



# ANNUAL DEMOGRAPHICS OUTLOOK



September 20, 2018

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## ❑ **Demography**

- *U.S. Fertility*
- *U.S. Mortality*
- *U.S. Net Immigration*
- *Global Trends*

## ❑ **Employment, Productivity, & Income**

- *Employment & Wages*
- *GDP & Productivity*
- *Income & Poverty*

## ❑ **Housing, Healthcare, Millennials, and Midterms**

- *Housing*
- *Healthcare*
- *Millennial Risk Aversion (Update)*
- *2018 Midterms*

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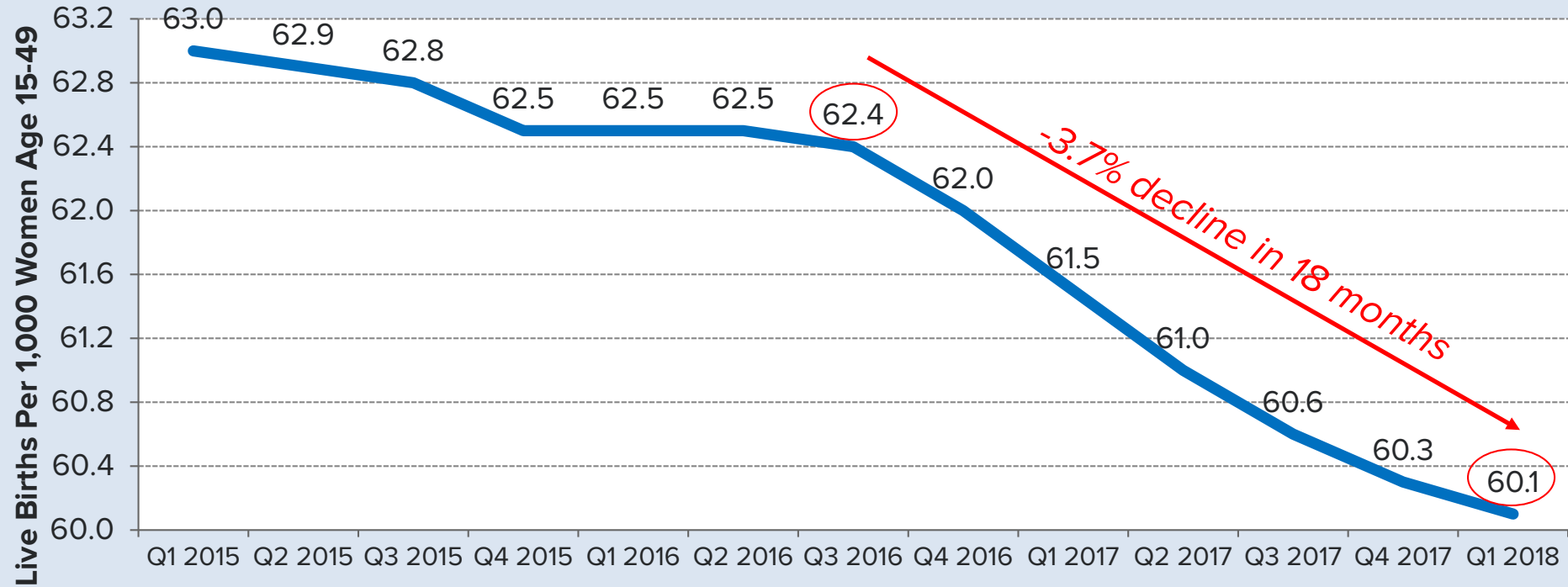
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# U.S. FERTILITY DECLINE ACCELERATING

## 12-Month Ending General Fertility Rate\* (Q1 2015 to Q1 2018\*\*)

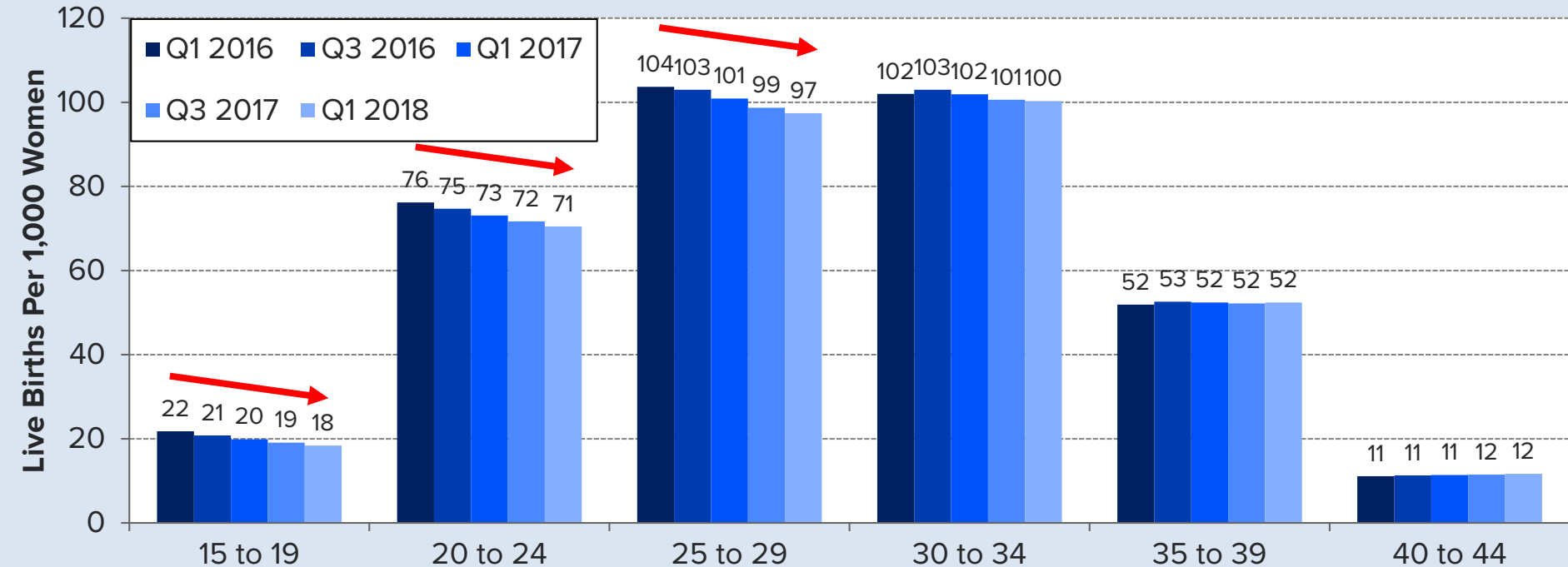


\* "General fertility rate" is the total number of live births per 1,000 women age 15-49 in the population in a given year.

\*\* Provisional estimates for Q1 2018.

# UNDER AGE 30 DRIVING ALL THE DECLINE

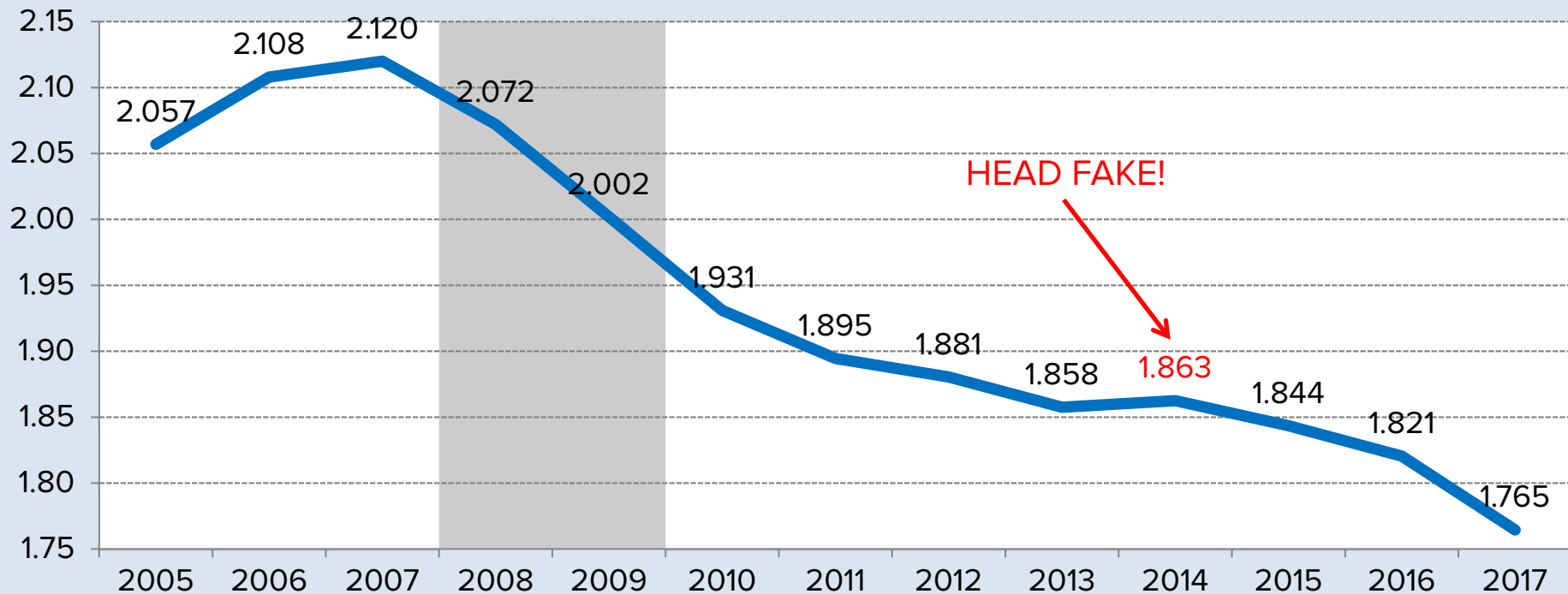
## U.S. Quarterly 12-Month Ending Birthrates by Age (Q1 2016 to Q1 2018)



# BRIEF FERTILITY RISE IN 2014... WAS A HEAD FAKE

7

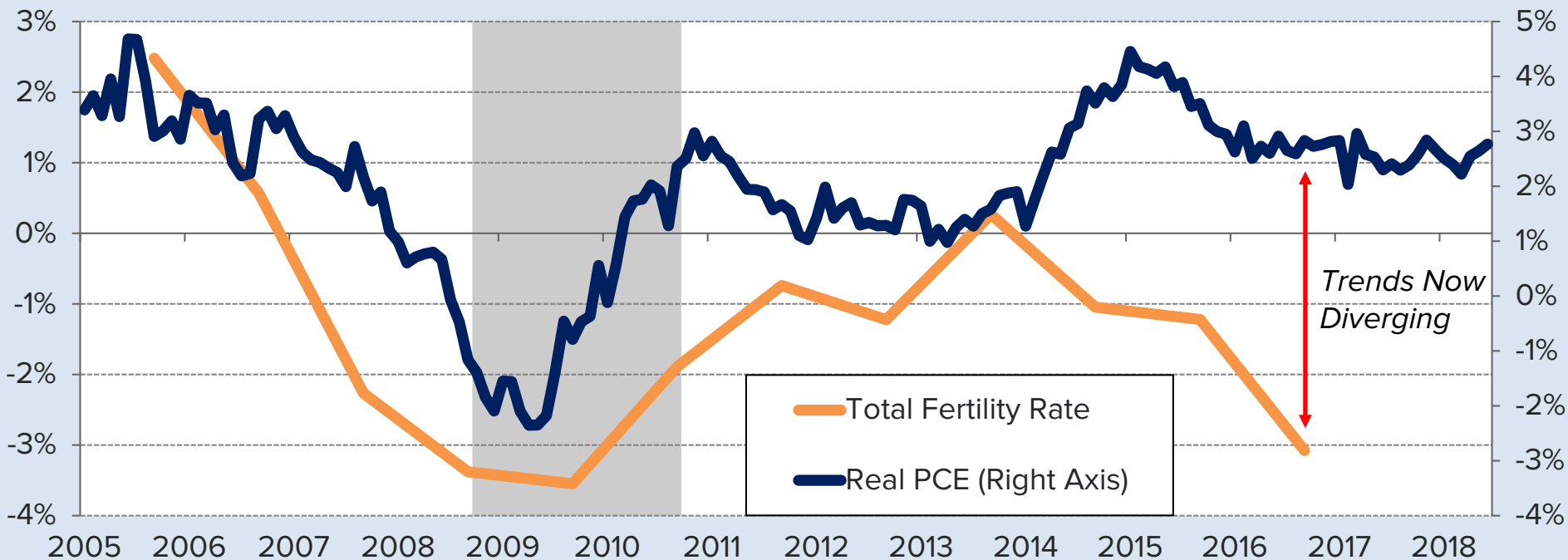
## Total Fertility Rate\* (2005-2017)



\* "Total fertility rate" is the theoretical total number of children who would be born per woman if she were to pass through each year of life (15-49) bearing children according to the current schedule of age-specific fertility rates.

# SPENDING AND BABIES LATELY PARTING WAYS

**% YOY Change: Real Monthly PCE vs.  
Annual TFR Lagged by 9 Months (2005 to Present)**

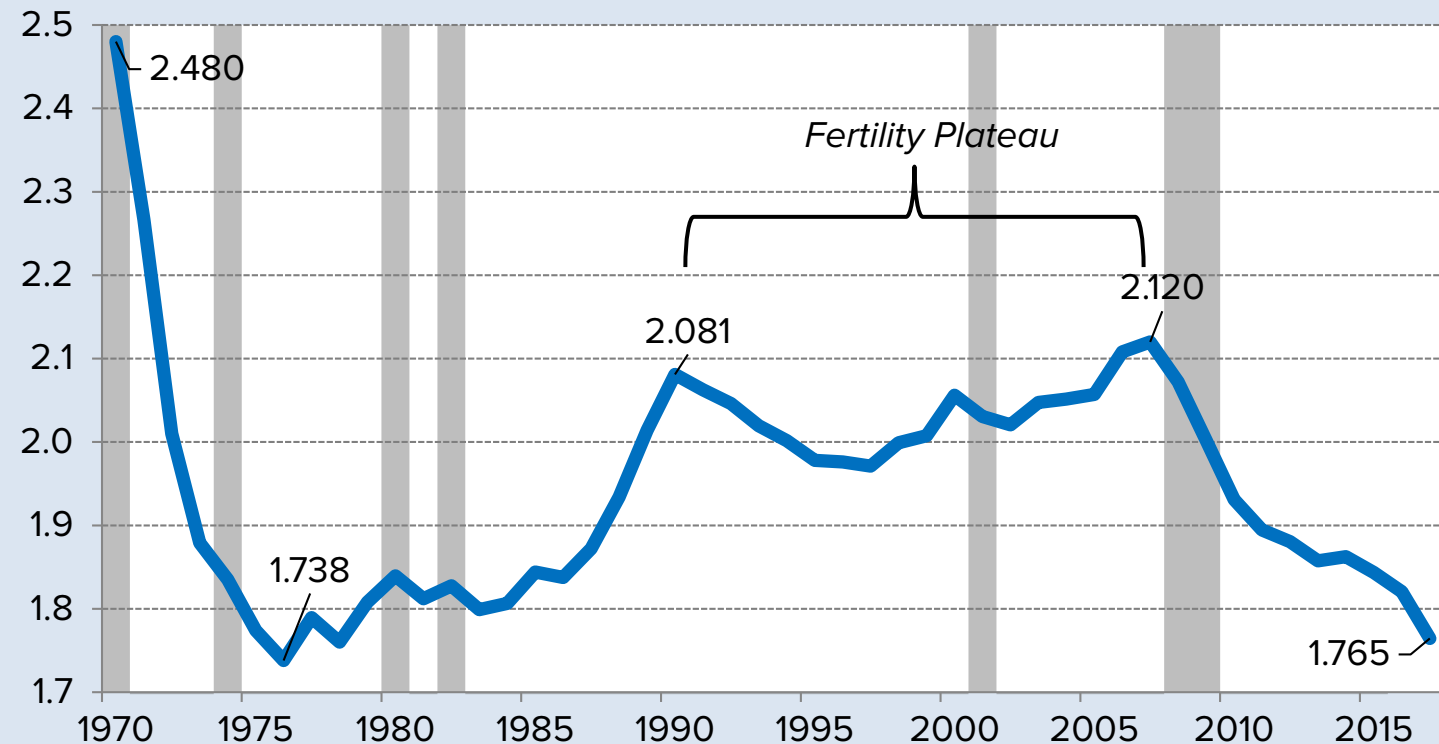




# MILLENNIAL “FERTILITY PLATEAU” IS... OVER

9

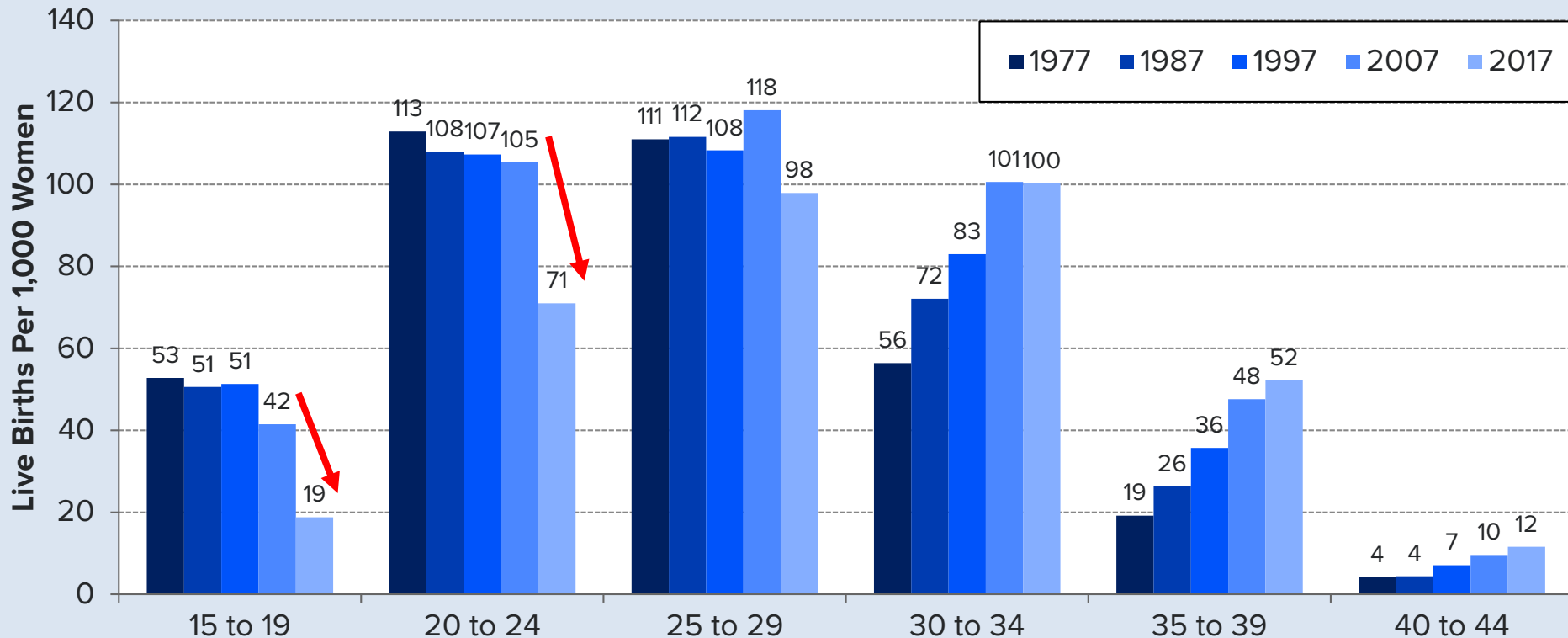
## Total Fertility Rate (1970-2017)



Total fertility has fallen **29%** from **1970 to 2017**. We remain above the record **1976** low (during the Gen-X “baby bust”). But not by much.

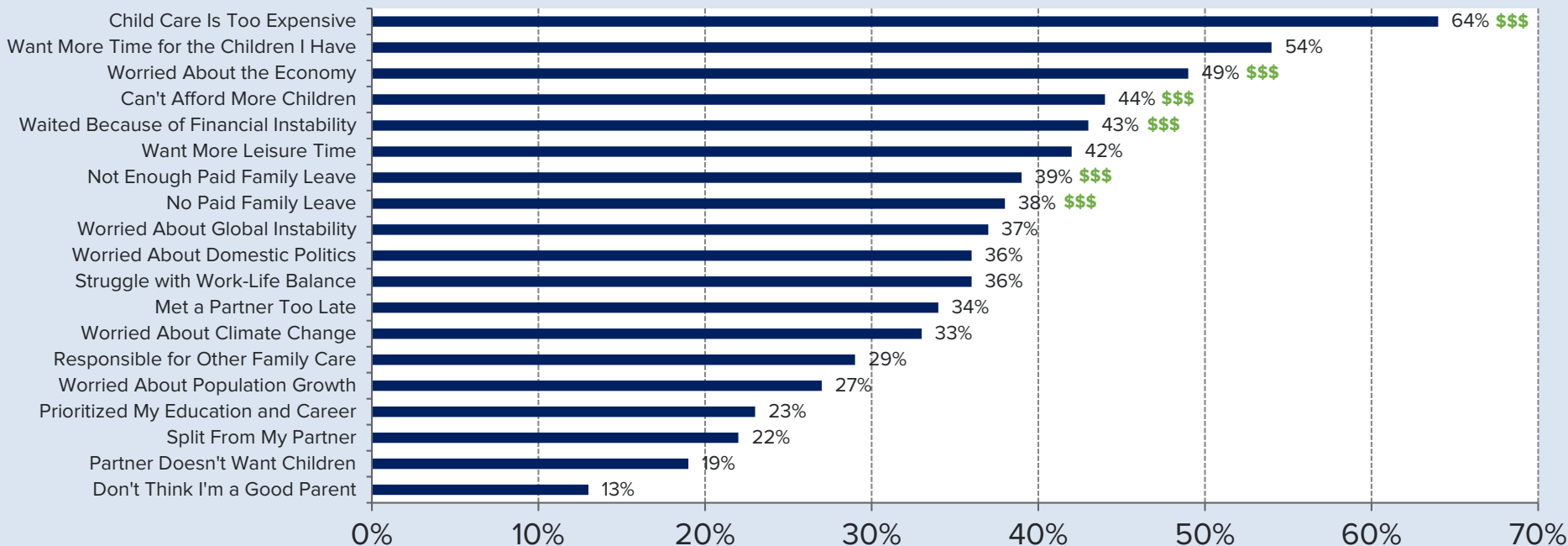
# BIRTHRATES PLUMMETING UNDER AGE 25

## U.S. Birthrates by Age of Mother (Decade Intervals)



# \$ CONCERNS WEIGH ON U.S. YOUNG ADULTS

## Why Americans Are Having Fewer Children Than Their Ideal Number\* (2018)



\* Includes U.S. adults ages 20 to 45 who have/expect to have fewer children than they consider ideal.

# ANNUAL DEMOGRAPHIC OUTLOOK, Q3 2018

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- *U.S. Mortality*
- *U.S. Net Immigration*
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## ❑ **Employment, Productivity, & Income**

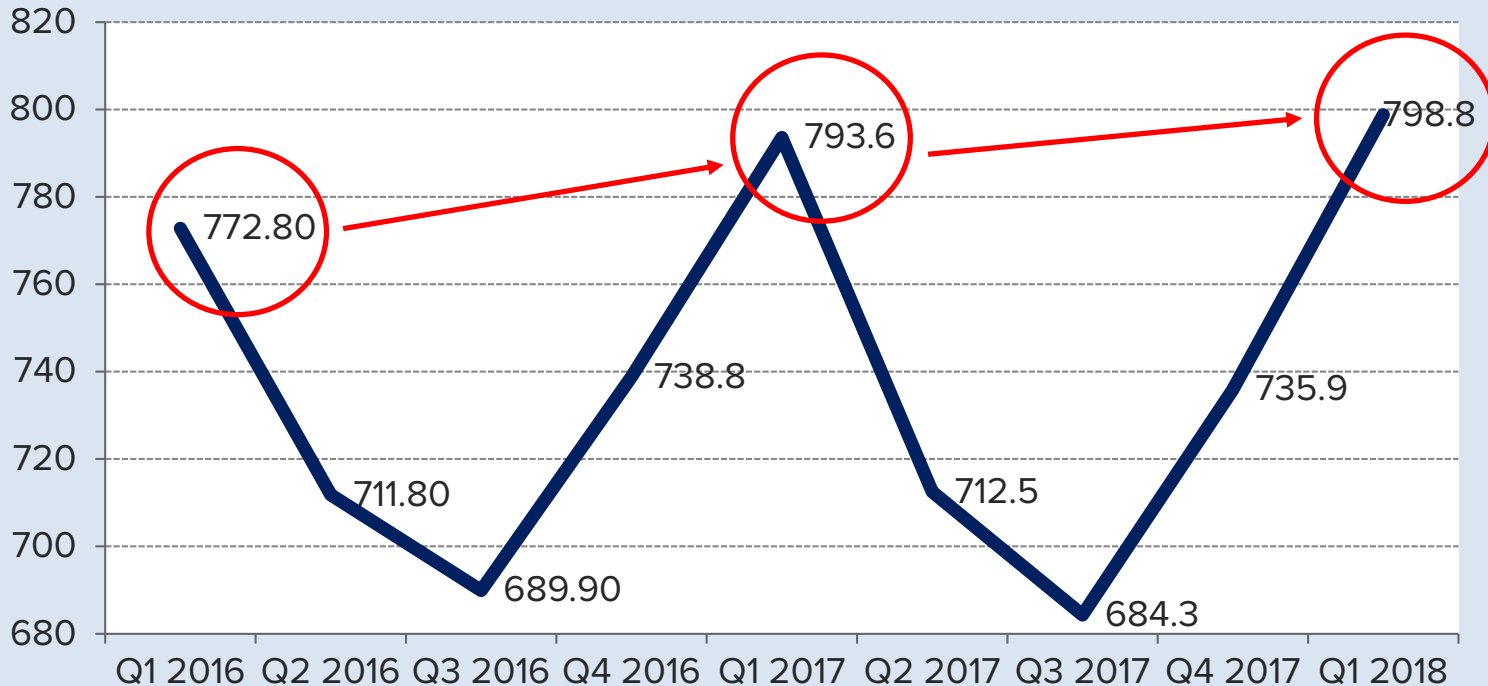
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- *Healthcare*
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# MORTALITY NOW RISING YEAR OVER YEAR

## 3-Month Ending Age-Adjusted Mortality Rate (Q1 2016 to Q1 2018\*)

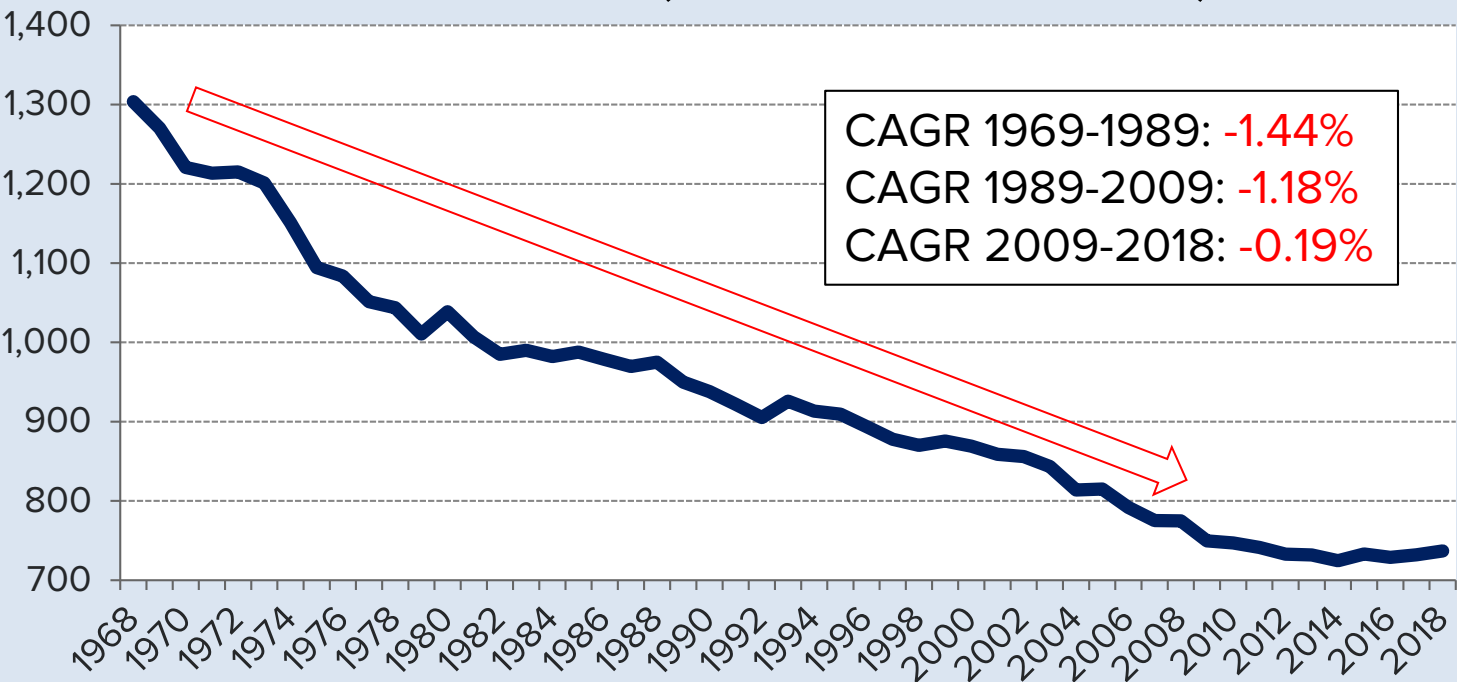


**Mortality is rising again—both on an absolute and YoY basis.**

\* Provisional estimates for Q1 2018.

# MORTALITY ON A LONG TERM DECLINE...

## Annual Age-Adjusted Mortality Rate Per 100,000 (1968 to Q1 2018\*)

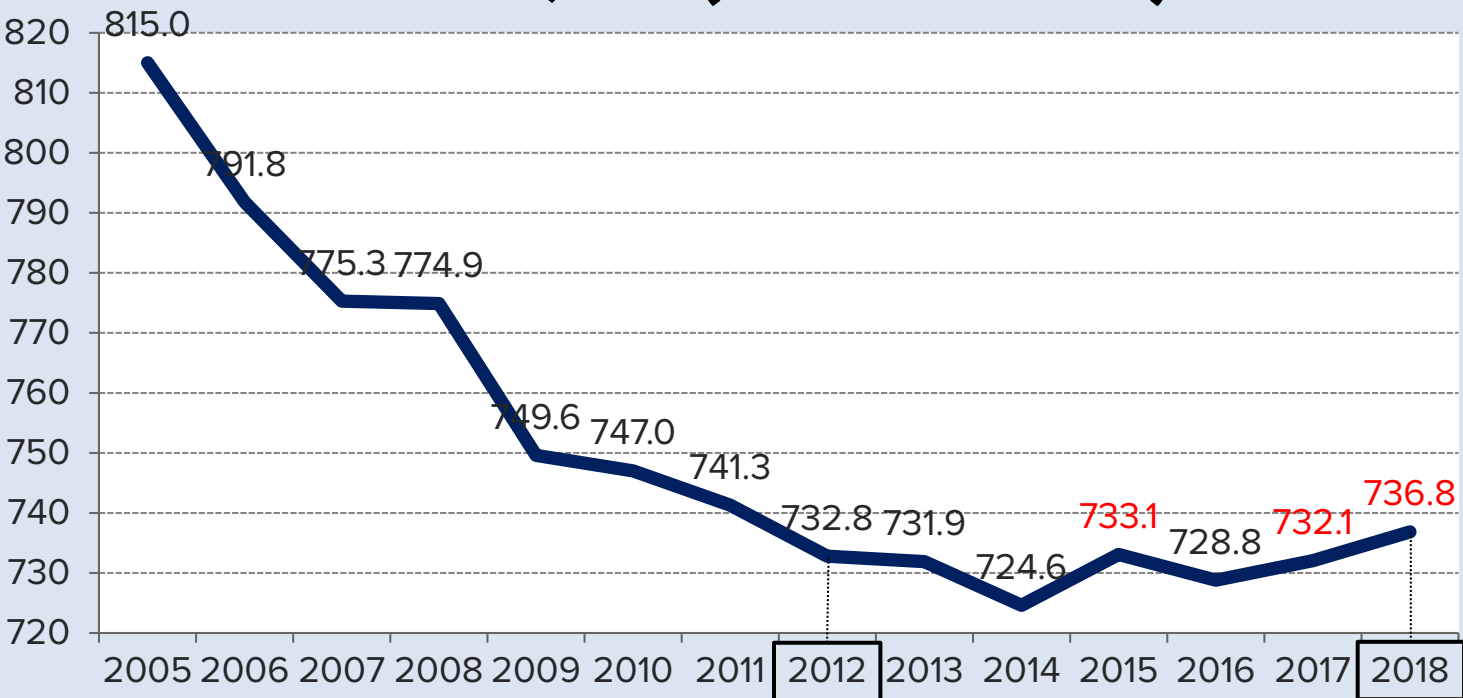


Though the age-adjusted mortality rate has been on a long-term downward slope, lately that slope has flattened.

\* Values projected for 2017 and 2018.

# ... BUT THAT DECLINE HAS BEEN ARRESTED

## Annual Age-Adjusted Mortality Rate Per 100,000 (2005 to 2018\*)

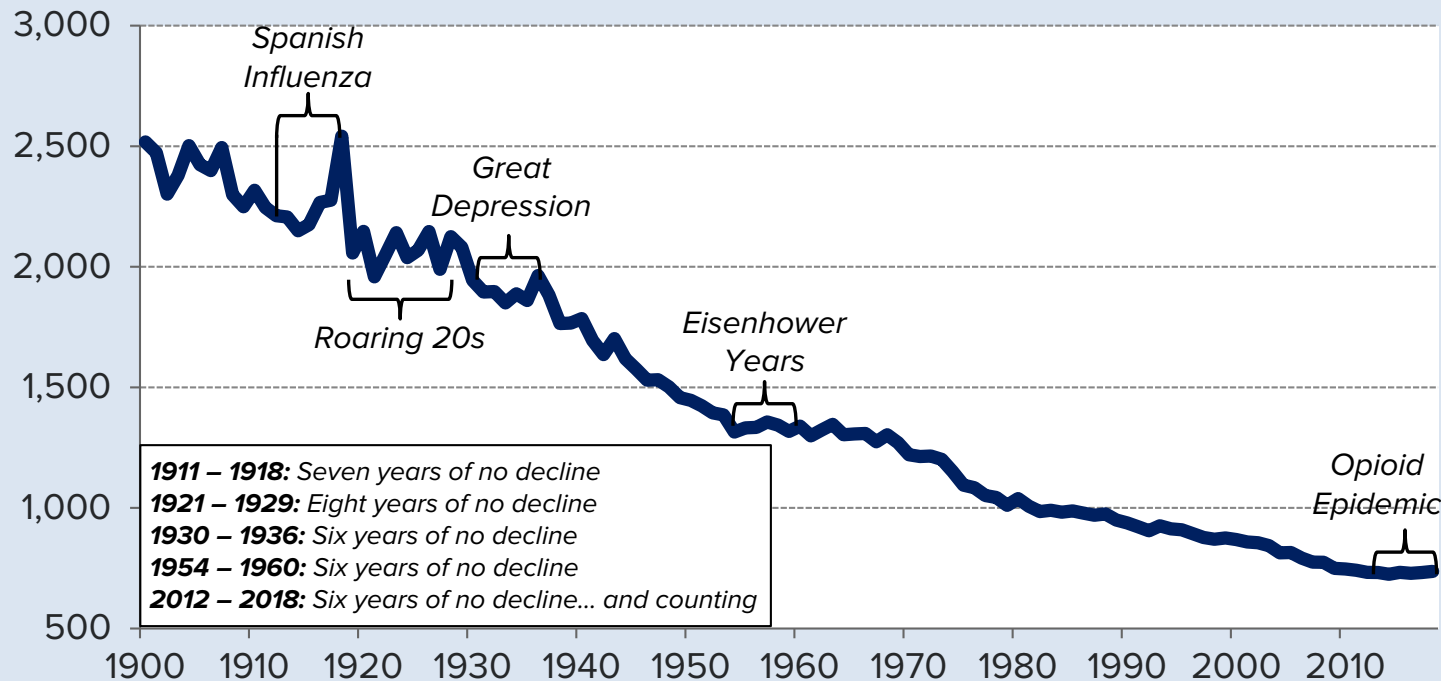


\* Values projected for 2017 and 2018.

If current trends persist, the U.S. mortality rate will be higher in 2018 than it was in 2012...

# WE'RE IN PRECARIOUS HISTORICAL TERRITORY

## Annual Age-Adjusted Mortality Rate Per 100,000 (1900 to 2018\*)



...The last such six-year stretch of no mortality progress came back when Eisenhower was president.

\* Values projected for 2017 and 2018.

