

# Mid Year Real Estate Review

## With Paul Brewbaker

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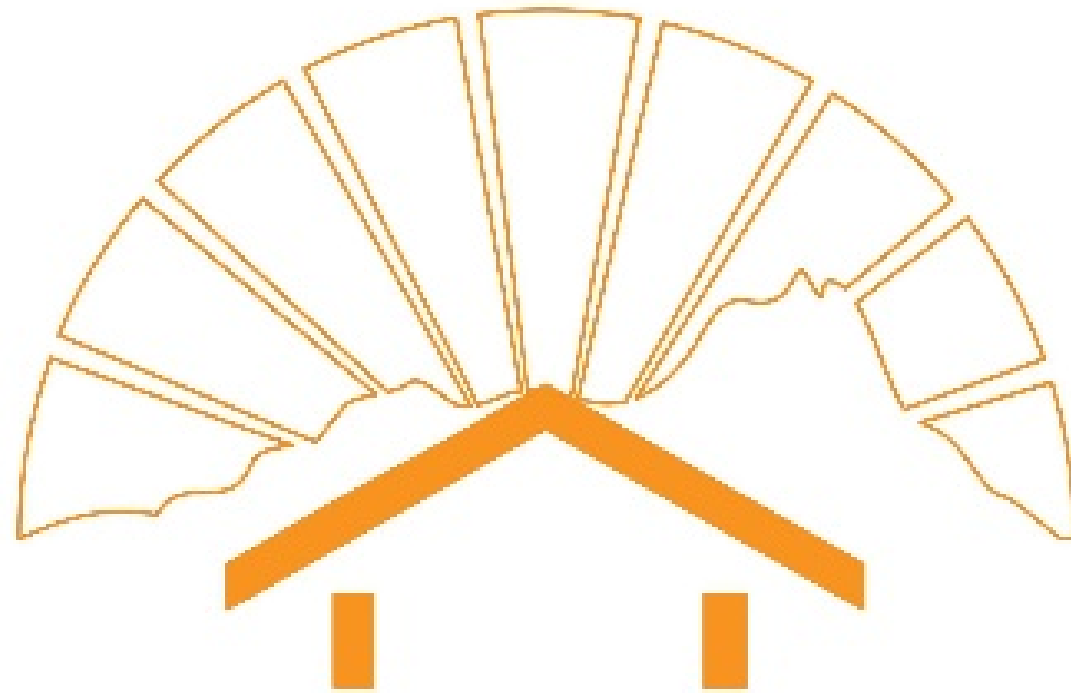
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# Mid Year Real Estate Review

## With Paul Brewbaker

10 Year Anniversary  
2009-2018

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Patrick W O'Neill R PB MIRM



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Principal Broker Owner, Luxury Homes International  
President, Hawaii International Real Estate Council

# 2009



- Lehman Brokers collapsed 10 months earlier
- US unemployment peaked at 10%
- HI unemployment rate hit 7.3

## 2009 – 2018 Median price

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### Single family

### Condo

2009 \$575,000

\$302,000

2018 \$790,000

\$430,000

37.4%

42.4%

# 2009 – 2017 Sales Volume

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	<u>Single family</u>	<u>Condo</u>
2009	2,585	6,052
2017	3,908	9,732
	51.2%	60.1%

Source: HBR MLS

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# Median Prices – Single Family Home Oahu

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Peak	2018	\$790,000
Trough	2009	\$575,000

Peak	2007	\$643,500
Trough	1999	\$290,000

Peak	1990	\$352,000
Trough	1984	\$149,000



# Median Prices – Single Family Home Oahu

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Peak	2018	\$790,000	9 Years...
Trough	2009	\$575,000	

Peak	2007	\$643,500	8 Years
Trough	1999	\$290,000	

Peak	1990	\$352,000	6 Years
Trough	1984	\$149,000	

# Median Prices – Single Family Home Oahu

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Peak	2018	\$790,000	9 Years...	37%...
Trough	2009	\$575,000		
Peak	2007	\$643,500	8 Years	122%
Trough	1999	\$290,000		
Peak	1990	\$352,000	6 Years	136%
Trough	1984	\$149,000		



# Paul Brewbaker PhD

- Founder of TZ Economics
- Former Chief Economist for Bank of Hawaii
- Graduate from Stanford University with a PhD from the University of Hawaii

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# Mid-Year Real Estate Review

