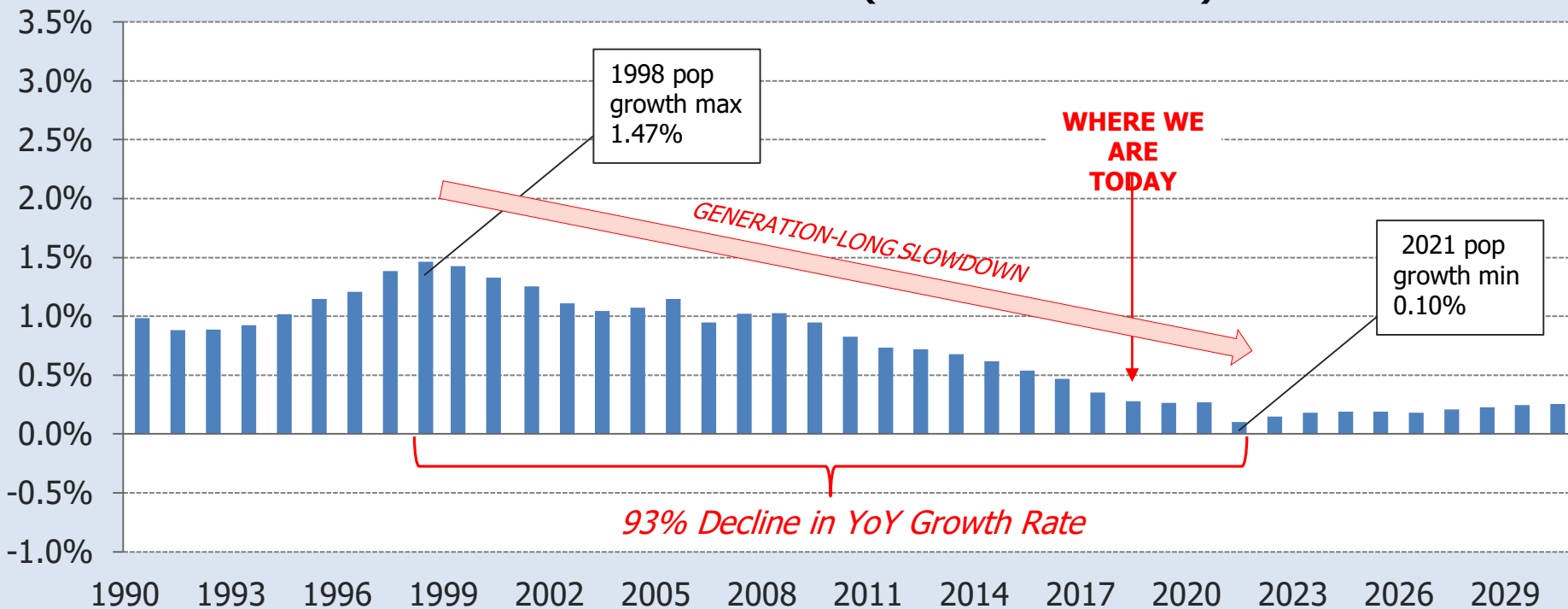
**THE LONG-TERM FUTURE**



April 3, 2019

# EXPANSION RUNNING OUT OF WORKERS

## U.S. Population Age 20-64: YoY Growth Rates (1990 to 2030)

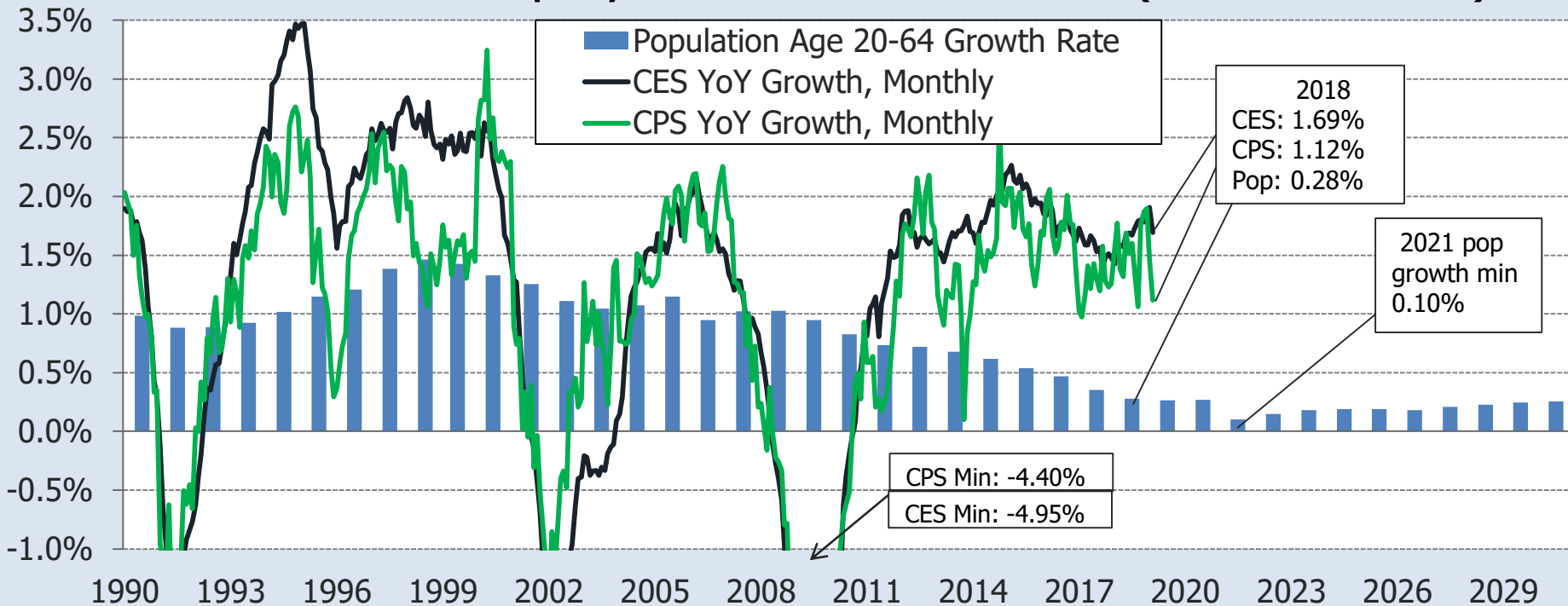


SOURCE: U.S. Census Bureau (2017)