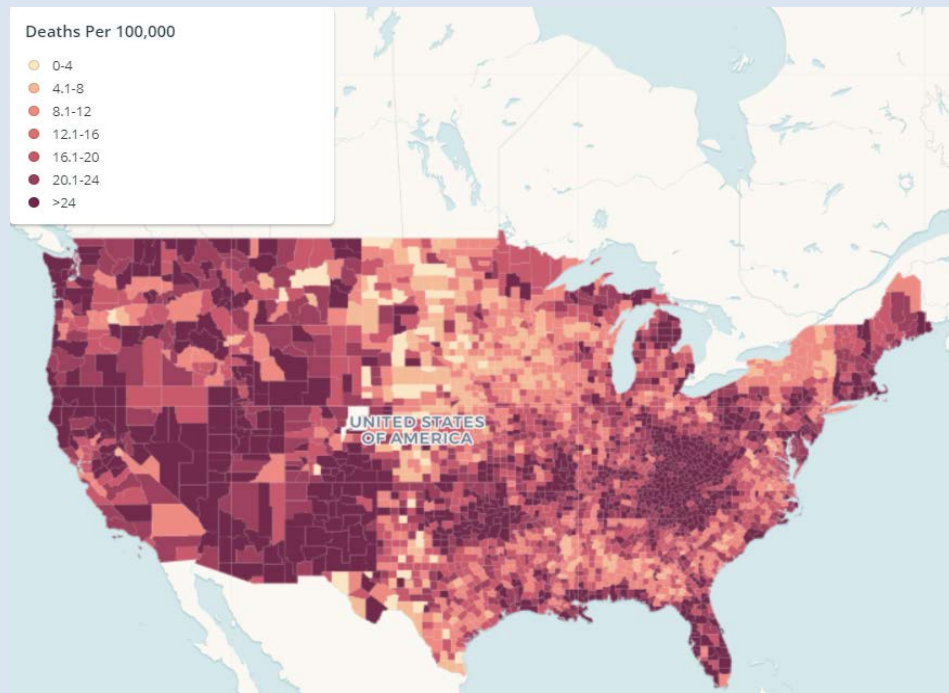
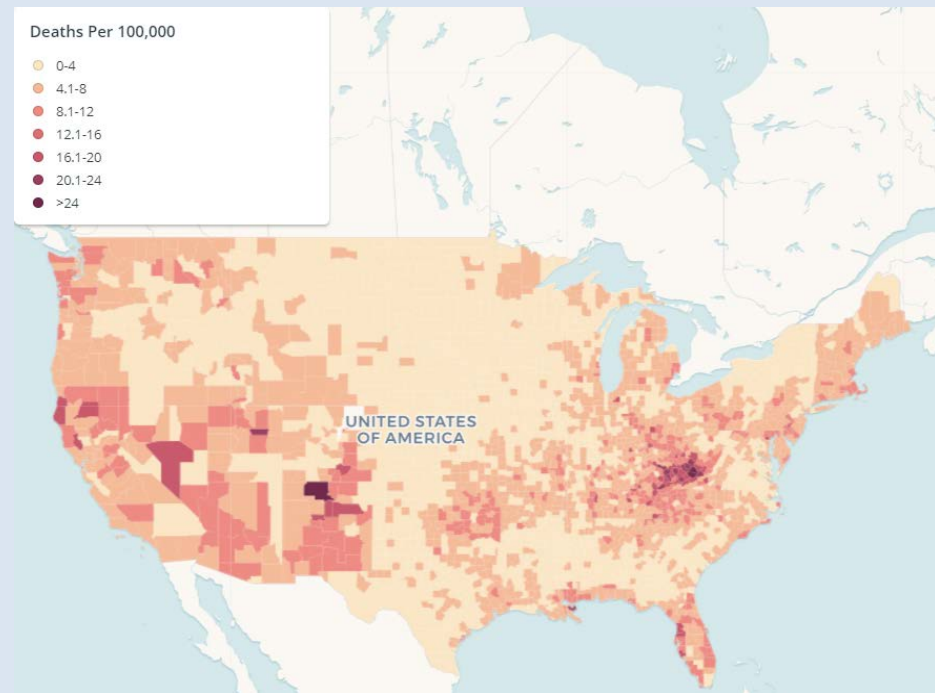


# OPIOID EPIDEMIC SPREADING EVERYWHERE...

## U.S. Drug Overdose Deaths Per 100,000 Population

### 1999

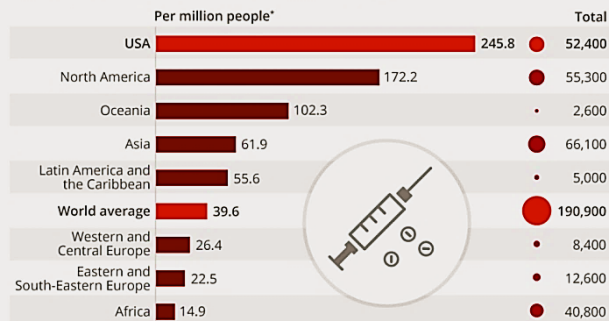
### 2016



# ...AND STILL NOT SLOWING DOWN

## America Has The Highest Drug-Death Rate in the World

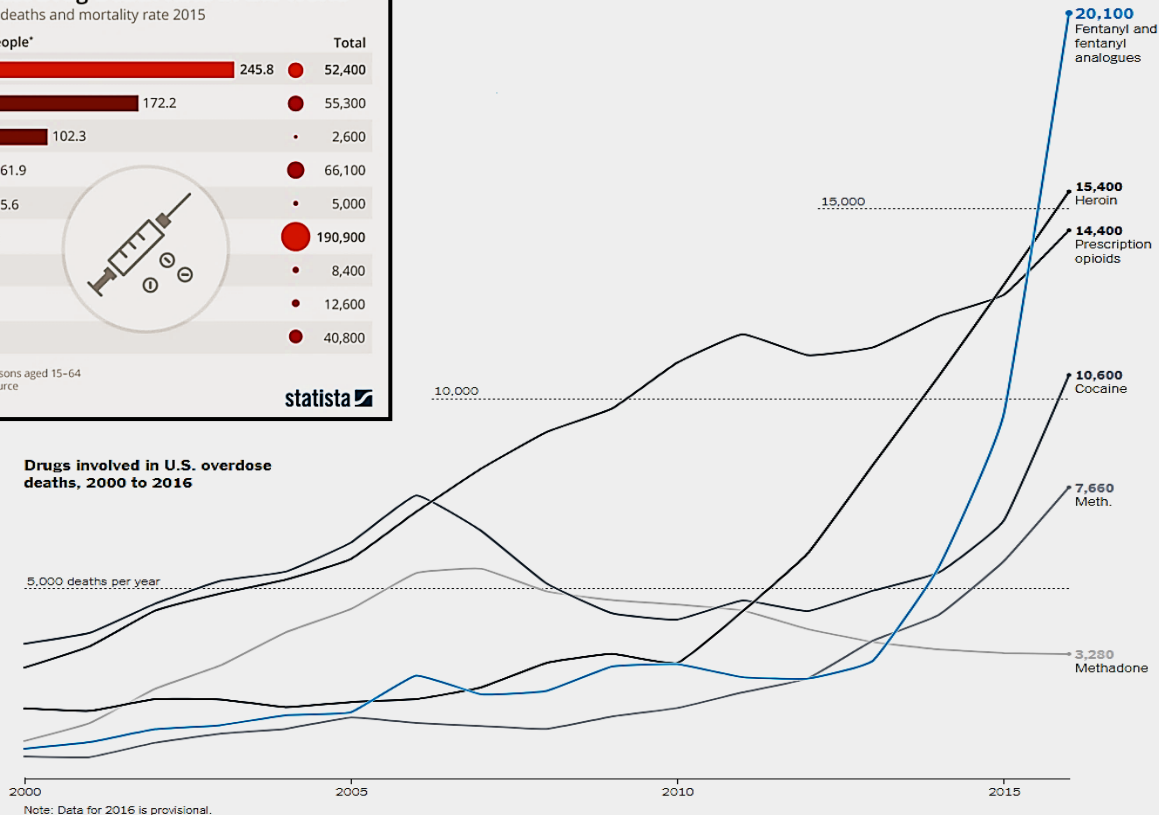
Estimated number of drug-related deaths and mortality rate 2015



\* mortality rate per million persons aged 15-64  
Best estimates according to source  
@statistaCharts Source: UNODC

statista

## Drugs involved in U.S. overdose deaths, 2000 to 2016



# ALL AGE BRACKETS UNDER 65 TAKING PART

## U.S. Drug Overdose Death Rate by Age Group (1999 to 2016)

% Increase in  
Drug Death Rate,  
1999-2016:

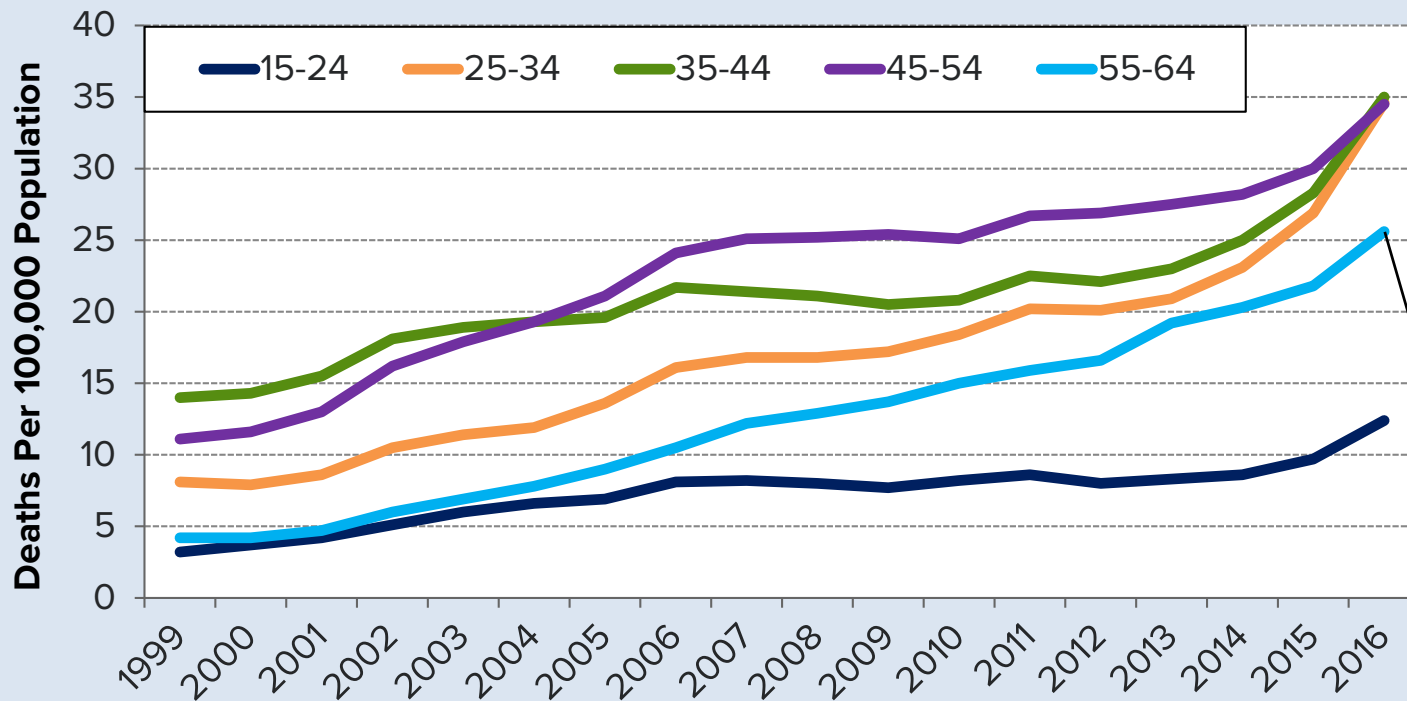
age 15-24: **288%**

age 25-34: **327%**

age 35-44: **150%**

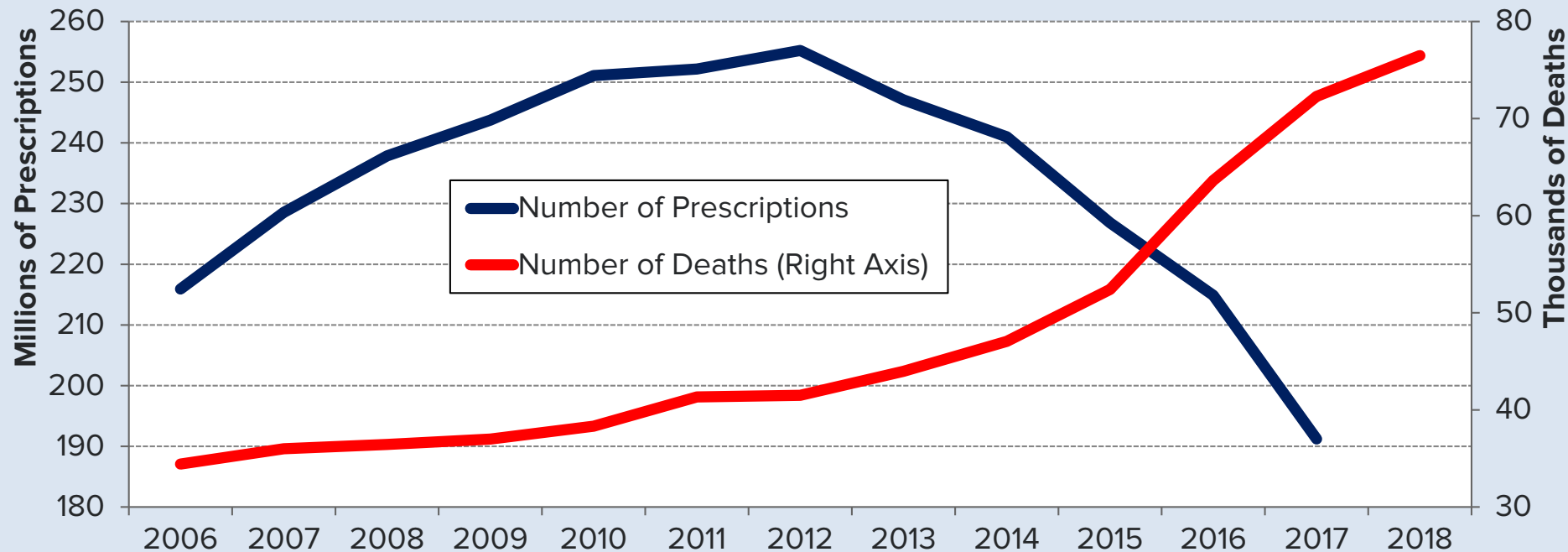
age 45-54: **211%**

age 55-64: **510%**



# PRESCRIPTION CLAMPDOWN ISN'T WORKING YET

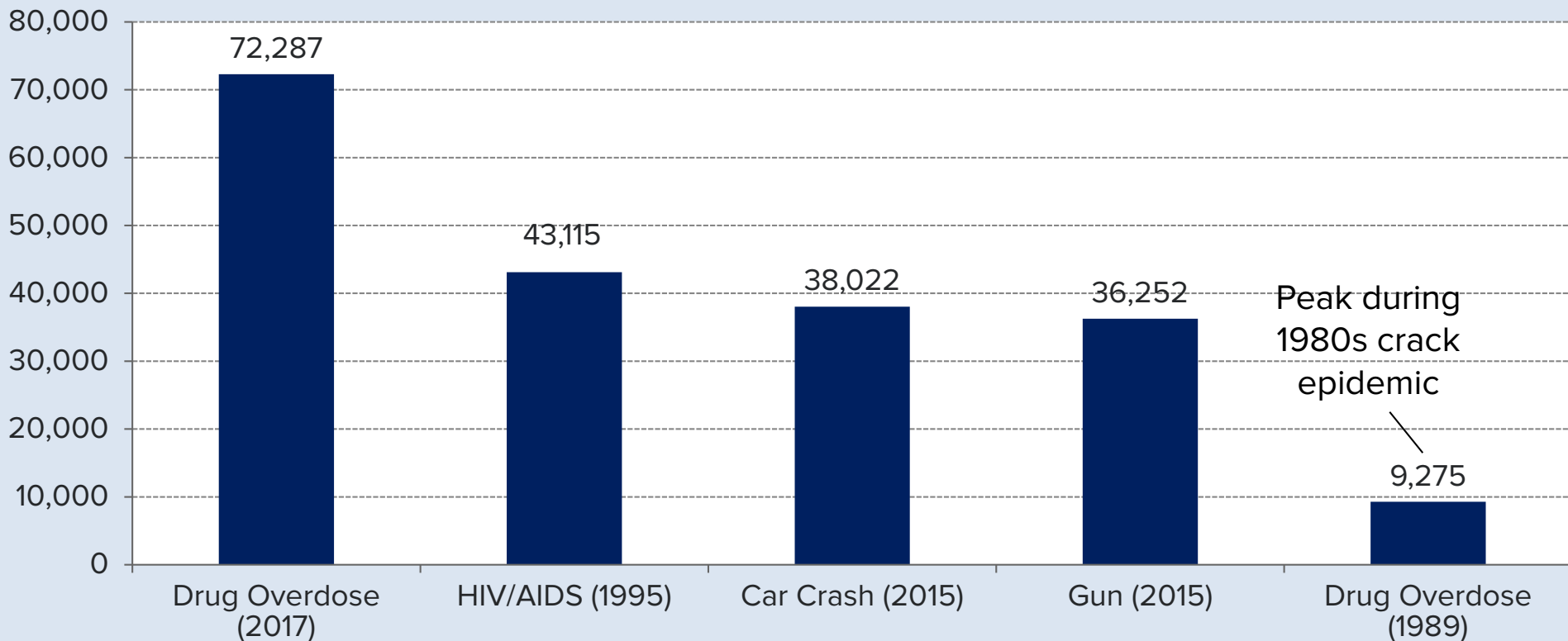
## Number of Opioid Prescriptions vs. Number of Drug Overdose Deaths (2006 to 2018\*)



\* Drug overdose deaths for 2017 and 2018 ESTIMATED using 12-month ending monthly provisional counts.

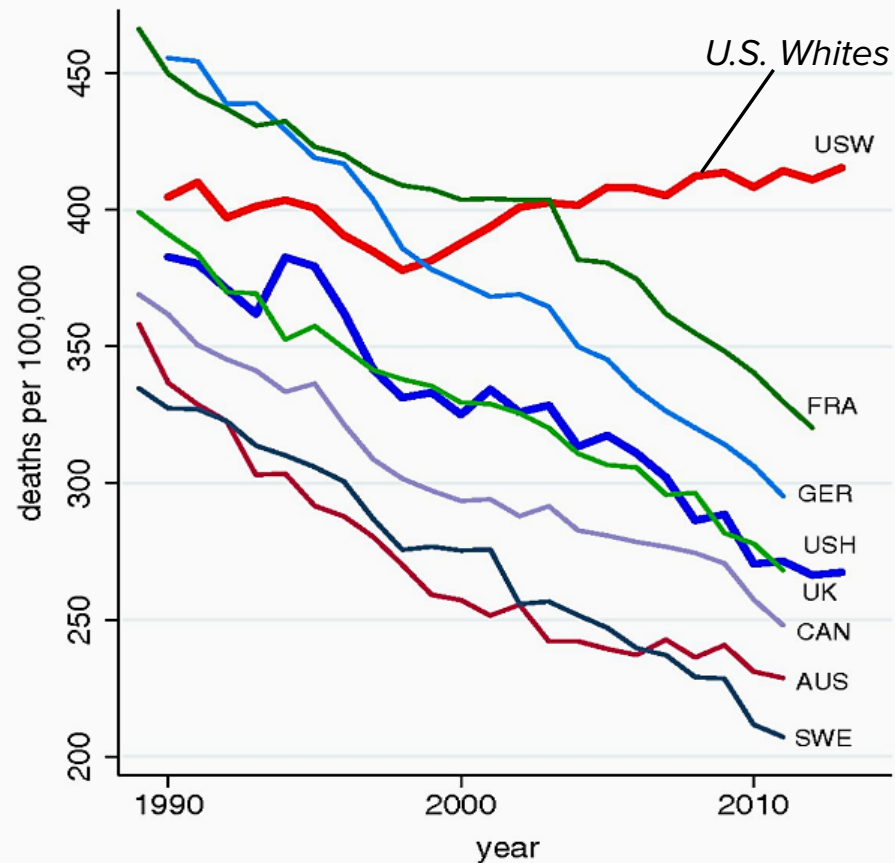
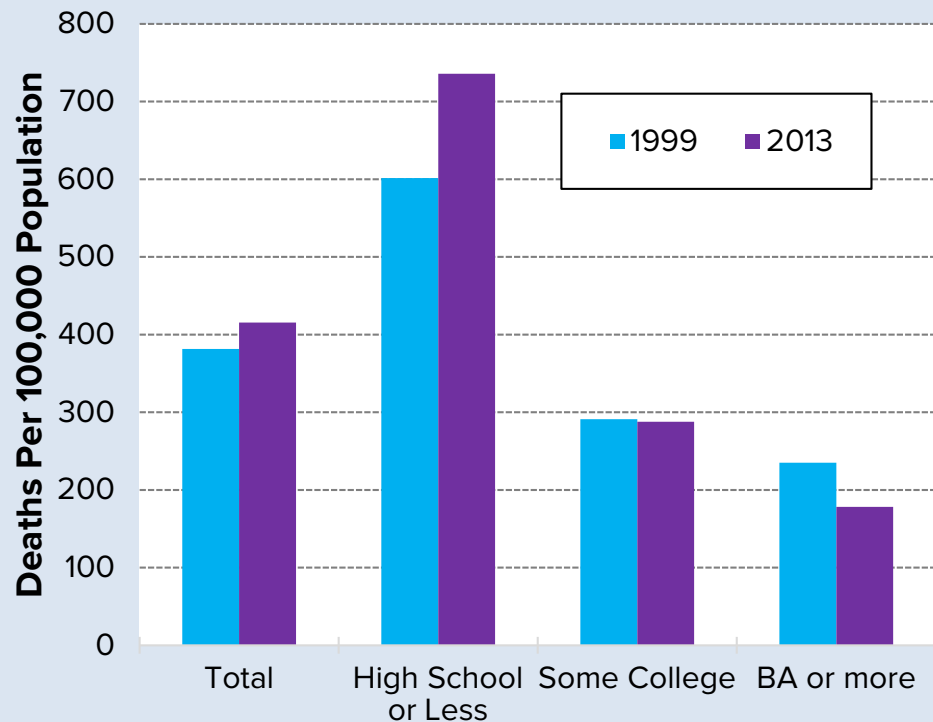
# TODAY'S EPIDEMIC EXCEEDS MOST PRECEDENTS

## Number of Deaths by Cause and Year



# BROADER “DESPAIR” EPIDEMIC: MIDLIFE WHITES

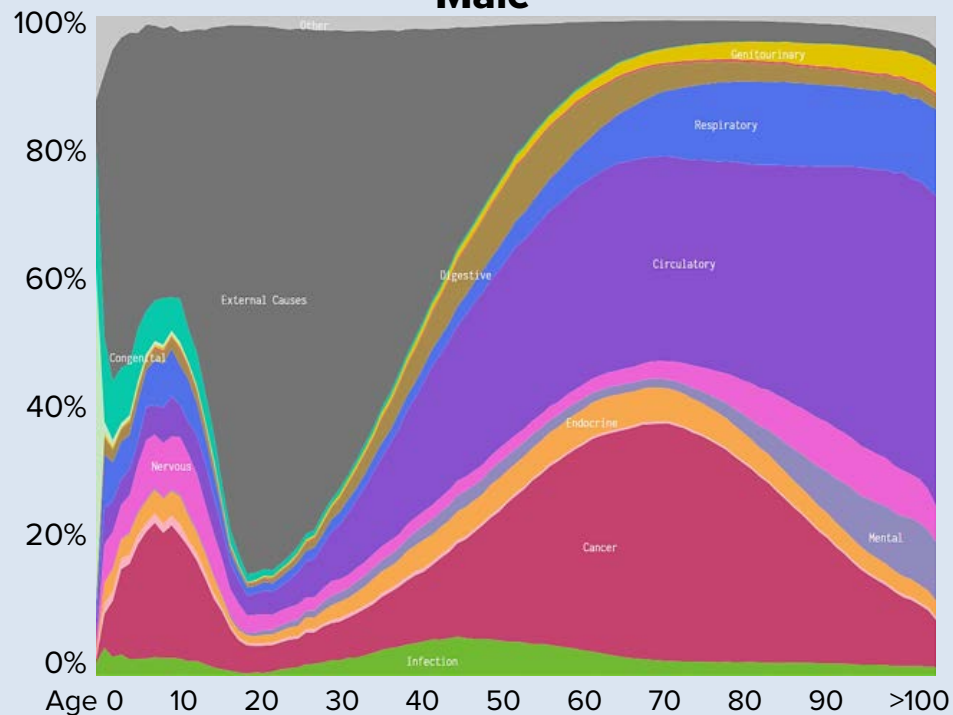
**Mortality Rate of U.S. Whites Age 45-54, from 1999 to 2013**



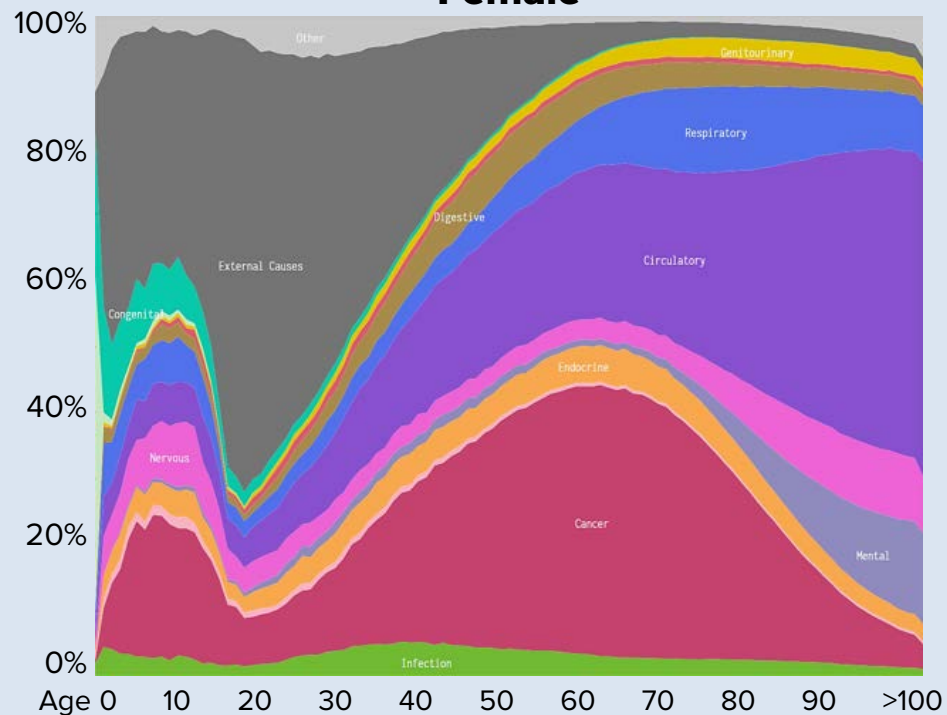
# POPULATION AGING = MORE CHRONIC DISEASES

## Distribution of Cause of Death by Age

**Male**

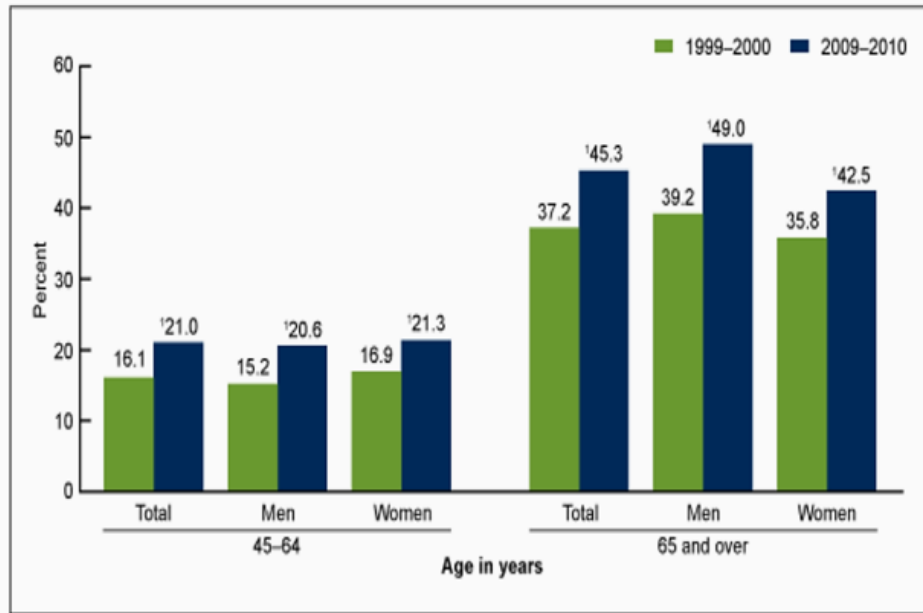


**Female**

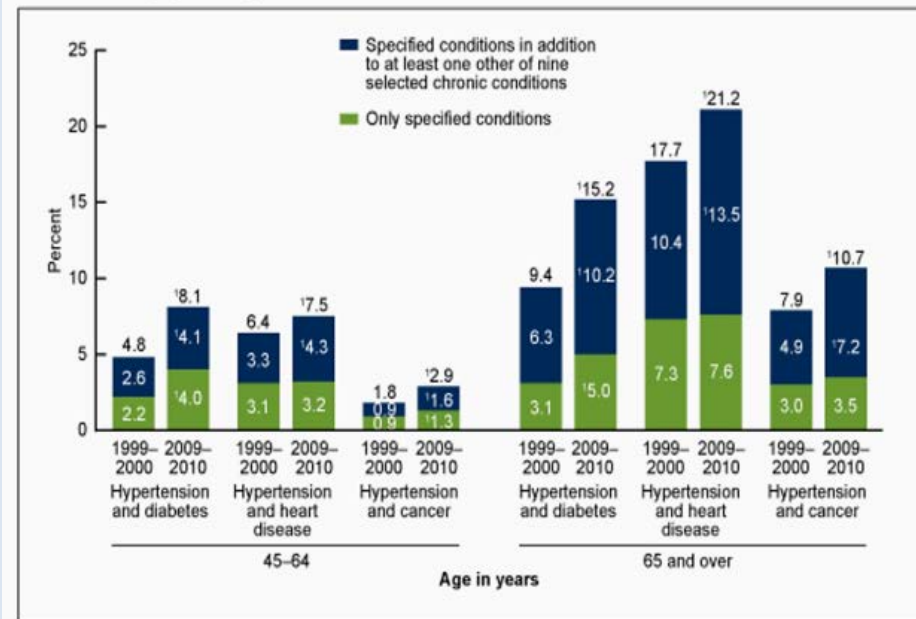


# CHRONIC DISEASE RATE BY AGE IS ALSO RISING

**Prevalence of Two or More of Nine Selected Chronic Conditions Among Adults Age 45+ (1999-2000 vs. 2009-2010)**



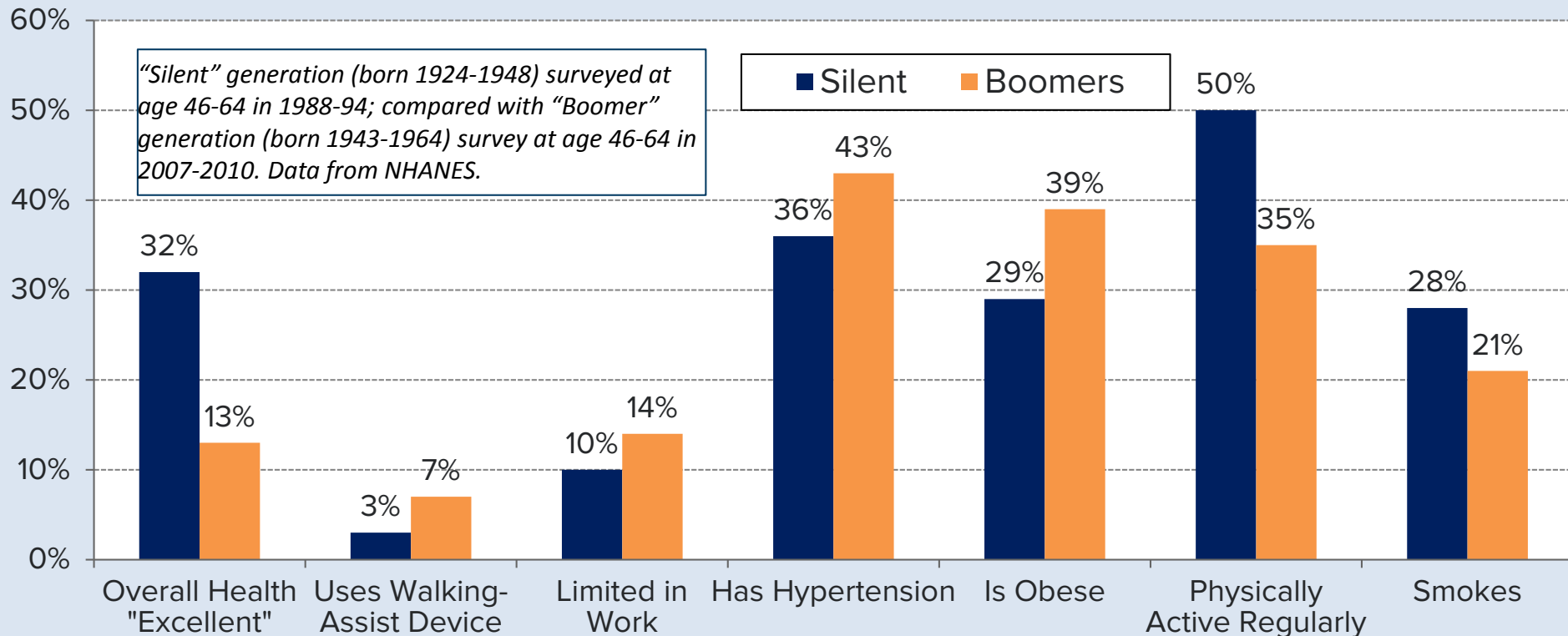
**Prevalence of the Three Most Common Combinations of the Nine Selected Chronic Conditions (1999-2000 vs. 2009-2010)**





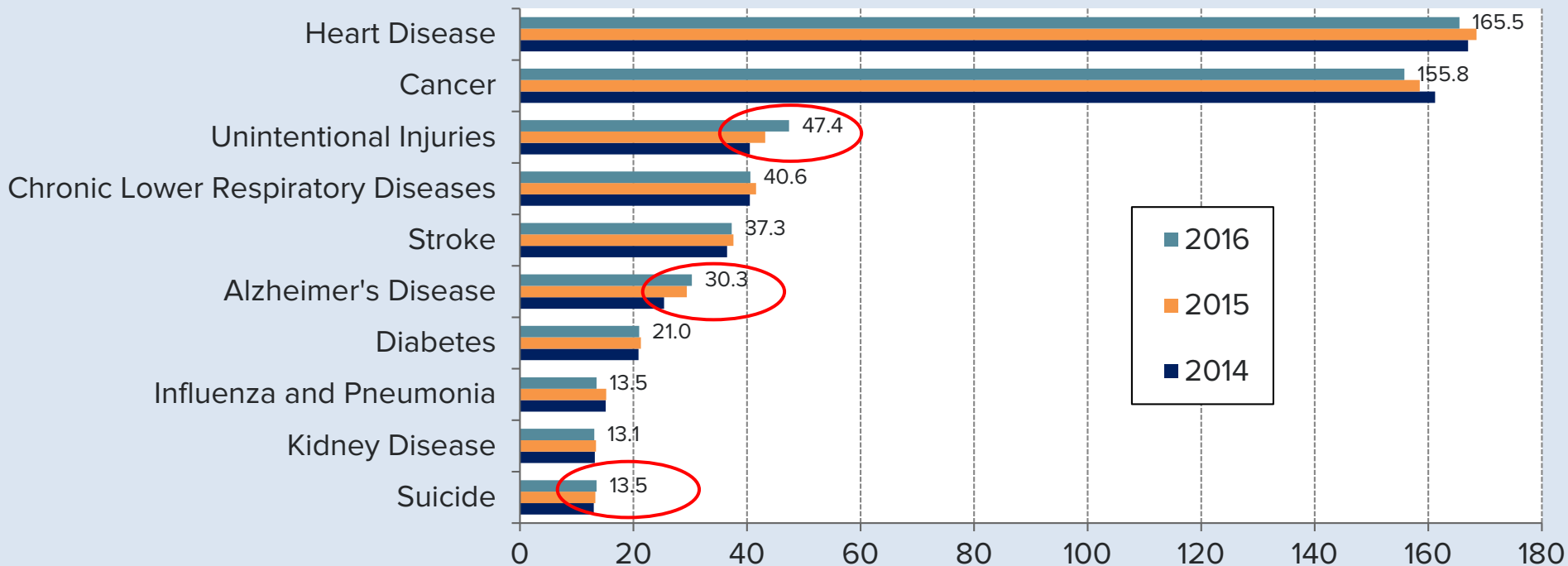
# BOOMERS NOT AS HEALTHY IN MIDLIFE

## Share of Respondents Reporting Various Health Conditions



# RECENT MORTALITY RISES REVEAL PATTERNS

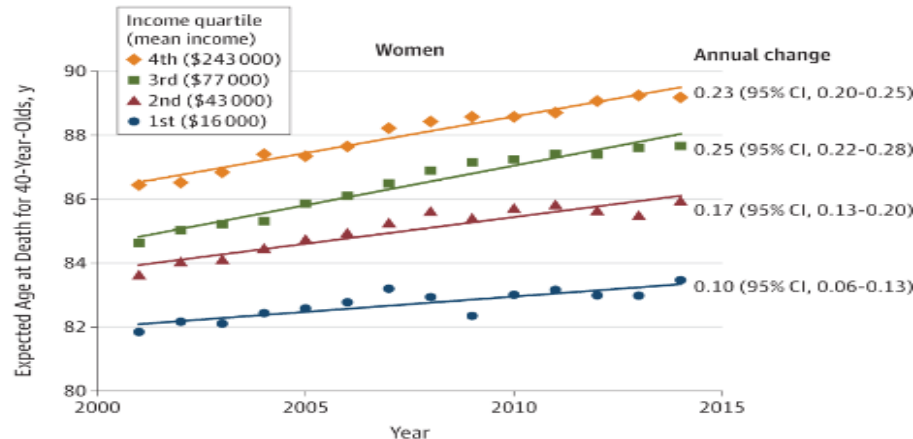
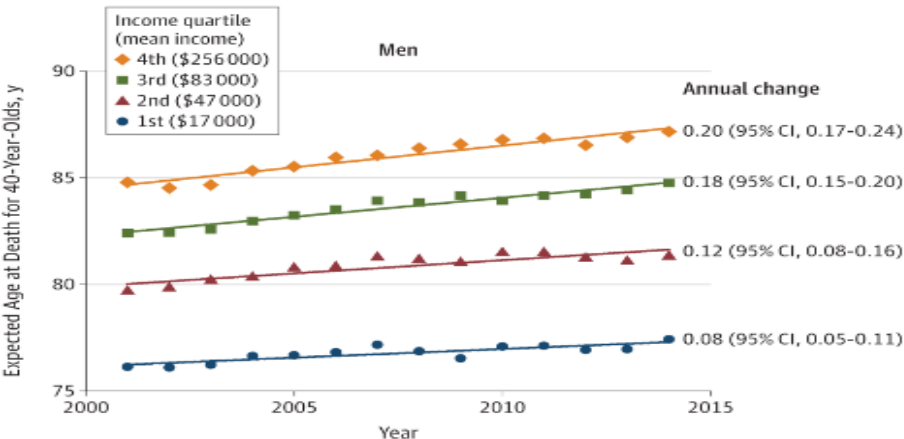
## Age-Adjusted Death Rates for 10 Leading Causes of Death (Selected Years)



# BOOMERS & XERS: RISING HEALTH INEQUALITY

## Widening Boomer Spread in Mortality by Income (2000 to 2015)

A Life expectancy by income quartile by year



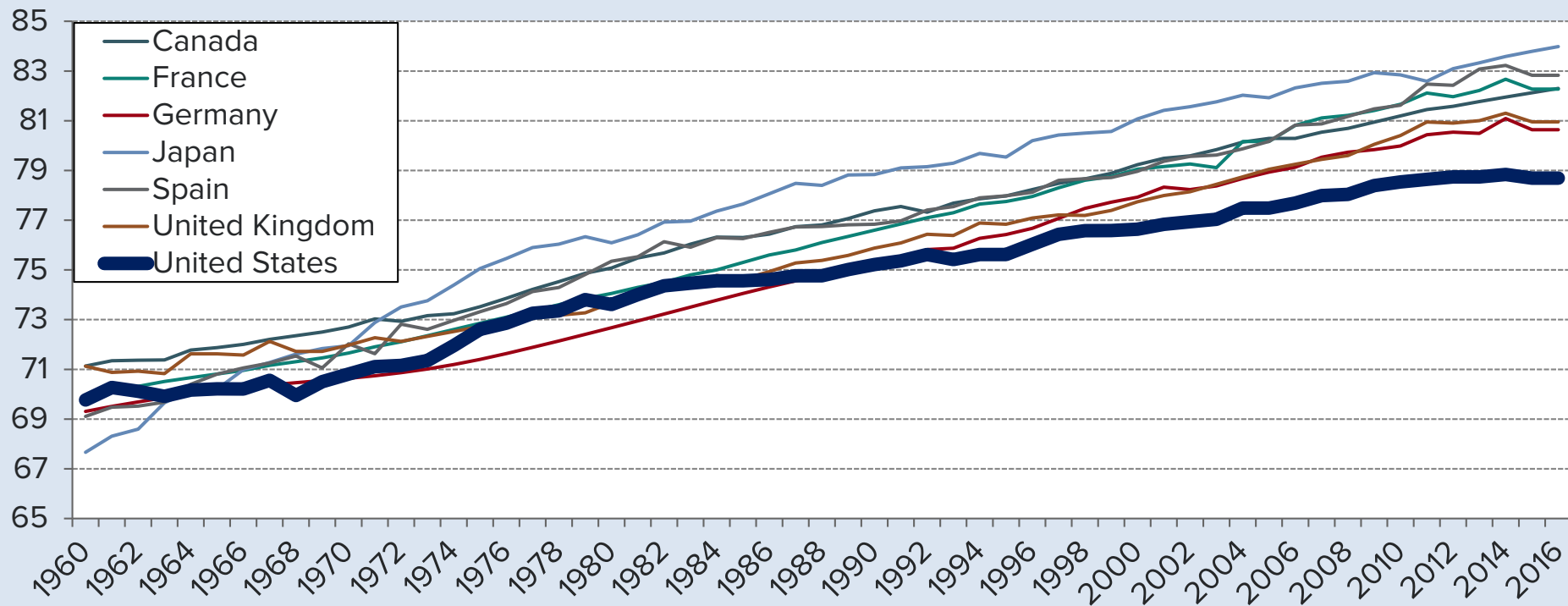
### GAIN IN LIFE EXPECTANCY AT AGE 40, 2000-2015:

HIGHEST INCOME QUARTILE: **+3.00 YEARS** (MEN), **+3.45 YEARS** (WOMEN)

LOWEST INCOME QUARTILE: **+1.20 YEARS** (MEN), **+1.50 YEARS** (WOMEN)

# U.S. LIFE EXPECTANCY LAGGING BEHIND...

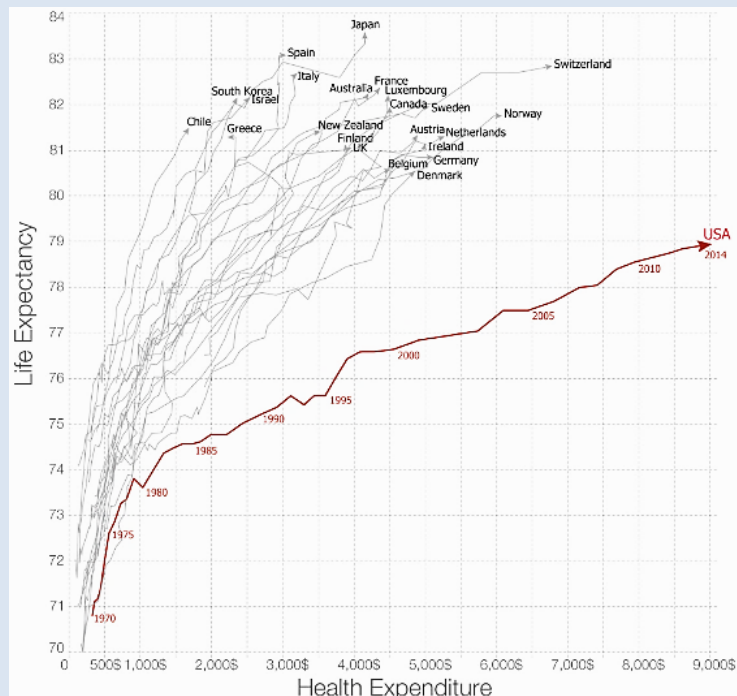
## Life Expectancy at Birth for Selected High-Income Countries (1960 to 2016)



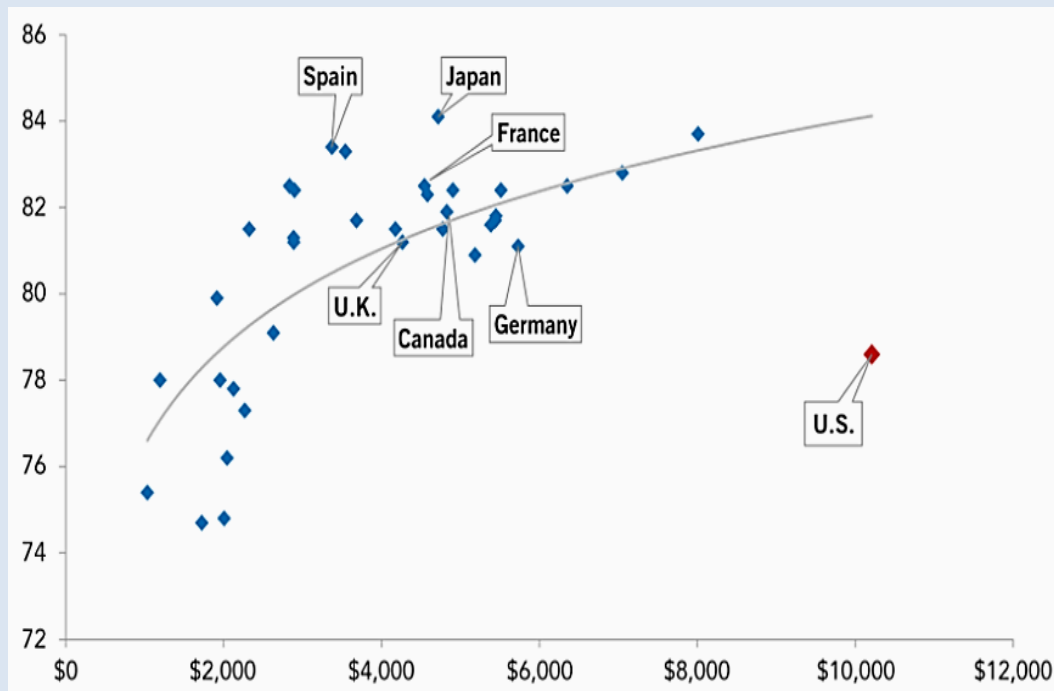
# ...DESPITE HUGE ADVANTAGE IN HEALTHCARE \$

## Life Expectancy vs. Health Expenditures

1970 - 2014



2017 (or latest year available)



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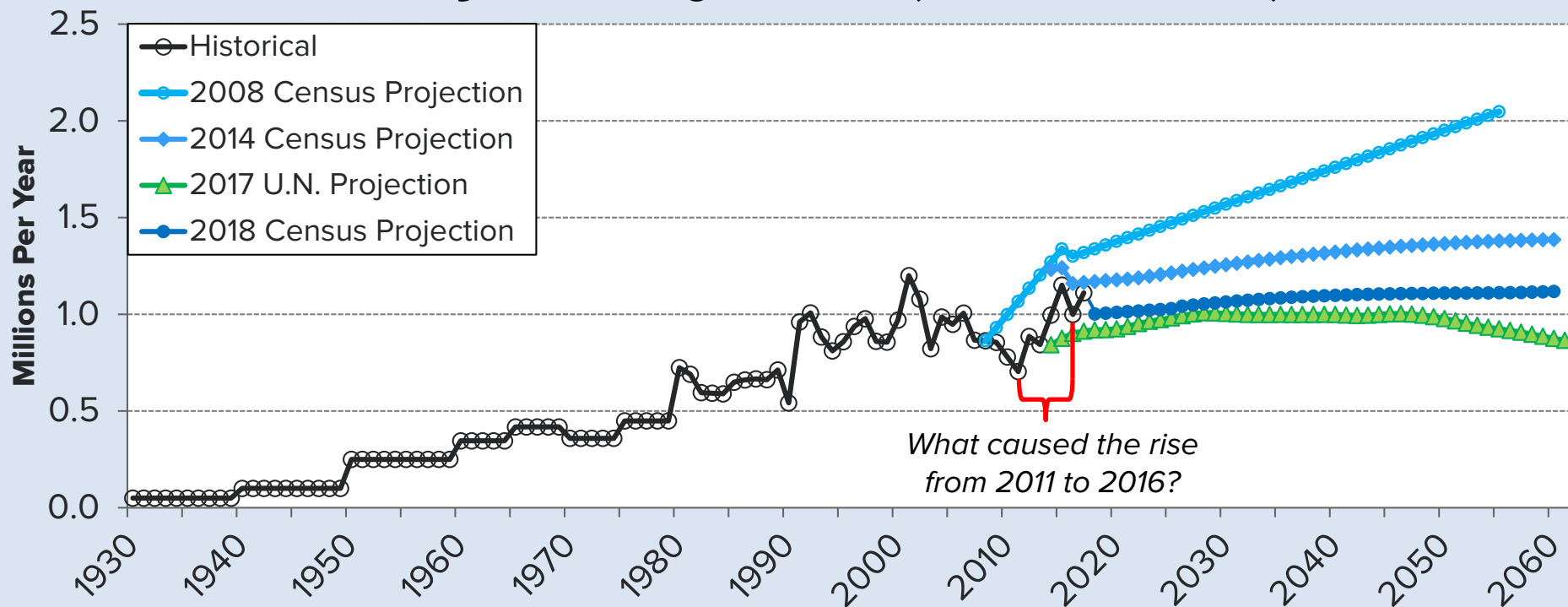
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# IMMIGRATION PROJECTIONS RATCHETING DOWN...