*prepared for the*

## **Hawaii International Real Estate Council Waialae Country Club**

*by* Paul H. Brewbaker, Ph.D., CBE

TZ Economics, Kailua, Hawaii

June 13, 2018



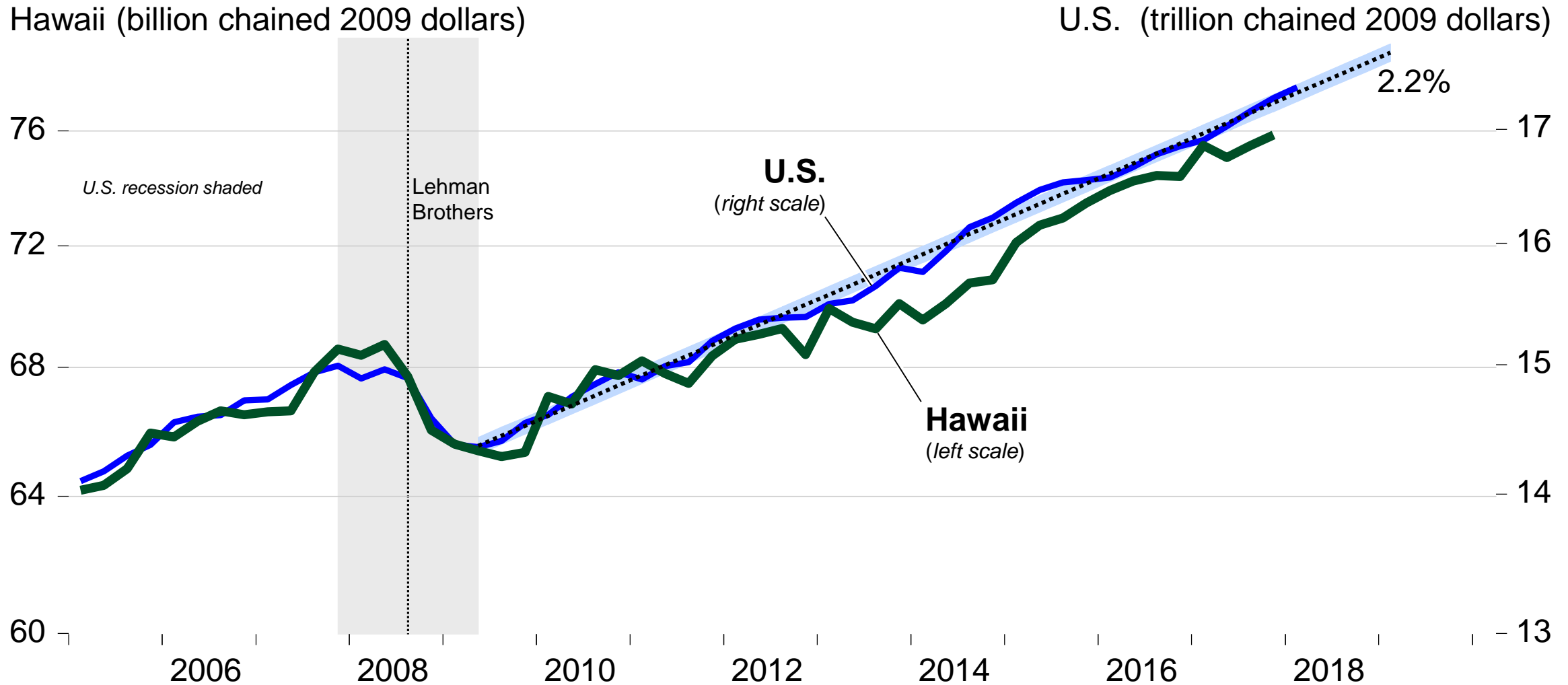




## This just in (and not from the President's Twitter feed, Instagram, etc.)

- “The [Federal Reserve Board, Federal Open Market] Committee expects that further gradual increases in the target range for the federal funds rate will be consistent with sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective over the medium term. Risks to the economic outlook appear roughly balanced.”
- “In view of realized and expected labor market conditions and inflation, the Committee decided to raise the target range for the federal funds rate to 1-3/4 to 2 percent. The stance of monetary policy remains accommodative, thereby supporting strong labor market conditions and a sustained return to 2 percent inflation.”

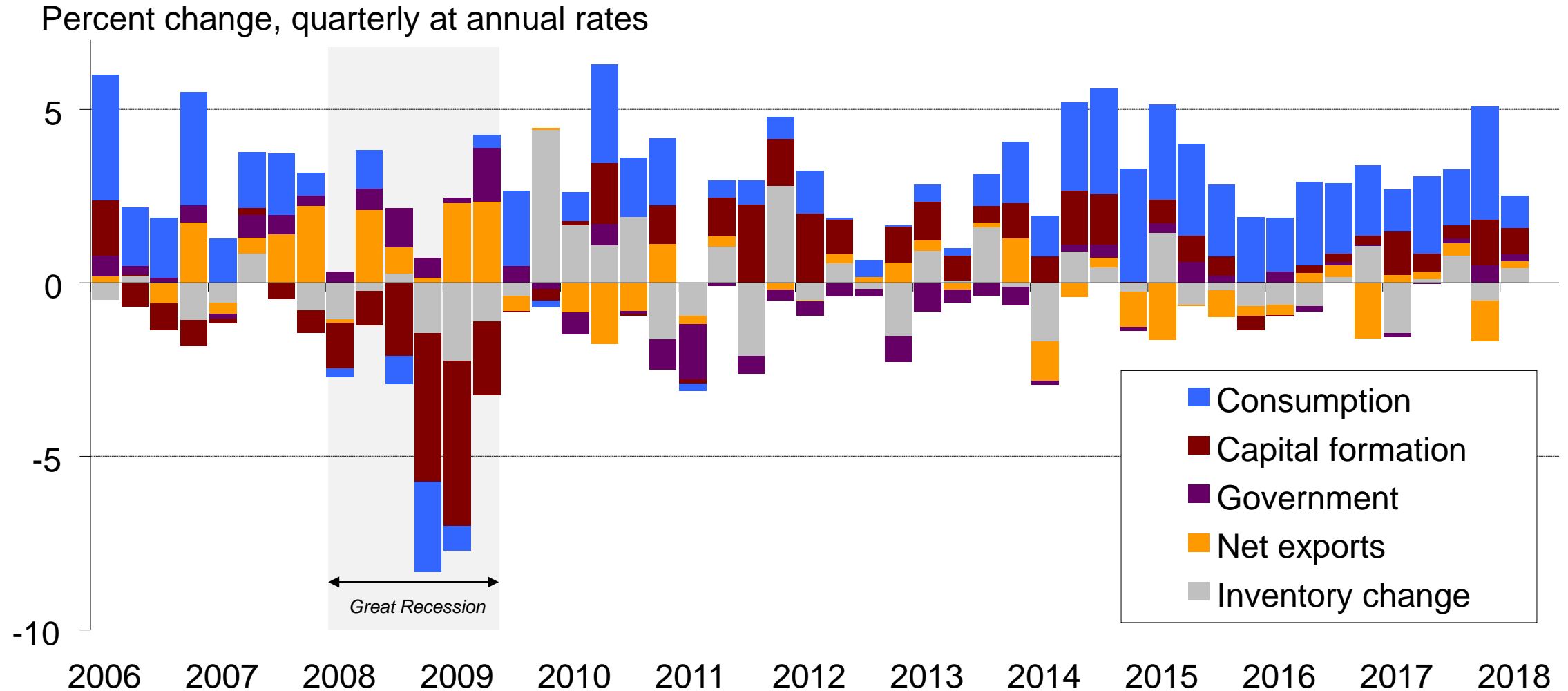
# Real GDP during the 2010s expansion has grown at trend rates of 2.17 percent/annum for the U.S., and 1.72 percent/annum for Hawaii