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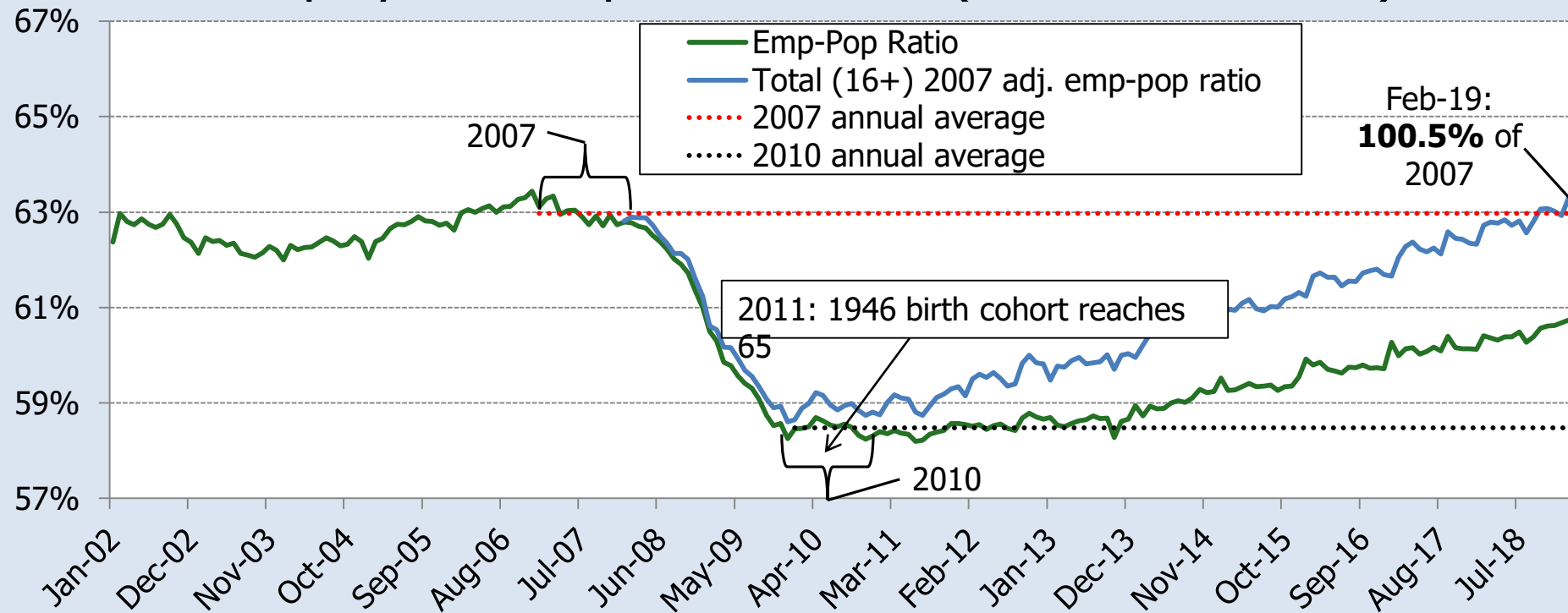
# EXPANSION RUNNING OUT OF WORKERS