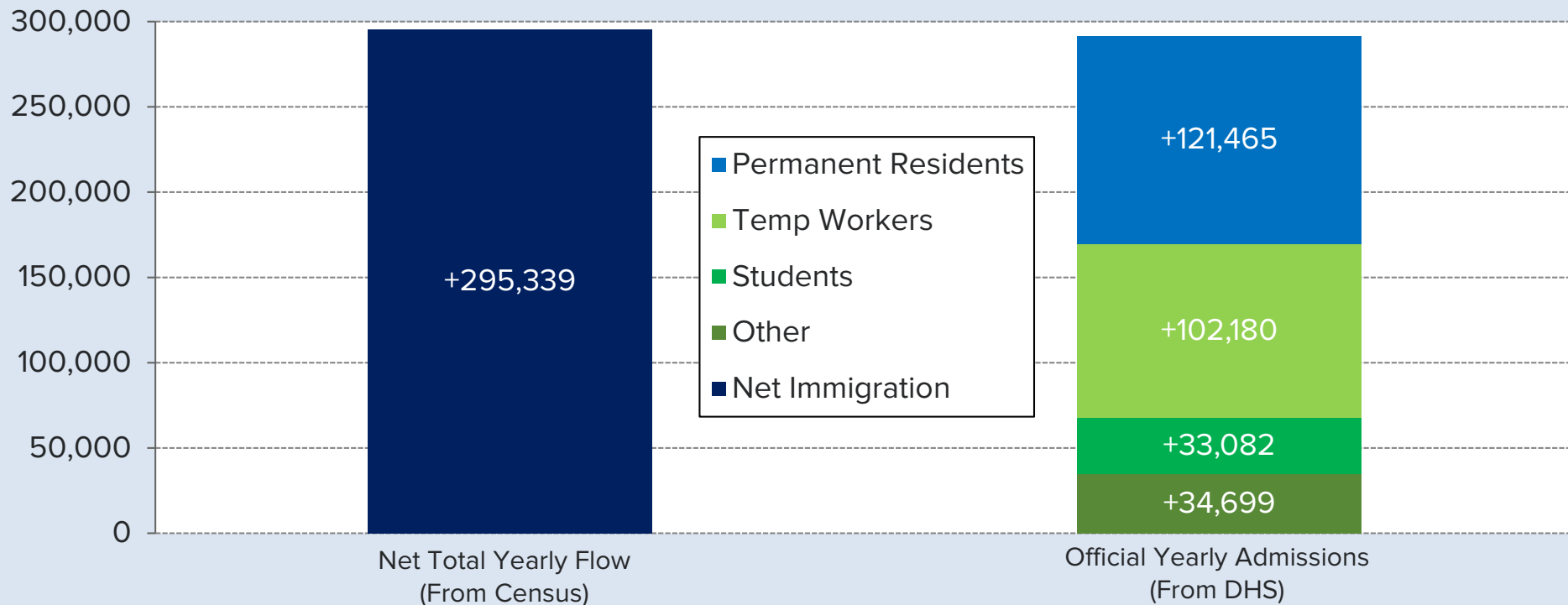
## Annual Net Immigration: History and Projections (1930 to 2060)



What caused the rise  
from 2011 to 2016?

# ECON RECOVERY SURGE APPEARS TO BE LARGELY LEGAL

## Change in Net Immigration by Type\* (2011 to 2016)



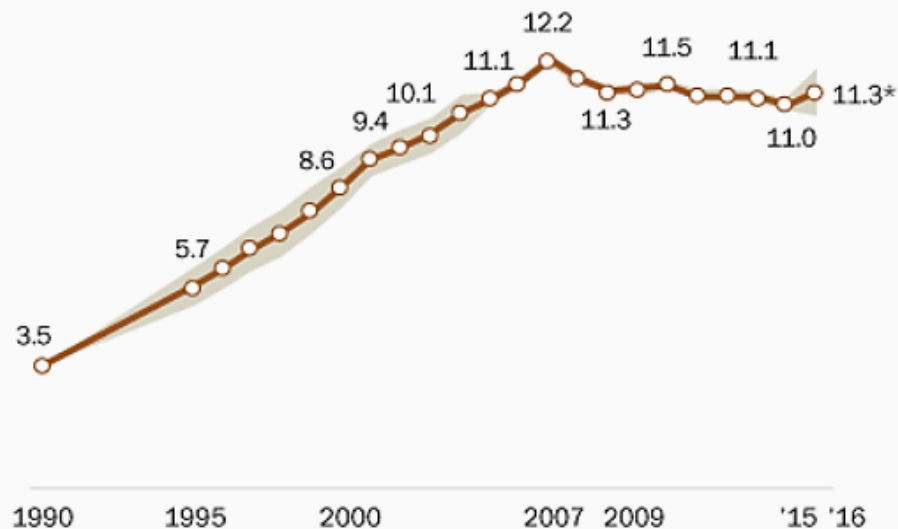
\* "Other" includes categories such as diplomats and other representatives; transit aliens; Legal Immigration Family Equity Act; and unknown.



# SINCE 2006, ILLEGAL INFLUX ESSENTIALLY NETS AT ZERO

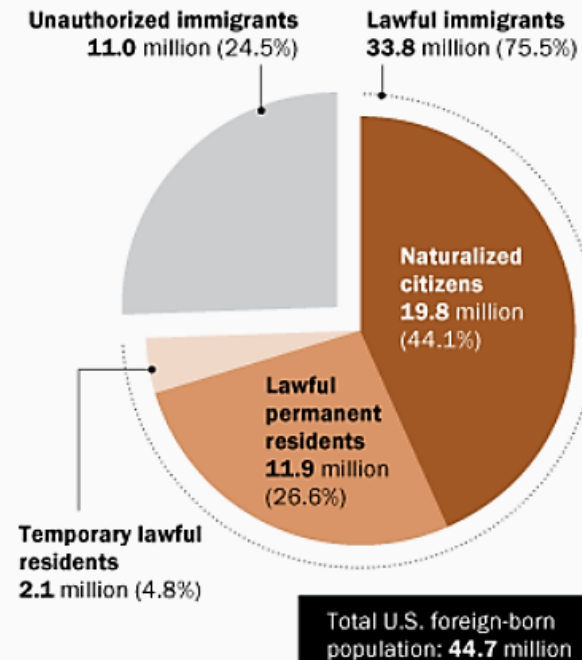
## Estimated unauthorized immigrant population in the U.S. lower in 2015 than in 2009

*In millions*



## About one-in-four U.S. immigrants are unauthorized

*Foreign-born population estimates, 2015*

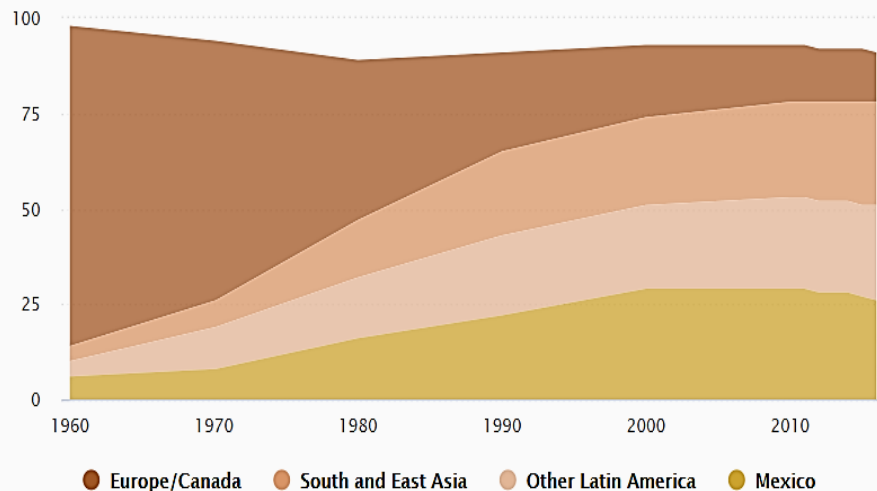


# SINCE 2010, ENTERING ASIANS OUTNUMBER LATINIS

## Origins of the U.S. immigrant population, 1960-2016

Chart Data Share Embed

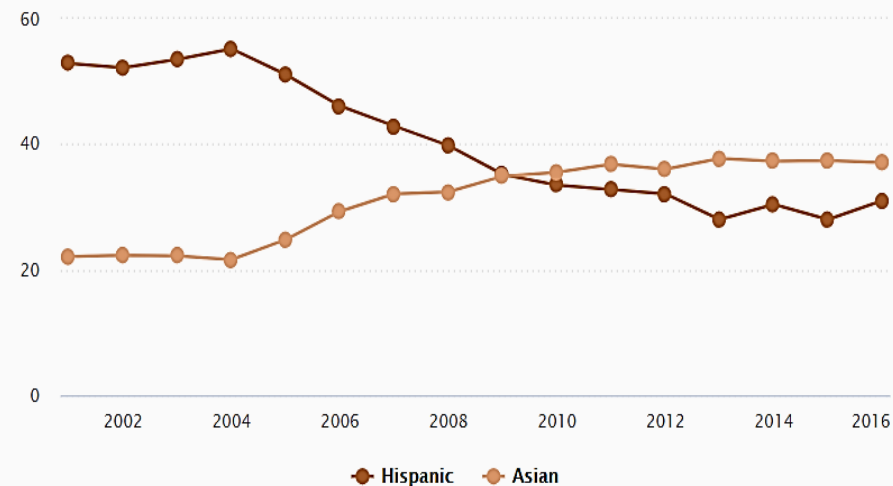
% of foreign-born population residing in the U.S. who were born in ...



## Among new arrivals, Asians outnumber Hispanics

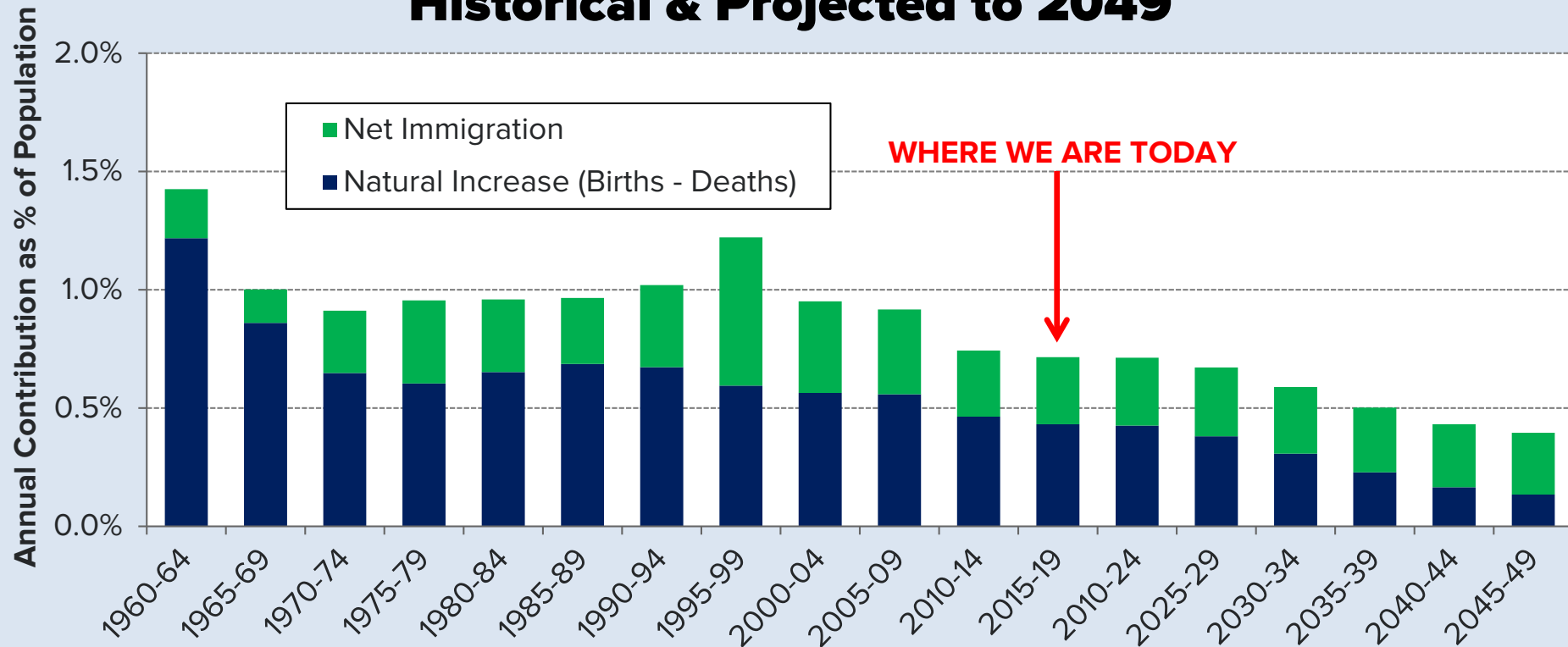
Chart Data Share Embed

% of immigrants arriving in the U.S. in each year who are ...



# FUTURE POP GROWTH DEPENDS MAINLY ON IMMIGRATION

## Annual Contributions to Population Growth: Historical & Projected to 2049



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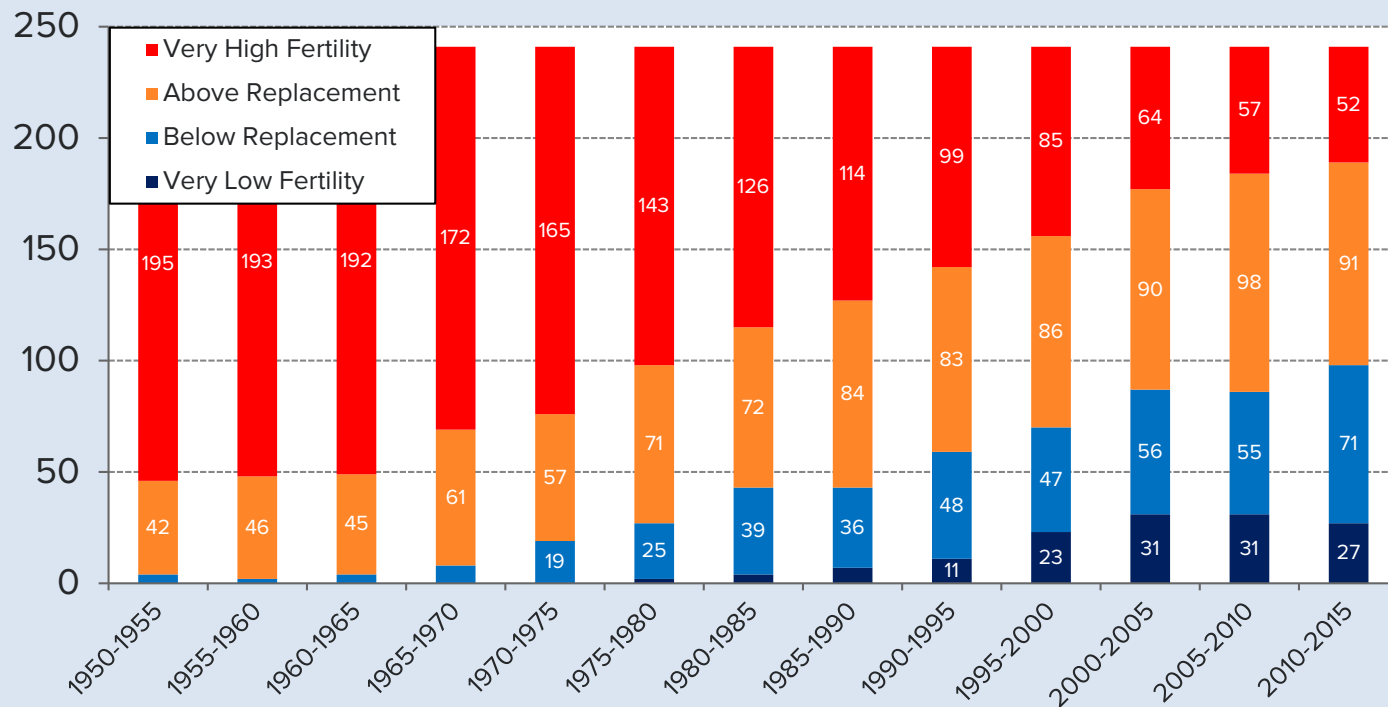
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# THE GREAT GLOBAL FERTILITY COOLDOWN

## Number of Countries by Fertility Level\* (1950 to 2015)



### Top 5 Countries by Population and 2015 Fertility Grouping

#### Very High (>4.0)

1. Nigeria
2. Ethiopia
3. Democratic Republic of Congo
4. United Republic of Tanzania
5. Kenya

#### Above Replacement (2.1 - 4.0)

1. India
2. Indonesia
3. Pakistan
4. Bangladesh
5. Mexico

#### Below Replacement (1.5 - 2.1)

1. China
2. United States
3. Brazil
4. Russia
5. Vietnam

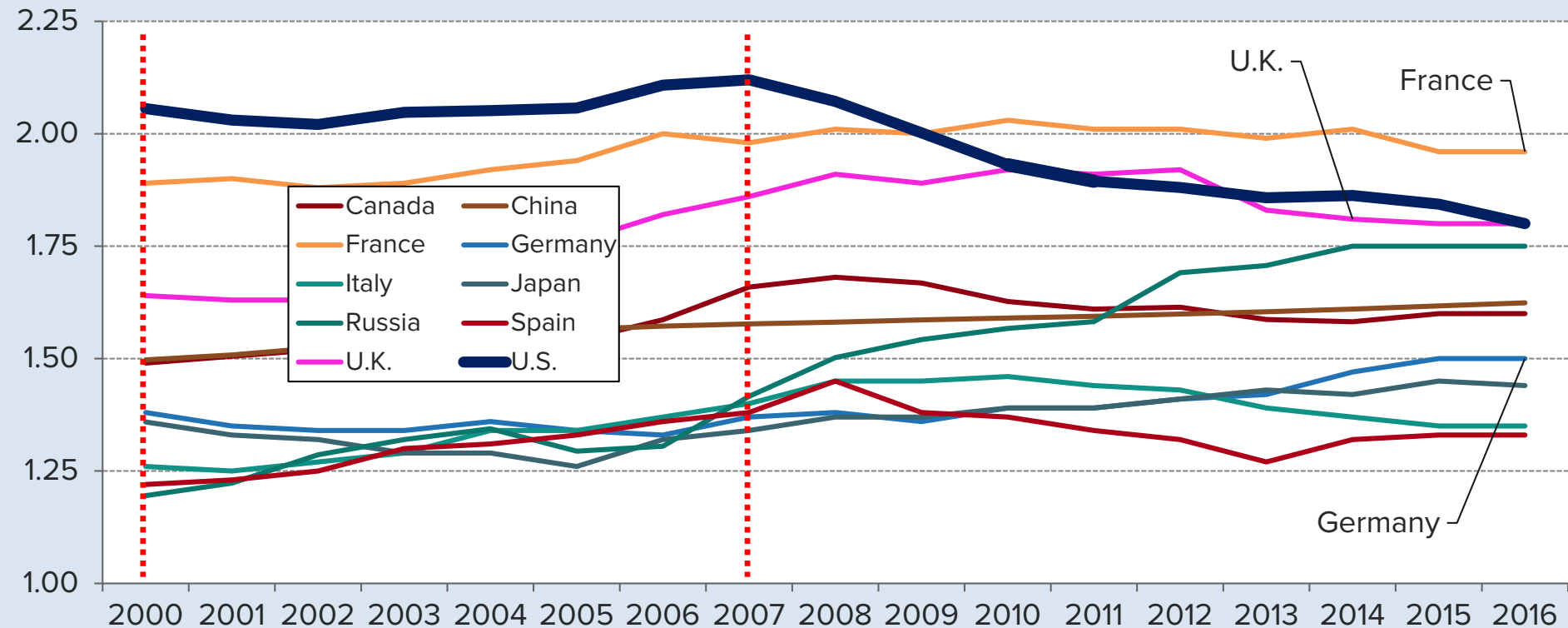
#### Very Low (<1.5)

1. Japan
2. Germany
3. Italy
4. South Korea
5. Spain

\* "Very high fertility" refers to a TFR above 4.0. "Above Replacement" refers to a TFR between 2.1 and 4.0. "Below Replacement" refers to a TFR of less than 2.1 but at least 1.5. "Very Low Fertility" refers to a TFR of less than 1.5.

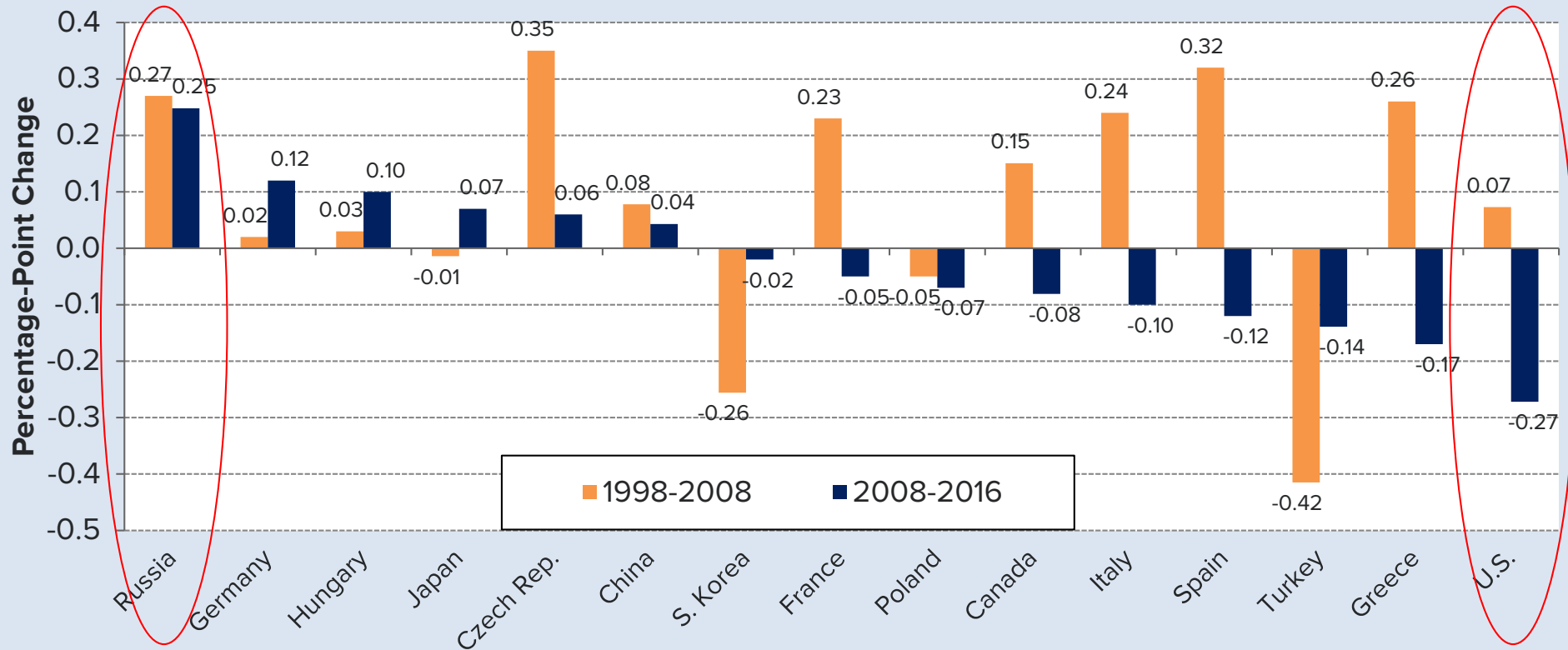
# SINCE 2007, U.S. TFR FALLS OUT OF 1<sup>ST</sup> PLACE

## Total Fertility Rates by Country (2000 to 2016)



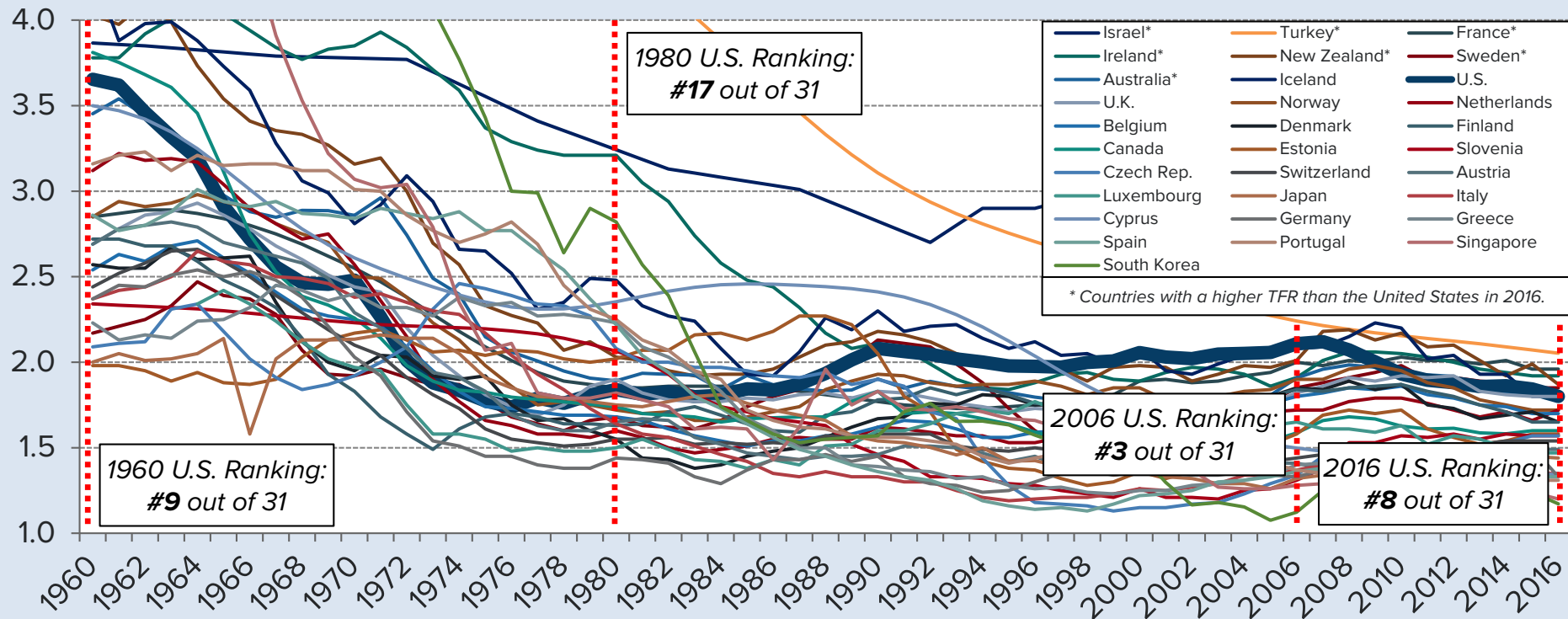
# RECENT FERTILITY GAINERS AND LOSERS

## Change in TFR by Period for Selected Countries



# HISTORY OF U.S. "RELATIVE FERTILITY" SINCE 1960

## TFR: U.S. vs. Rest of Developed World\*\* (1960 to 2016)

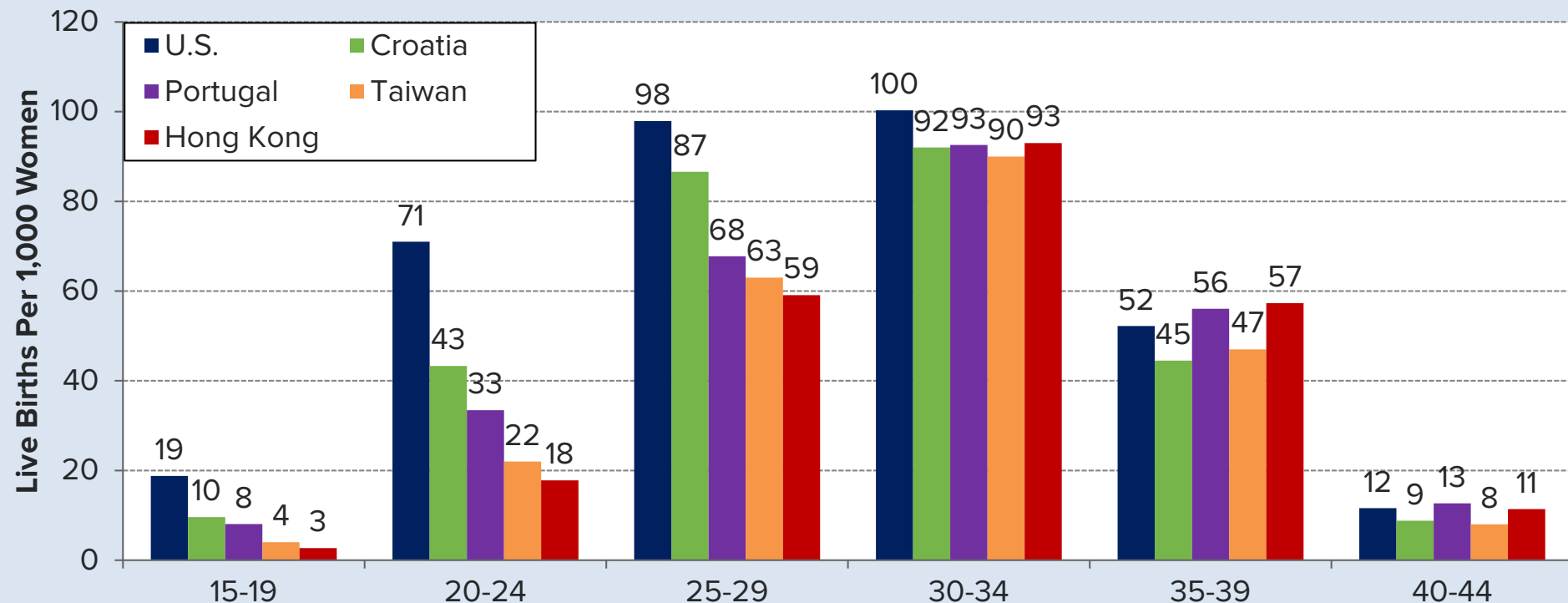


\*\* As designated by CIA The World Factbook.



# A GLIMPSE INTO OUR LOWER-FERTILITY FUTURE?

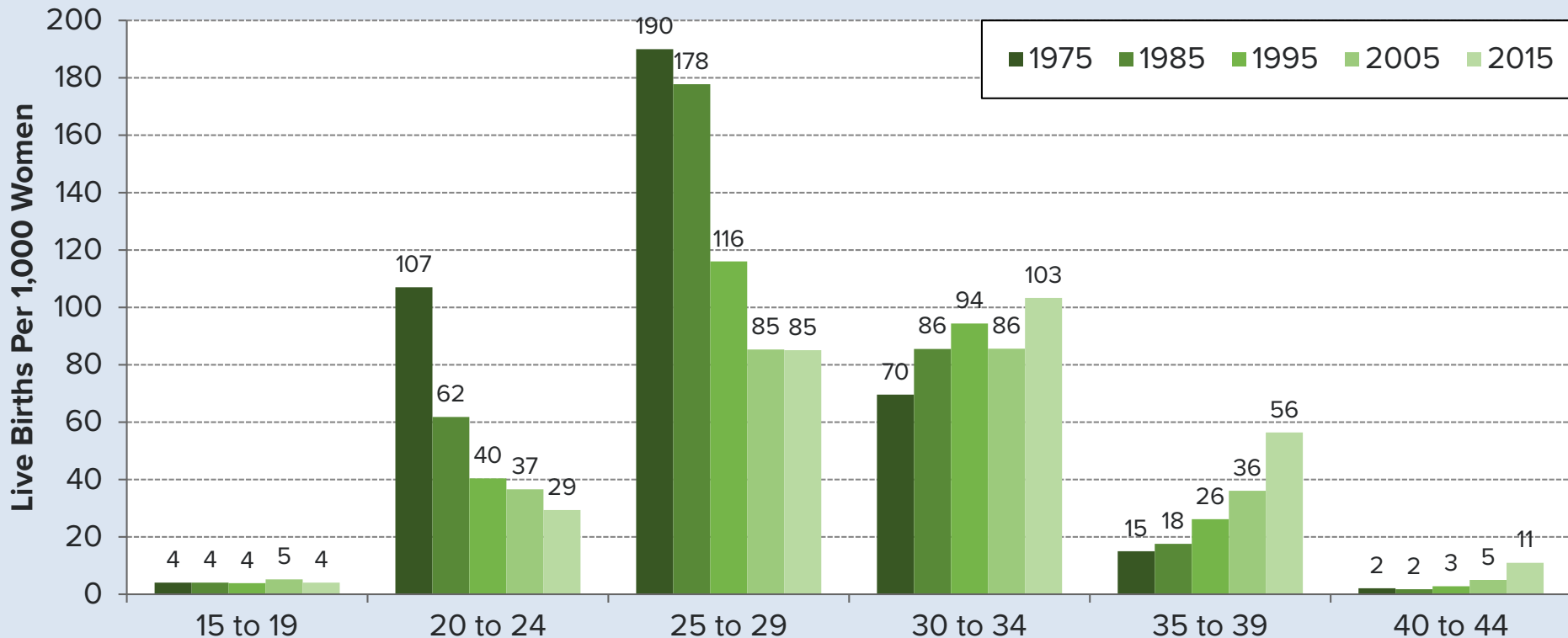
## Age-Specific Birthrates by Country (Latest Year\*)



\* Uses latest annual data for each country. U.S. figures are from 2017; all other figures are from 2016.

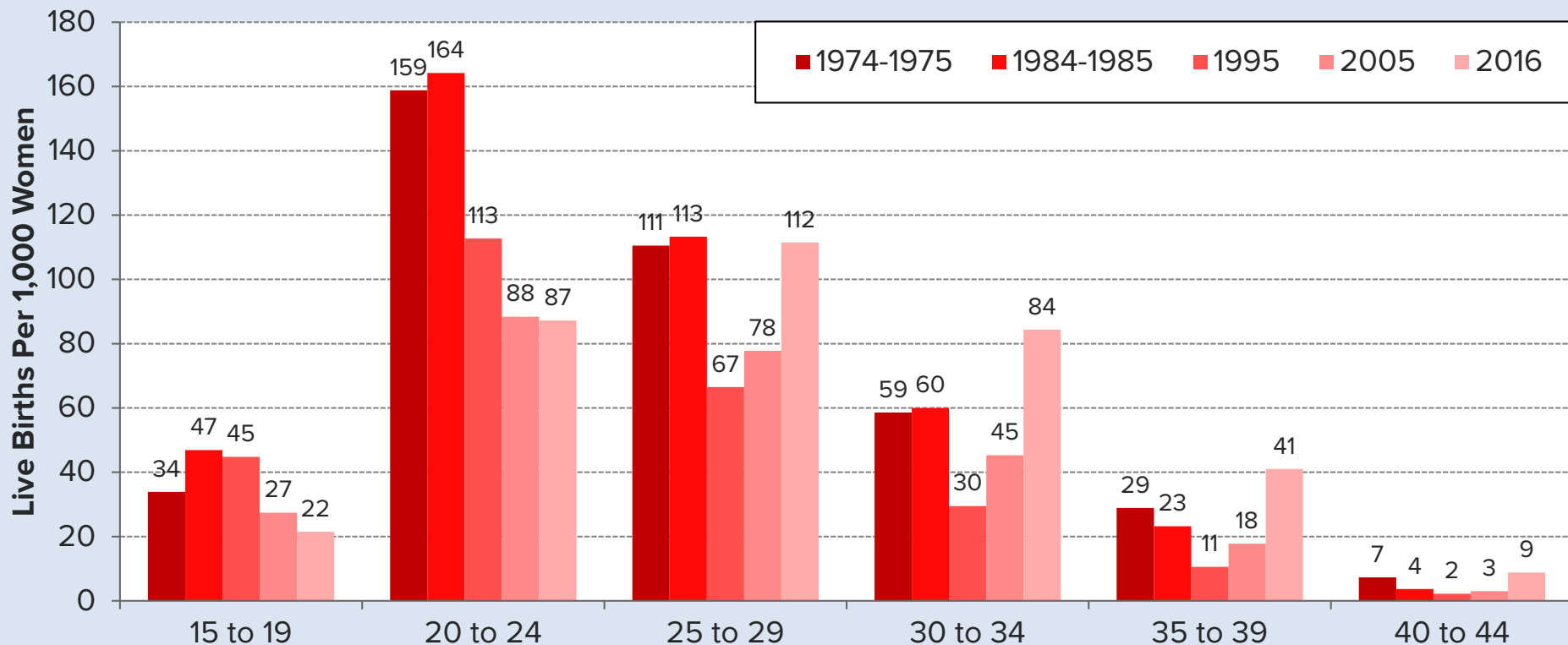
# JAPANESE TRYING AN UNDER-30 COMEBACK

## Japanese Birthrates by Age of Mother (Various Years)



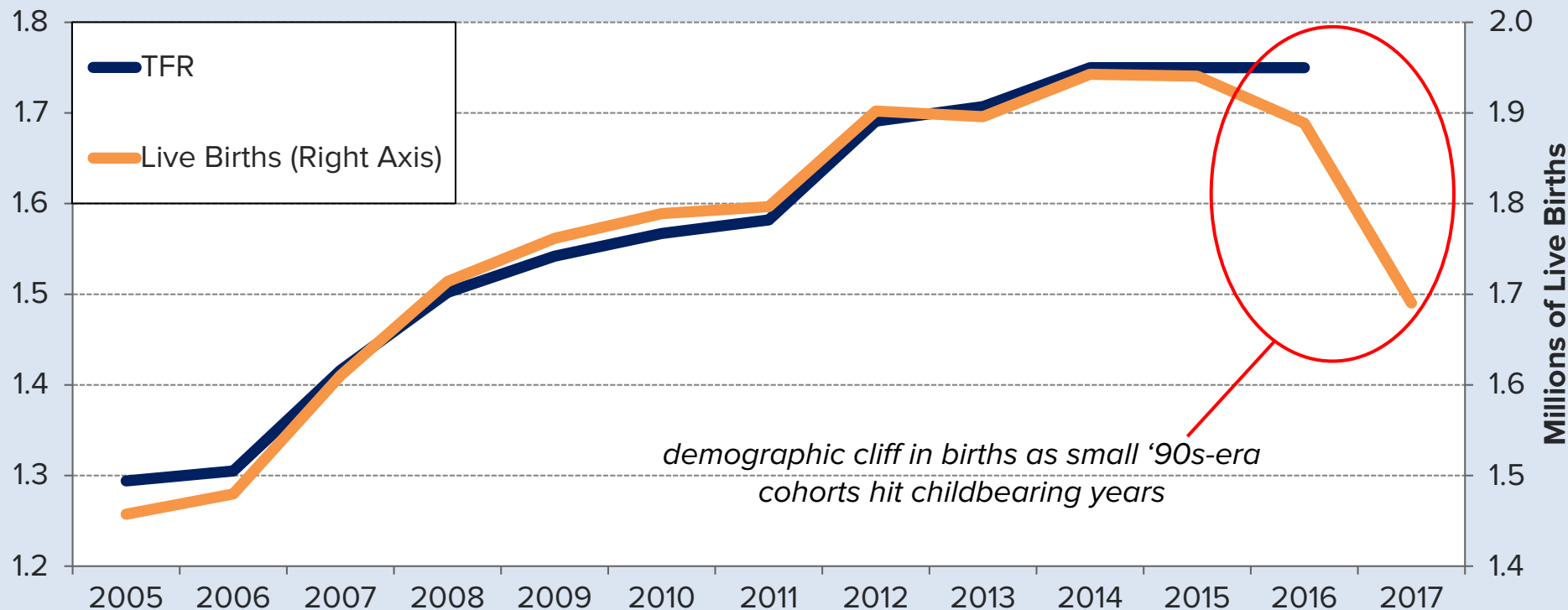
# RUSSIAN FERTILITY MAKES STRONGER COMEBACK

## Russian Birthrates by Age of Mother (Various Years)



# BUT GOOD NEWS MAY HIT DEMOGRAPHIC CLIFF

## Russia: TFR vs. Total Number of Births (2005 to 2017\*)

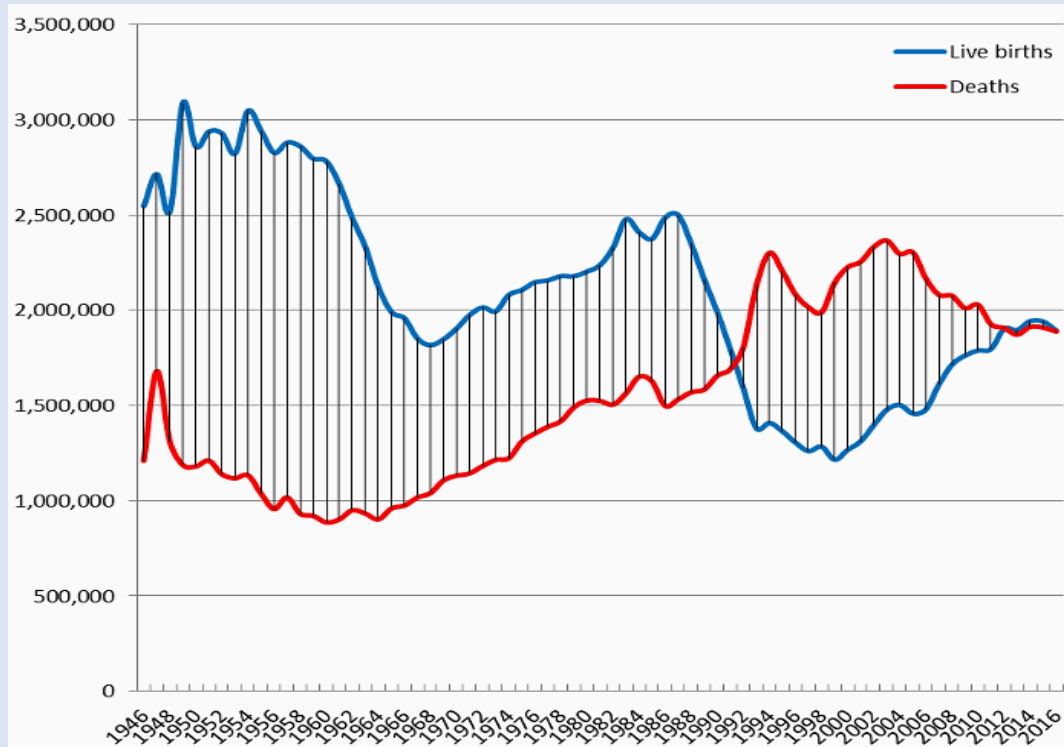


*demographic cliff in births as small '90s-era cohorts hit childbearing years*

\* Estimated number of births for 2017 comes from Russian Federal State Statistics Service. Final TFR for 2016 comes from World Bank.