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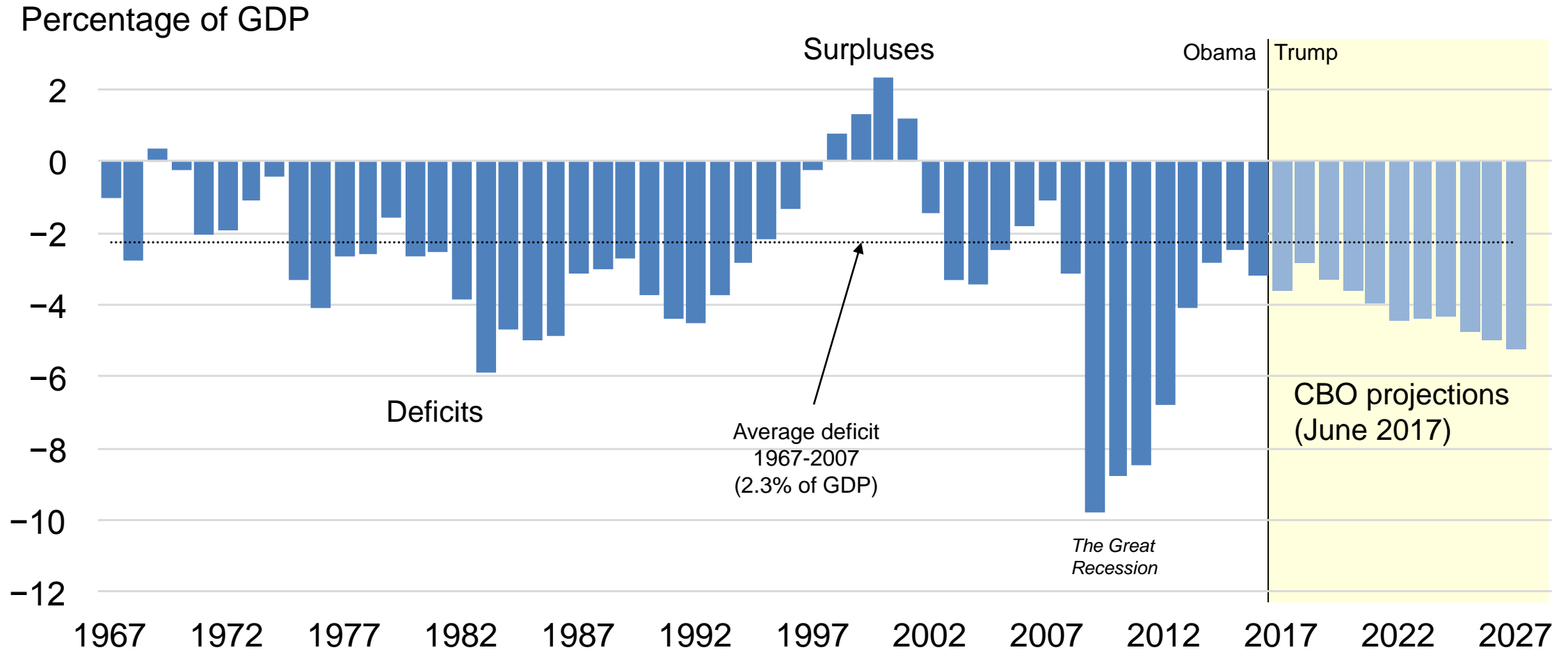
Sources: Bureau of Economic Analysis, U.S. Department of Commerce (<https://bea.gov/national/index.htm#gdp> and <https://bea.gov/regional/index.htm>); quarterly data, compound annual percent changes ( $\hat{y}$ ) calculated by TZE from slopes ( $\beta$ ) of linear regressions of the natural logs of real GDP ( $\ln(y)$ ) on time ( $t$  in quarters) [ $\hat{y} = 100(e^{4\beta} - 1)$ ], for the U.S. ( $\hat{y} = 2.17$ ) from 2009Q2-2018Q1, and for Hawaii ( $\hat{y} = 1.72$ ) from 2009Q3-2017Q4.

# Contributions to U.S. real GDP growth shifted late in this expansion towards consumption, slightly higher fixed investment spending