## U.S. Population Age 20-64: CPS and CES Employment Growth Rates (1990 to 2030)

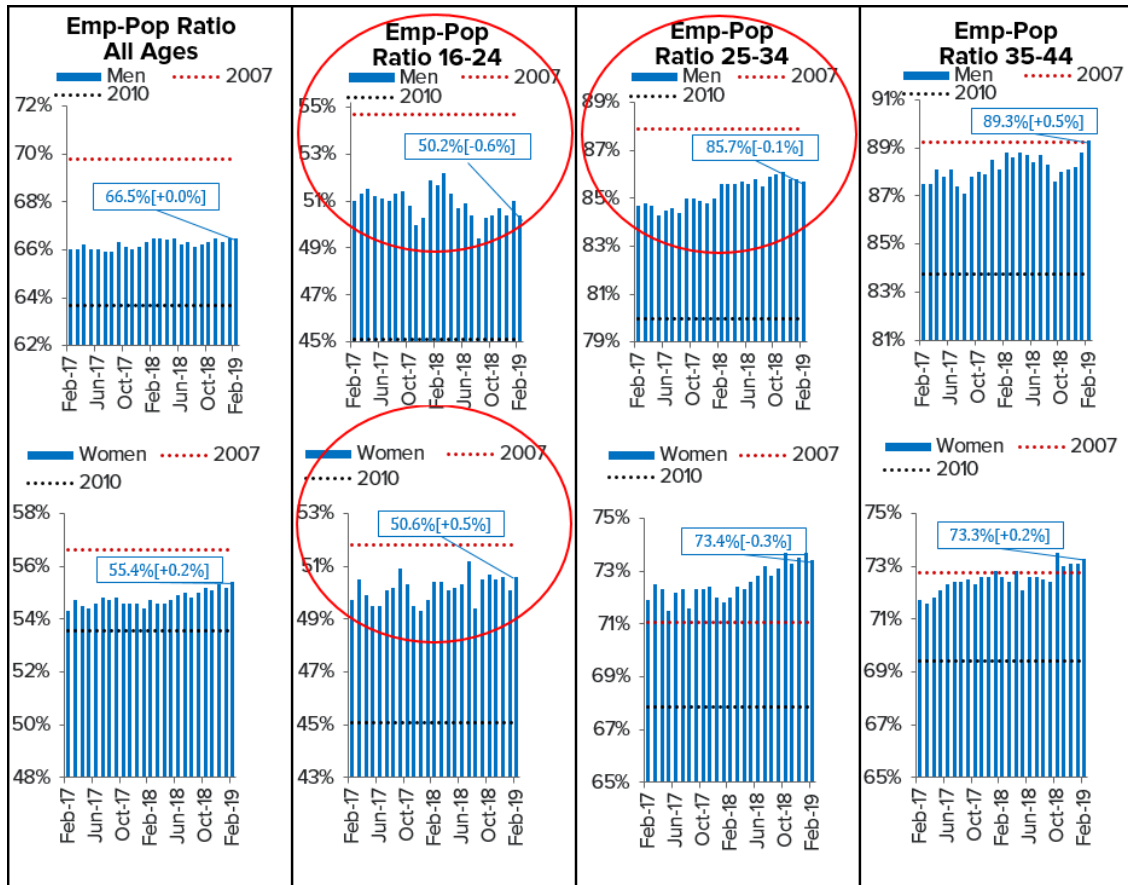


# EXPANSION RUNNING OUT OF WORKERS

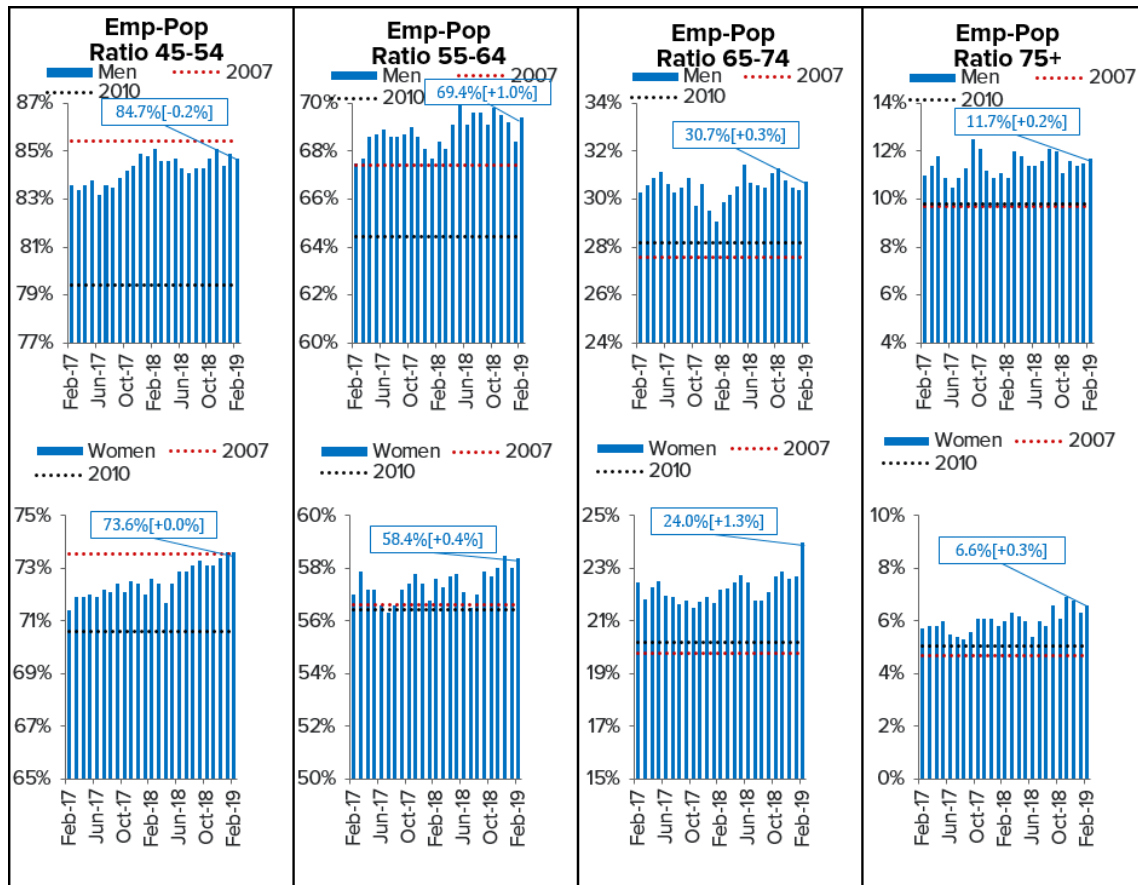
## Effect of Population Composition on Employment-Population Ratio (Jan-02 to Feb-19)