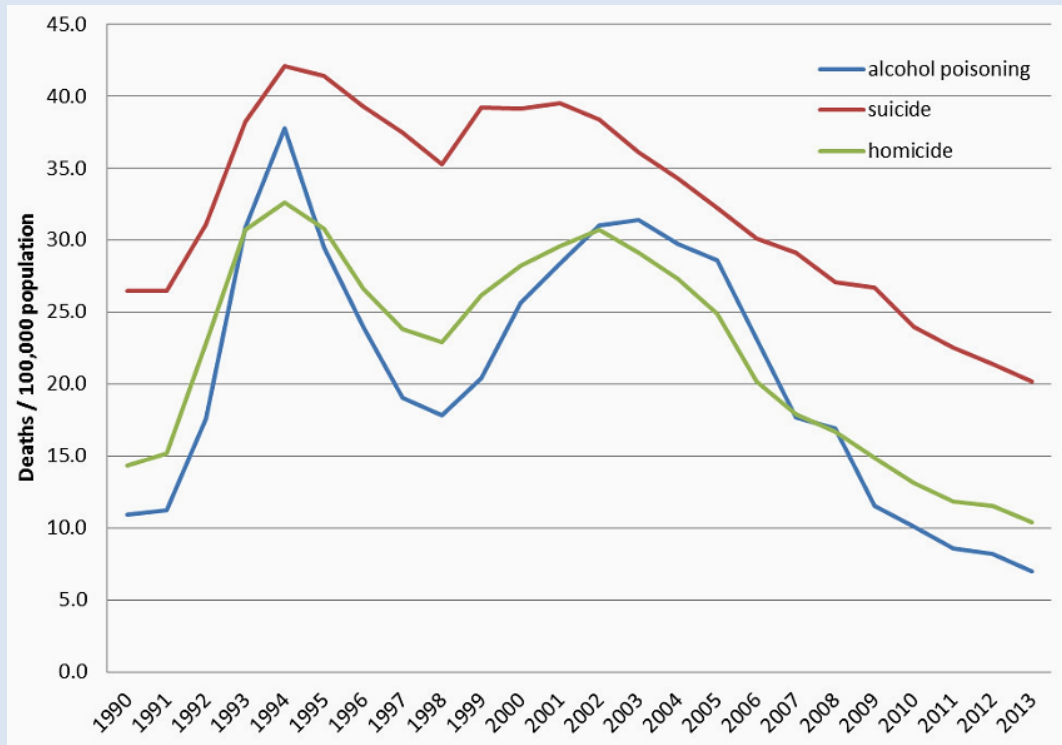
# 1990S BIRTH DEARTH MAY NIX POP GROWTH...

## Russia: Live Births vs. Deaths (1946 to 2016)



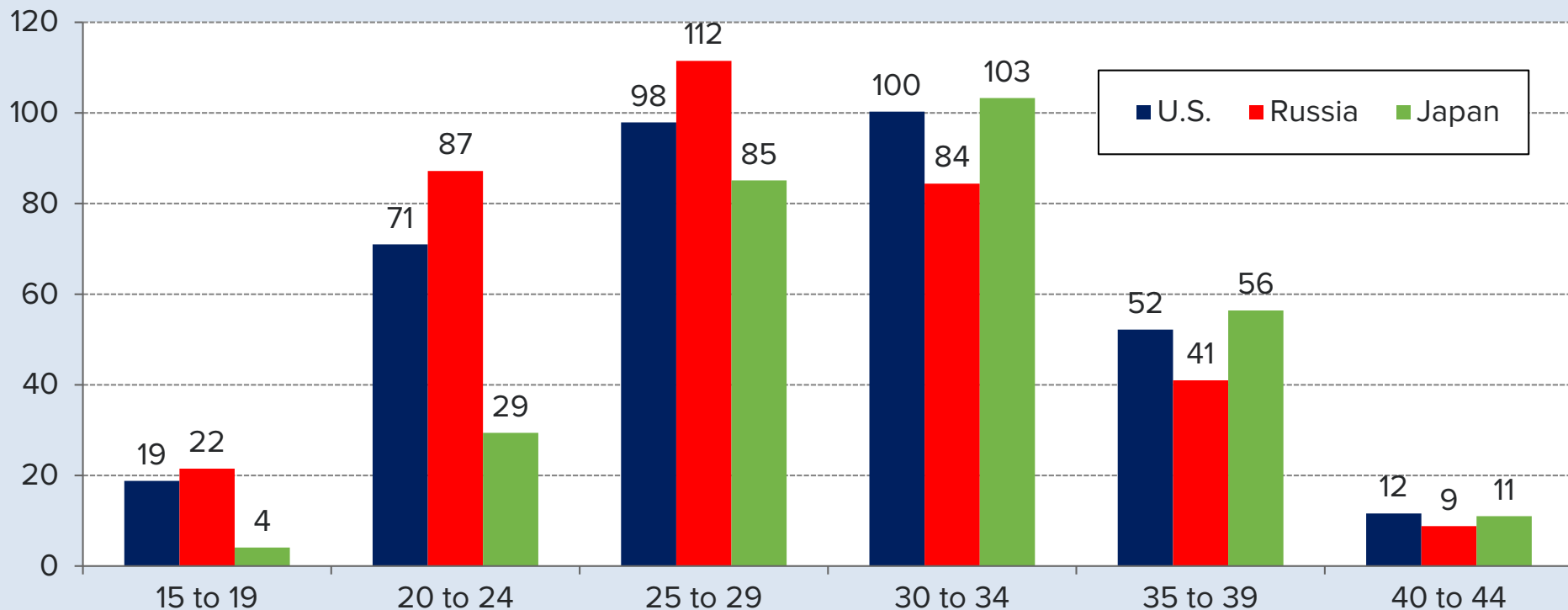
# ...DESPITE GREAT PROGRESS ON DEATH RATES

## Russia: Deaths from External Causes (1990 to 2012)



# U.S., RUSSIA, AND JAPAN COMPARED

## Birthrates by Country and Age of Mother (Latest Year\*)



\* Uses latest annual data for each country. U.S. figures are from 2017; Russian figures are from 2016; Japanese figures are from 2015.

# HOW NATIONS ARE ENCOURAGING PROCREATION

## Recently Instituted Pronatalist Policies by Country

| Policy                                      | Participating Countries                              |
|---|--|
| <b>“Baby Bonuses”</b>                       | Australia, Canada, France, Poland, Russia, Singapore |
| <b>“Baby Bonuses” Plus Monthly Stipends</b> | South Korea  |
| <b>Tax Breaks</b>                           | Singapore  |
| <b>Subsidized Child Care</b>                | Belgium, France, Germany, Sweden                     |
| <b>Enhanced Family Leave</b>                | Czech Republic, Singapore                            |
| <b>State-Sponsored Matchmaking</b>          | Japan  |
| <b>Civic Marketing and Awards</b>           | Denmark, Hungary, Russia, Singapore                  |
| <b>Other Perks*</b>                         | Russia, Singapore                                    |
| <b>Tighter Abortion and Divorce Laws</b>    | China  |

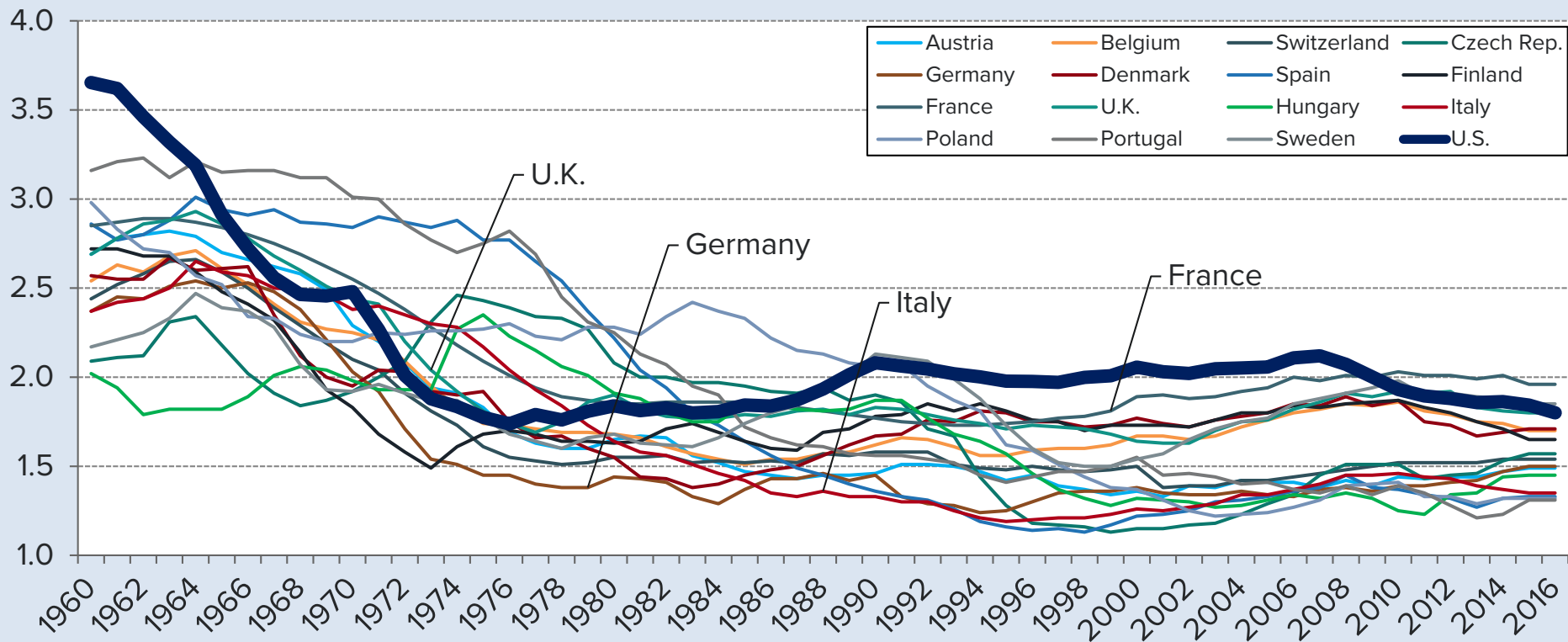
\* Includes miscellaneous perks such as preferential housing, raffles for new parents, etc.

Source: EURACTIV (2011), *Smithsonian* (2012), *Slate* (2013), *The Washington Post* (2014), BBC (2015), *The Economist* (2015), DW News (2018), *The New York Times* (2018), *The Wall Street Journal* (2018)



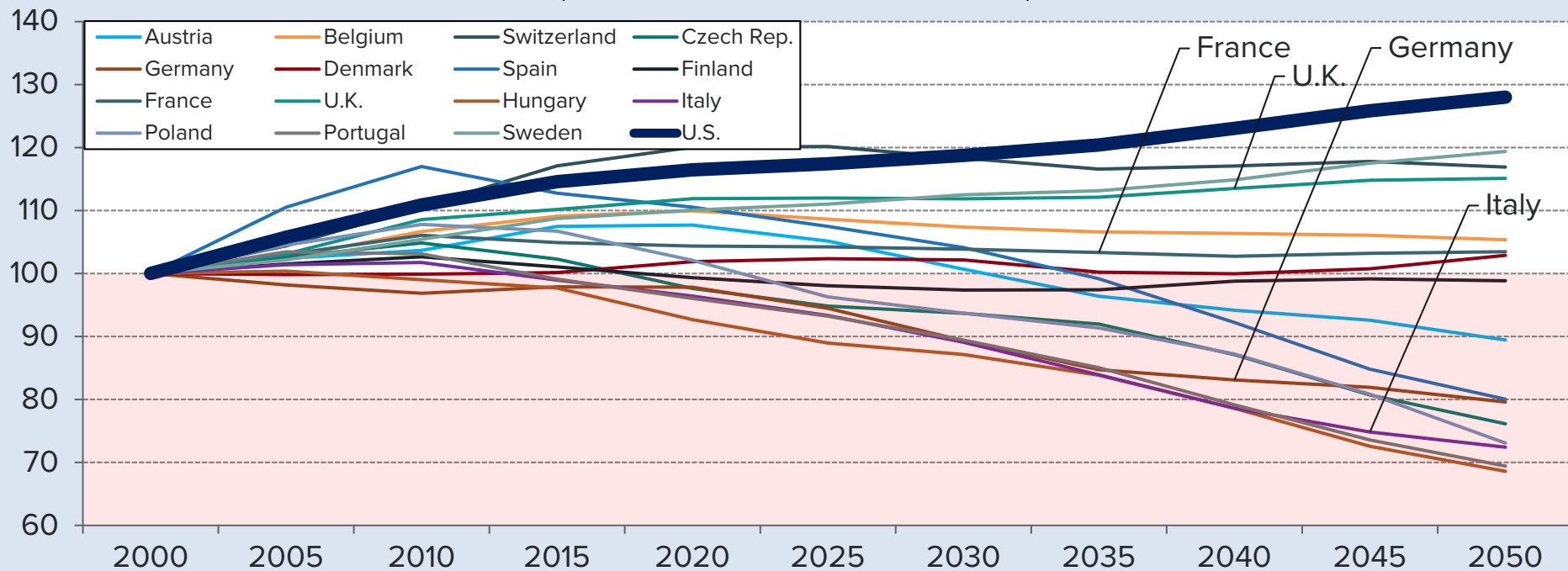
# FERTILITY IN EUROPE

## TFR: U.S. vs. Europe (1960 to 2016)



# EMPLOYMENT GROWTH IN EUROPE

## 20-64 Pop. Projections\*: U.S. vs. Europe (Index: 100 = 2000)



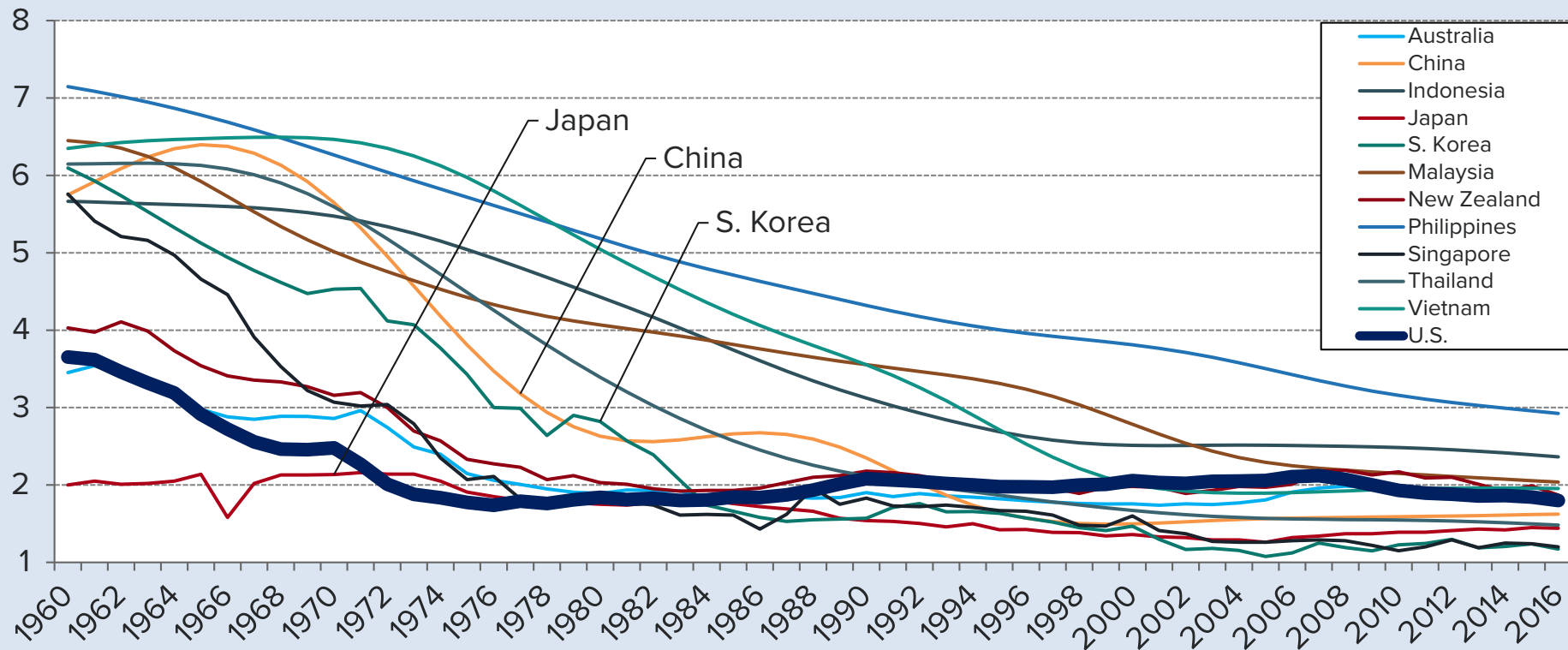
\* Uses U.N. Population Division "constant-fertility variant."

SOURCE: U.N. Population Division World Population Prospects (2017)

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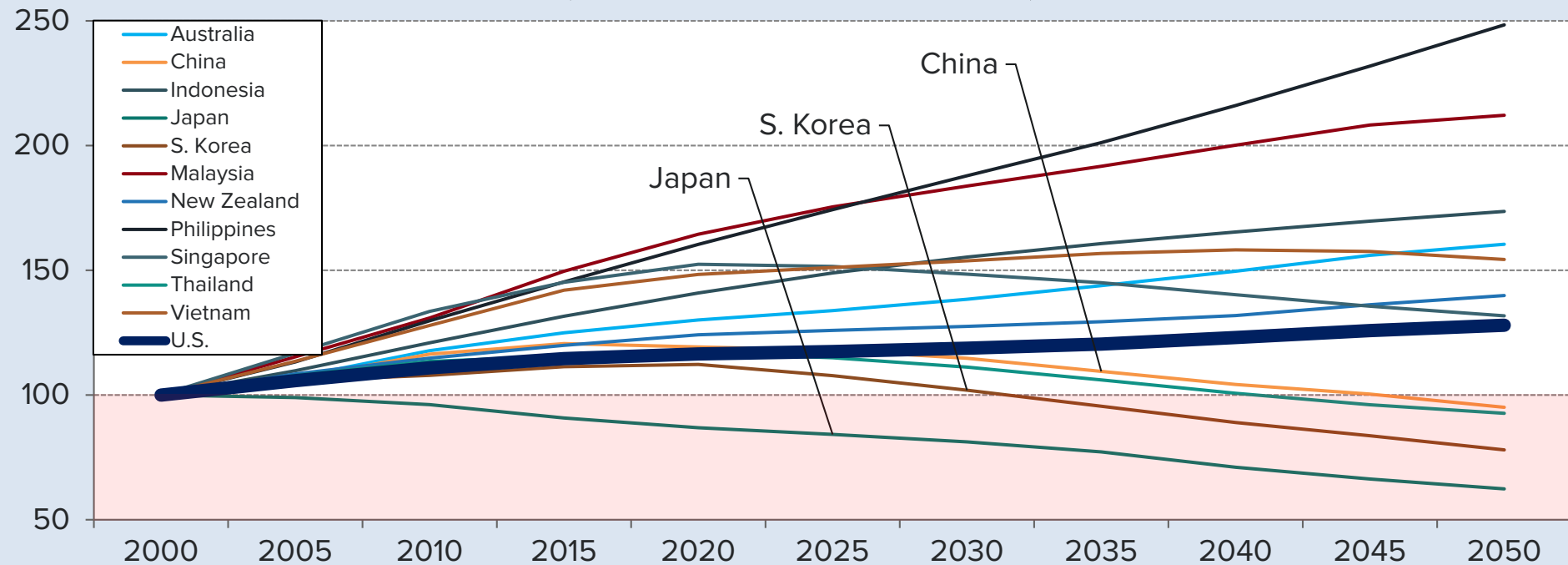
# FERTILITY IN EAST ASIA & PACIFIC

## TFR: U.S. vs. East Asia & Pacific (1960 to 2016)



# EMPLOYMENT GROWTH IN EAST ASIA & PACIFIC

## 20-64 Pop. Projections\*: U.S. vs. East Asia & Pacific (Index: 100 = 2000)



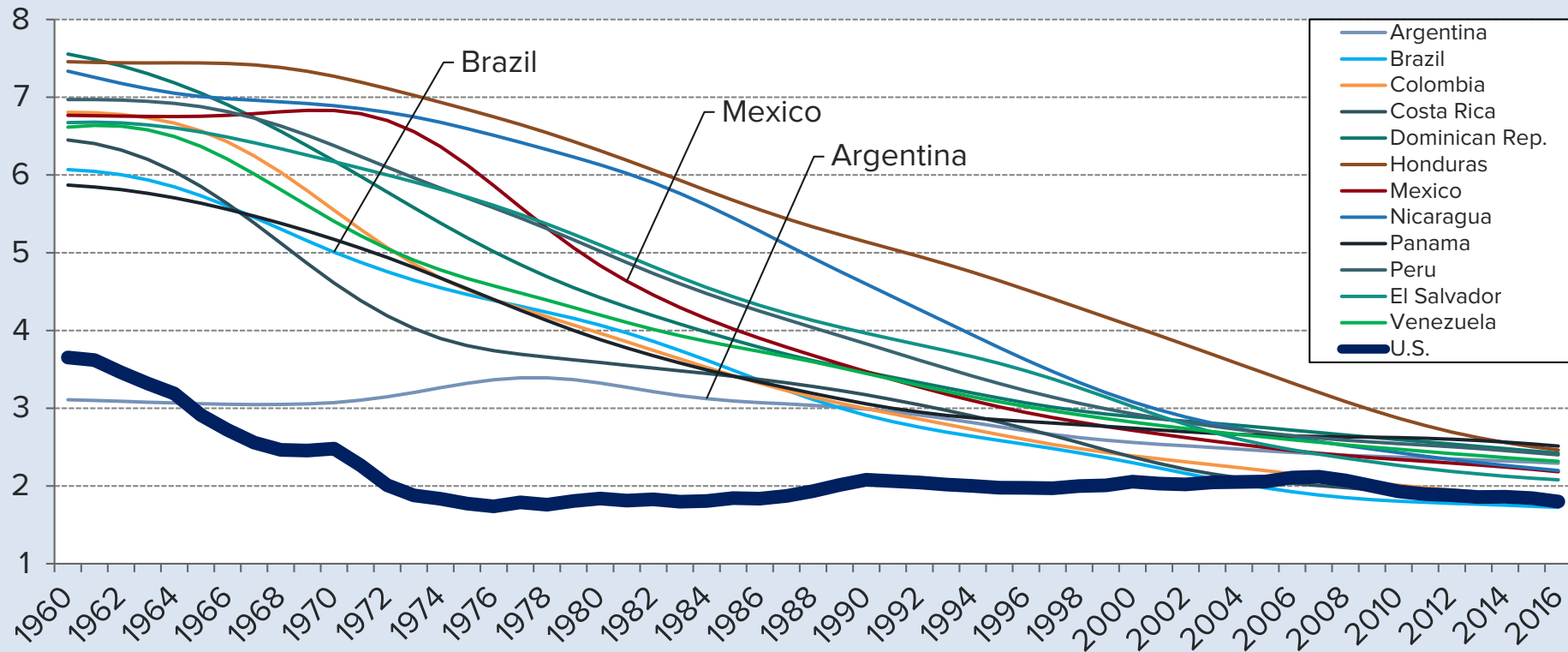
\* Uses U.N. Population Division "constant-fertility variant."

SOURCE: U.N. Population Division World Population Prospects (2017)

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# FERTILITY IN LATIN AMERICA & CARIBBEAN

## TFR: U.S. vs. Latin America & Caribbean (1960 to 2016)



## 20-64 Pop. Projections\*: U.S. vs. Latin America & Caribbean (Index: 100 = 2000)

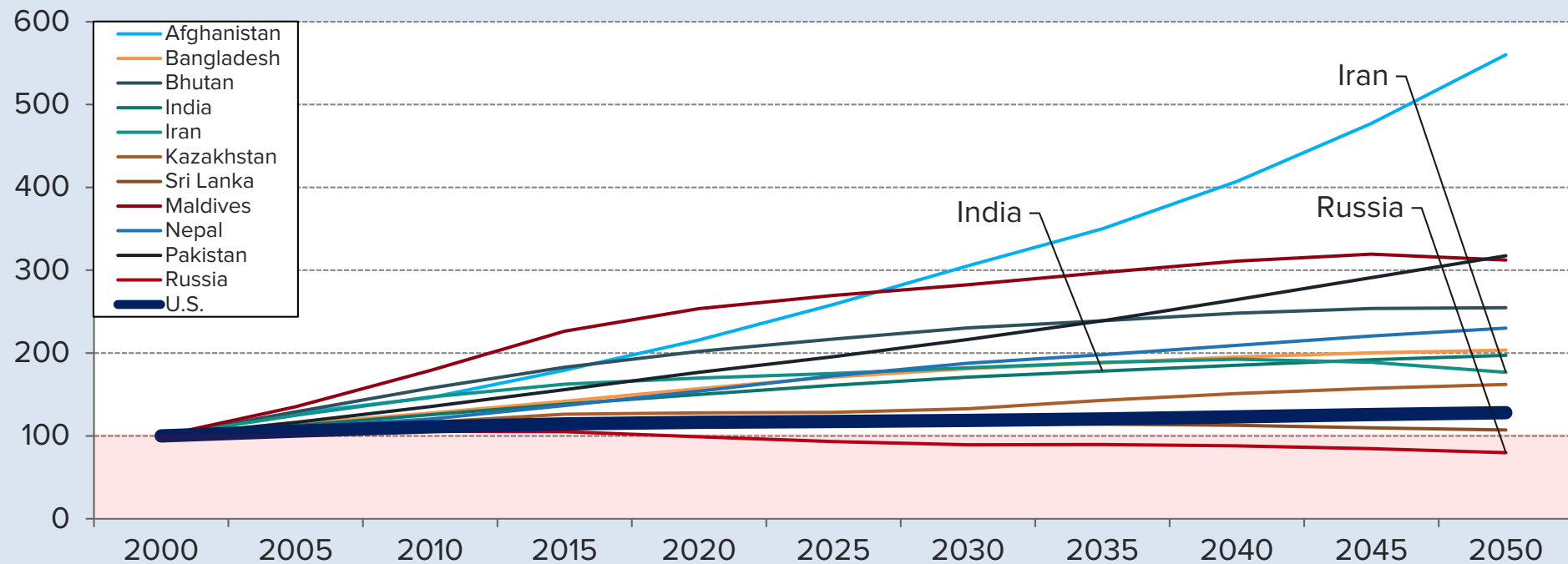


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[illegible]

# EMPLOYMENT GROWTH IN SOUTH & CENTRAL ASIA

## 20-64 Pop. Projections: U.S. vs. South & Central Asia (Index: 100 = 2000)



\* Uses U.N. Population Division "constant-fertility variant."

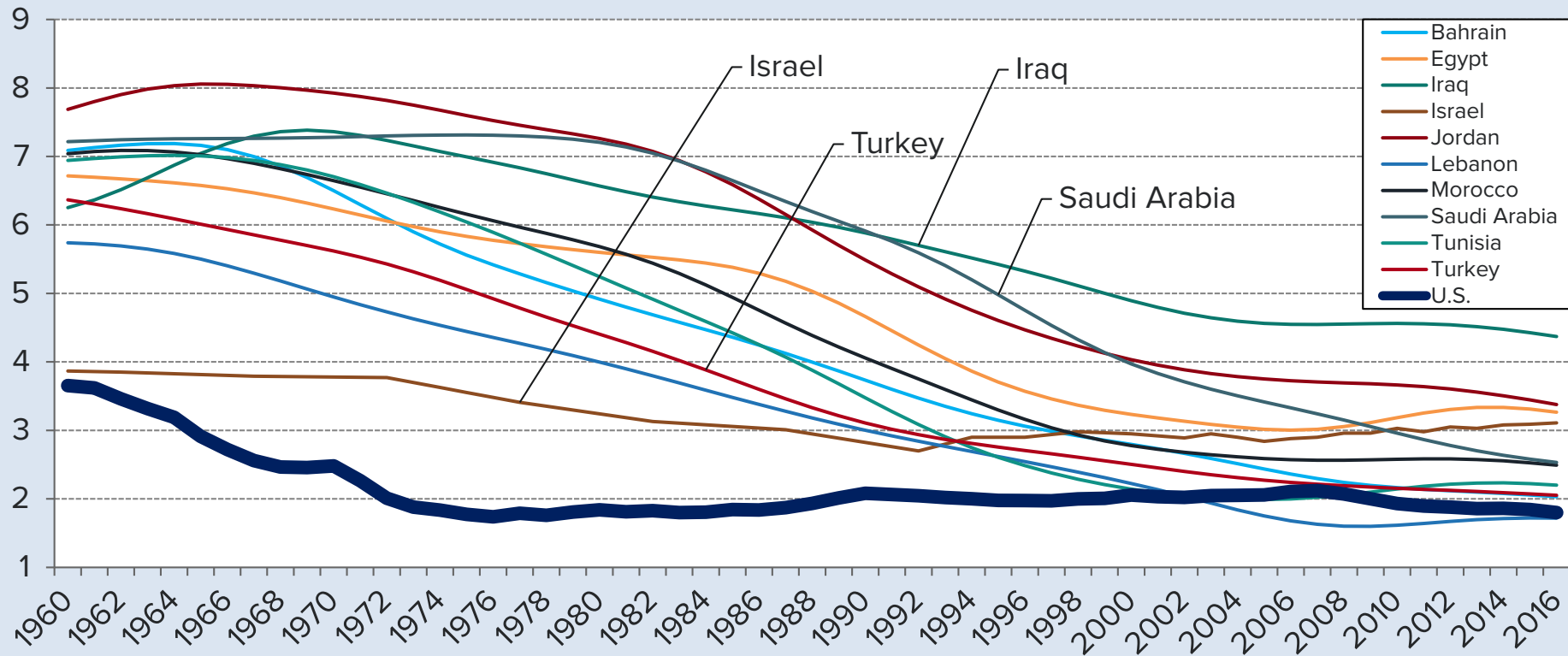
SOURCE: U.N. Population Division World Population Prospects (2017)

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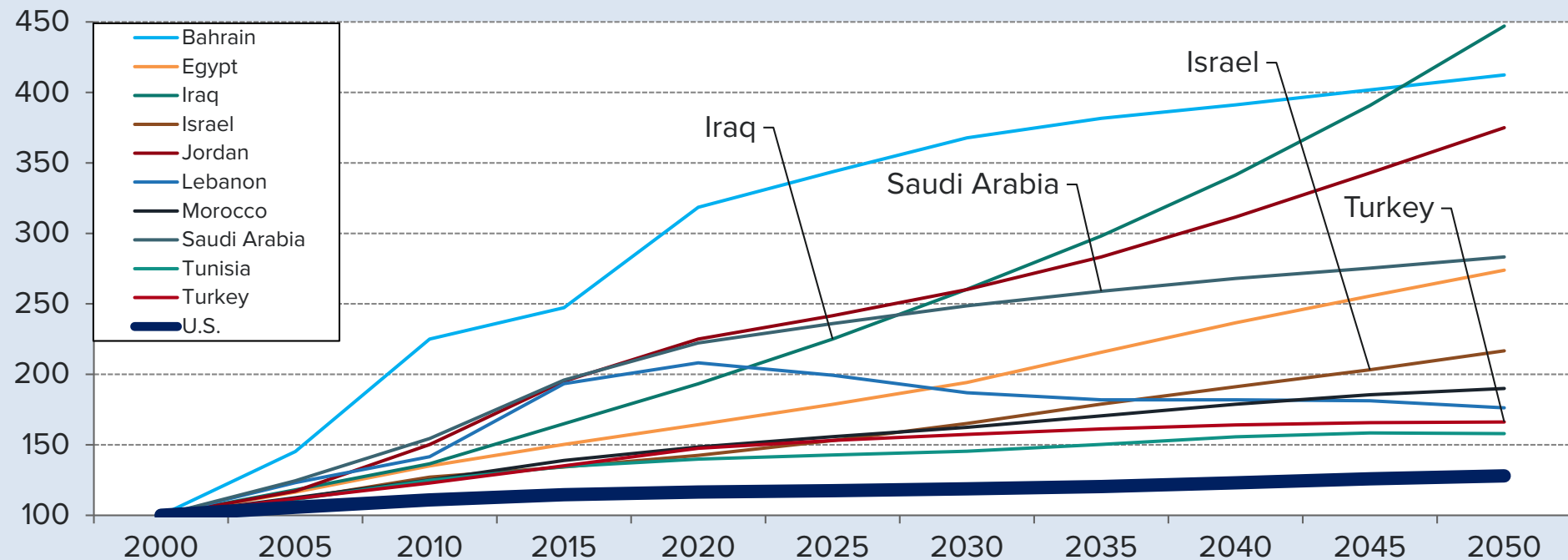
# FERTILITY IN MIDDLE EAST & NORTH AFRICA

## TFR: U.S. vs. Middle East & North Africa Region (1960 to 2016)



# EMPLOYMENT GROWTH IN THE MIDDLE EAST

## 20-64 Pop. Projections: U.S. vs. Middle East & North Africa (Index: 100 = 2000)



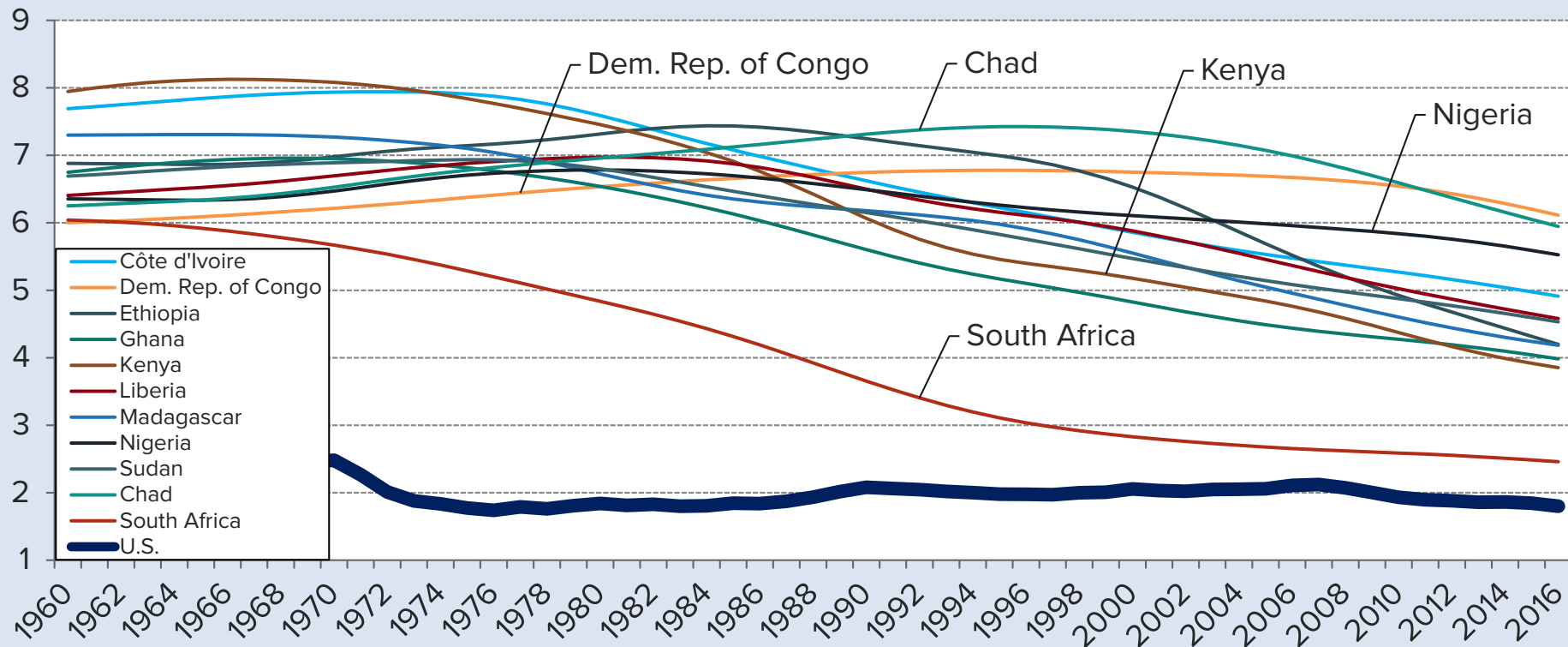
\* Uses U.N. Population Division "constant-fertility variant."

SOURCE: U.N. Population Division World Population Prospects (2017)

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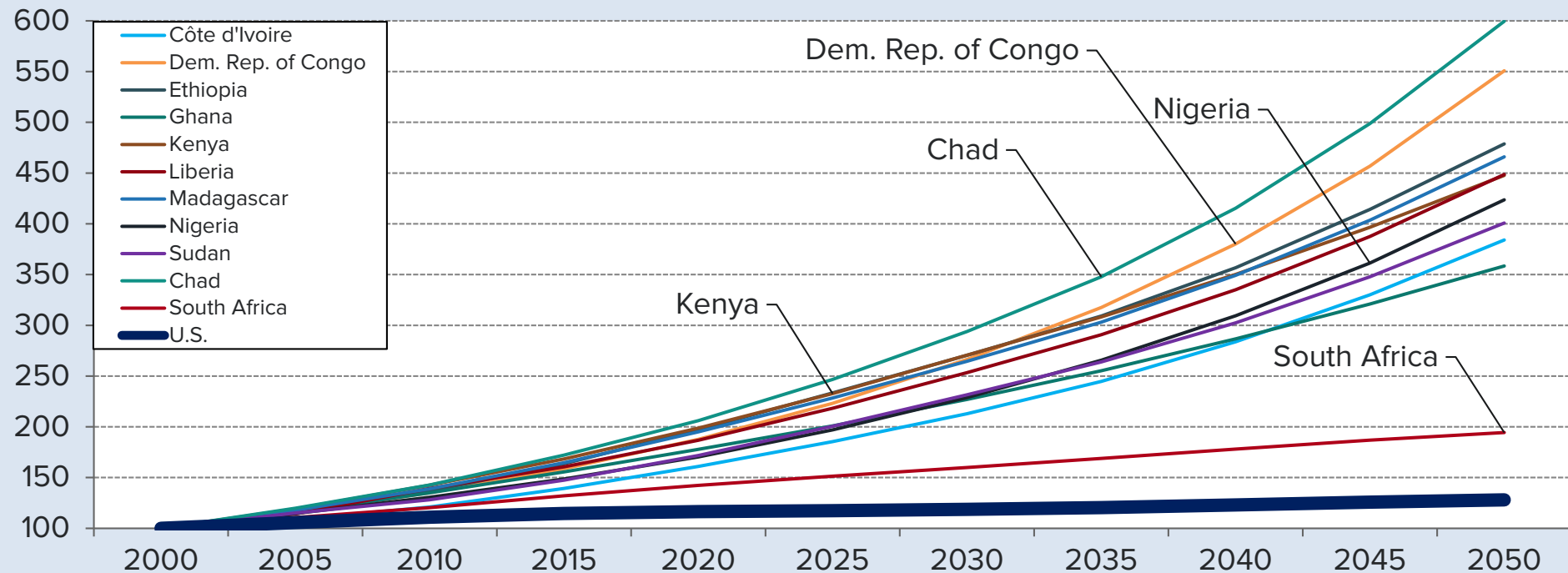
# FERTILITY IN SUB-SAHARAN AFRICA

## TFR: U.S. vs. Sub-Saharan Africa (1960 to 2016)



# EMPLOYMENT GROWTH IN SUB-SAHARAN AFRICA

## 20-64 Pop. Projections: U.S. vs. Sub-Saharan Africa (Index: 100 = 2000)



\* Uses U.N. Population Division "constant-fertility variant."