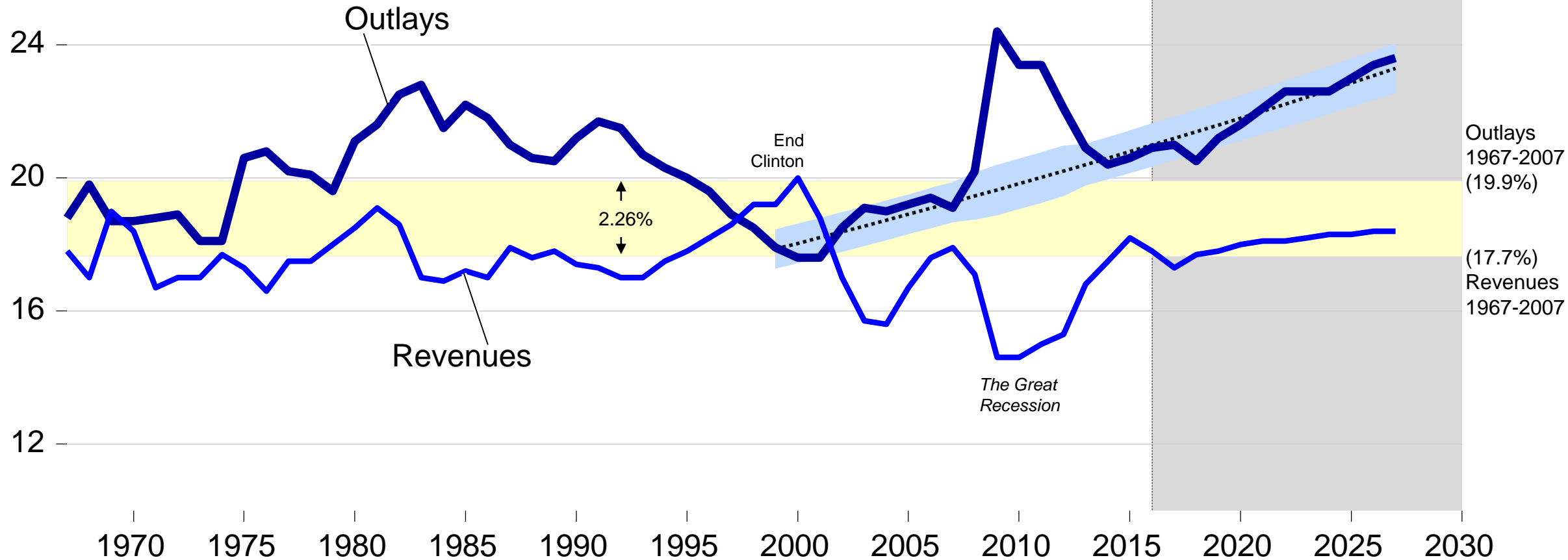


# CBO-projected federal government budget deficits 2017-2027 as a percent of GDP *before* the 2017 federal tax cuts were enacted



# Pre-tax cut federal budget imbalance partly caused by aging, but also an outlay FAIL as percent of GDP (controlling for Great Recession)