# EXPANSION RUNNING OUT OF WORKERS

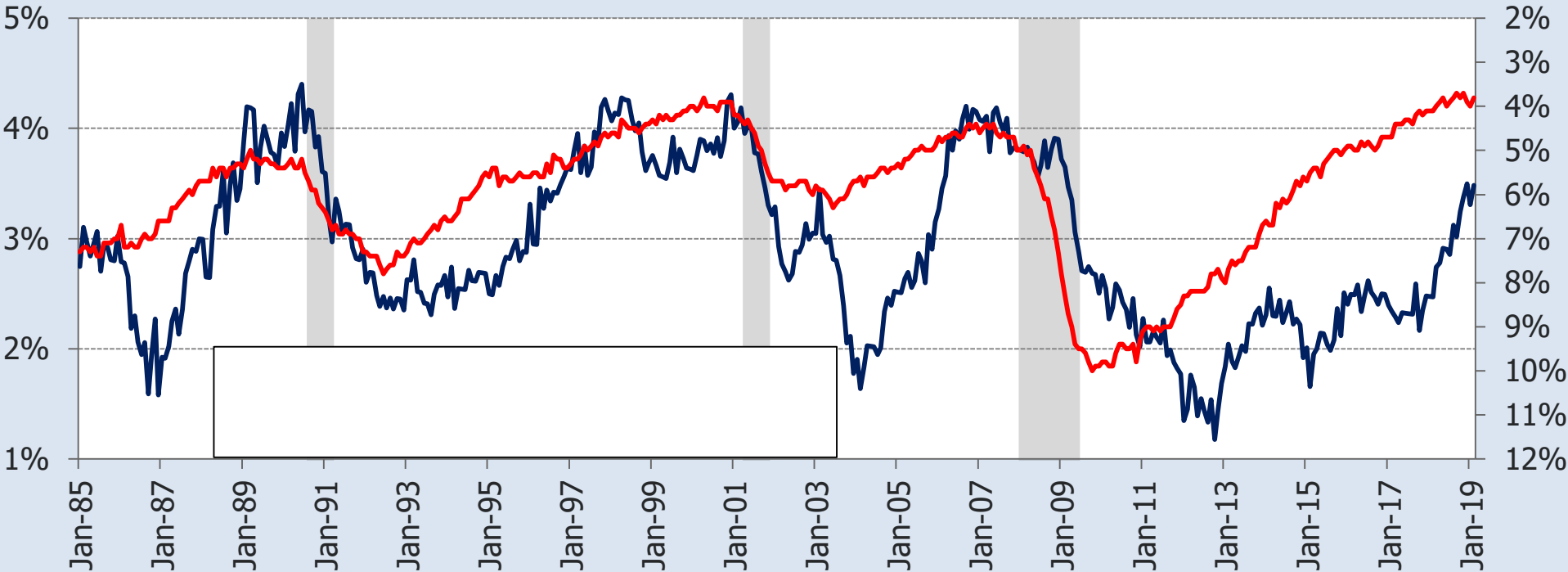


# EXPANSION RUNNING OUT OF WORKERS



# LATE-CYCLE DYNAMICS

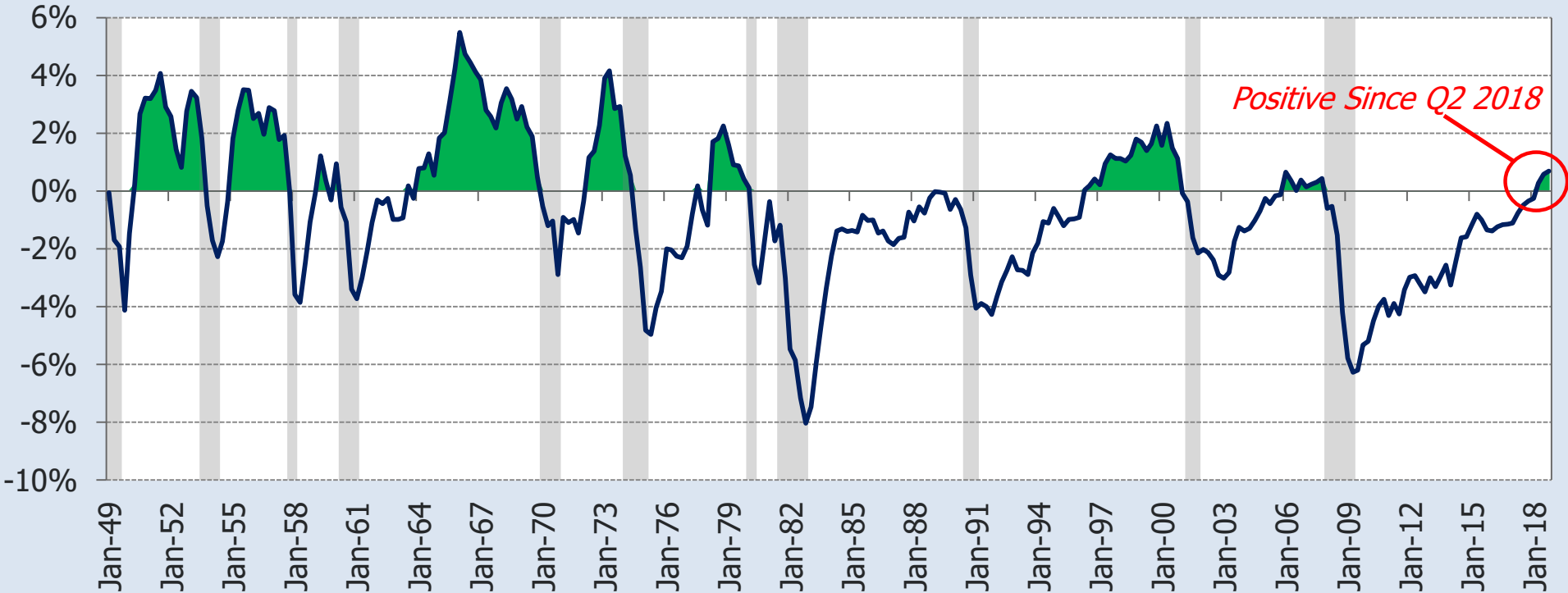
## YoY Change in Average Hourly Earnings\* and Inverted Unemployment Rate (Jan-86 to Feb-19)



\* Refers to private-sector production and nonsupervisory employees.