# ANNUAL DEMOGRAPHIC OUTLOOK, Q3 2018

## ❑ **Demography**

- *U.S. Fertility*
- *U.S. Mortality*
- *U.S. Net Immigration*
- *Global Trends*

## ❑ **Employment, Productivity, & Income**

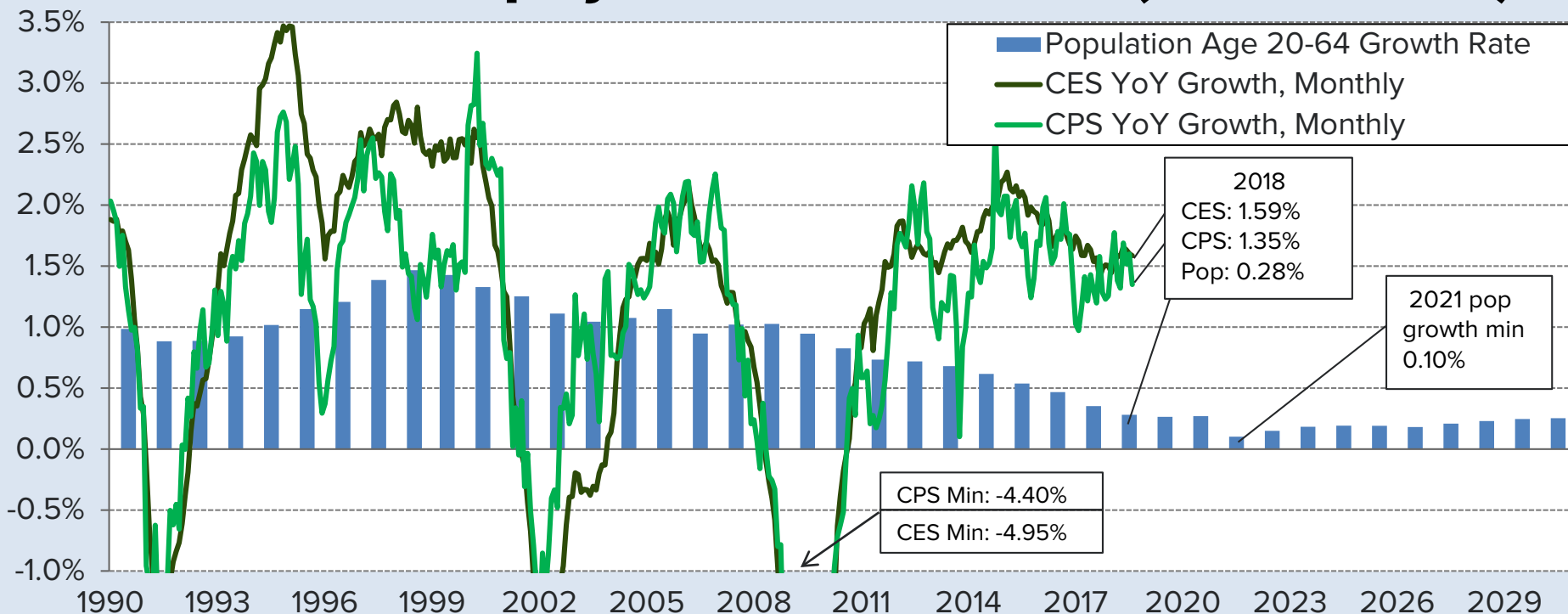
- *Employment & Wages*
- *GDP & Productivity*
- *Income & Poverty*

## ❑ **Housing, Healthcare, Millennials, and Midterms**

- *Housing*
- *Healthcare*
- *Millennial Risk Aversion (Update)*
- *2018 Midterms*

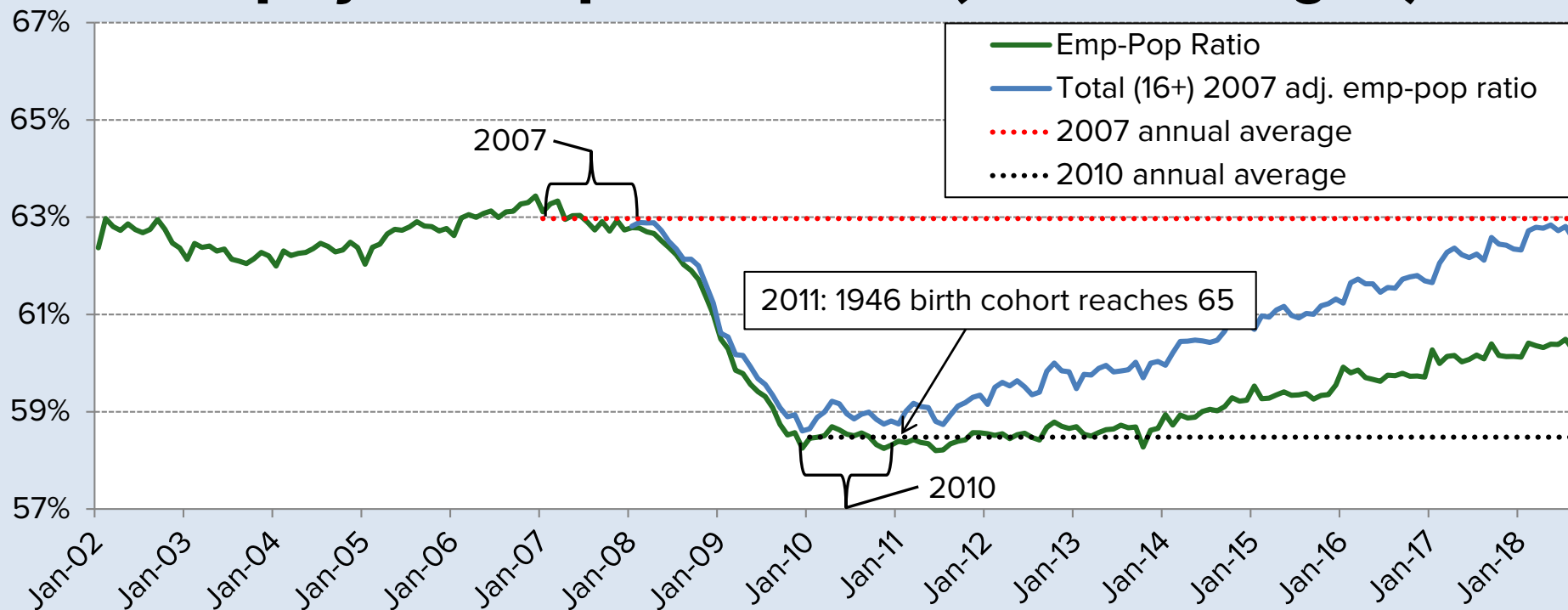
# EMPLOYMENT STILL WAY OUTPACING POP. GROWTH

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

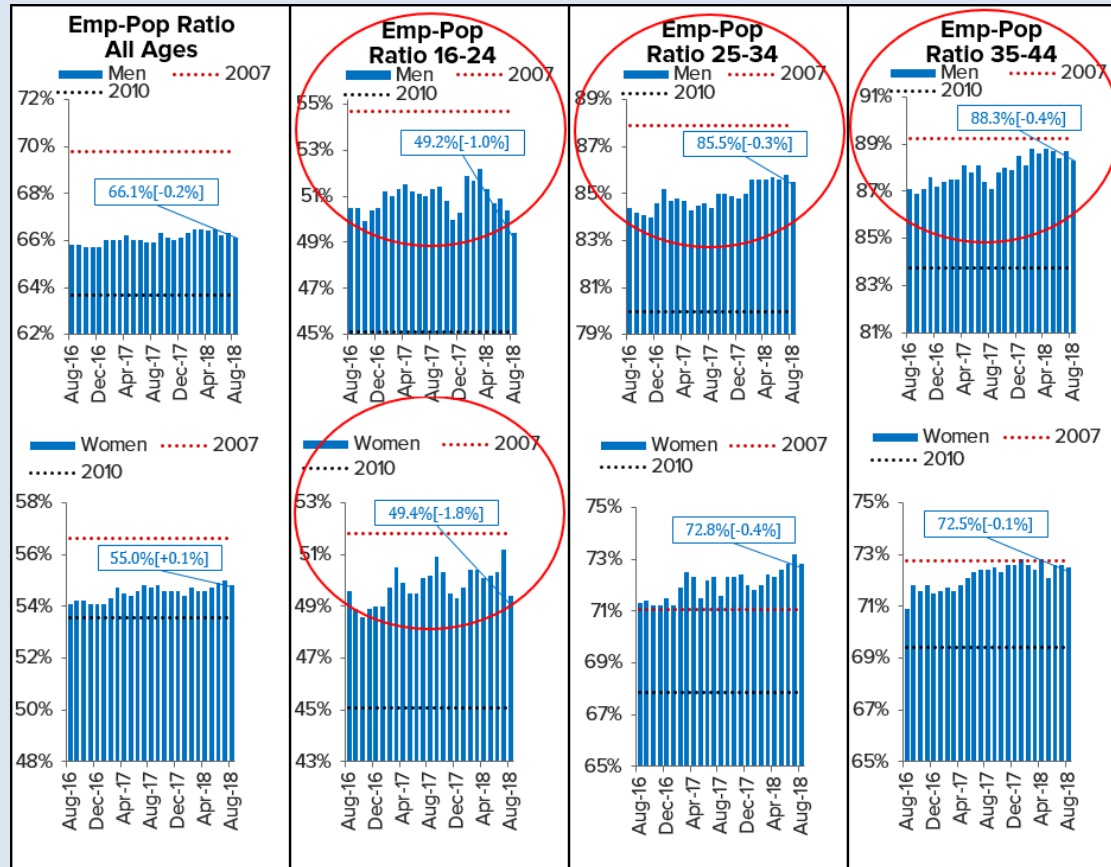


# AGE-ADJUSTED EMPLOYMENT ALMOST ALL THE WAY BACK

## Effect of Population Composition on Employment-Population Ratio (Jan-02 to Aug-18)



# EMPLOYMENT/POPULATION: ANY MEN LEFT?

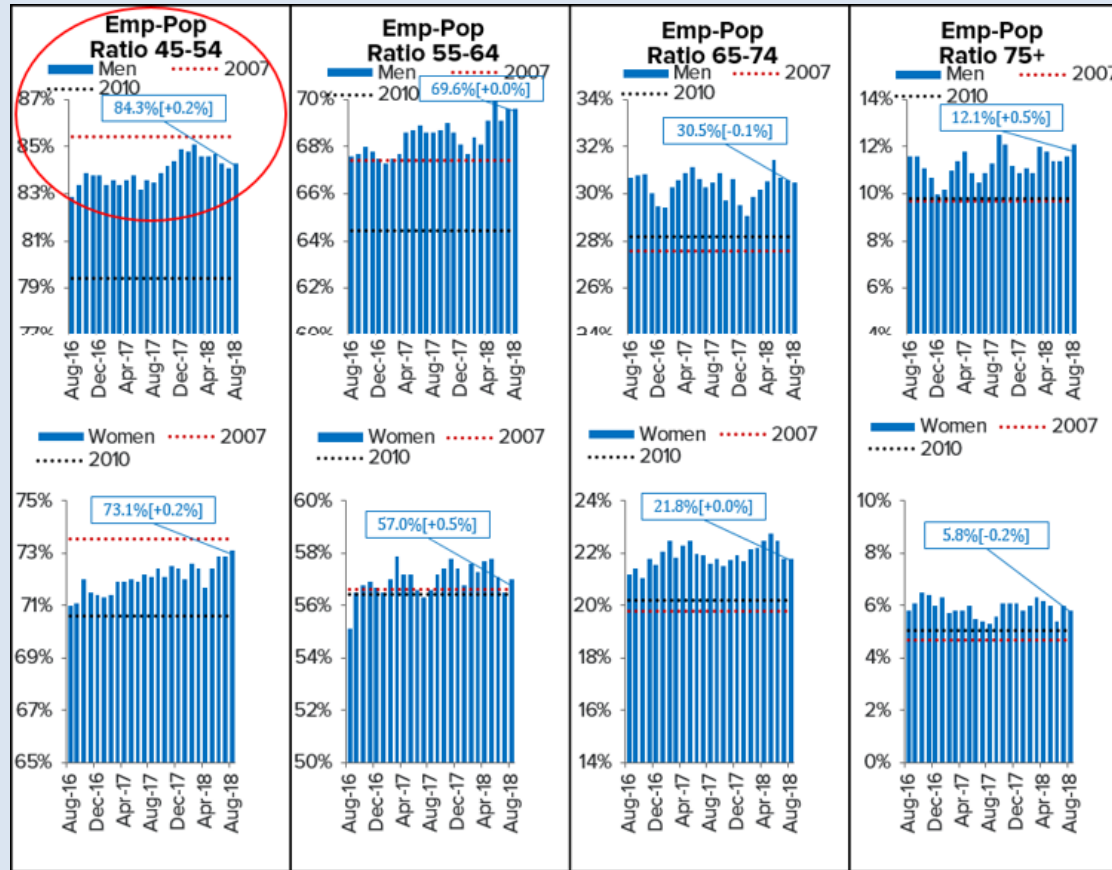




# EMPLOYMENT/POPULATION: ANY MEN LEFT?

| Men                           |       |       |        |       |
|-------------------------------|-------|-------|--------|-------|
|                               | All   | 16-24 | 25-34  | 35-44 |
| Distance from 2007            | -3.7% | -5.3% | -2.4%  | -0.9% |
| % Recovered from 2010 to 2007 | 39.5% | 44.9% | 70.0%  | 82.8% |
| % of Total Employment         | 53.1% | 11.4% | 23.0%  | 21.4% |
| Women                         |       |       |        |       |
|                               | All   | 16-24 | 25-34  | 35-44 |
| Distance from 2007            | -1.8% | -2.4% | +1.8%  | -0.3% |
| % Recovered from 2010 to 2007 | 40.7% | 64.1% | 155.1% | 92.0% |
| % of Total Employment         | 46.9% | 12.8% | 22.3%  | 20.5% |

# EMPLOYMENT/POPULATION: ANY MEN LEFT?

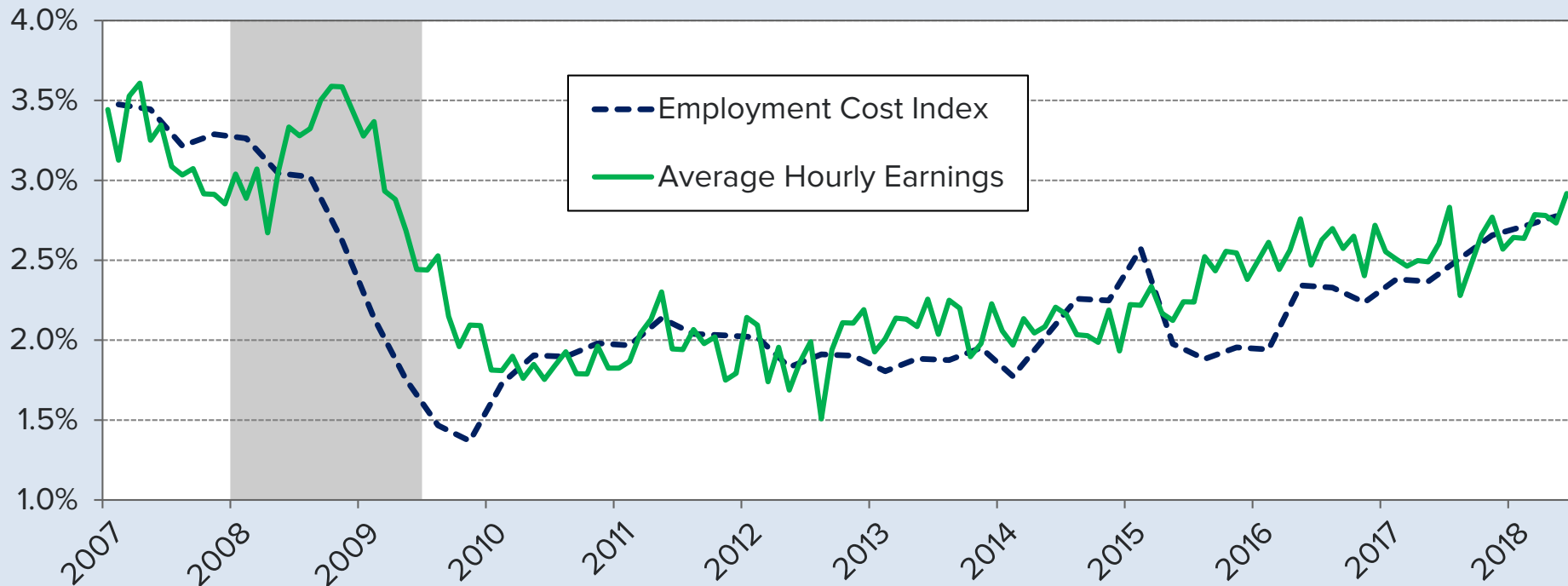


# EMPLOYMENT/POPULATION: ANY MEN LEFT?

| Men                           |       |        |       |       |
|-------------------------------|-------|--------|-------|-------|
|                               | 45-54 | 55-64  | 65-74 | 75+   |
| Distance from 2007            | -1.1% | +2.2%  | +2.9% | +2.4% |
| % Recovered from 2010 to 2007 | 81.3% | 172.5% | N/A   | N/A   |
| % of Total Employment         | 20.5% | 17.1%  | 5.3%  | 1.3%  |
| Women                         |       |        |       |       |
|                               | 45-54 | 55-64  | 65-74 | 75+   |
| Distance from 2007            | -0.4% | +0.4%  | +2.0% | +1.1% |
| % Recovered from 2010 to 2007 | 84.9% | 308.7% | N/A   | N/A   |
| % of Total Employment         | 21.1% | 17.1%  | 4.9%  | 1.0%  |

# TOTAL COMPENSATION GROWING FASTER THAN WAGES

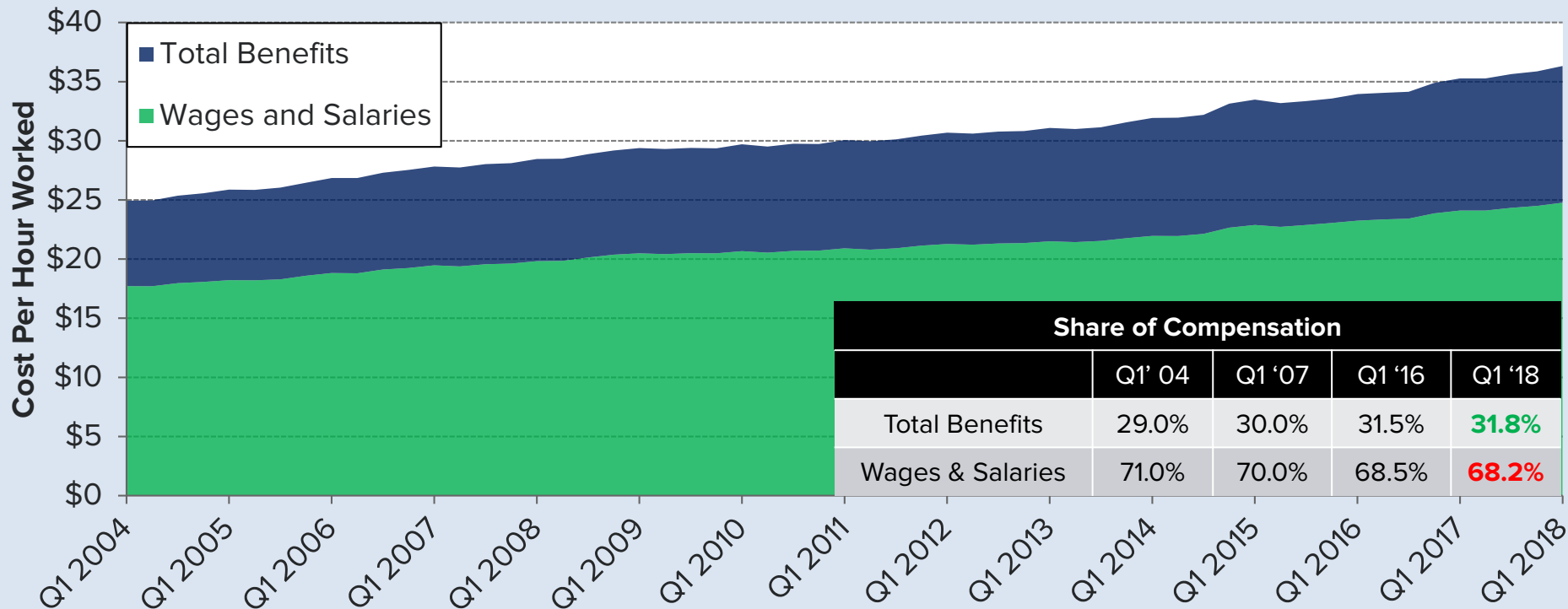
## Employment Cost Index vs. Average Hourly Earnings: YoY Change (Mar-07 to Aug-18)



\* Employment Cost Index includes wages, salaries, and employer costs for employee benefits.

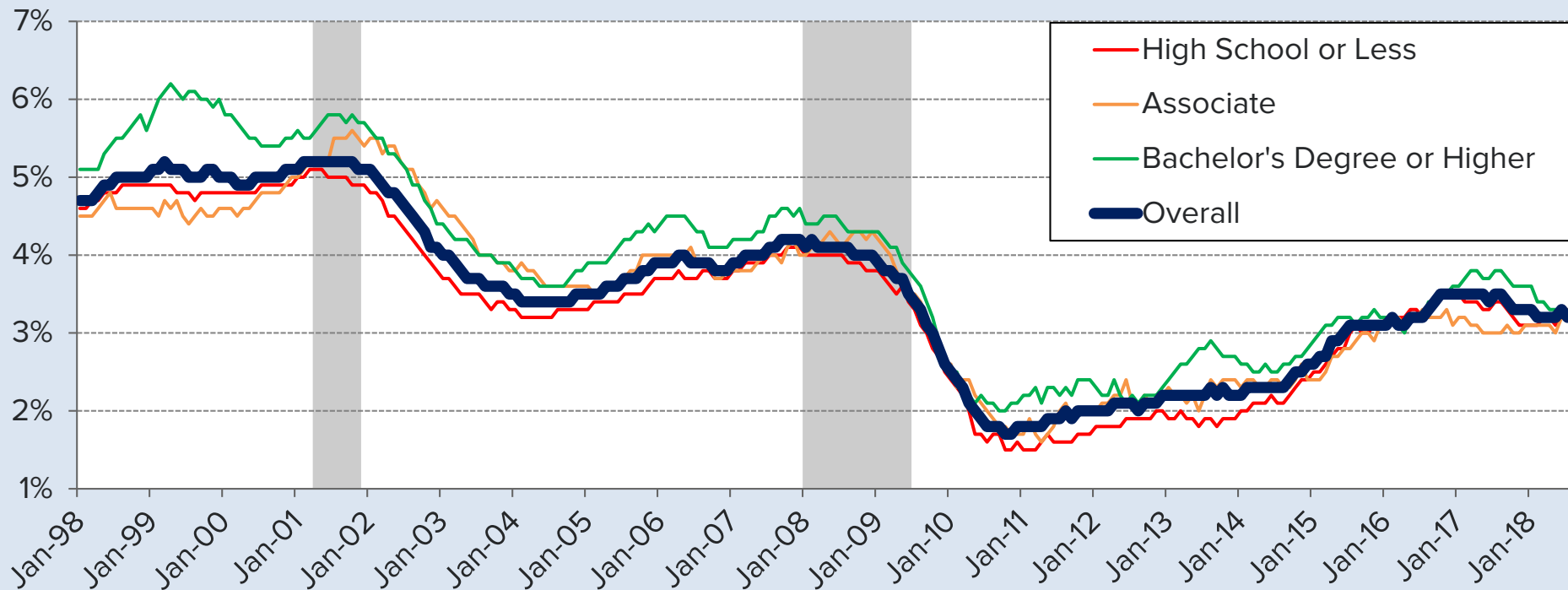
# BENEFITS RISING AS A SHARE OF COMPENSATION

## Quarterly Employer Costs for Employee Compensation, by Type of Compensation (Q1 2004 to Q1 2018)



# JOB HOPPERS AND NONCOLLEGE GAINING ON PACK

## YoY Wage Growth\* by Education Level (Jan-98 to Jul-18)



\* From the Atlanta Wage Growth Tracker, which measures the nominal wage growth of a fixed group of individuals using Current Population Survey microdata.

# ANNUAL DEMOGRAPHIC OUTLOOK, Q3 2018

## ❑ **Demography**

- *U.S. Fertility*
- *U.S. Mortality*
- *U.S. Net Immigration*
- *Global Trends*

## ❑ **Employment, Productivity, & Income**

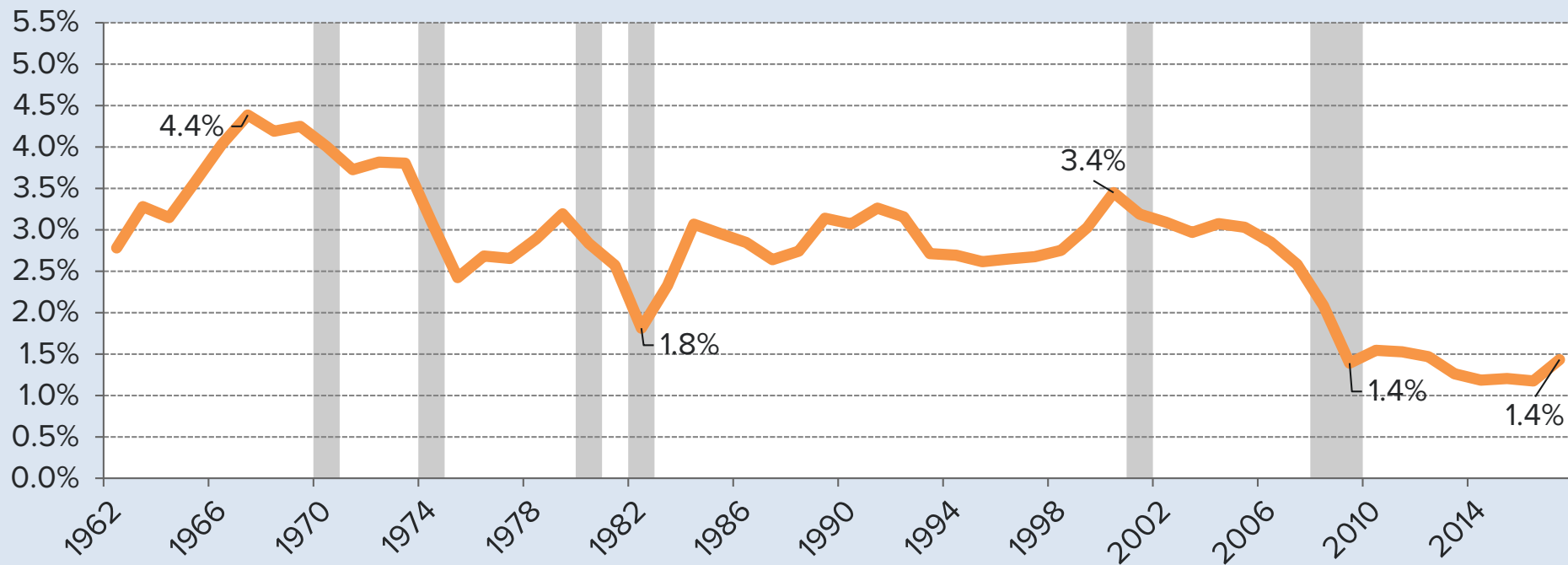
- *Employment & Wages*
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- *Income & Poverty*

## ❑ **Housing, Healthcare, Millennials, and Midterms**

- *Housing*
- *Healthcare*
- *Millennial Risk Aversion (Update)*
- *2018 Midterms*

# WHATEVER HAPPENED TO GDP GROWTH?

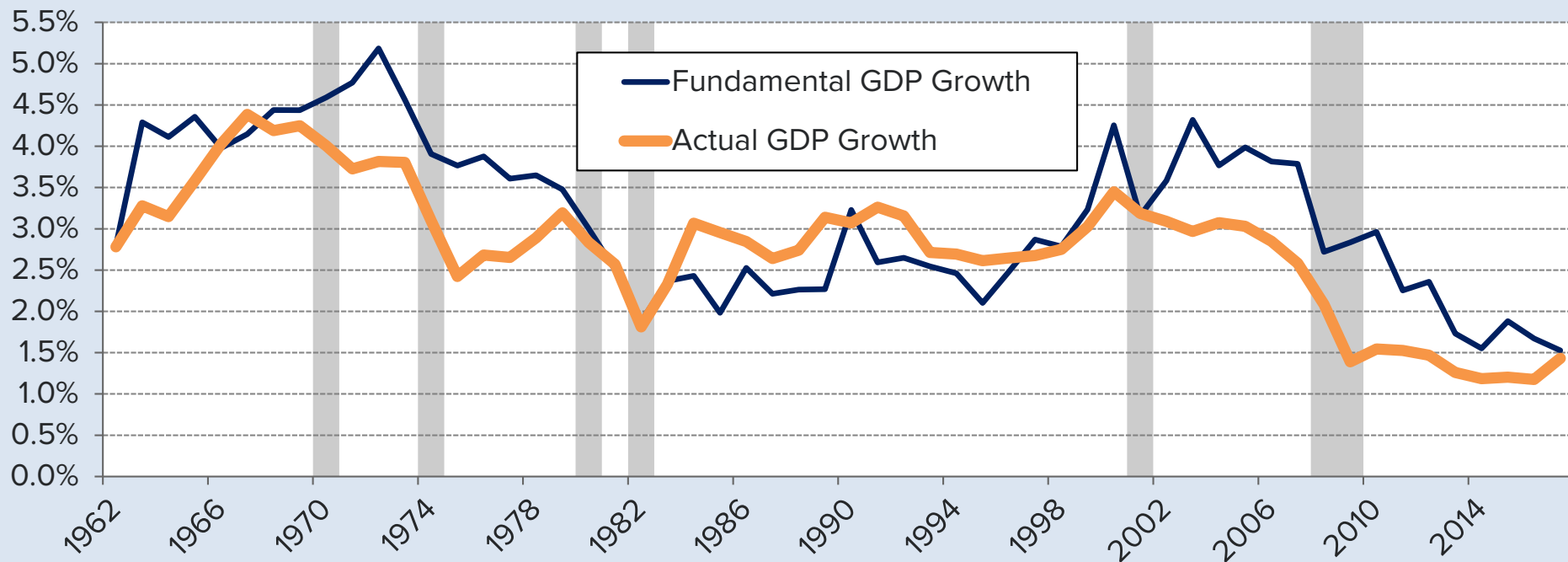
## U.S. GDP: Trailing 10-YR CAGR (1962 to 2017)





# WHATEVER HAPPENED TO GDP GROWTH?

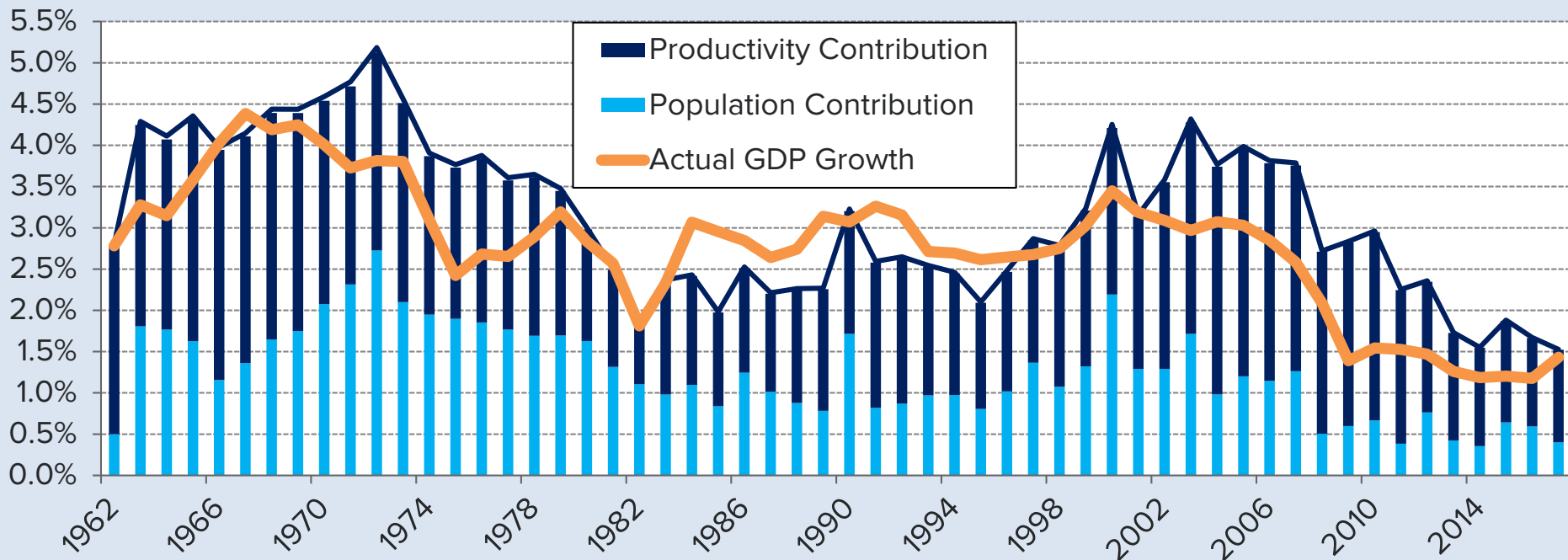
## Fundamental GDP Growth\* vs. Actual GDP Growth: Trailing 10-YR CAGR (1962 to 2017)



\* Fundamental GDP growth = 10-YR trailing productivity CAGR multiplied by YOY working-age population growth rate.

# WHATEVER HAPPENED TO GDP GROWTH?

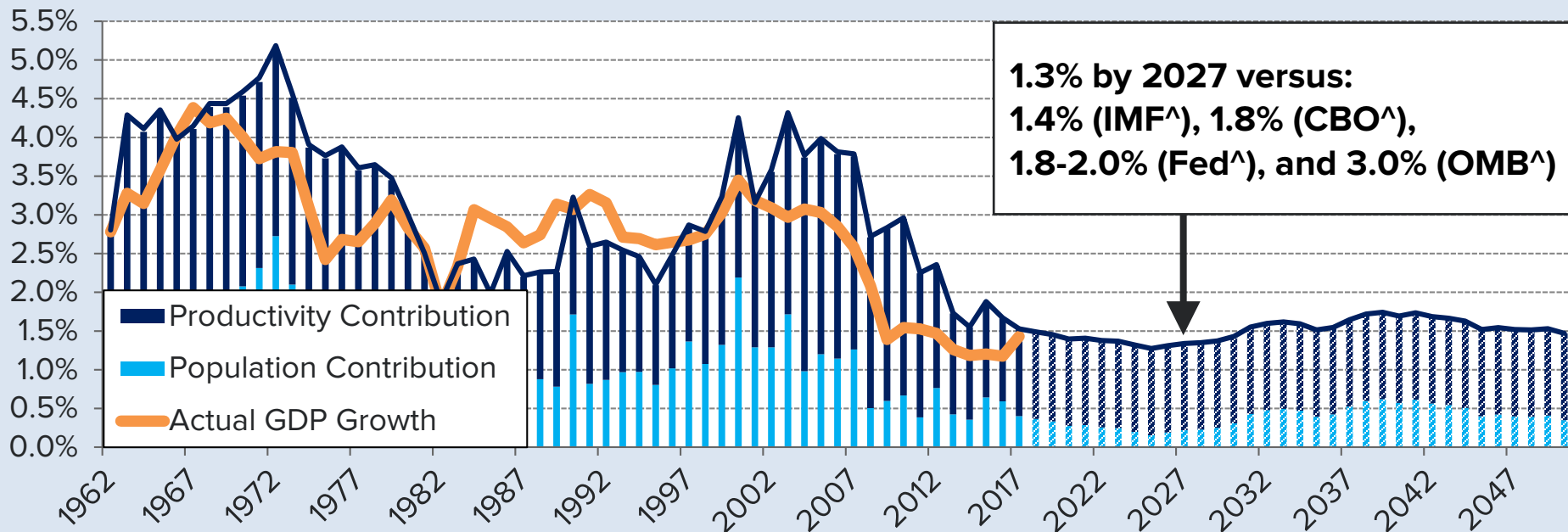
## Fundamental GDP Growth\* vs. Actual GDP Growth: Trailing 10-YR CAGR (1962 to 2017)



\* Fundamental GDP growth = 10-YR trailing productivity CAGR multiplied by YOY working-age population growth rate.

# WHERE WE'RE HEADING

## Fundamental GDP Growth\* vs. Actual GDP Growth: Trailing 10-YR CAGR (1962 to 2050\*\*)



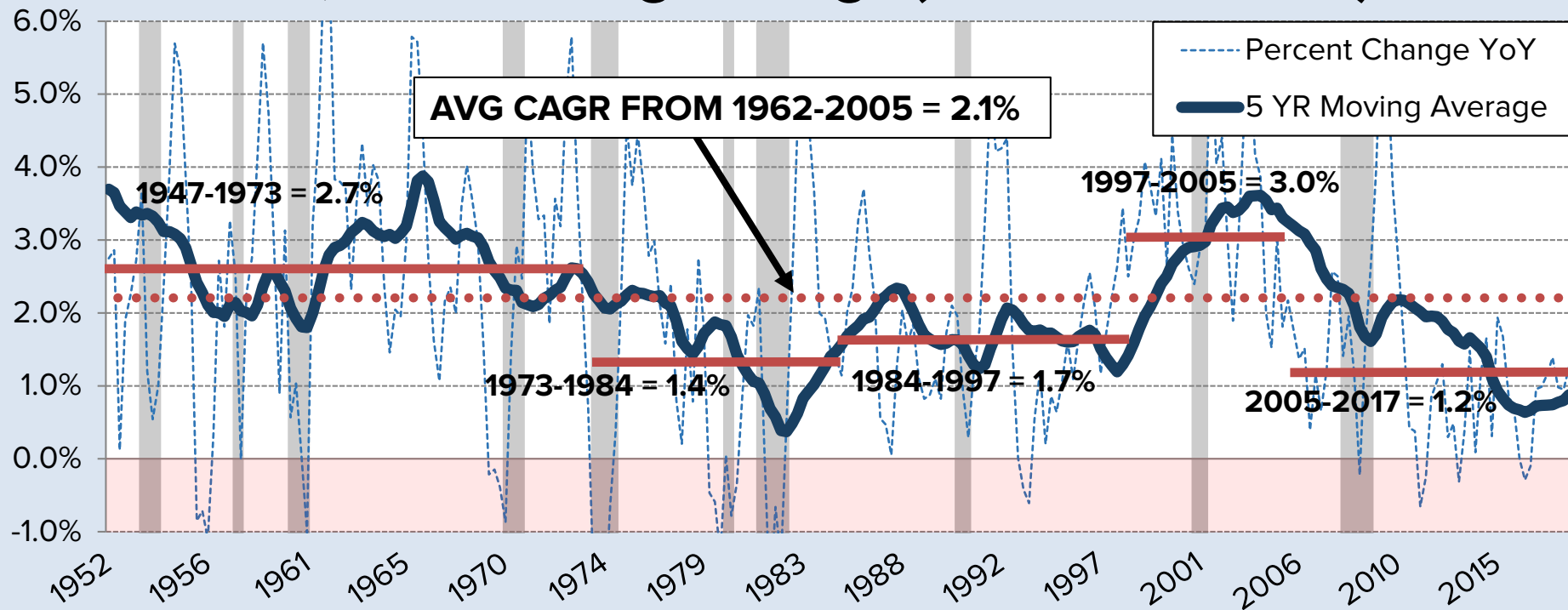
\* Fundamental GDP growth = 10-YR trailing productivity CAGR multiplied by YOY working-age population growth rate.

\*\* Outyear projections assume a constant 2017 10-YR trailing productivity rate.