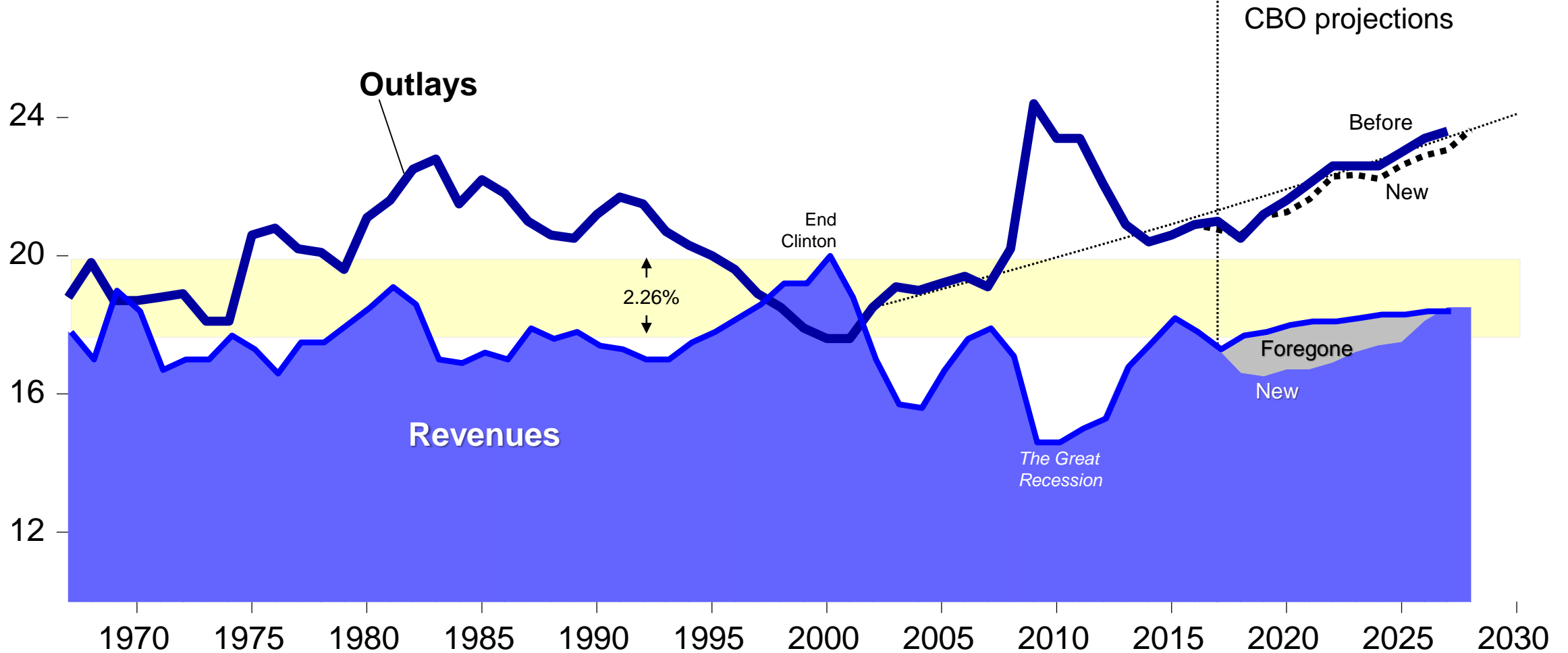
Percentage of GDP



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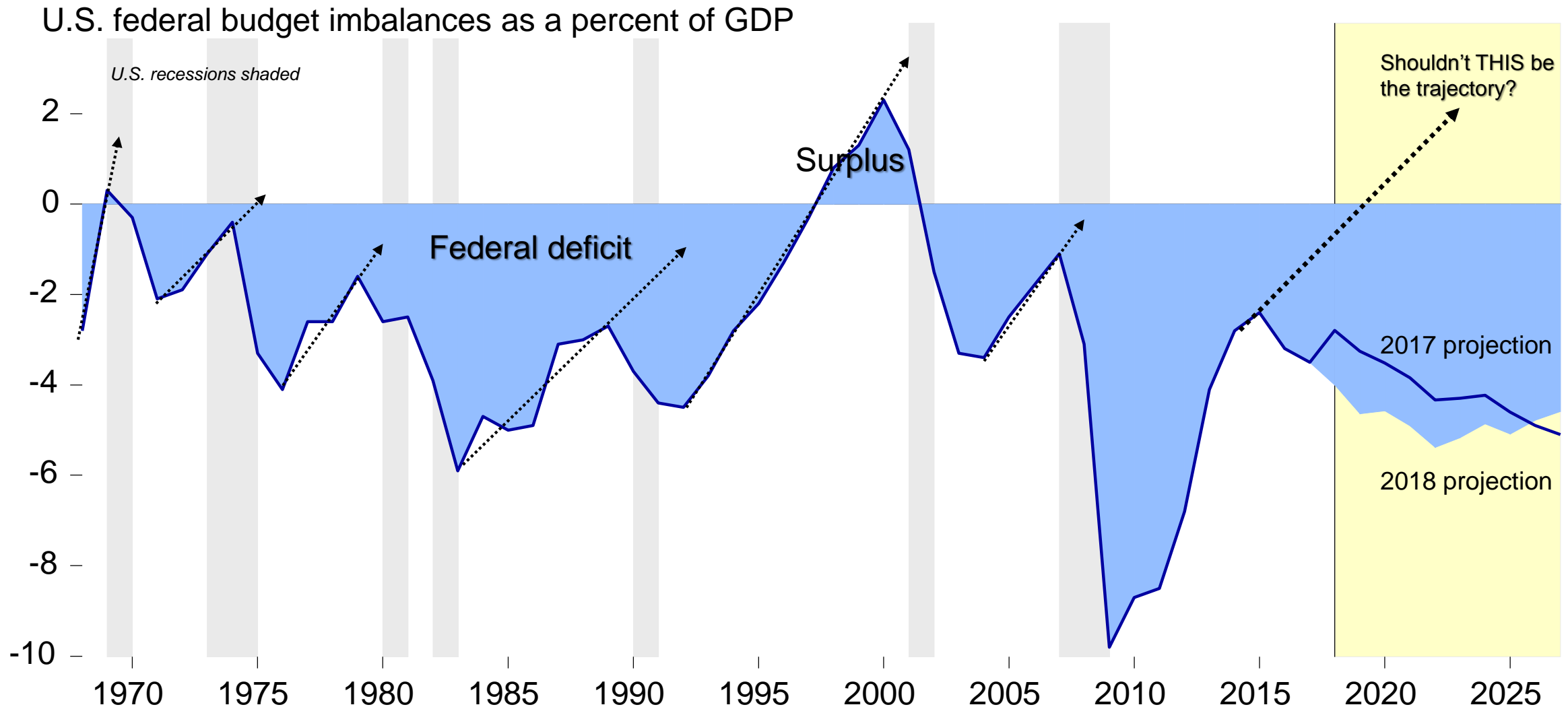
# Deficit changes since June 2017: **-4.2% of GDP (2018-2022);** **+2.8% of GDP (2023-2027)**

Percentage of GDP