# LATE-CYCLE DYNAMICS

## Real GDP Growth Above Potential (Q1 1949 to Q4 2018)

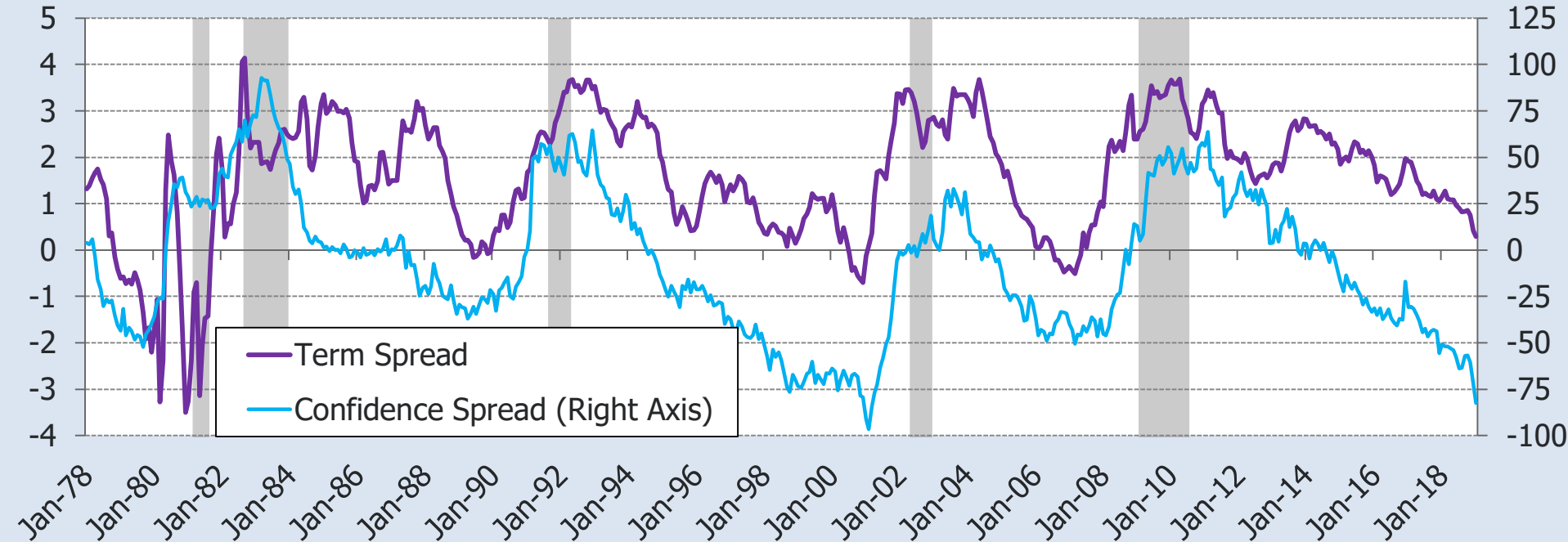


\* Derived as (real GDP - potential GDP) / real GDP.



# LATE-CYCLE DYNAMICS

10Y-90D Term Spread\* and Consumer Confidence Spread\*\*,  
Monthly (Jan-78 to Present)

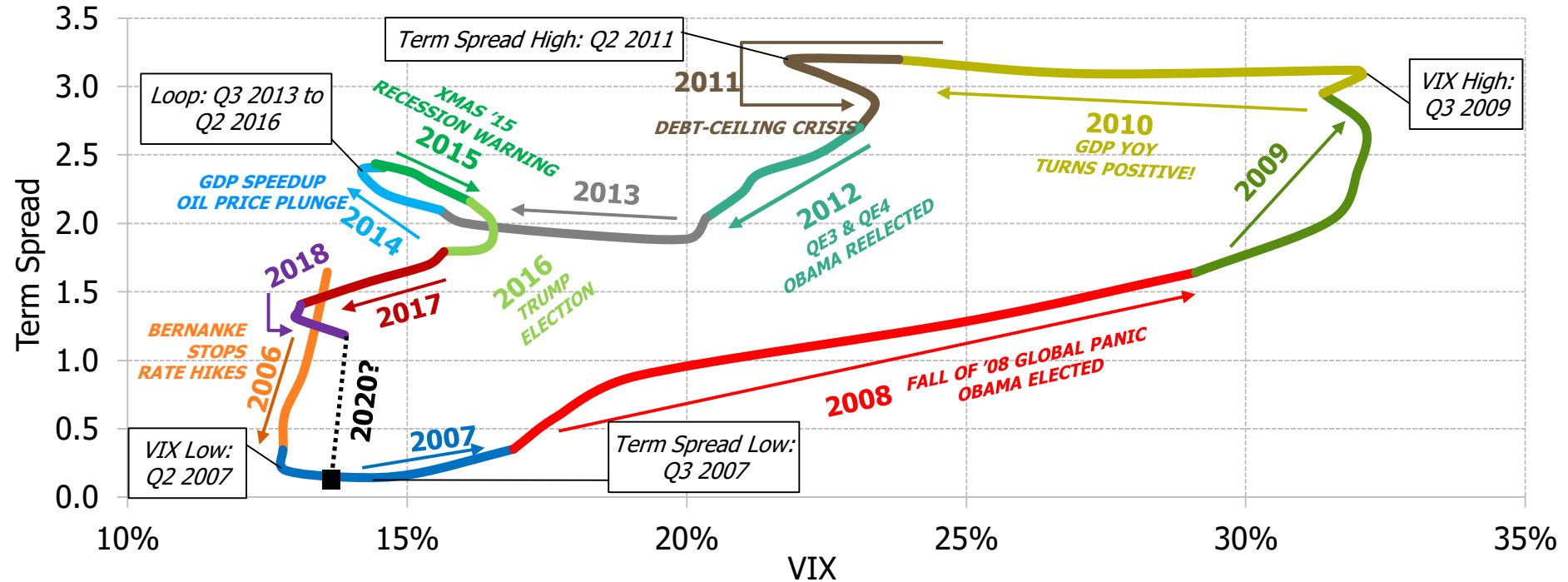


\* Average percentage-point difference between 10Y Treasury yield and 90D Treasury yield in a given month.

\*\* Difference between Conference Board's "Expectations Index" and "Present Situation Index" in a given month.