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

# THE PRODUCTIVITY BUST: A CLOSE-UP VIEW

## Quarterly U.S. Nonfarm Business Sector Real Output Per Hour, YoY, 5 YR Moving Average (1952 to Q2 2018)



# YES, THE PRODUCTIVITY DECLINE IS REAL

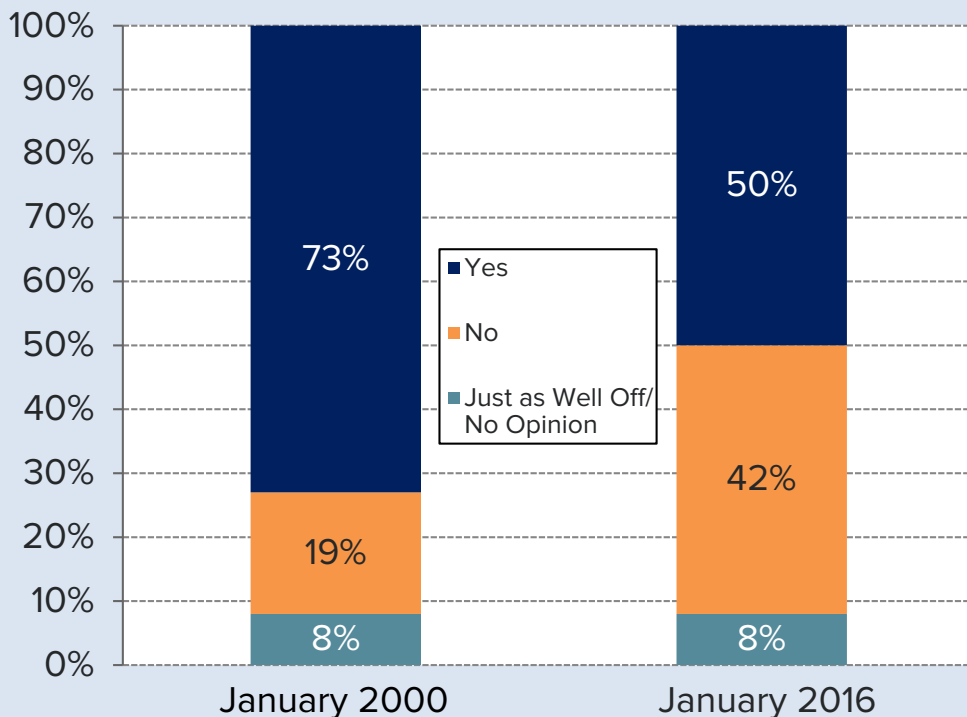
Is the productivity decline a mirage due to mismeasurement of technology gains? Most economists (see the extensive Brookings research on this question) believe it is not.

The decline occurred, after 2005, just as much IT production was being moved offshore.

What's more, even countries producing little IT are experiencing a similar decline.

If the gains of IT have been underestimated (and inflation has been overestimated), few Americans believe this compensates for the deceleration of real incomes and national living standards. (See chart.)

## “Are You Better Off Than You Were Eight Years Ago?”



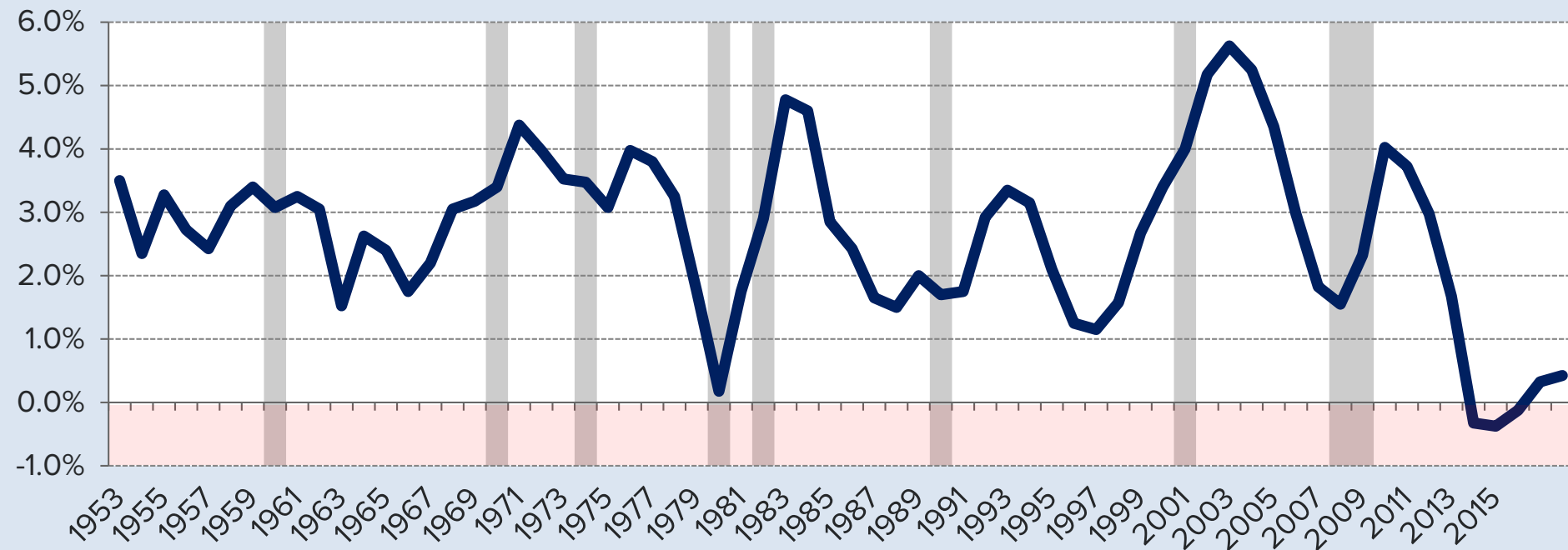
# DRIVERS OF PRODUCTIVITY DECELERATION

## WHAT'S DRIVING THE SLOWDOWN?

- ❑ **Poor Macro Performance/Policy Uncertainty** (*in wake of GFC*)
- ❑ **Inadequate Investment & Infrastructure** (*Alan Blinder*)
- ❑ **Sectoral Failure of Success** (*“Baumol’s Cost Disease”*)
- ❑ **Disappearance of Low-Hanging Fruit** (*Robert Gordon*)
- ❑ **Declining Business Dynamism** (*startups, mobility, risk appetite, & more*)

# UNPRECEDENTED DROPOFF IN CAPITAL INTENSITY

## Annual U.S. Capital Intensity\* Growth, YoY, 5YR Moving Average (1953 to 2017)



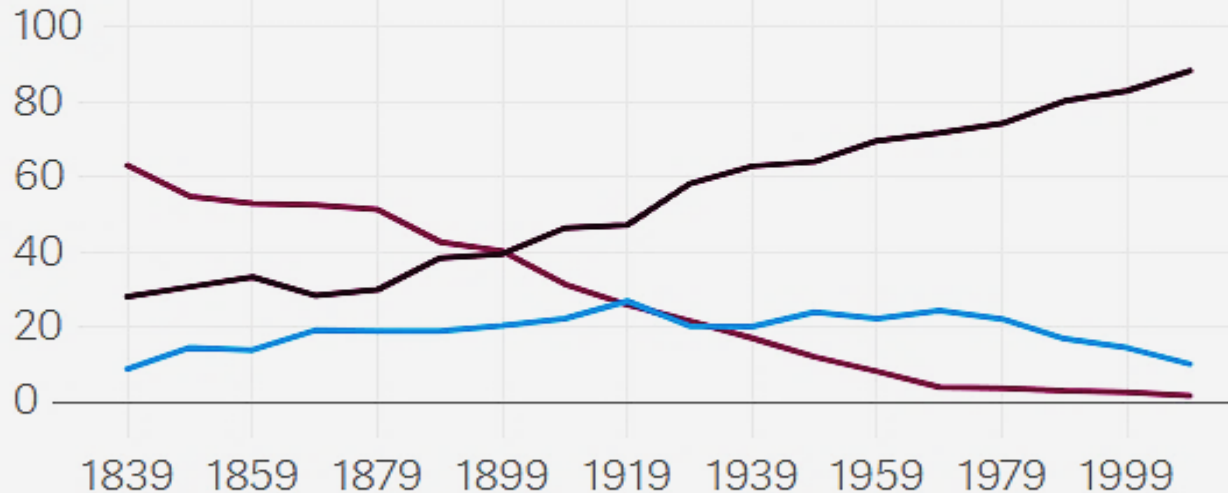
\* "Capital Intensity" refers to the amount of capital services used to produce output, relative to the amount of labor hours used. Increases in capital intensity mean that more capital is being used per worker throughout the economy.

# HIGH-PRODUCTIVITY SECTORS SHRINKING

**BAUMOL'S COST DISEASE:  
AGRICULTURE,  
MINING, &  
MANUFACTURING  
FROM 75% TO 10%  
OF EMPLOYMENT**

Employment in agriculture has fallen to less than 2% of workers

■ Agriculture ■ Manufacturing ■ Rest of economy



ATLAS | Data: McKinsey

Share



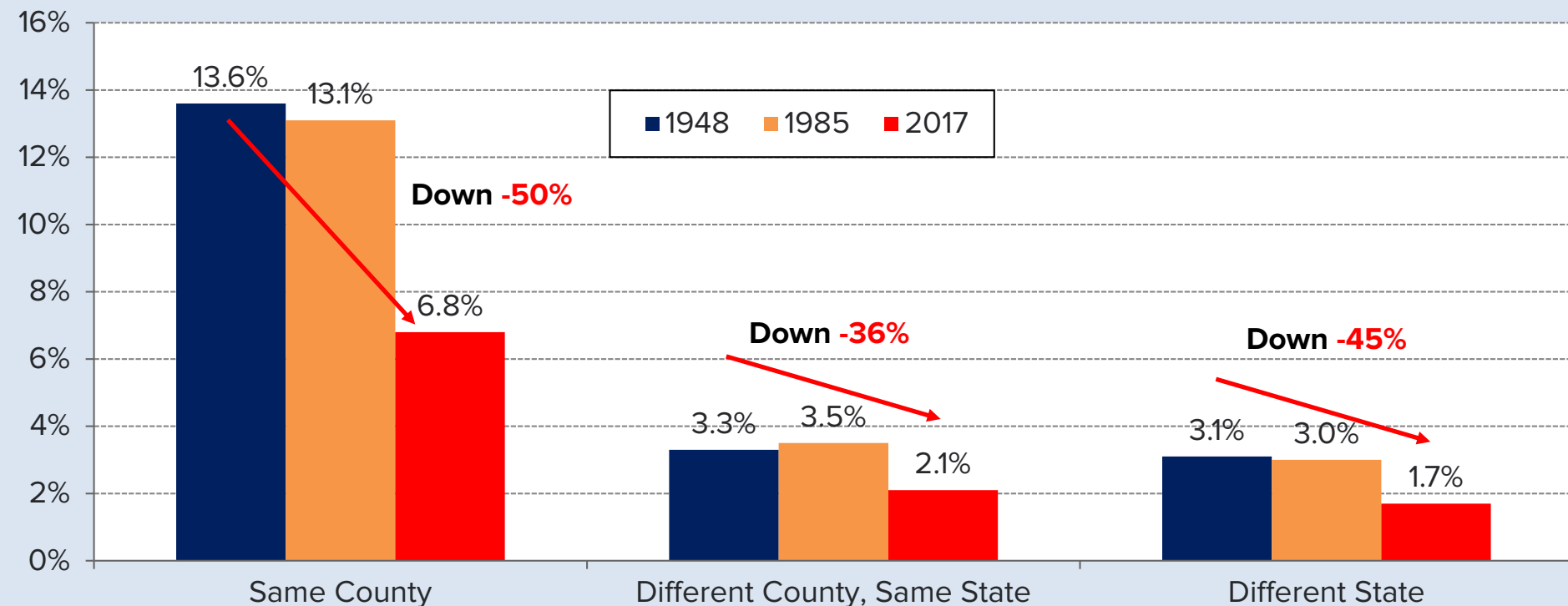
# WHAT IS DECLINING BUSINESS DYNAMISM?

## Nine indicators of declining business dynamism

- 1) declining rates of job creation and destruction
- 2) declining rates of job churn and geographic mobility
- 3) declining rates of company start-ups and firm turnover
- 4) declining number of total firms and (especially) listed firms
- 5) growing age and size of typical firm
- 6) declining turnover/turbulence in S&P 100 giants
- 7) weakening firm response to productivity gaps
- 8) rising market concentration
- 9) a widening divide between industry winners and losers

# ACCELERATING SLIDE IN GEOGRAPHIC MOBILITY

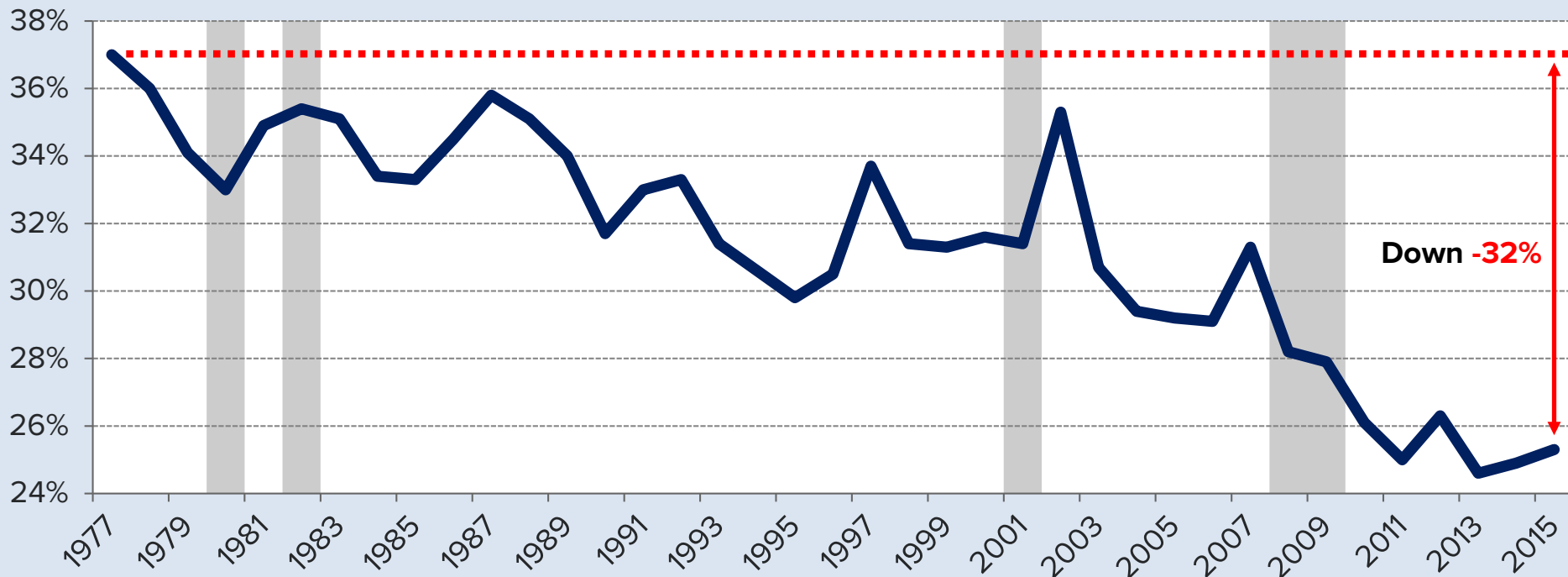
## One-Year Mover Rate\* by Origination (Selected Years)



\* Describes the share of the population age 1 and older that moved during the stated year.

# JOB TURNOVER AT AN ALL-TIME LOW

## Annual Job Reallocation Rate\*^ (1977 to 2015)

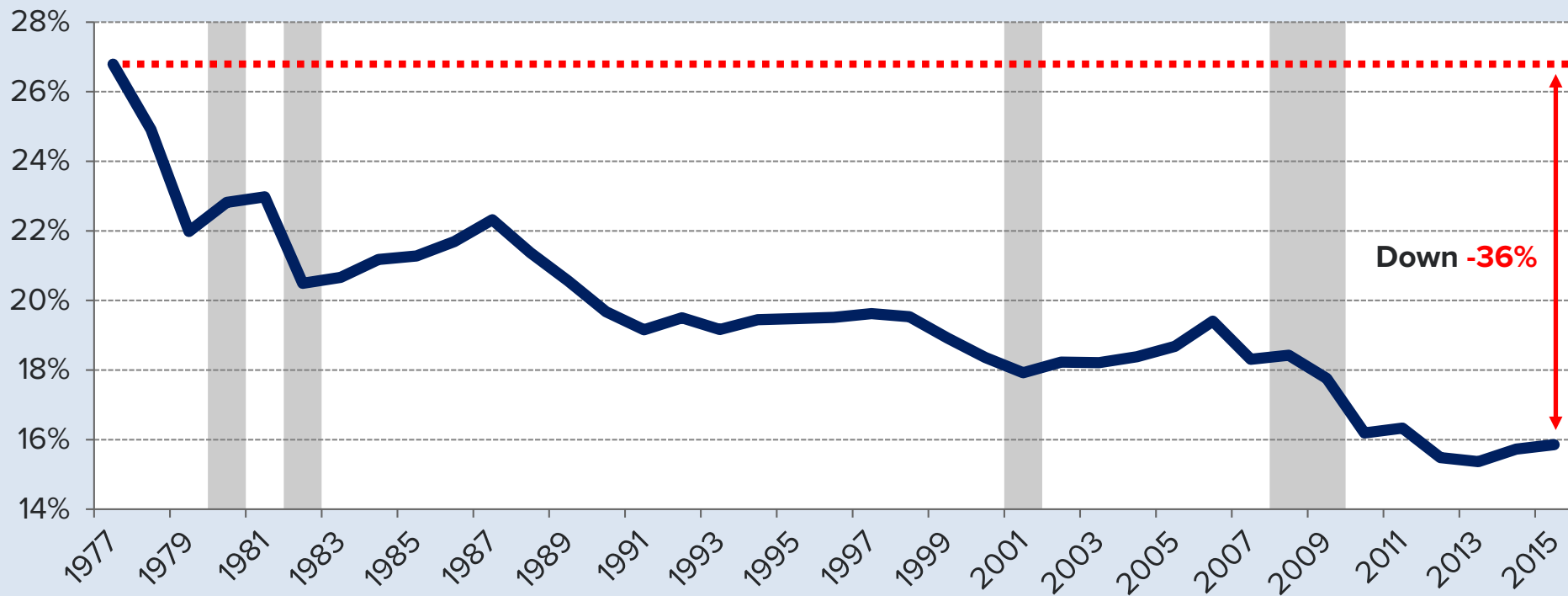


\* Job reallocation rate is calculated by adding together job creation rate and job destruction rate.

^ Covers U.S. domestic firms of all types (corporations, LLCs, partnerships), excluding only sole proprietorships and the unincorporated self-employed.

# FIRM TURNOVER NEAR AN ALL-TIME LOW

## Annual “Firm Reallocation Rate” (1977 to 2015)\*^



Down -36%

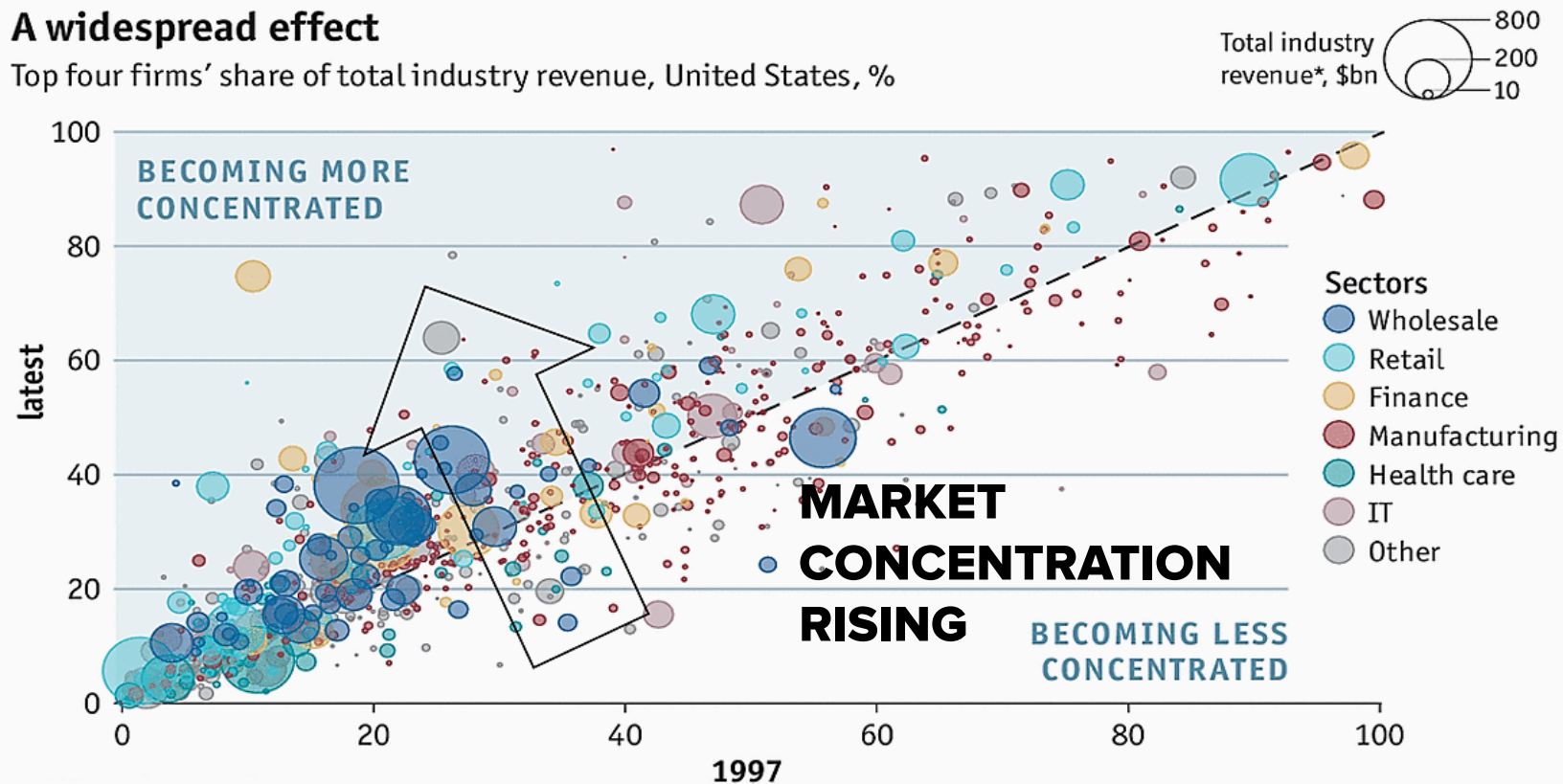
\* Firm reallocation rate is calculated by adding together firm startup rate and firm exit rate.

^ U.S. domestic firms of all types (corporations, LLCs, partnerships), excluding only sole proprietorships and the unincorporated self-employed.

# MARKET CONCENTRATION RISING

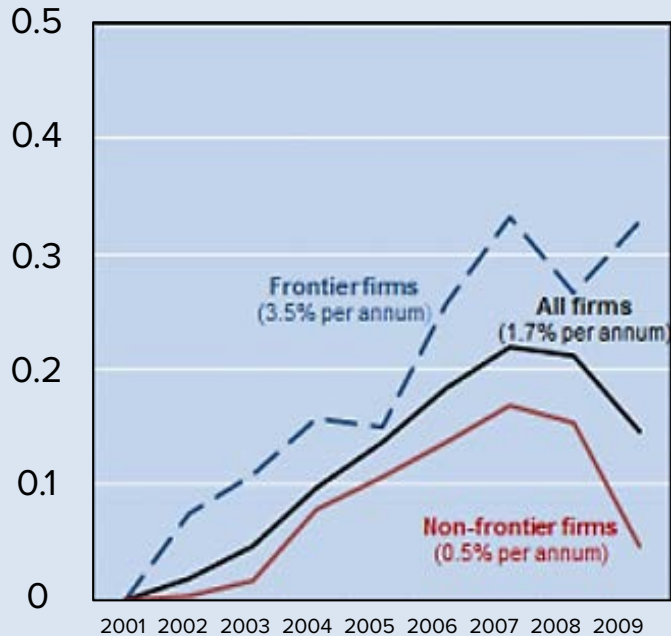
## A widespread effect

Top four firms' share of total industry revenue, United States, %

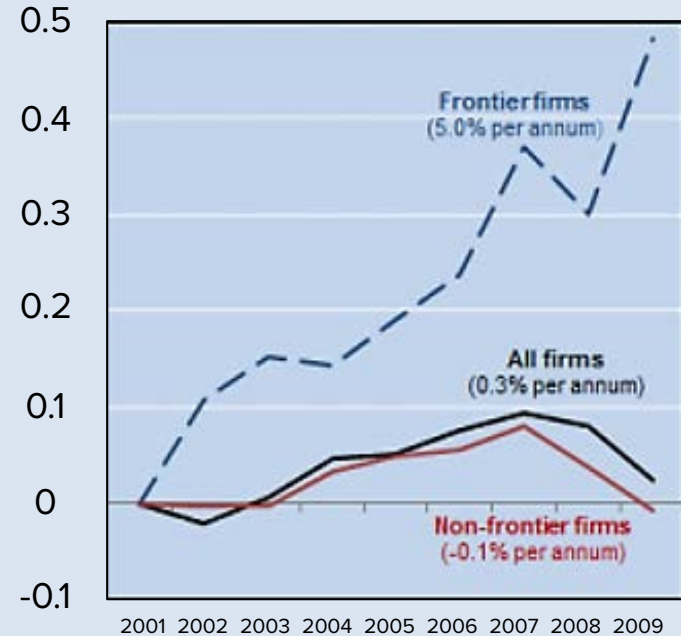


# THE RISE OF GLOBAL “SUPERSTAR” FIRMS

**Index: Manufacturing Sector**  
**Productivity by Firm Tier\* (0 = 2001)**



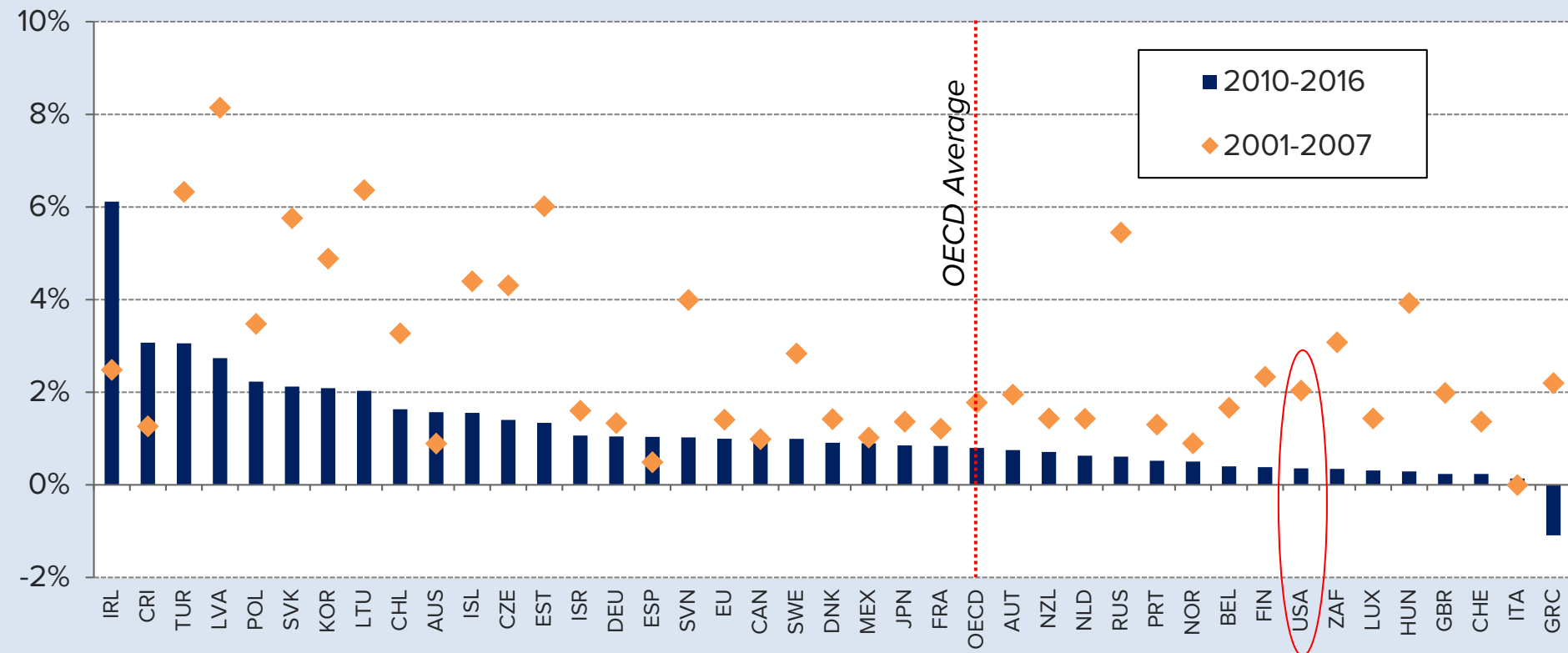
**Index: Services Sector**  
**Productivity by Firm Tier\* (0 = 2001)**



\* “Frontier firms” are the 100 most productive global firms in each sector. “Non-frontier firms” is the average of all other firms.

# POST-GFC PRODUCTIVITY SLUMP IS A GLOBAL TREND

## Average Annual Productivity Growth by Period



# ANNUAL DEMOGRAPHIC OUTLOOK, Q3 2018

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- *Income & Poverty*

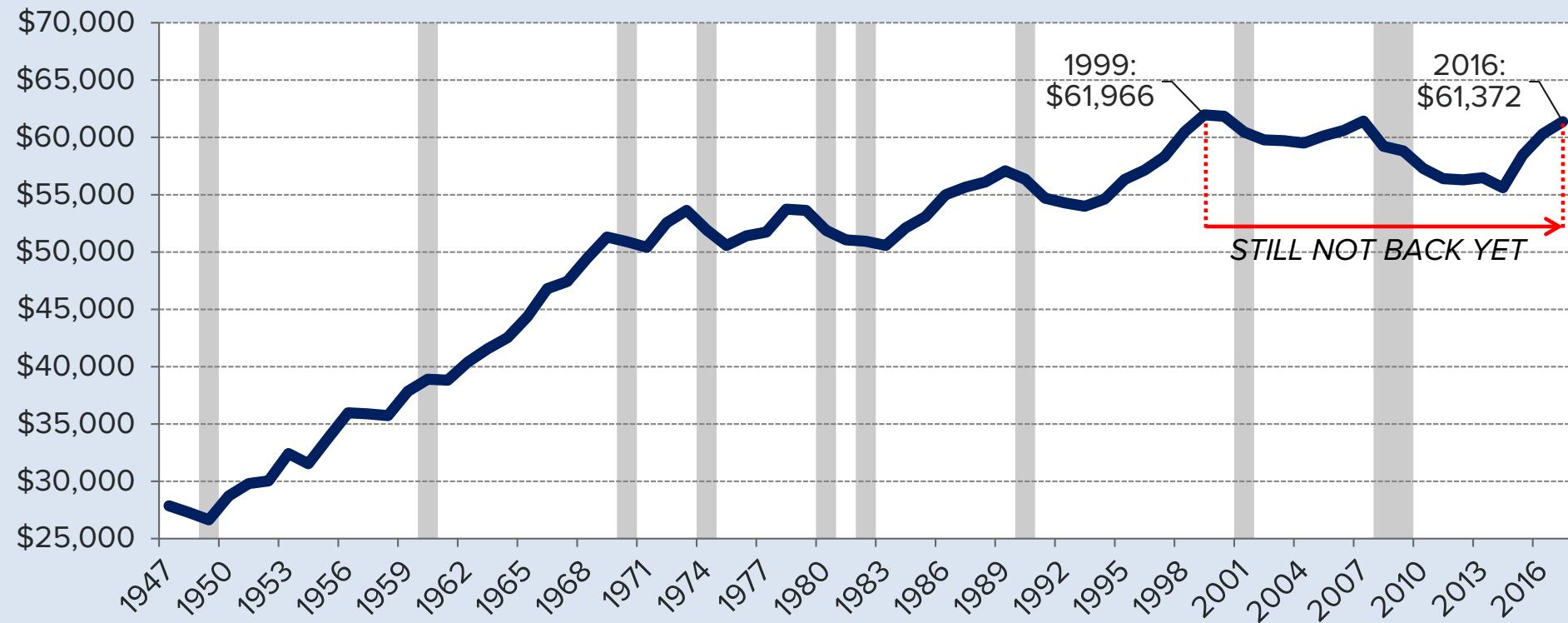
## ❑ **Housing, Healthcare, Millennials, and Midterms**

- *Housing*
- *Healthcare*
- *Millennial Risk Aversion (Update)*
- *2018 Midterms*



# U.S. MEDIAN INCOME FLAT SINCE DOT-COM BOOM

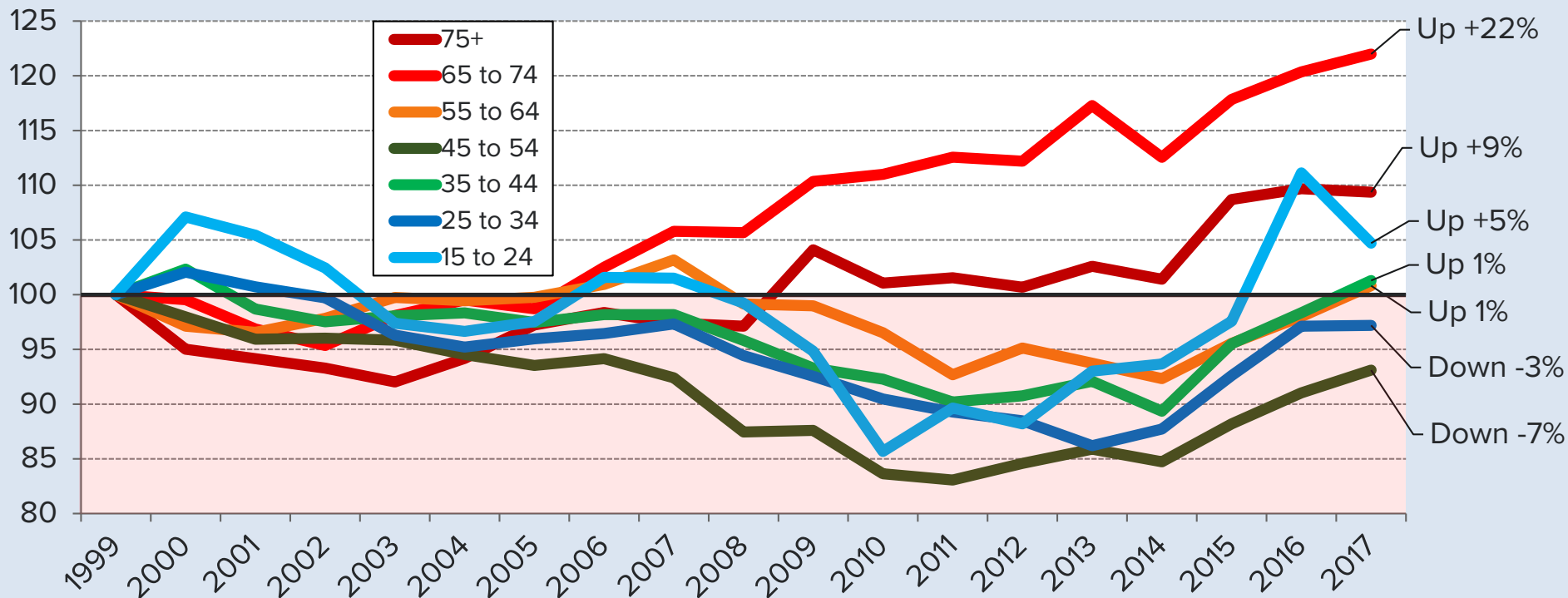
## U.S. Real Median Household Income\* (1947 to 2017)



\* Income in 2017 CPI-U-RS adjusted dollars.

# BOOMERS RULE: NO \$ GROWTH FOR XERS & MILLENNIALS

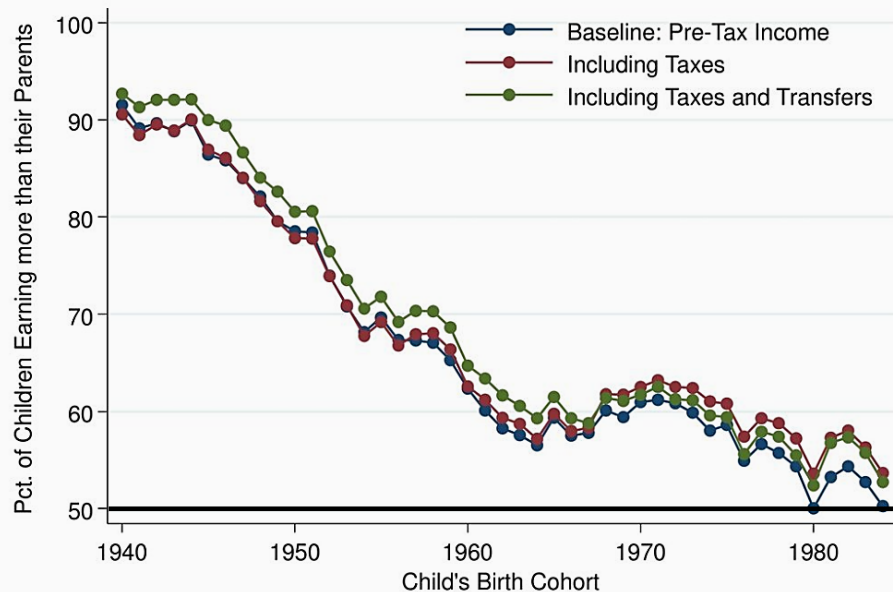
## U.S. Real Median Income\* by Age of Household (100 = 1999)



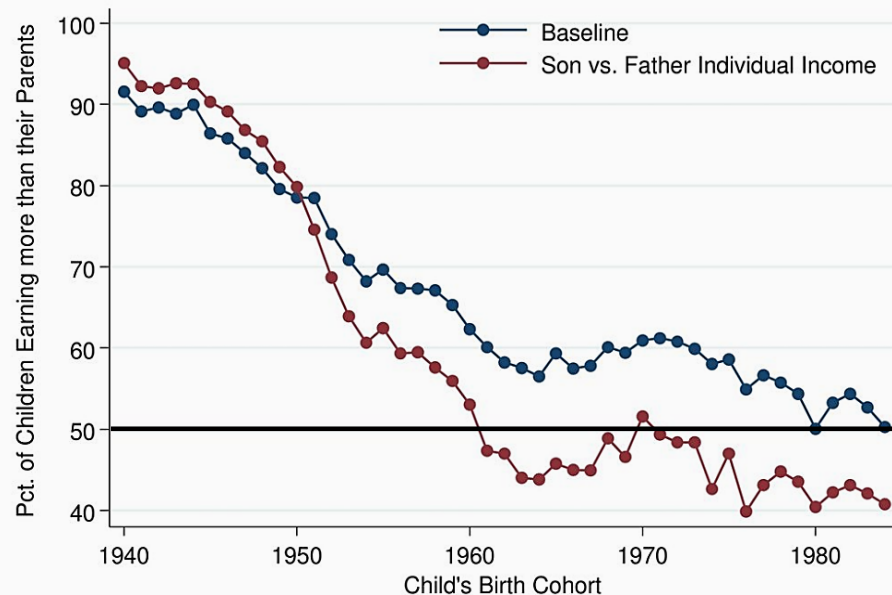
\* Income in 2017 CPI-U-RS adjusted dollars.

# MANY MILLENNIALS EARNING LESS THAN THEIR PARENTS

Trends in Absolute Mobility: Including Taxes and Transfers



Trends in Absolute Mobility: Individual Income, Sons vs. Fathers

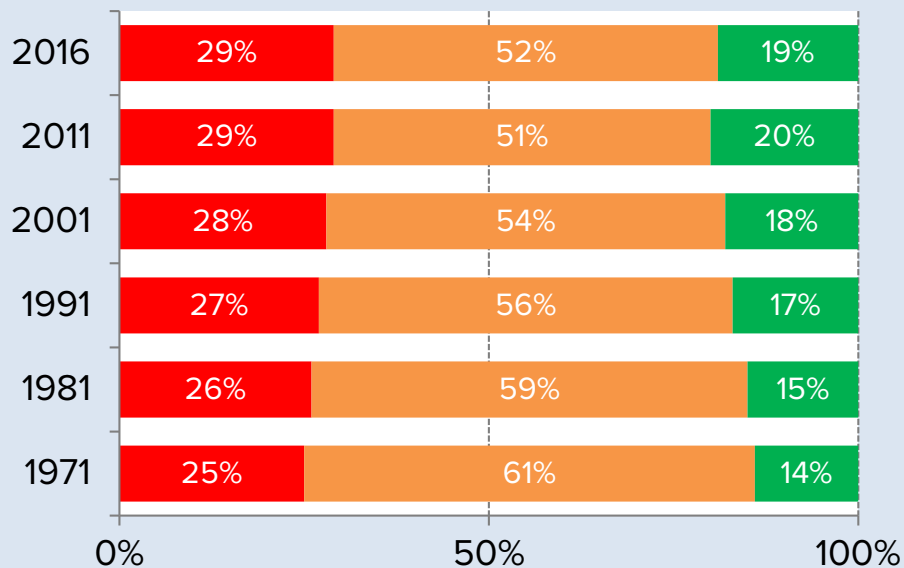


\* Represents the share of each cohort earning less at age 30 than their parents did at the same age.