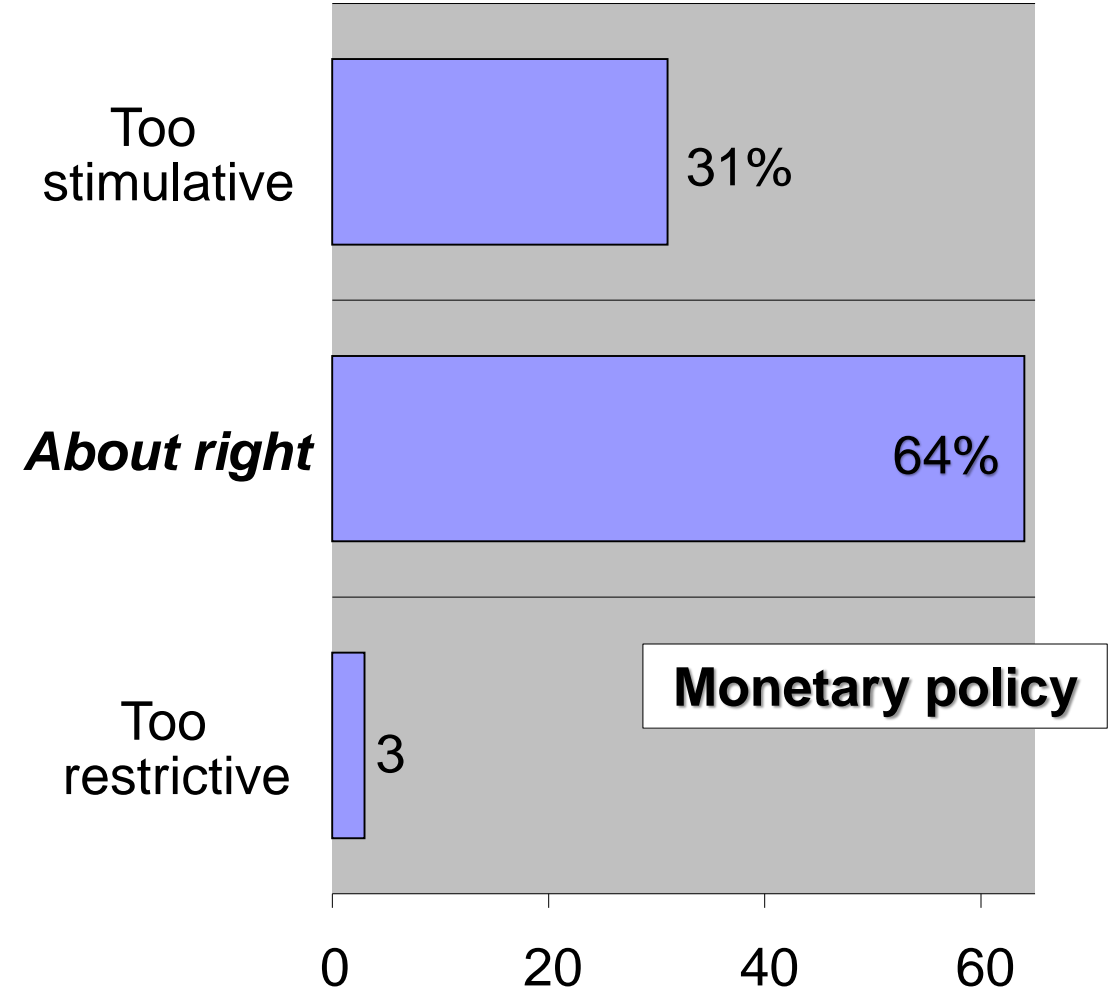
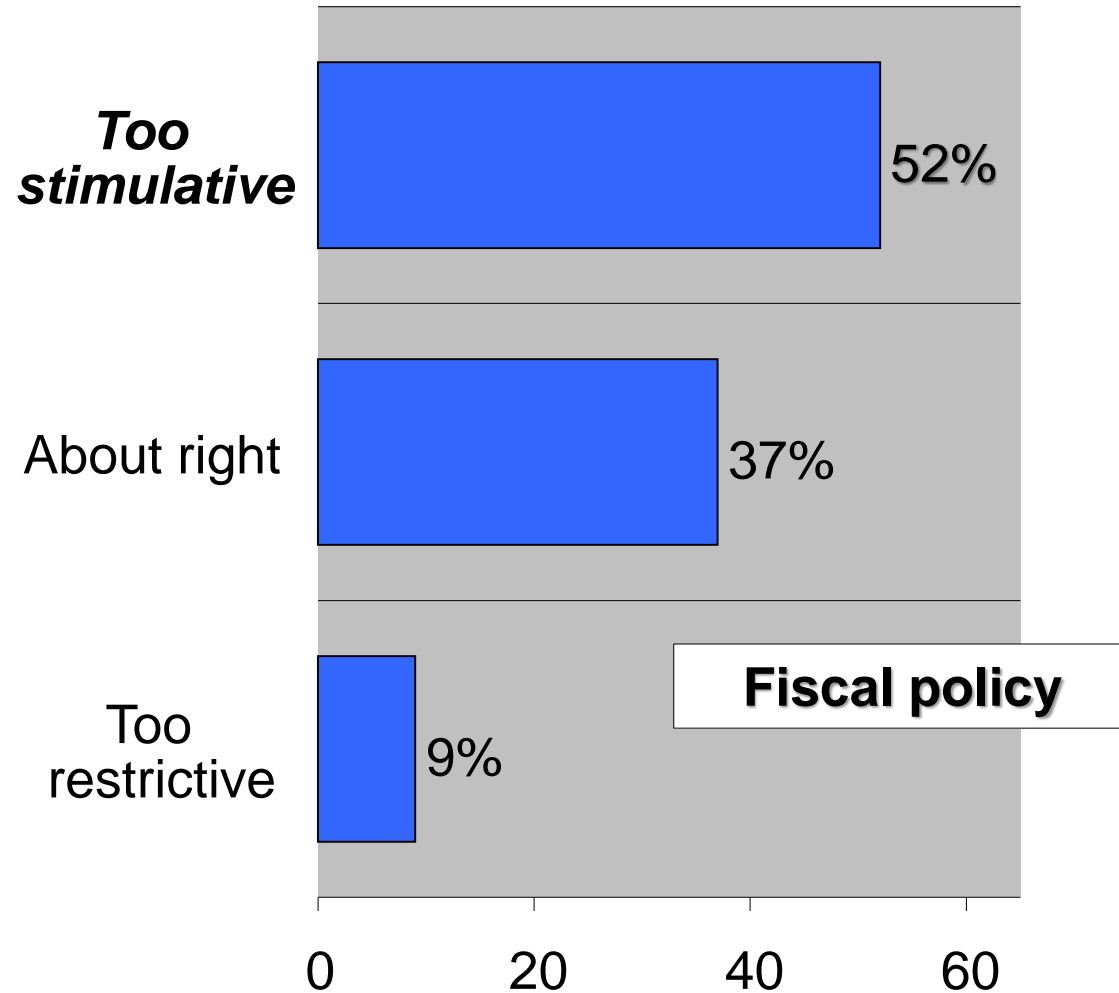
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# At full employment, with a deficit of 3% of GDP instead of a surplus of 2% of GDP, why increase the deficit to 5% of GDP?