# LATE-CYCLE DYNAMICS

## Term Spread-VIX Cycle\* (2006 to 2020\*\*)

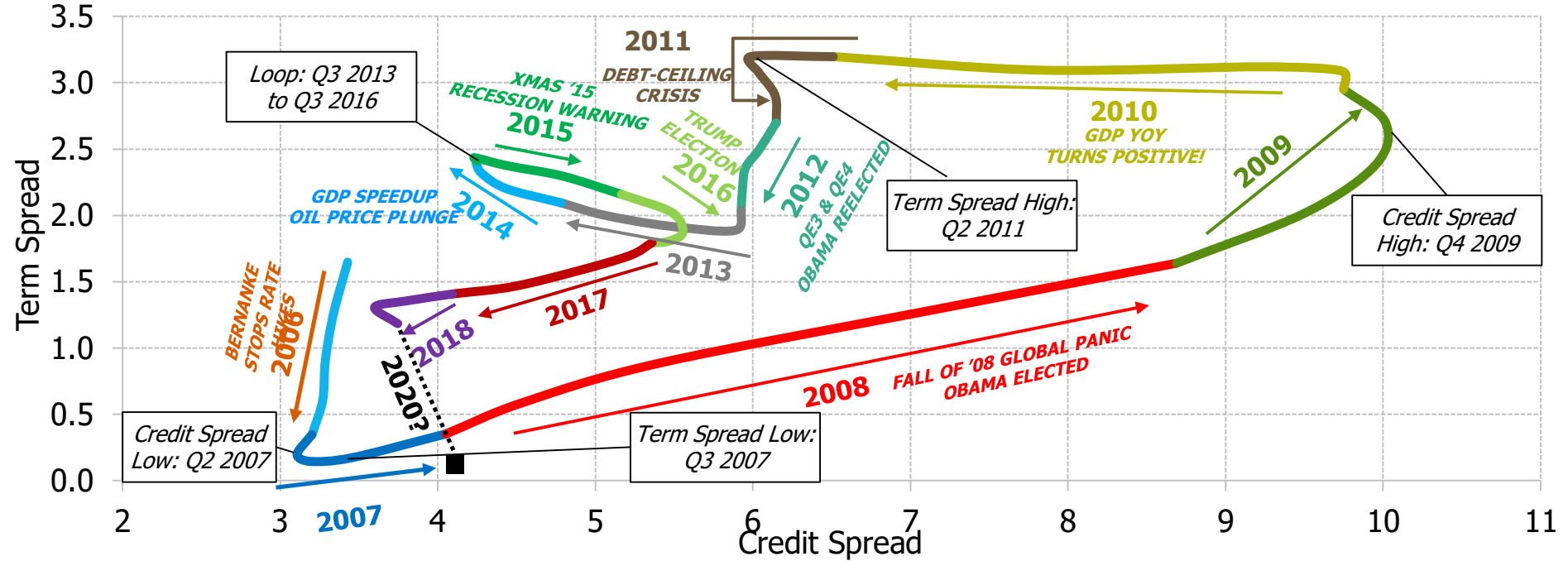


\* Plots the 10Y-90D Treasury spread (two-year moving average) against the CBOE Volatility Index (two-year moving average) for every given quarter.

\*\* Dotted line to 2020 assumes that term spread and credit spread stay at their current levels for the next two years.

# LATE-CYCLE DYNAMICS

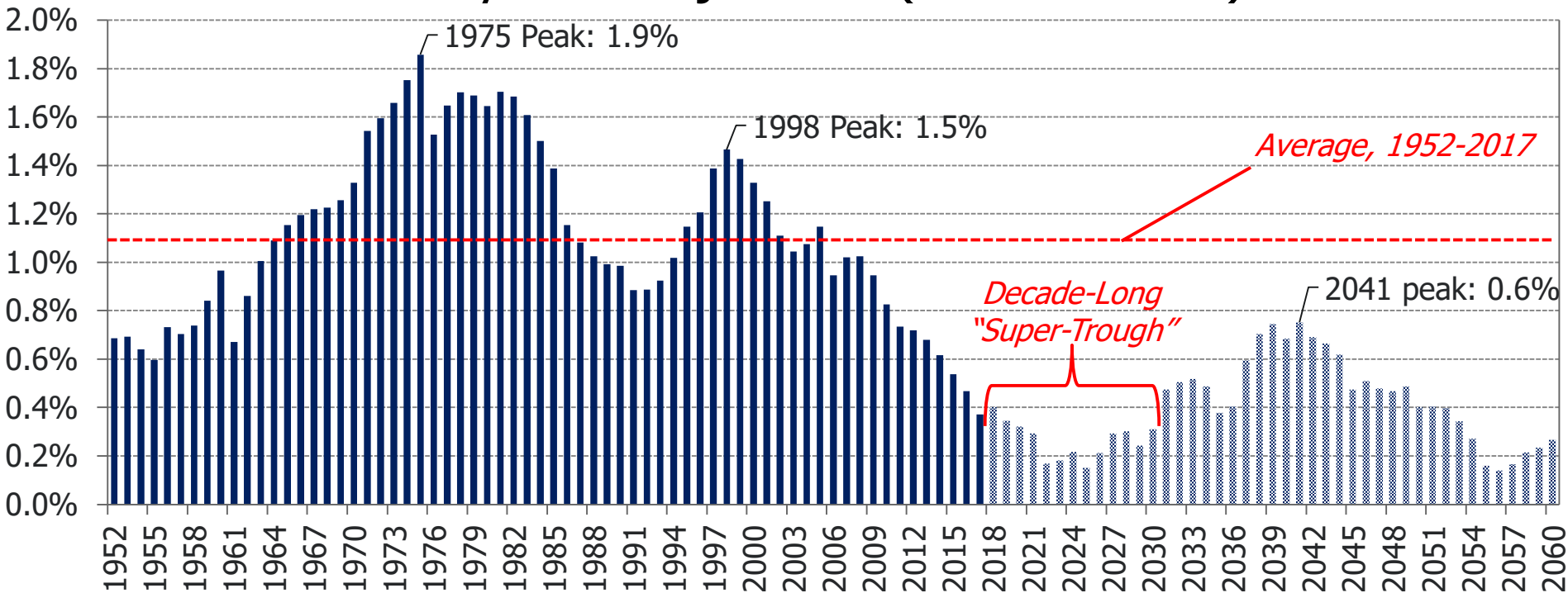
## Term Spread-Credit Cycle\* (2006 to 2020\*\*)



\* Plots the 10Y-90D Treasury spread (2-year moving avg) against the Barclays US Corporate High Yield Average Option Adjusted Spread (2-year moving avg).  
 \*\* Dotted line to 2020 assumes that term spread and credit spread stay at their current levels for the next two years.