# DEATH IN THE MIDDLE OF THE INCOME DISTRIBUTION

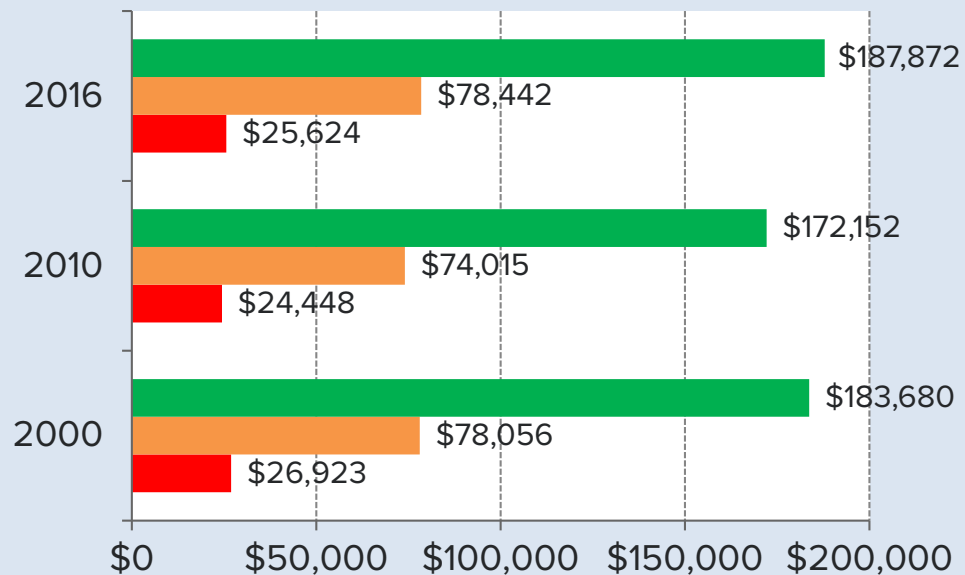
## Share of U.S. Adults by Income Tier\*

Lower Middle Upper



## Median Household Income by Income Tier\*

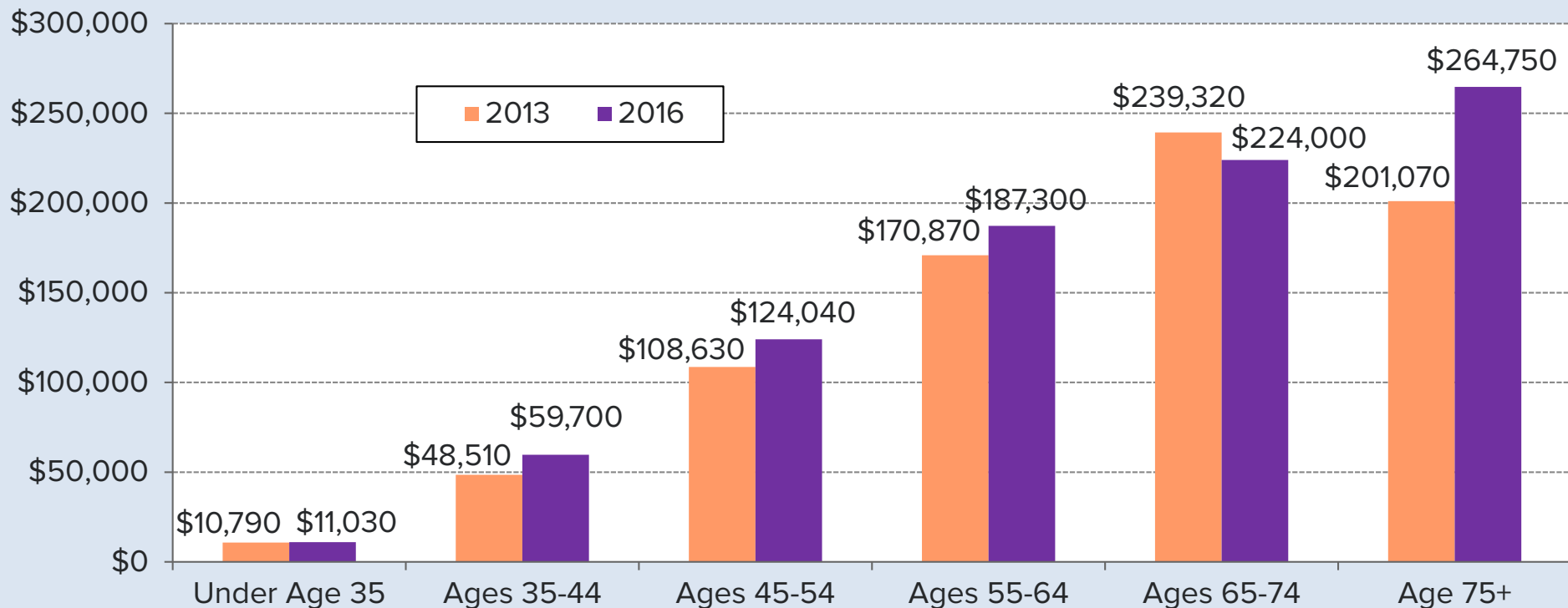
Upper Middle Lower



\* "Middle income" refers to adults whose annual household income is two-thirds to double the national median.

# AGE 75+: BIGGEST \$ GAINERS, 2013 TO 2016

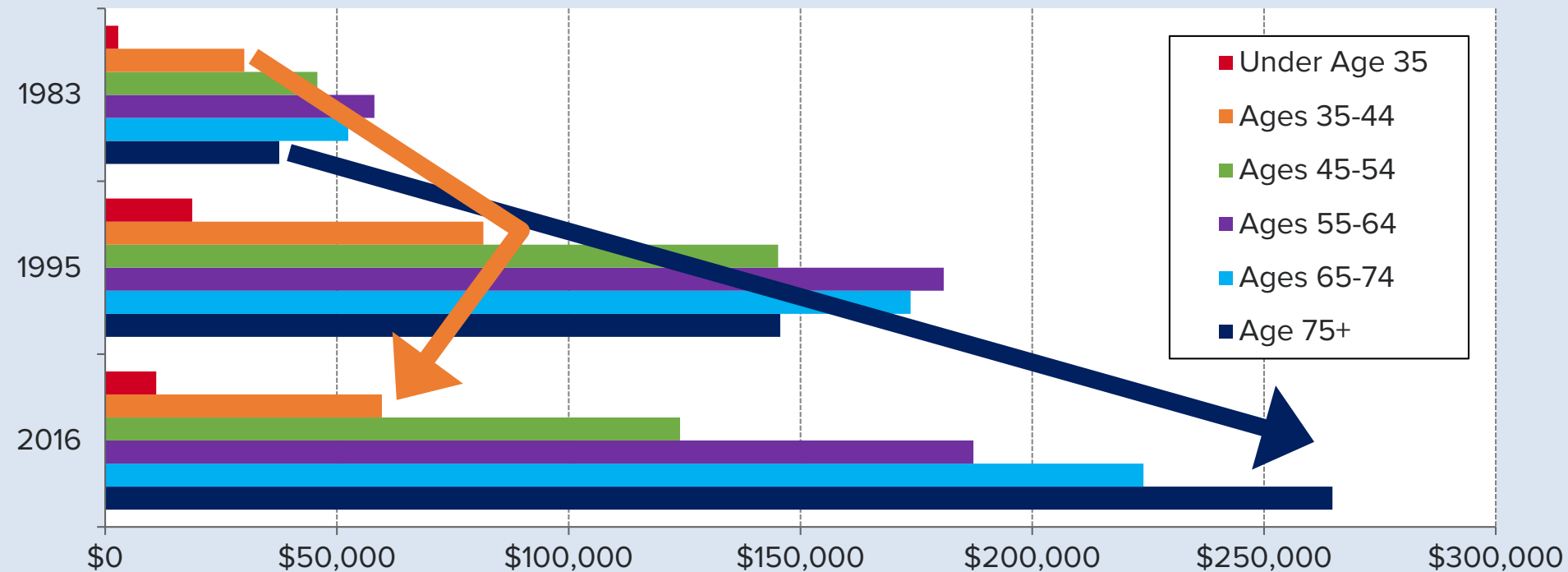
## Real Median Family Net Worth\* by Age (2013 vs. 2016)



\* In 2016 dollars.

# MIDLIFE FLOUNDERS, LATE LIFE PROSPERS

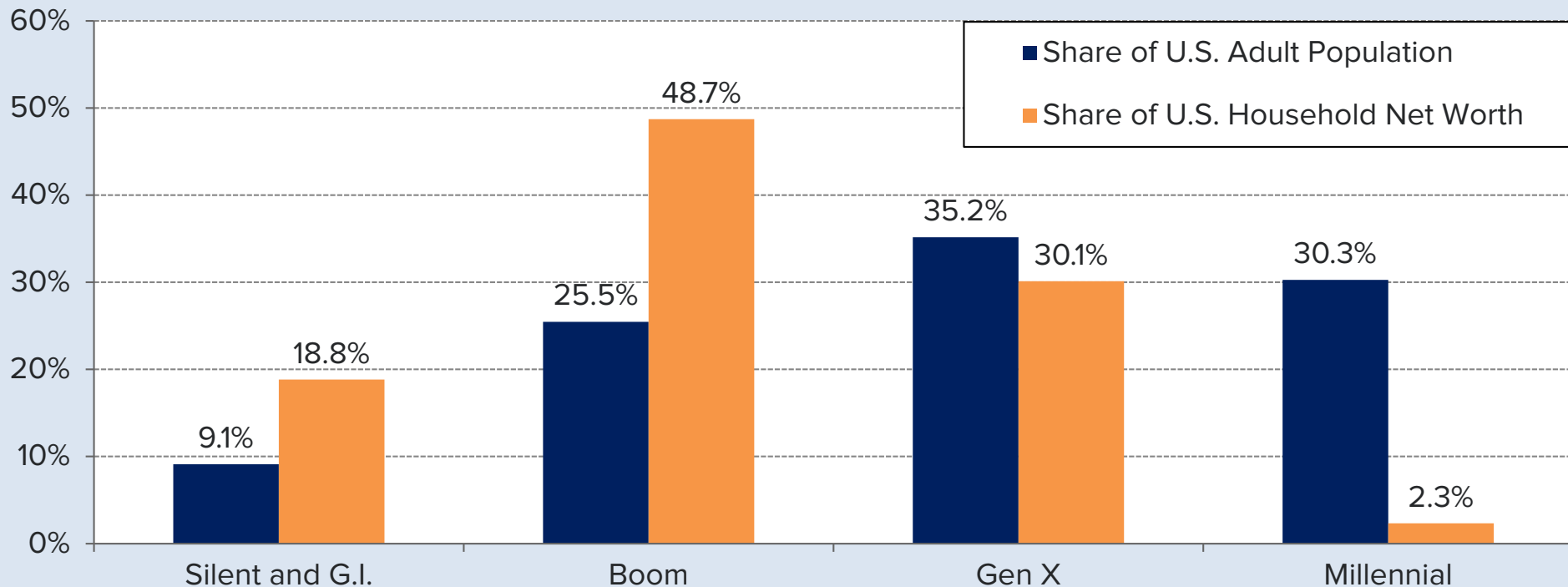
## Real Median Family Net Worth\* by Age (1983 to 2016)



\* In 2016 dollars.

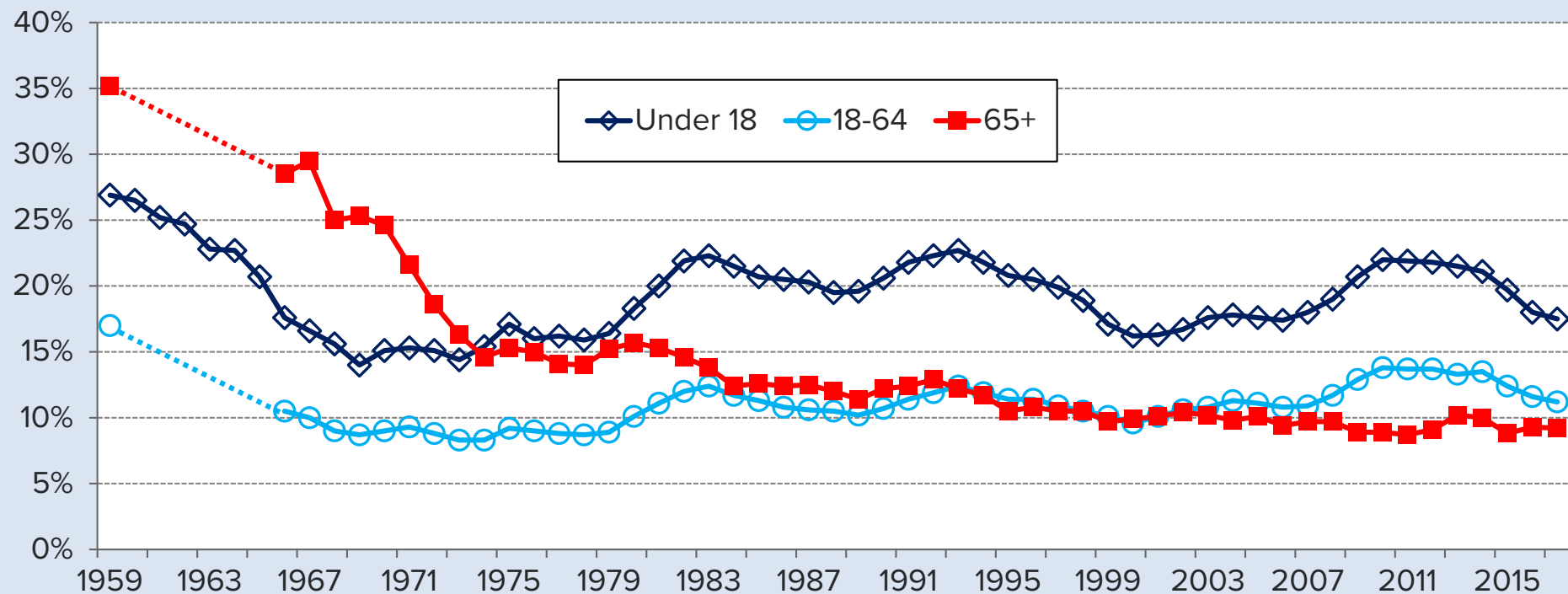
# YOUNG RULE IN NUMBERS, OLD RULE IN DOLLARS

## Adult Population & Household Net Worth (% of Total), by Generation (2016)



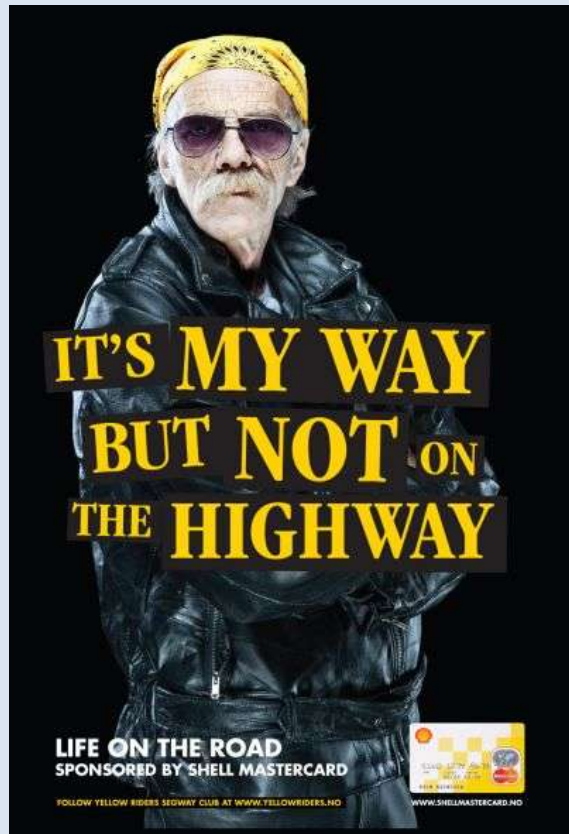
# AN AGE REVERSAL ON POVERTY RATES

## Share of Individuals Below Federal Poverty Line, by Age (1959 to 2017)



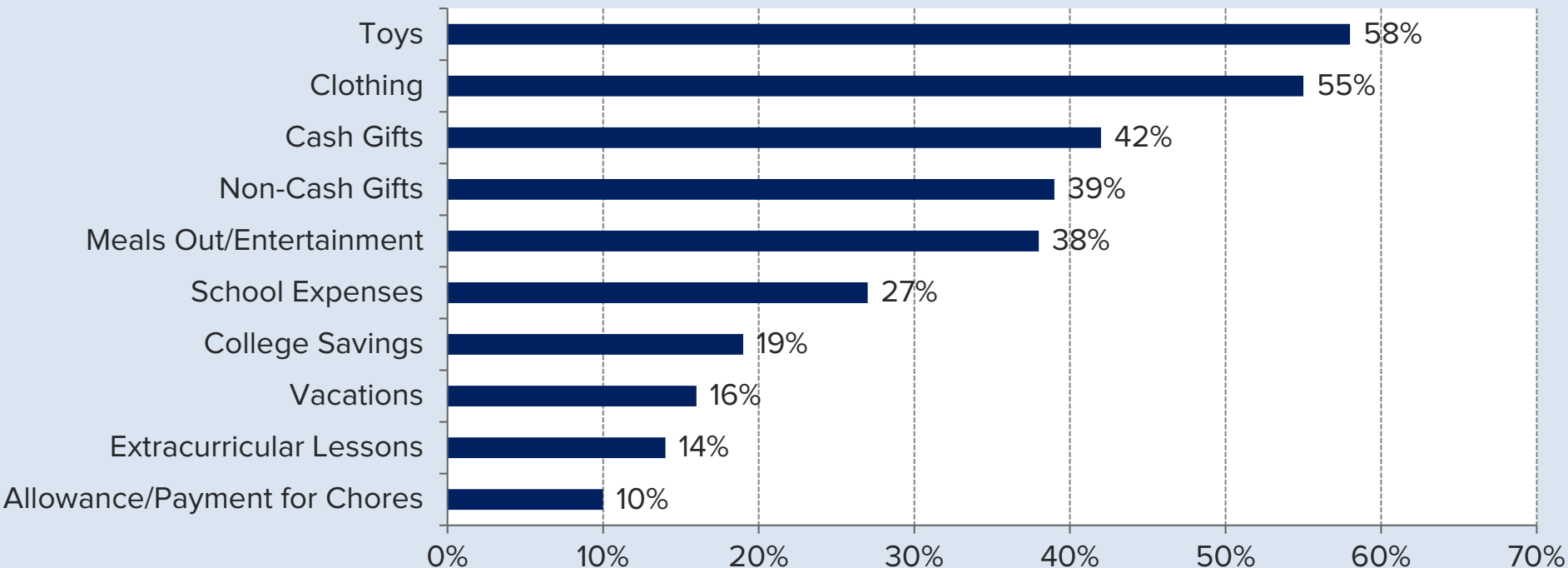


# BRANDS GO ALL OUT FOR THE AGING CONSUMER



# GRANDPARENTS LOOSEN THE PURSE STRINGS

## Share of Grandparents Who Provide the Following Sources of Financial Support to Grandchildren Annually



# ANNUAL DEMOGRAPHIC OUTLOOK, Q3 2018

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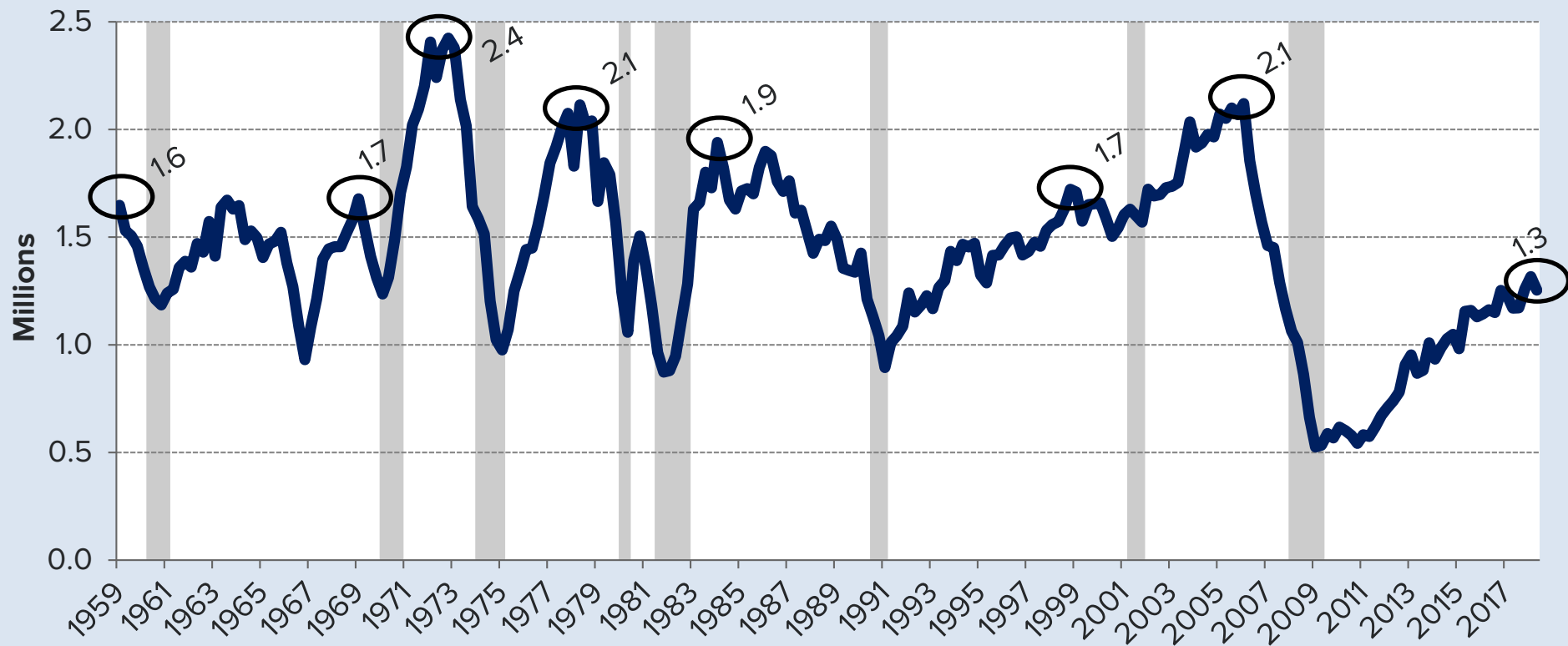
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- *Healthcare*
- *Millennial Risk Aversion (Update)*
- *2018 Midterms*

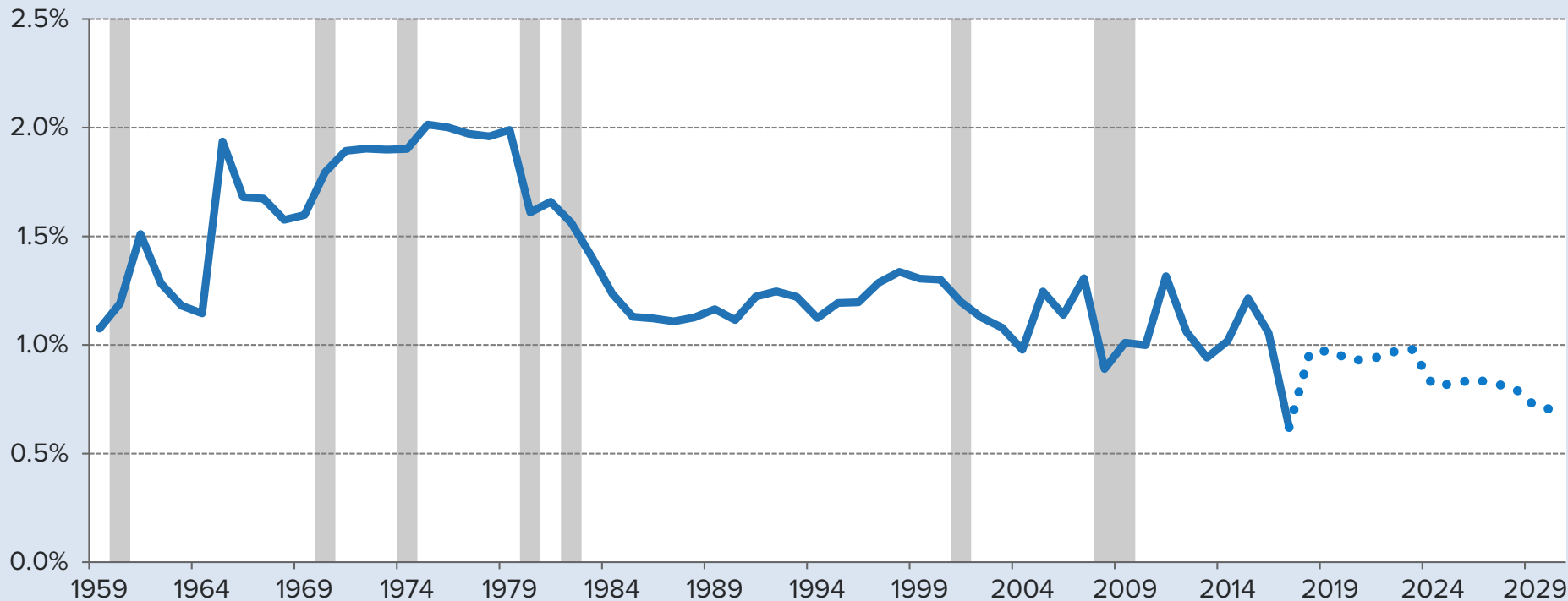
# HOUSING STARTS WELL BELOW PREVIOUS PEAKS

## Quarterly U.S. Housing Starts (Q1 1959 to Q1 2018)



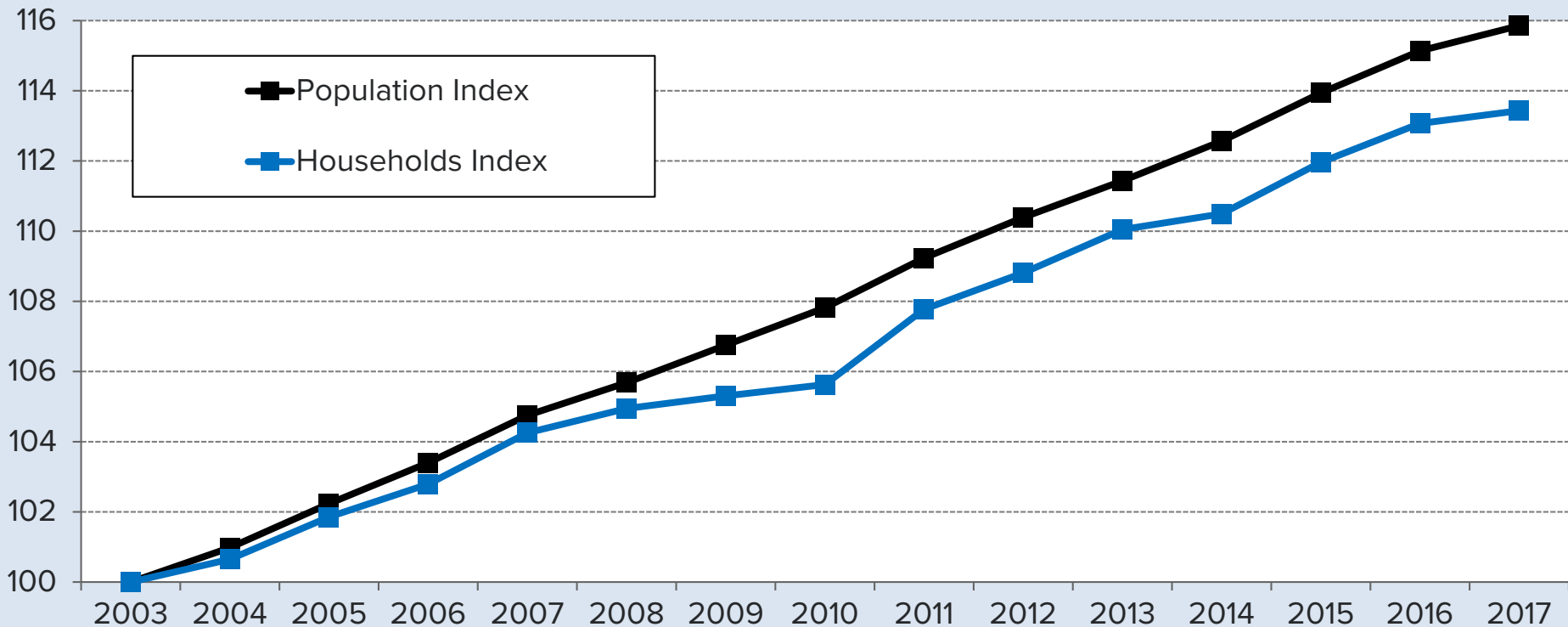
# ADULT POPULATION GROWTH SLOWING DOWN

## Annual Growth Rate of U.S. Adult Population, History and Projections (1959 to 2030)



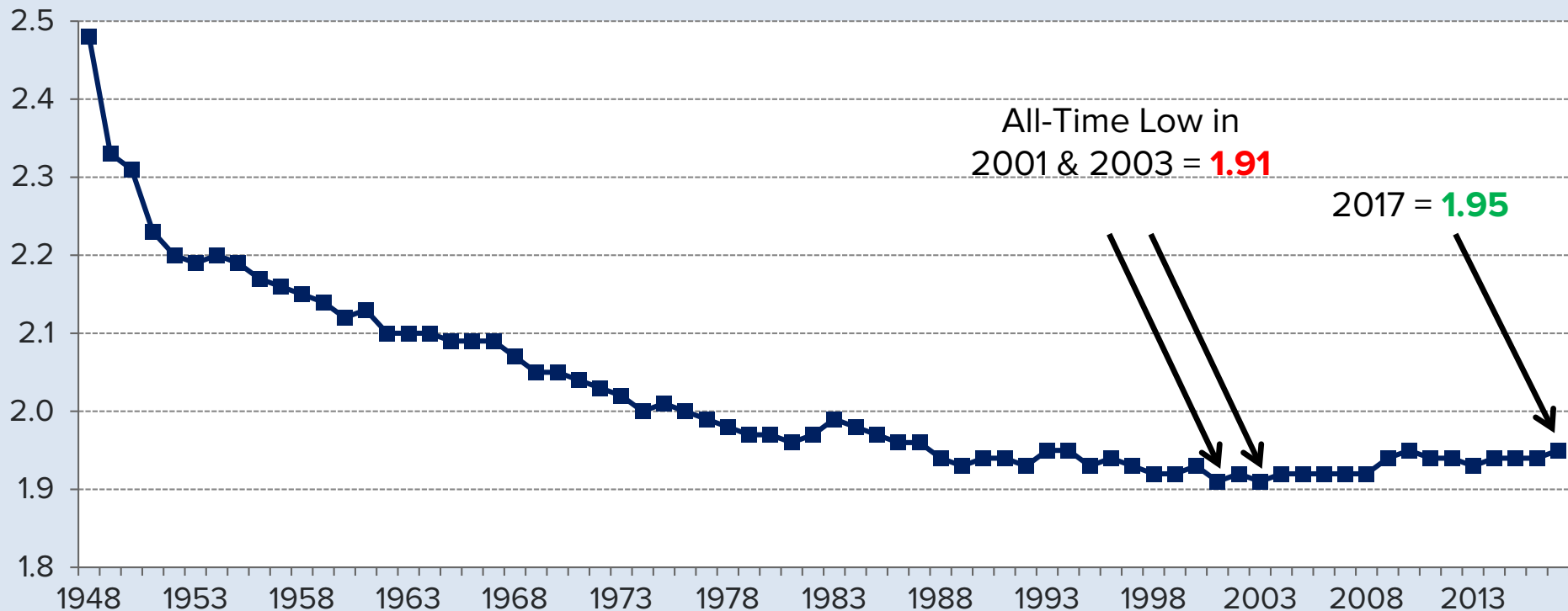
# HH FORMATION LESS THAN POP. GROWTH

## Population and Households Total Index (100 = 2003)



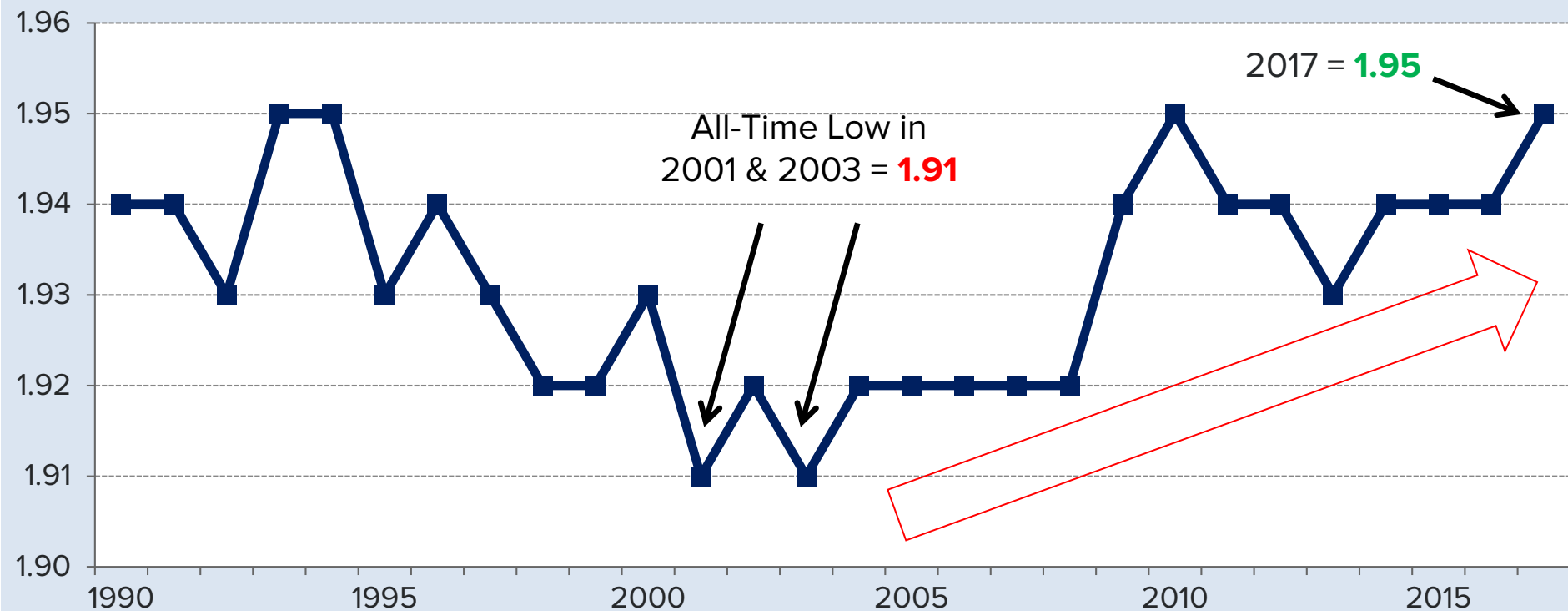
# AVERAGE HH SIZE: NO LONGER FALLING

## Average Adults (18+) Per Housing Unit (1948 to 2017)



# AVERAGE HH SIZE: STARTING TO RISE AGAIN

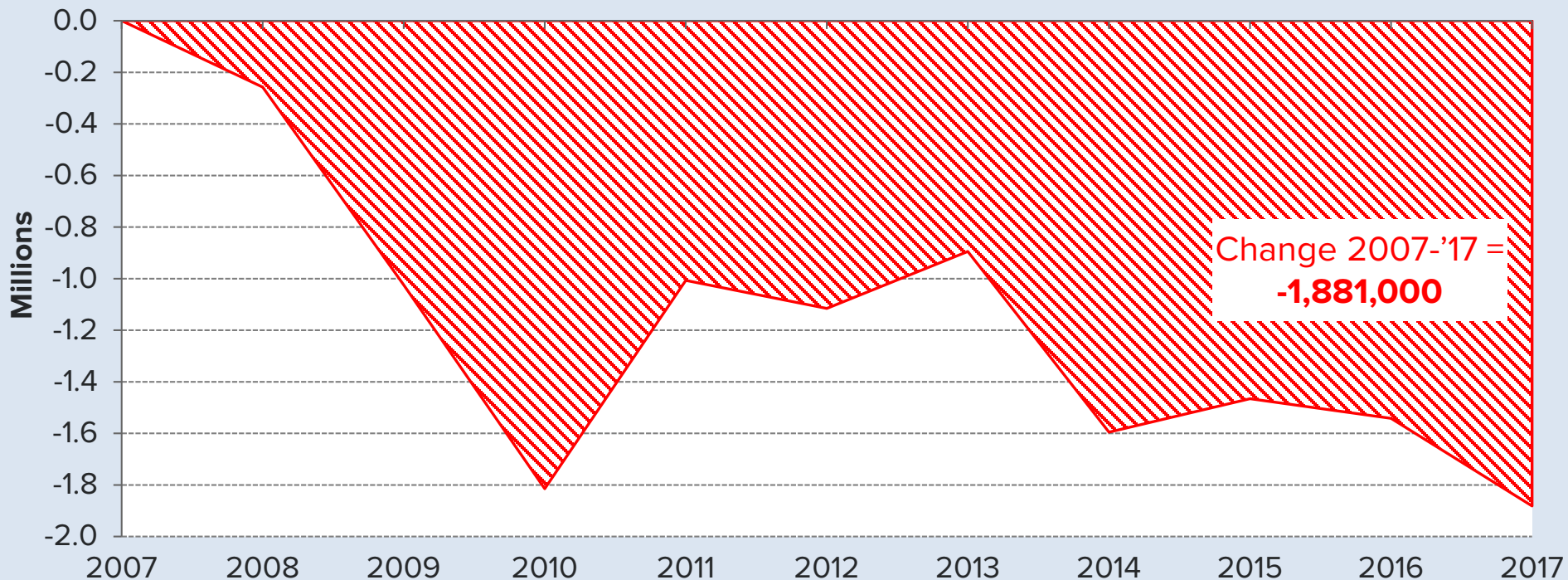
## Adults Per Occupied Housing Unit, History: 1990 to 2017





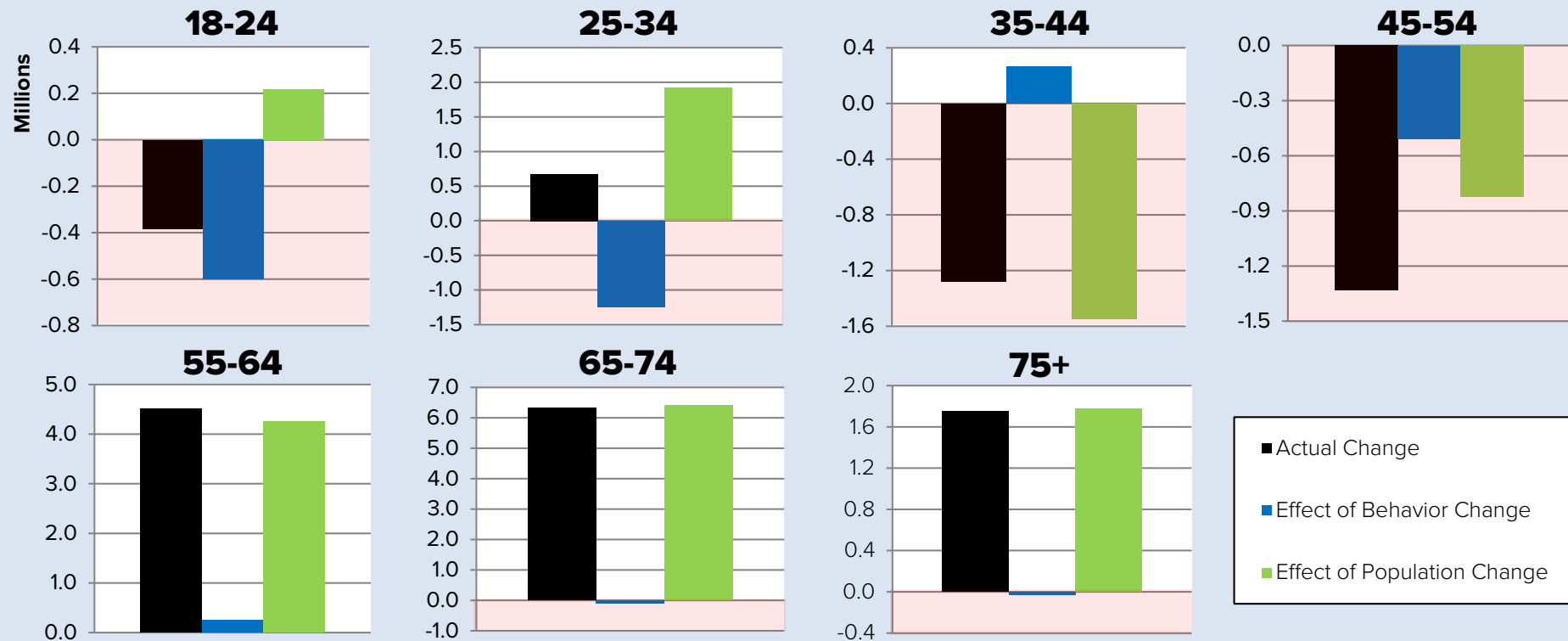
# BEHAVIOR DRAGGING DOWN HH FORMATION

## Cumulative Households Lost Due to Behavior Change Since 2007



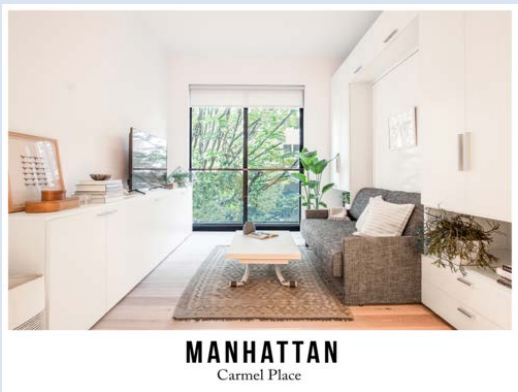
# HH FORMATION: HUGE DECLINES < AGE 55

## Change in Number of Households by Cause (2007-2017)



# THE MILLENNIAL CO-LIVING BOOM

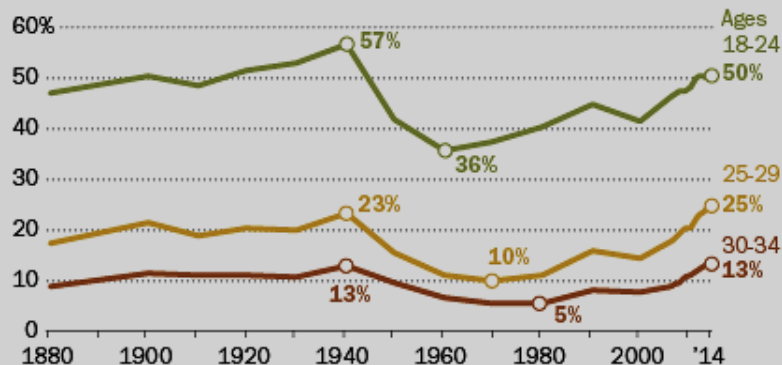
- Common
- Ollie
- WeLive
- PMGx
- OpenDoor
- HubHaus



# MILLENNIALS: RETURNING TO THE NEST

## Record share of 25- to 34-year-olds living in parents' home

Share of U.S. young adults (ages 18-34) living in their parent(s)' home, by age



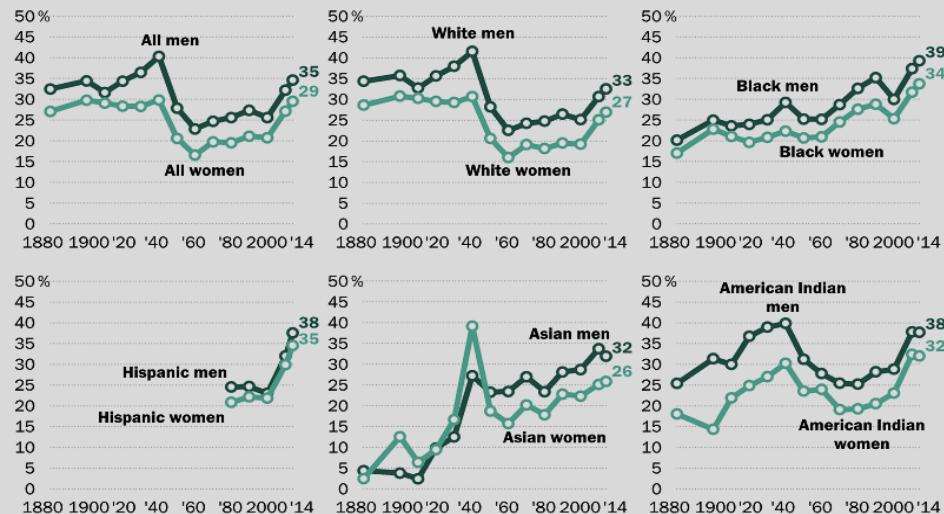
Note: "Living in parent(s)' home" means residing in a household headed by a parent regardless of the young adult's partnership status.