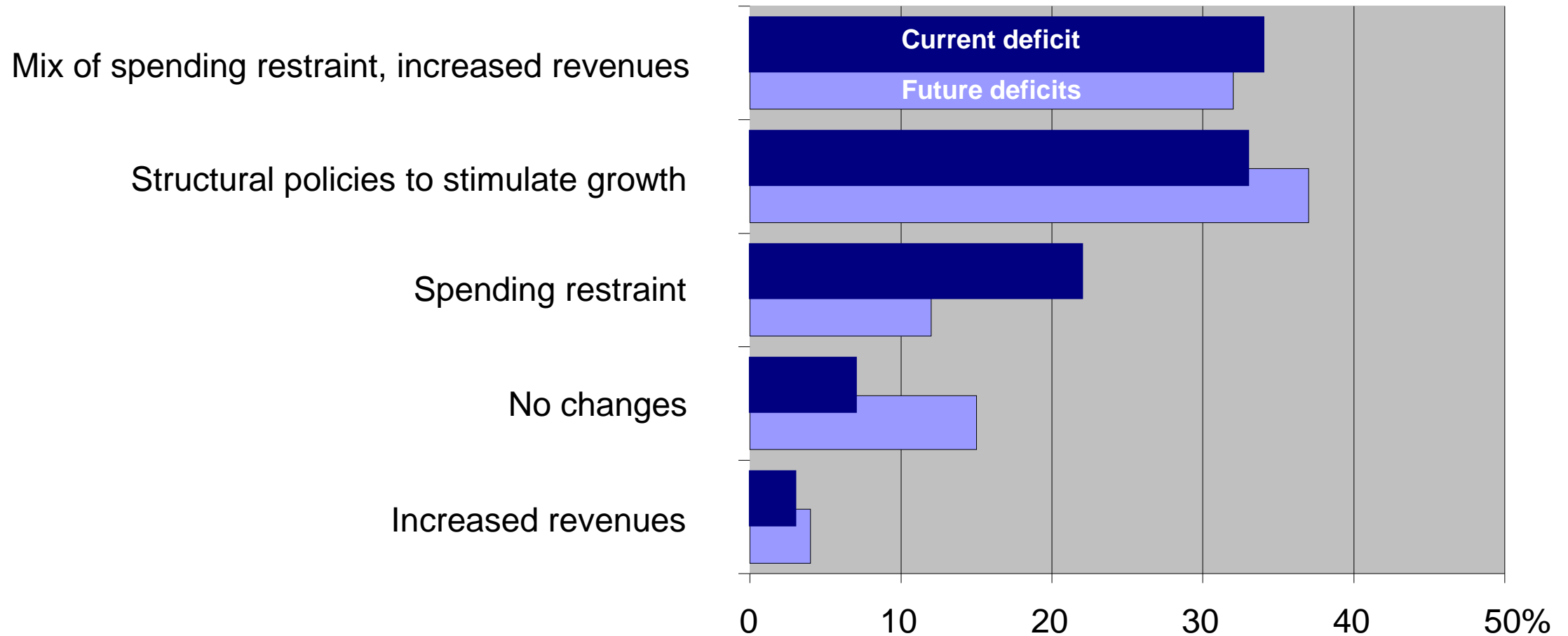
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# February 2018 National Association for Business Economics Economic Policy Survey results: 211 respondents (1/29 – 2/8)