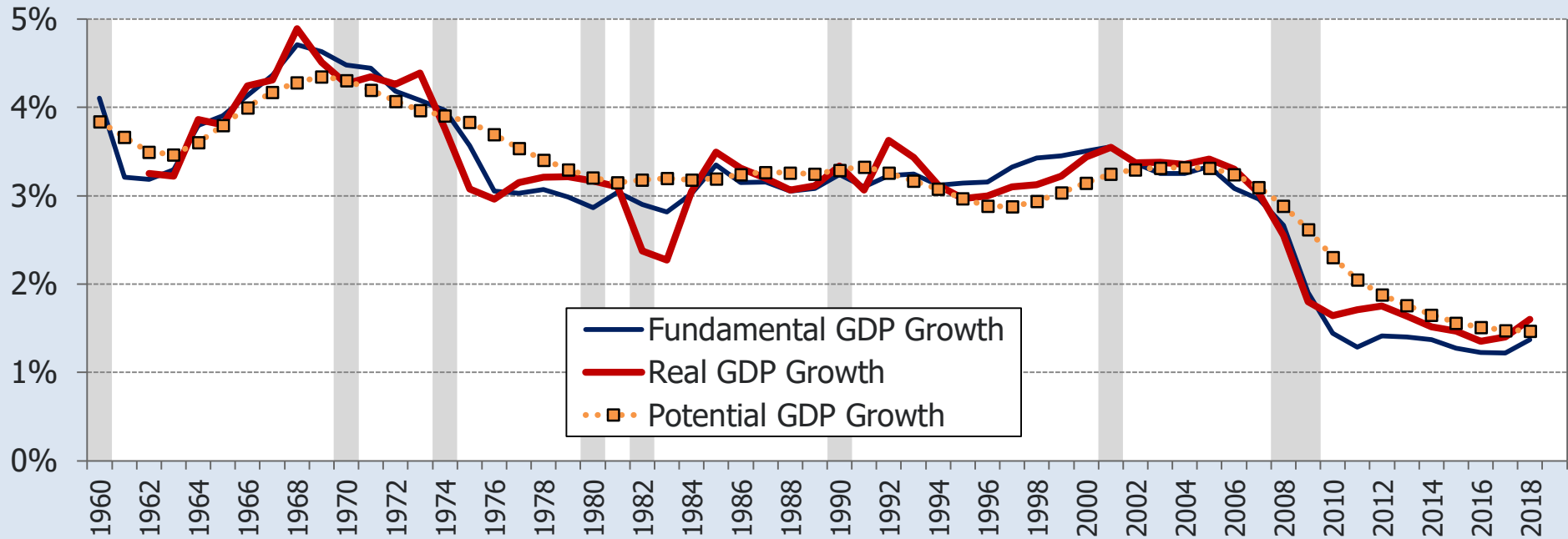
# LONG-TERM FUTURE

## YoY U.S. Working-Age (20-64) Population Growth, History and Projections (1952 to 2060)



# LONG-TERM FUTURE

## Fundamental GDP Growth\* vs. Real GDP Growth: Trailing 10YR CAGR (1960 to 2018\*\*)

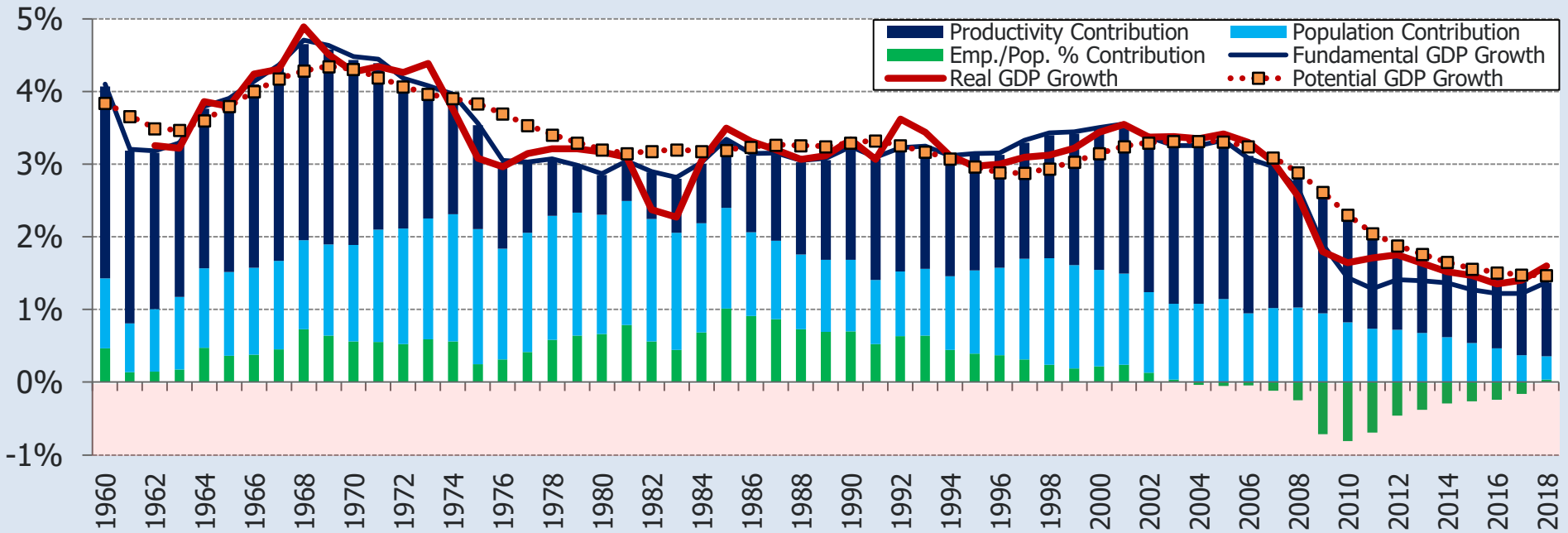


\* Fundamental GDP growth = (10-YR trailing productivity CAGR x 10-YR trailing prime-age emp./pop. CAGR x YOY working-age population growth rate)

\*\* 2018 values estimated using latest available data.