Source: Pew Research Center tabulations of the 1880-2000 U.S. decennial censuses and the 2006-2014 American Community Surveys (IPUMS).

PEW RESEARCH CENTER

## Young men consistently more likely to live with a parent than young women, with few exceptions

% of 18- to 34-year-olds living in parent(s)' home



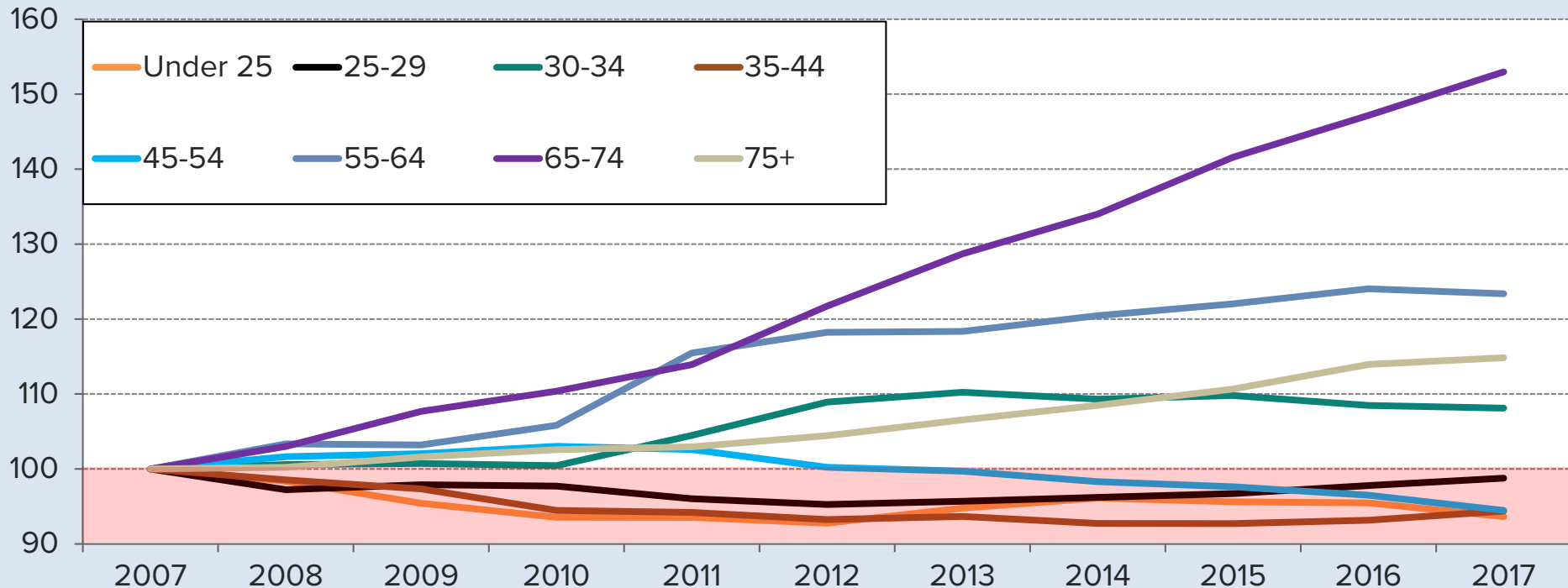
Note: "Living in parent(s)' home" means residing in a household headed by a parent regardless of the young adult's partnership status. Whites, blacks, Asians, and American Indian include only those who are not Hispanic. Hispanics are of any race. Asians include Pacific Islanders. American Indians include Alaska Natives. Hispanic identity was not ascertained before 1980.

Source: Pew Research Center tabulations of the 1880-2000 U.S. decennial censuses and 2010 and 2014 American Community Surveys (IPUMS).

PEW RESEARCH CENTER

# BOOMERS FUELING ALL HOUSEHOLD GROWTH

## Index: Number of Households by Age of Household Head (100 = 2007)



# BOOMERS FUELING ALL HOUSEHOLD GROWTH

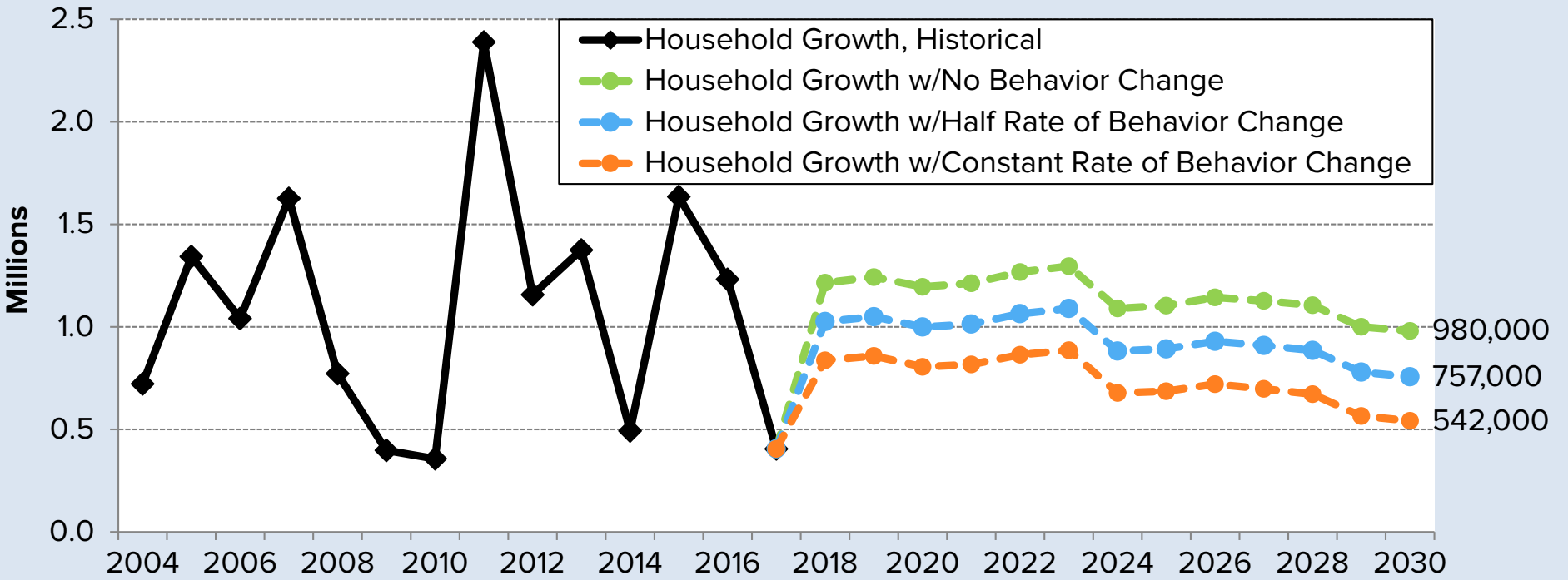
## Number of Households by Age of Householder and % Growth (2007 to 2017)

|                             | Total  | Under 25 | 25-29 | 30-34 | 35-44 | 45-54 | 55-64  | 65-74  | 75+    |
|-----------------------------|--------|----------|-------|-------|-------|-------|--------|--------|--------|
| Number of Households (2007) | 116.0m | 6.7m     | 9.7m  | 9.8m  | 22.8m | 24.1m | 19.3m  | 11.9m  | 11.8m  |
| Number of Households (2017) | 126.2m | 6.2m     | 9.5m  | 10.6m | 21.5m | 22.8m | 23.8m  | 18.2m  | 13.6m  |
| % Growth                    | +8.8%  | -7.5%    | -2.1% | +8.2% | -5.7% | -5.4% | +23.3% | +52.9% | +15.3% |

Boomer Impact

# HH FORMATION: IT COULD GET EVEN WORSE

## YoY Household Growth: History and Projections (2004 to 2030)



# ANNUAL DEMOGRAPHIC OUTLOOK, Q3 2018

## ❑ **Demography**

- *U.S. Fertility*
- *U.S. Mortality*
- *U.S. Net Immigration*
- *Global Trends*

## ❑ **Employment, Productivity, & Income**

- *Employment & Wages*
- *GDP & Productivity*
- *Income & Poverty*

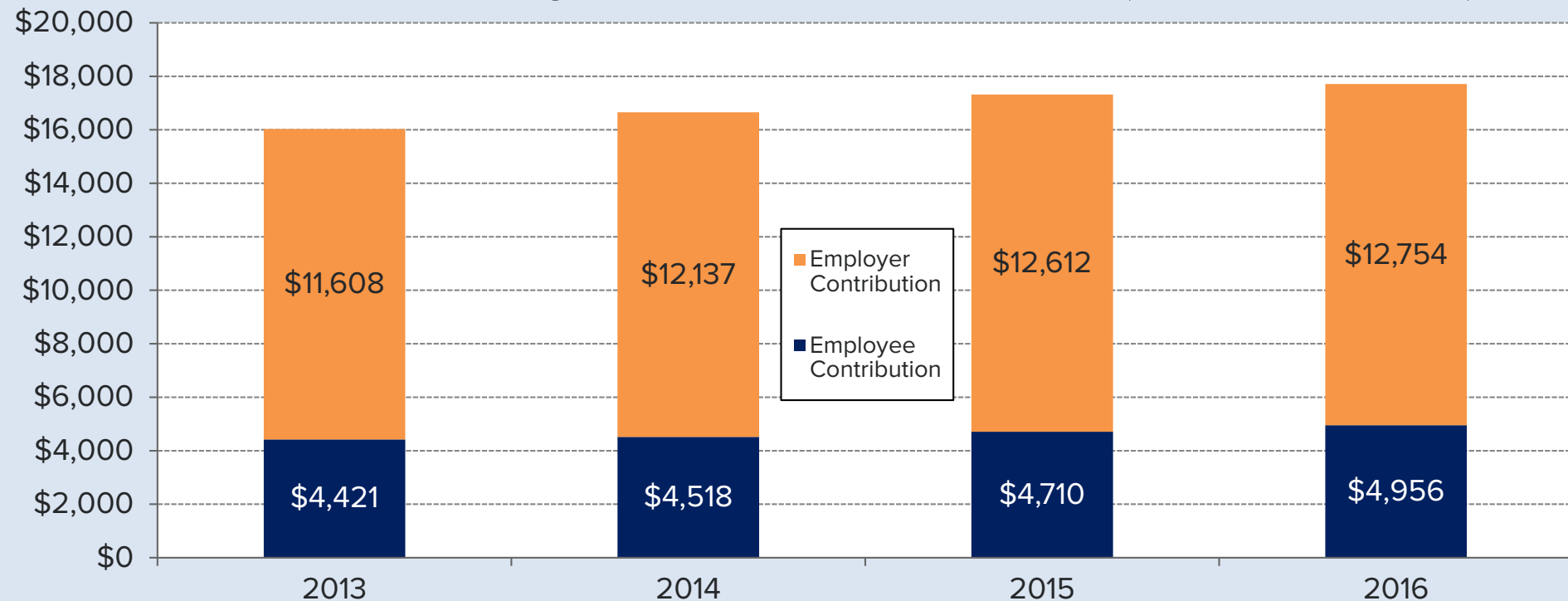
## ❑ **Housing, Healthcare, Millennials, and Midterms**

- *Housing*
- *Healthcare*
- *Millennial Risk Aversion (Update)*
- *2018 Midterms*



# HEALTH CARE PREMIUM COSTS STILL RISING

## Average Annual Family Premium Per Employee Enrolled in Employer-Based Health Care (2013 to 2017)



# TOTAL HC COSTS GROWING... MORE SLOWLY

## Milliman Medical Index\* (2014 to 2018)

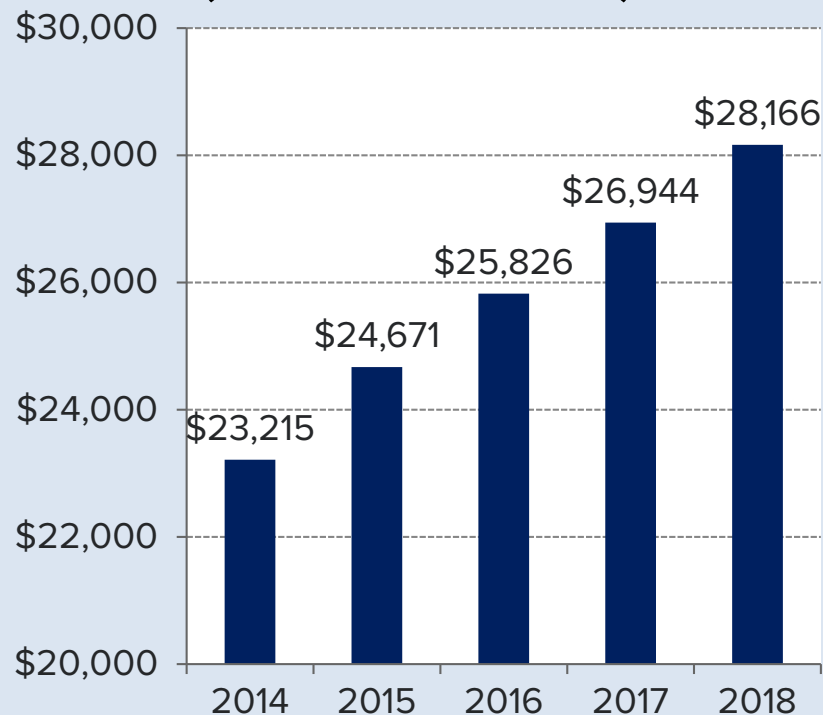
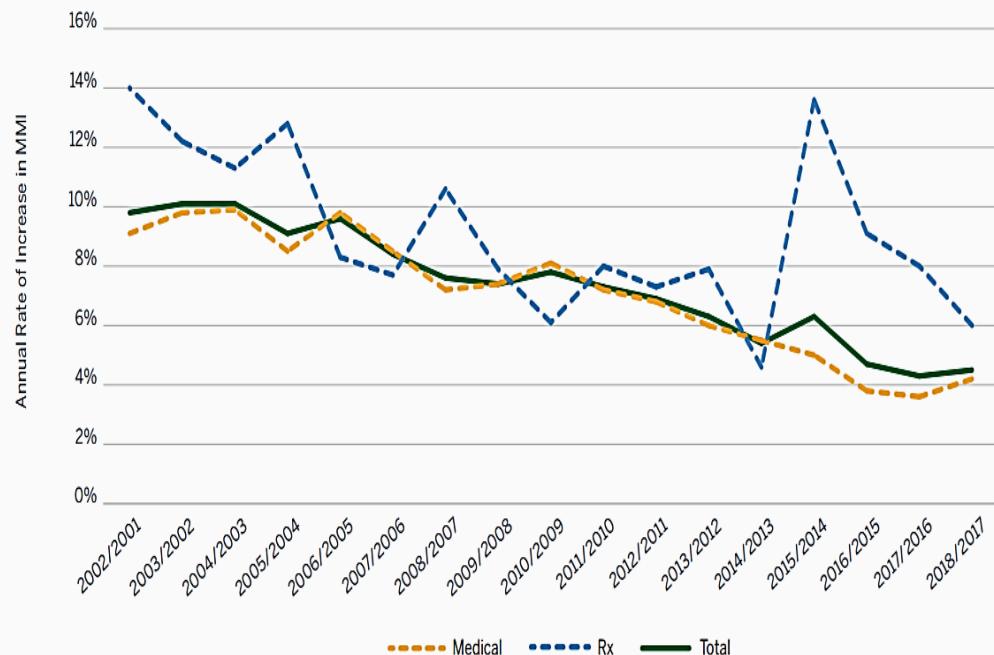


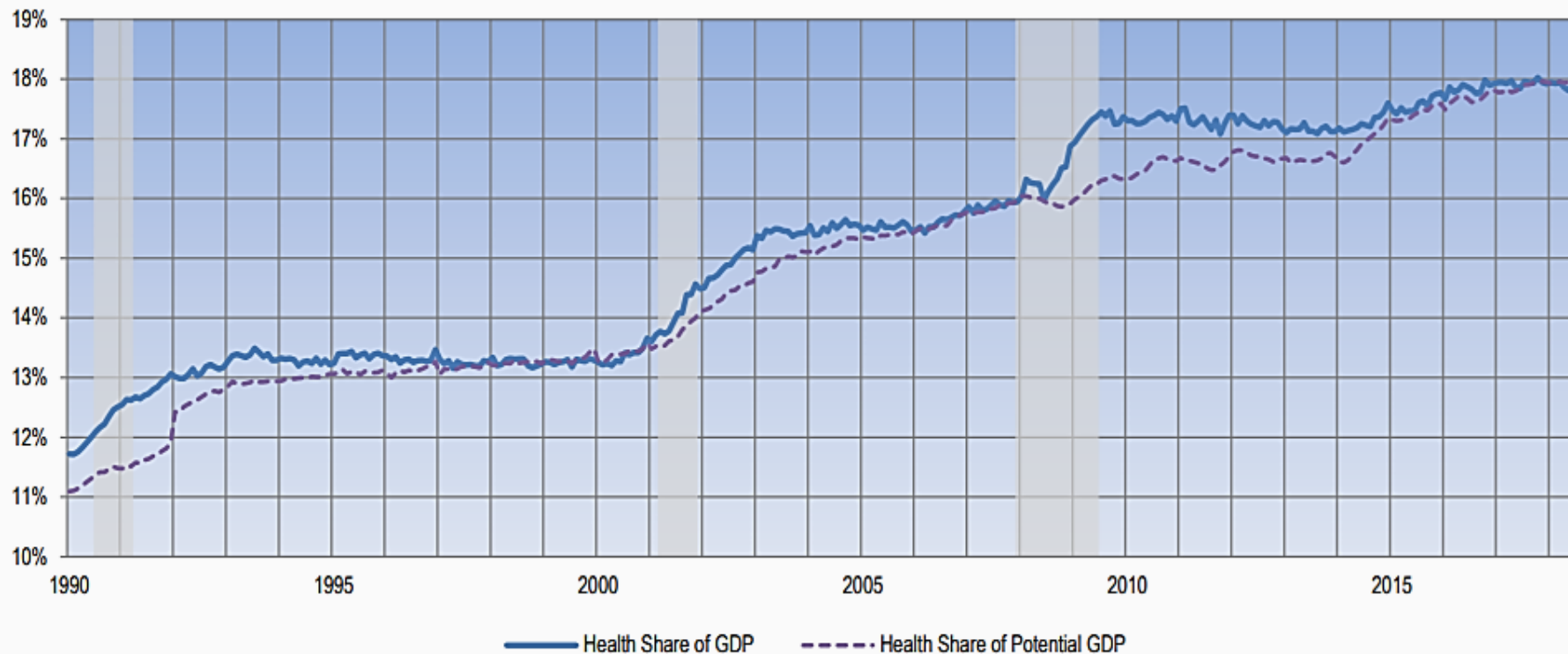
FIGURE 2: ANNUAL CHANGES IN THE MILLIMAN MEDICAL INDEX



\* MMI is an actuarial analysis of the projected total cost of health care for a hypothetical family of four covered by an employer-sponsored PPO plan.

# HAS HC SPENDING PLATEAUED AS A % OF GDP?

Exhibit 8. Monthly Health Spending as a Percentage of Monthly GDP



# ANNUAL DEMOGRAPHIC OUTLOOK, Q3 2018

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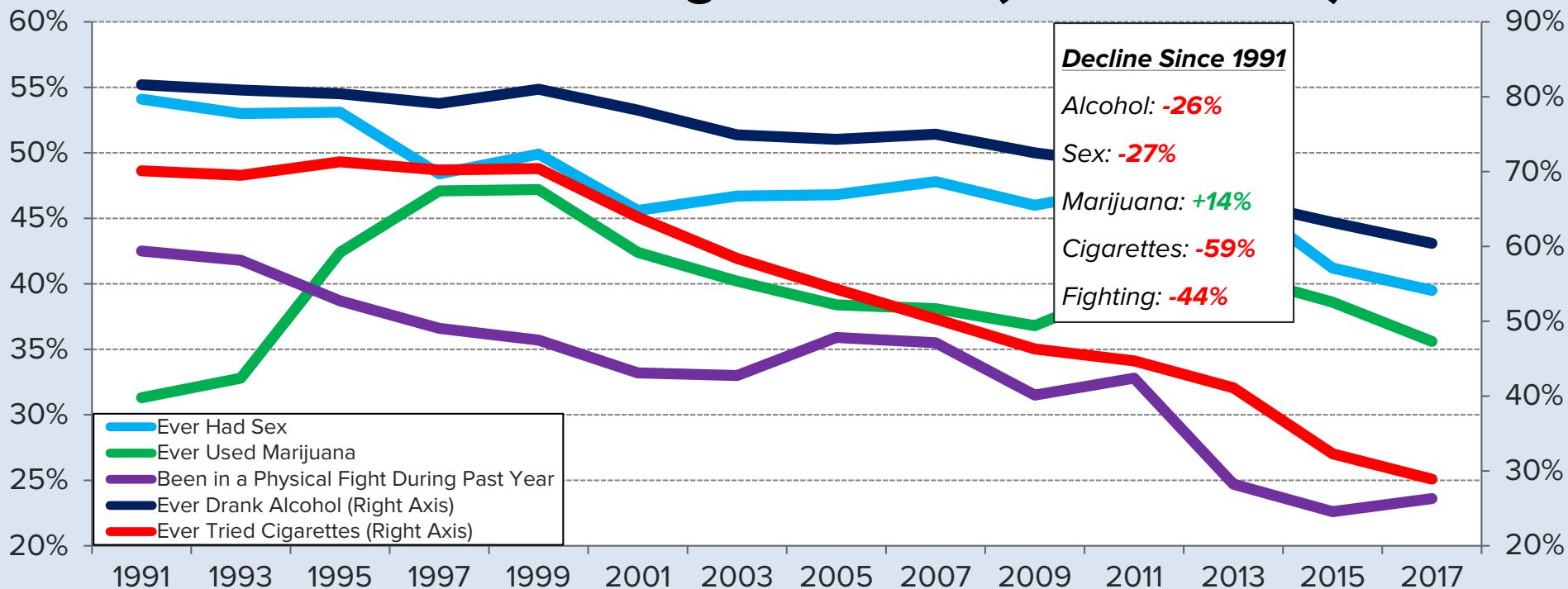
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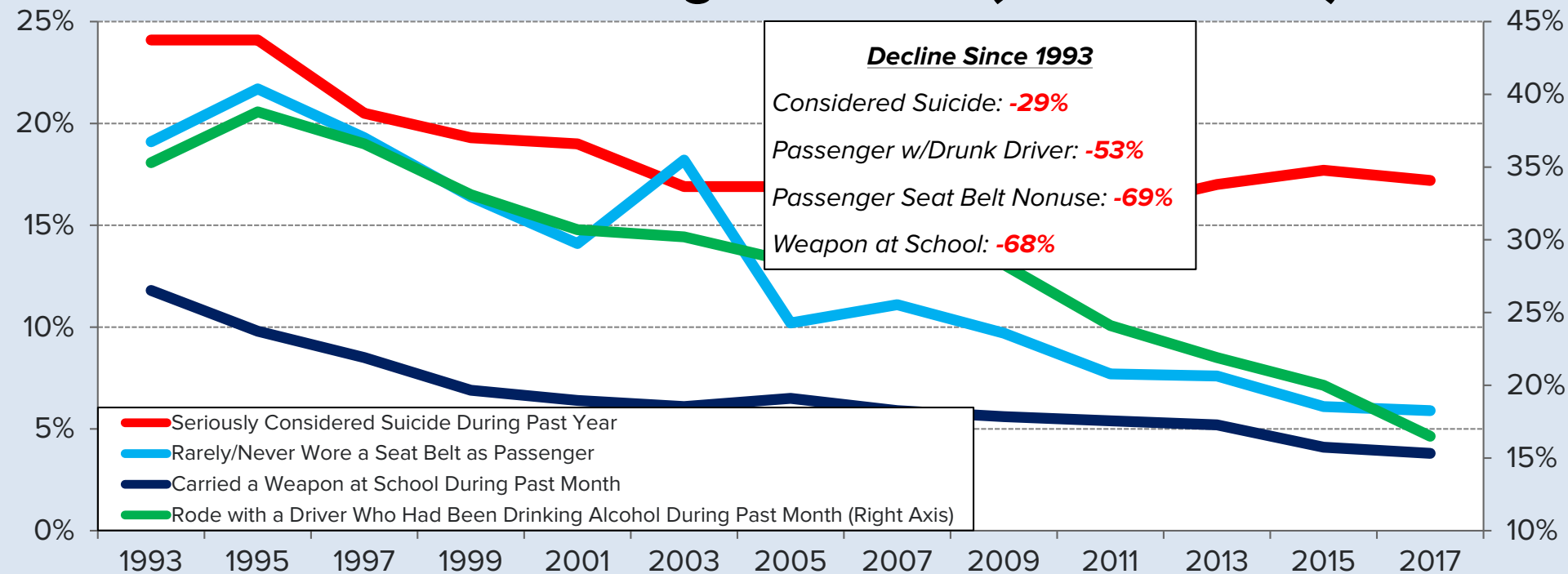
# YOUTH RISK-TAKING WAY DOWN

## Share of High Schoolers Who Reported Engaging in Various Risk-Taking Behaviors (1991 to 2017)



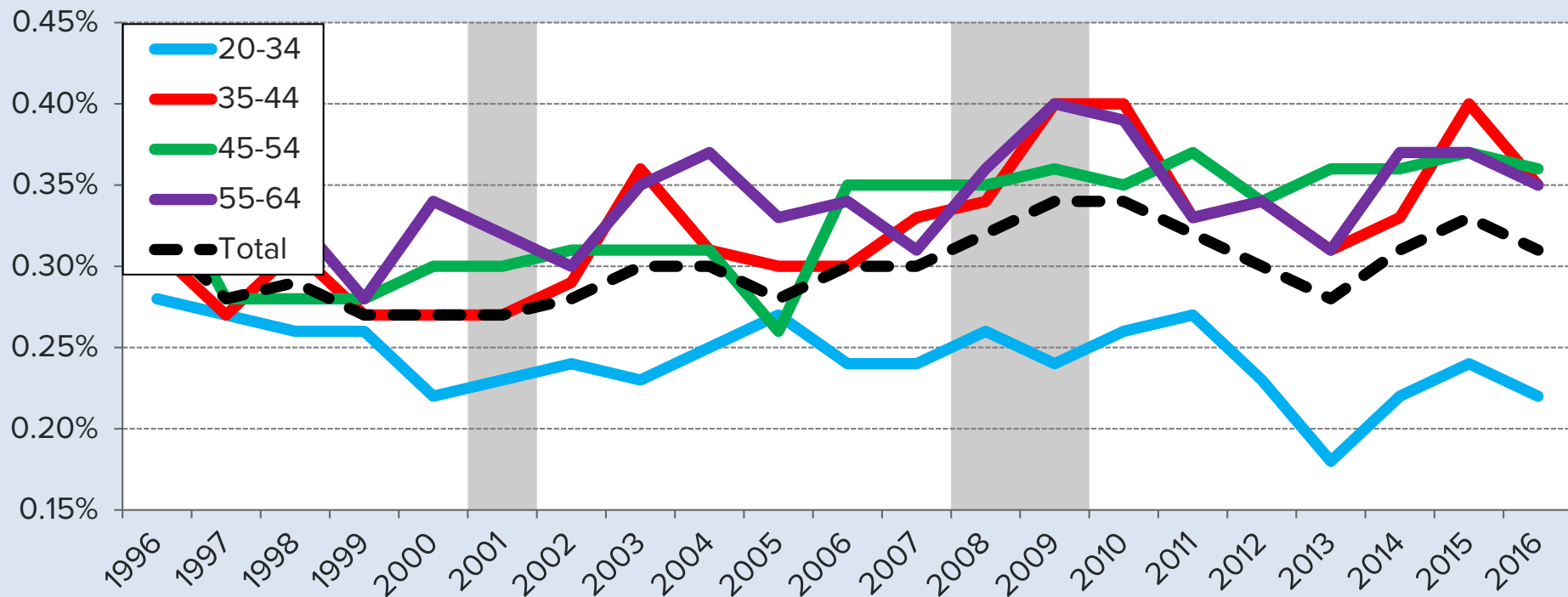
# YOUTH RISK-TAKING WAY DOWN

## Share of High Schoolers Who Reported Engaging in Various Risk-Taking Behaviors (1993 to 2017)



# MILLENNIALS DRIVING DOWN ENTREPRENEURSHIP...

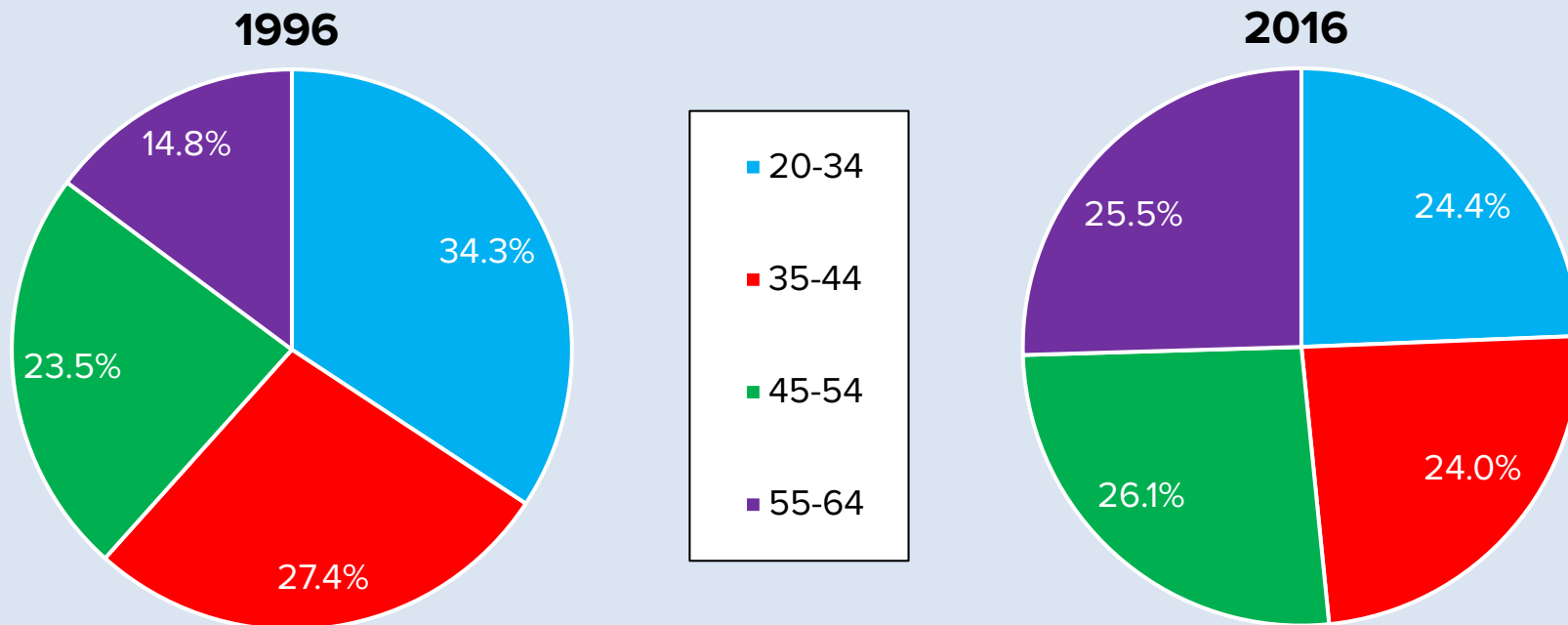
## U.S. Entrepreneurship Rate\* by Age (1996 to 2016)



\* Defined as individuals that do not own a business in the survey month that start a business in the following month as a share of the population. Uses a broader definition of "business" than U.S. Census Bureau. Survey group includes U.S. adults age 20-64.

# ... WHICH IS DOWN FOR YOUNG, BUT UP FOR OLD

## Age Gradient of New Entrepreneurs\* (1996 vs. 2016)



\* Defined as individuals that do not own a business in the survey month that start a business in the following month as a share of the population. Uses a broader definition of "business" than U.S. Census Bureau. Survey group includes U.S. adults age 20-64.



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# DEMOCRATS' HOUSE ODDS HIGH AND RISING

## Forecasting the race for the House

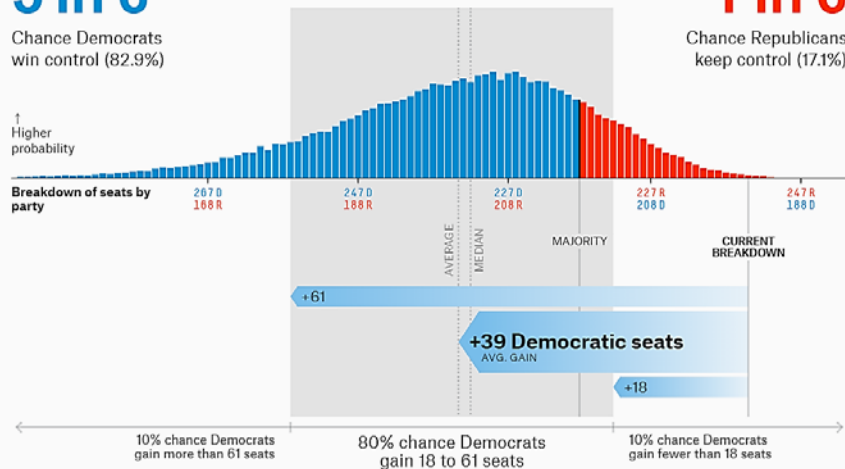
Updated Sep. 14, 2018, at 10:24 AM

### 5 in 6

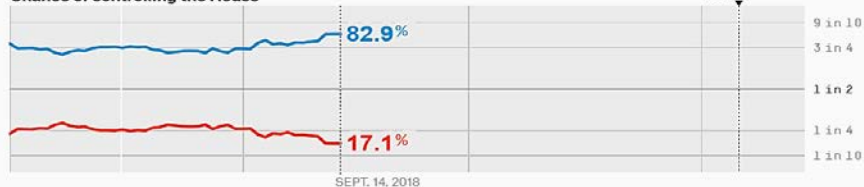
Chance Democrats win control (82.9%)

### 1 in 6

Chance Republicans keep control (17.1%)



### Chance of controlling the House

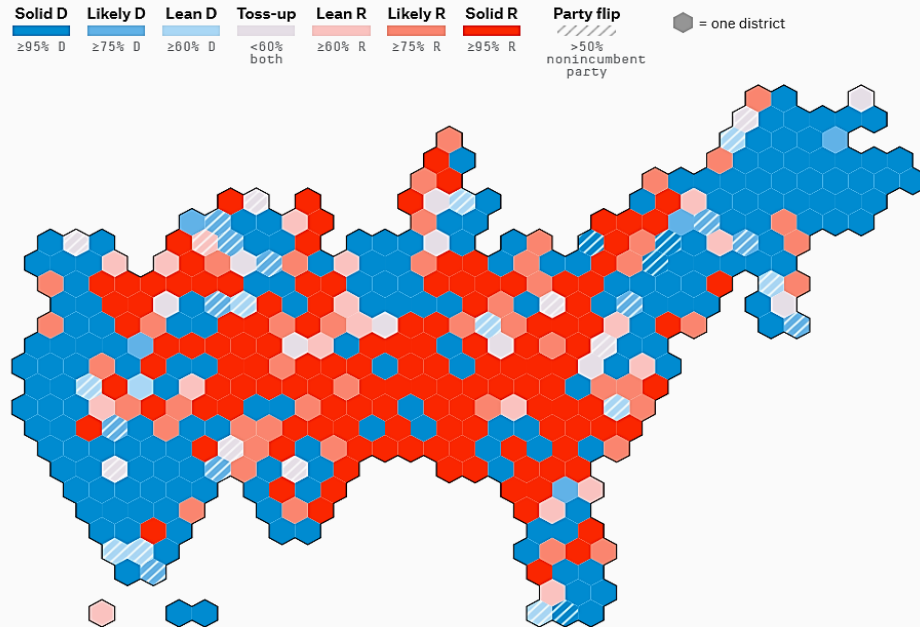


## Our forecast for every district

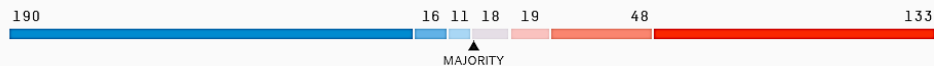
Cartogram

Map

The chance of each candidate winning, with all 435 House districts shown at the same size



### District totals by category



# REPUBLICANS STILL A SAFE BET FOR THE SENATE

## Forecasting the race for the Senate

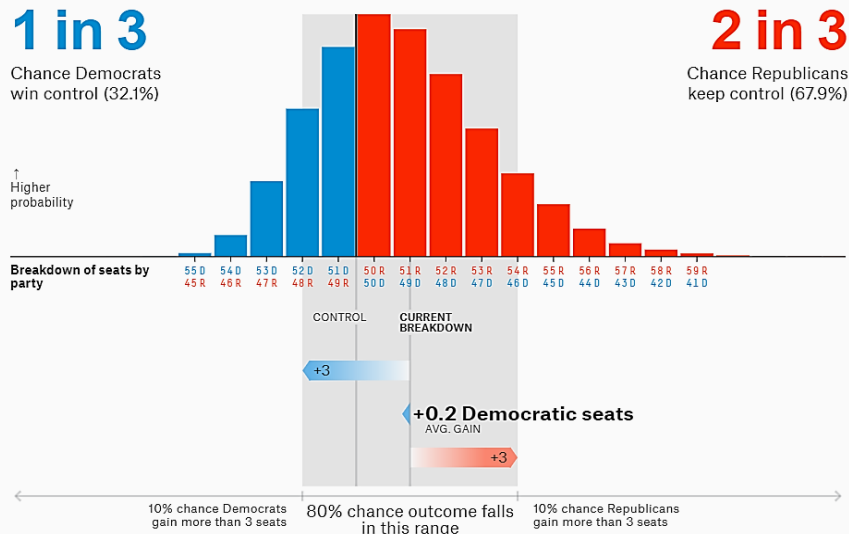
Updated Sep. 14, 2018, at 10:24 AM

### 1 in 3

Chance Democrats win control (32.1%)

↑  
Higher probability

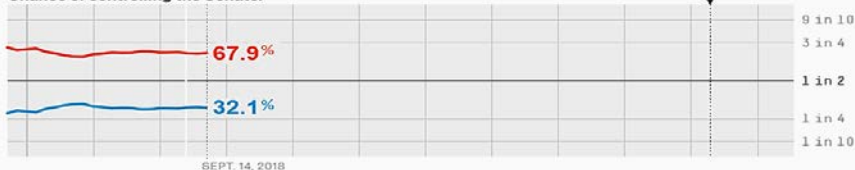
Breakdown of seats by party



### 2 in 3

Chance Republicans keep control (67.9%)

Chance of controlling the Senate.



18

Solid D

≥95%



5

Likely D

≥75%



2

Lean D

≥60%



3

Toss-up

<60% both



2

Lean R

≥60%



1

Likely R

≥75%



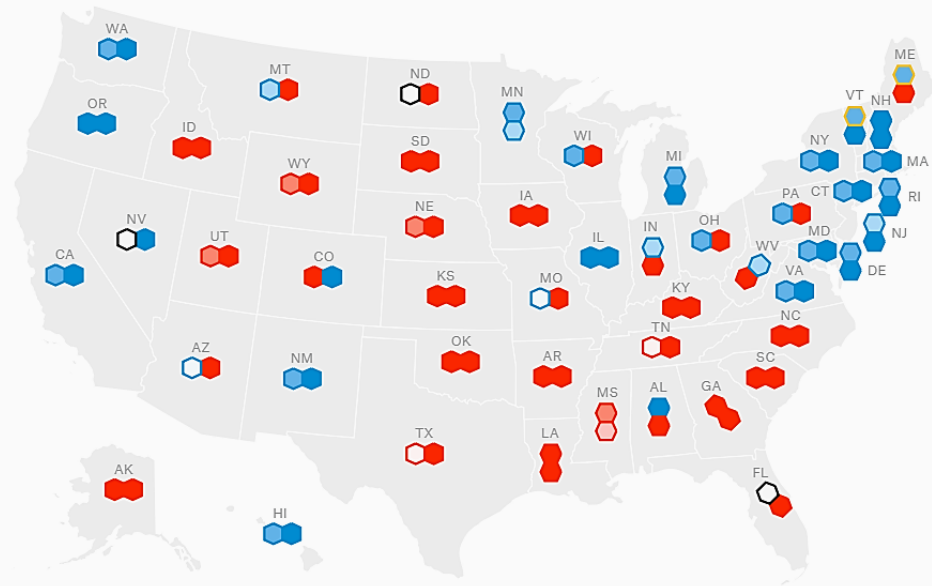
4

Solid R

≥95%

The state of every state

KEY NOT UP FOR ELECTION UP FOR ELECTION



PLEASE SUBMIT QUESTIONS\* TO

**QA@HEDGEYE.COM**

*\*ANSWERED AT THE END OF THE CALL*

FOR MORE INFORMATION, CONTACT US AT:

**SALES@HEDGEYE.COM**  
**(203) 562-6500**