# LONG-TERM FUTURE

## Fundamental GDP Growth\* vs. Real/Potential GDP Growth: Trailing 10YR CAGR (1960 to 2018\*\*)

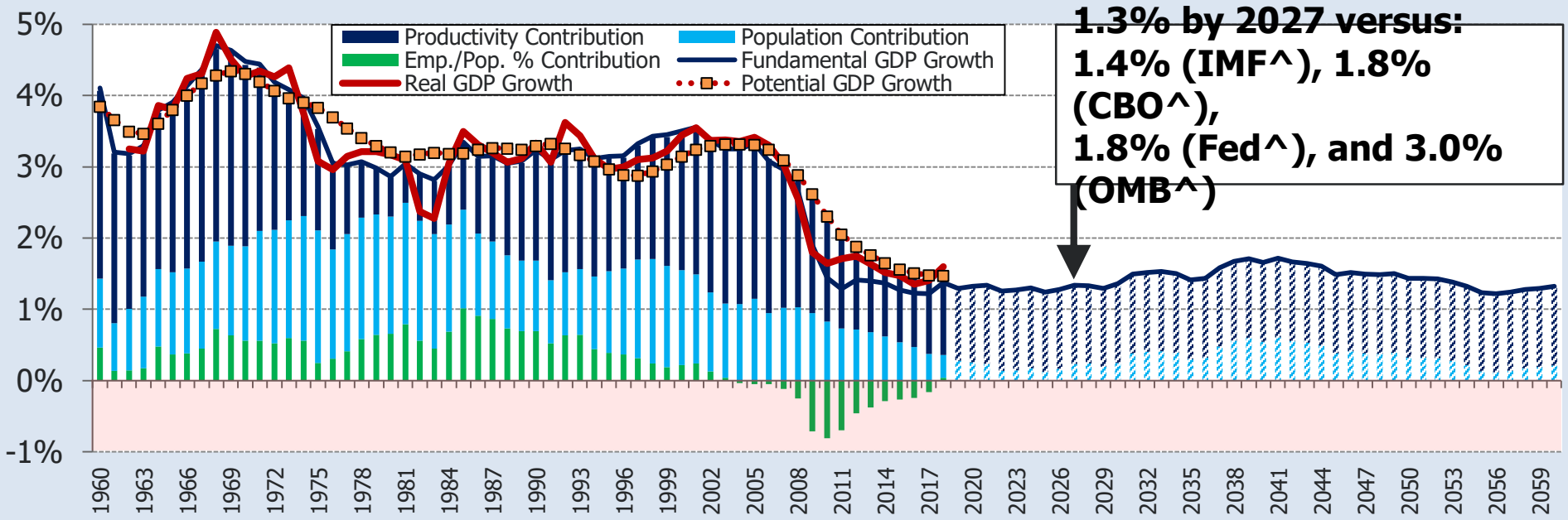


\* Fundamental GDP growth = (10-YR trailing productivity CAGR x 10-YR trailing prime-age emp./pop. CAGR x YOY working-age population growth rate)

\*\* 2018 values estimated using latest available data.

# LONG-TERM FUTURE

## Fundamental GDP Growth\* vs. Real/Potential GDP Growth: Trailing 10YR CAGR (1960 to 2060\*\*)



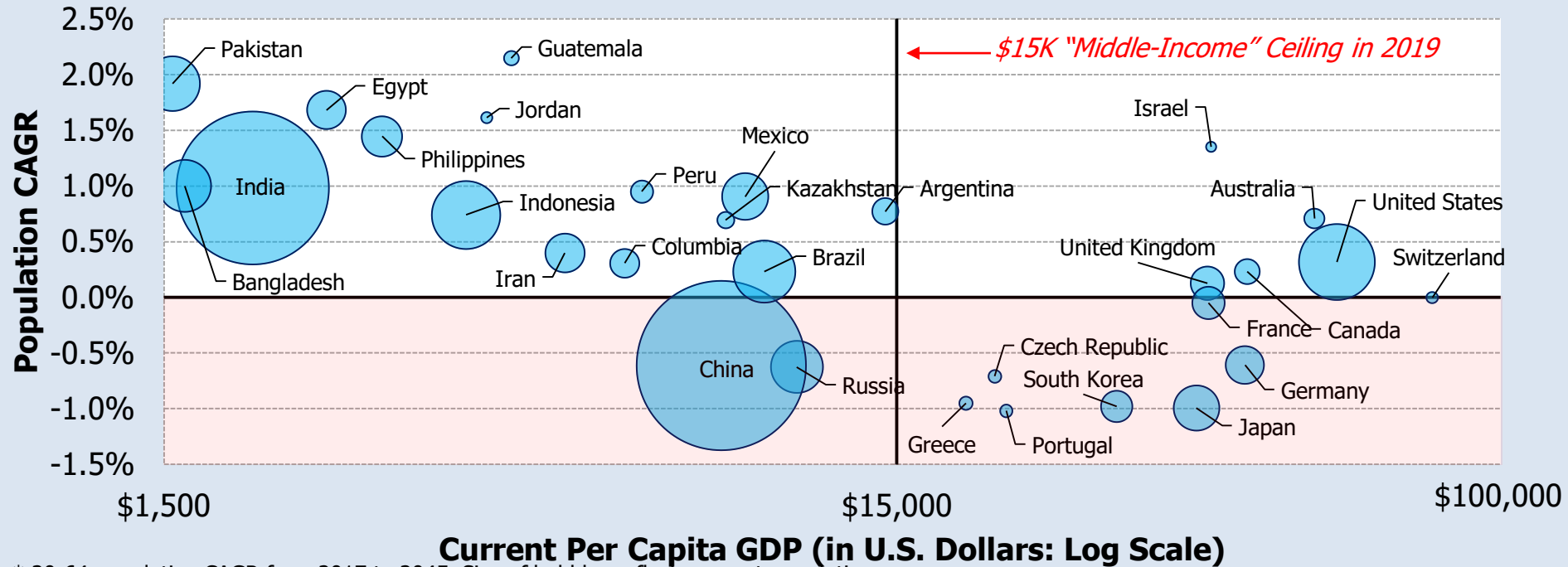
\* Fundamental GDP growth = (10-YR trailing productivity CAGR x 10-YR trailing prime-age emp./pop. CAGR x YOY working-age population growth rate)

\*\* 2018 values estimated using latest available data. Projections after 2018 assume no change in prime-age emp./pop. growth rate.

<sup>^</sup> 2018 forecasts for 2027. Exceptions: "longer run" for Fed; and 2023 for IMF.

# LONG-TERM FUTURE

## Expected Working-Age Population Growth\* and Current Per Capita GDP\*\*



\* 20-64 population CAGR from 2017 to 2045. Size of bubbles reflects current population.

\*\* GDP calculated in USD FX.



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01/03/18 08:17 AM EST  
WILL A "YOUTH BOOM" SAVE THE U.S. ECONOMY?

Neil Howe

**Takeaway:** A new Morgan Stanley report contends that most economists are missing "bullish demographic tailwinds" about to hit our economy.

**TREND WATCH What's Happening?** With a turbulent 2018 behind us, forecasters have turned their attention to 2019 and beyond. While most outlets have adopted a bearish-to-cautious view of the future, Morgan Stanley is uncharacteristically optimistic. The firm contends that favorable demographics reveals, specifically a "youth boom" powered by a rising crop of "Silver Zers," will push U.S. GDP growth to unforeseen heights by the end of the next decade. Once you account for Demography, ME argues, the 2020s look far better than the picture painted by the official forecasters.

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