# Economists' “best ways to reduce the federal deficit/GDP ratio” in the long run (if you had to pick only one)? (February 2014)



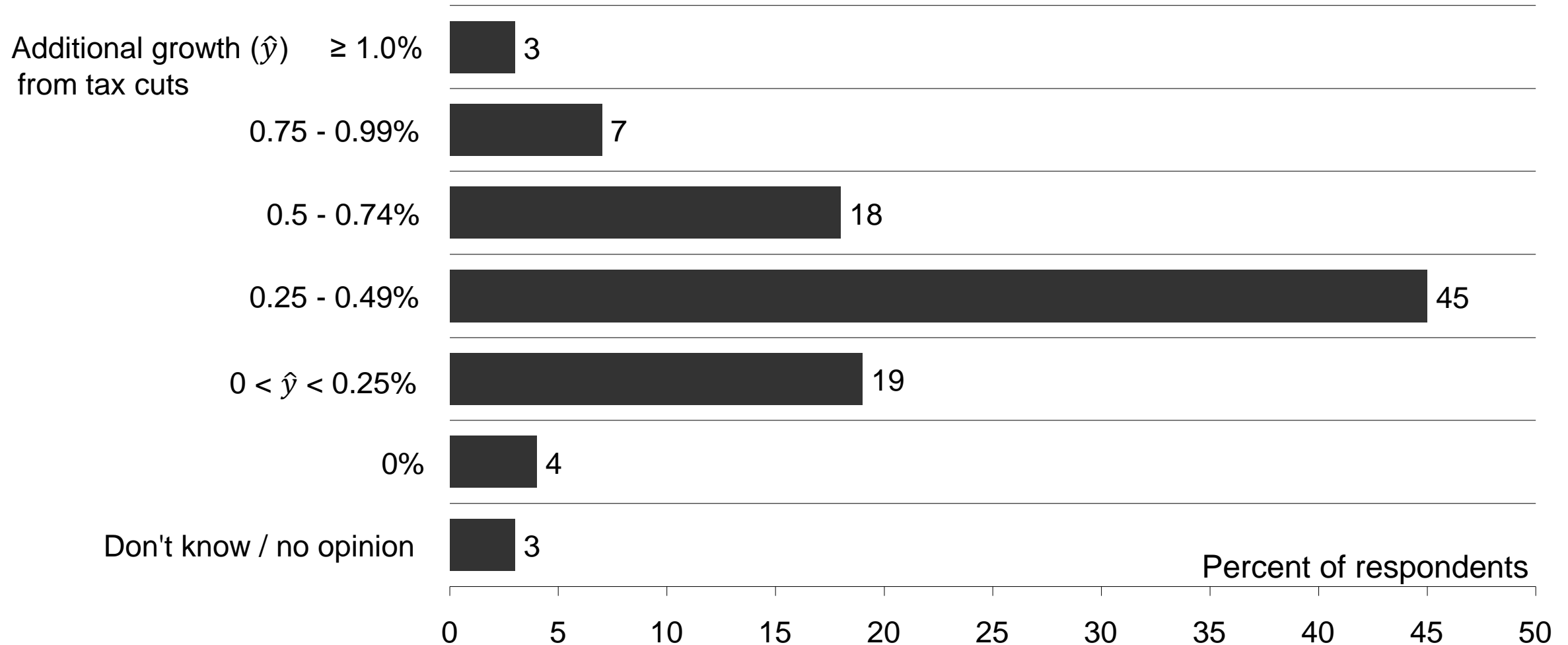
**Leaving Brooklyn**

**Fuhgeddaboudit**

**Eric Adams**  
**Borough President**

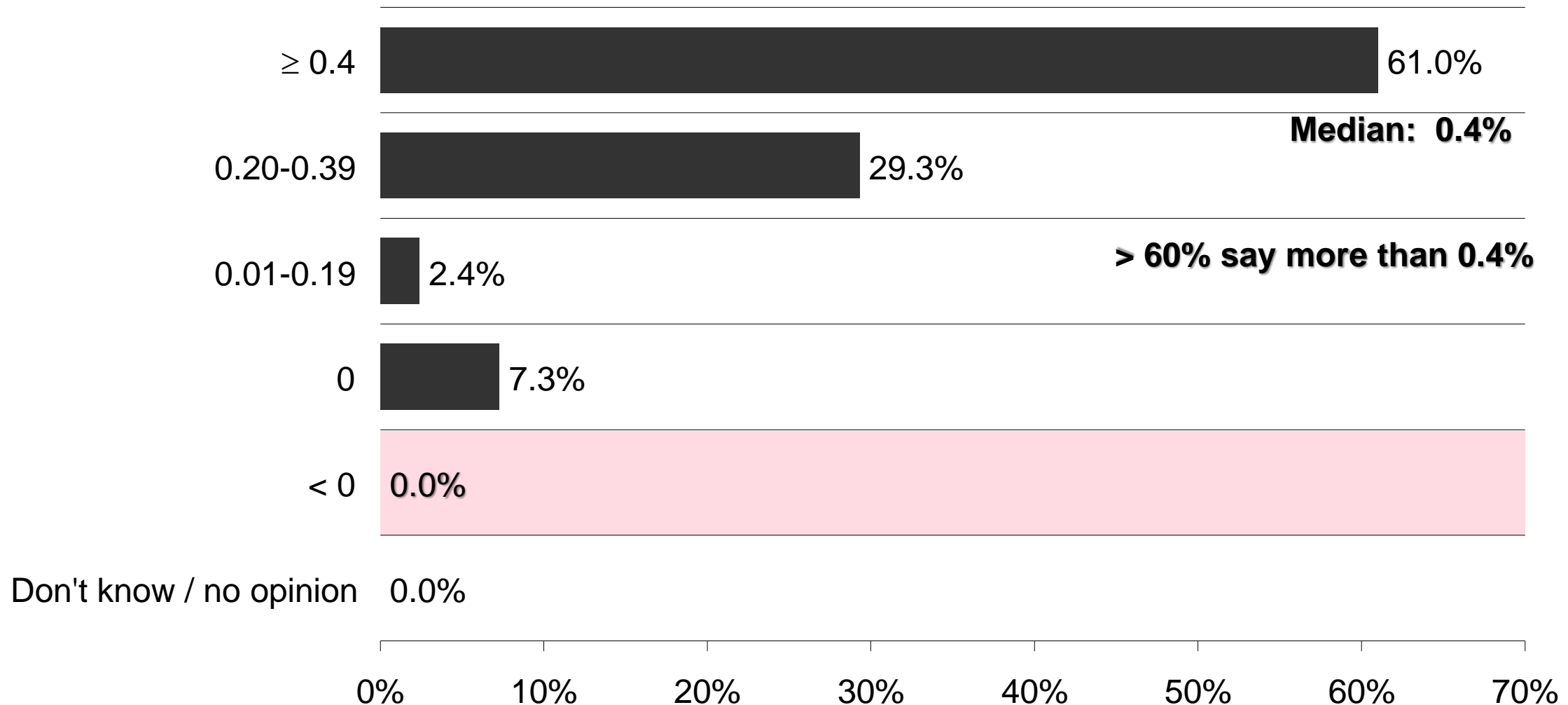
**Bill de Blasio**  
**Mayor**

# February 2018 NABE Survey: “Tax Cuts and Jobs Act...will increase the growth rate of real GDP [ $\hat{y}$ ] over the next year by (in percentage points)?”



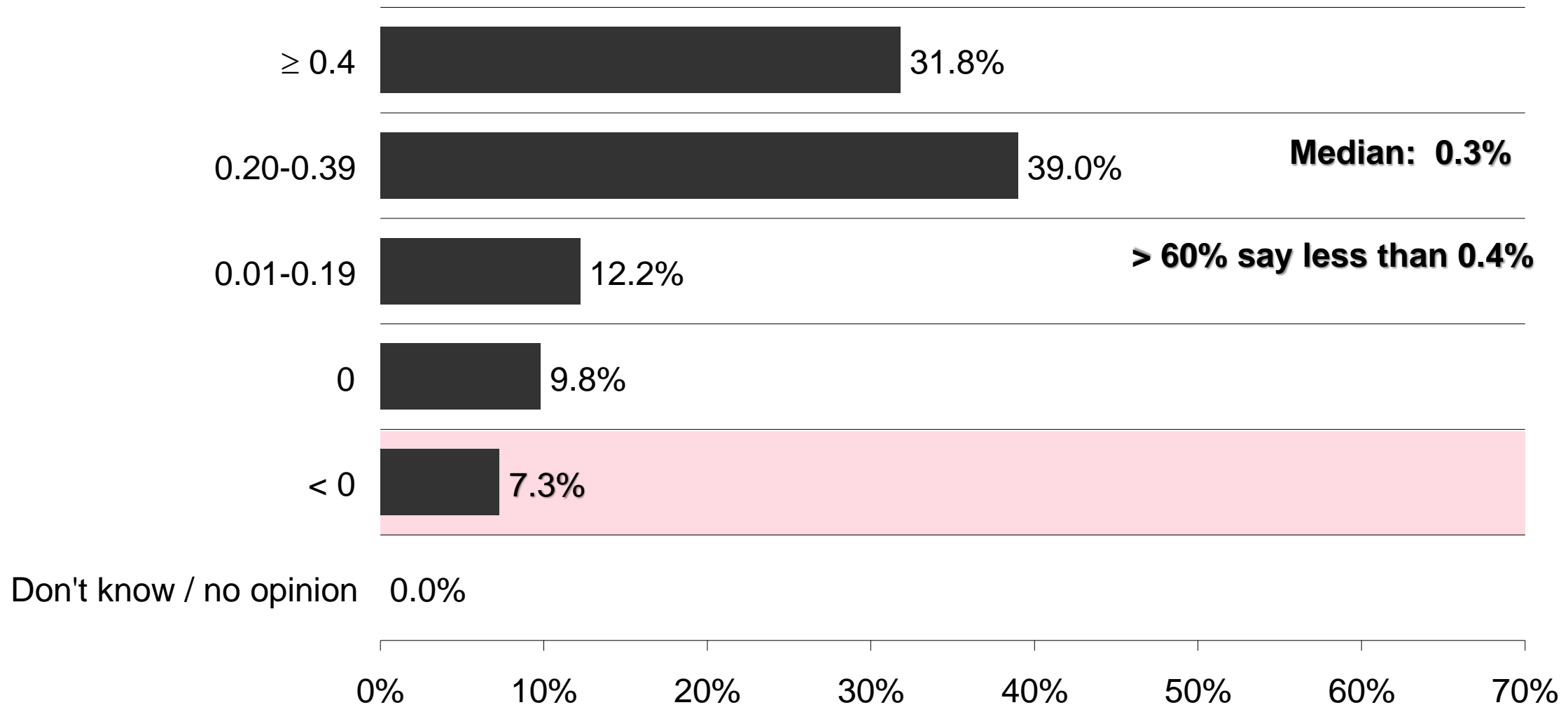


# June 2018 NABE Survey: “How much do you forecast federal fiscal policy changes...add to or subtract from real GDP growth (in 2018)?”



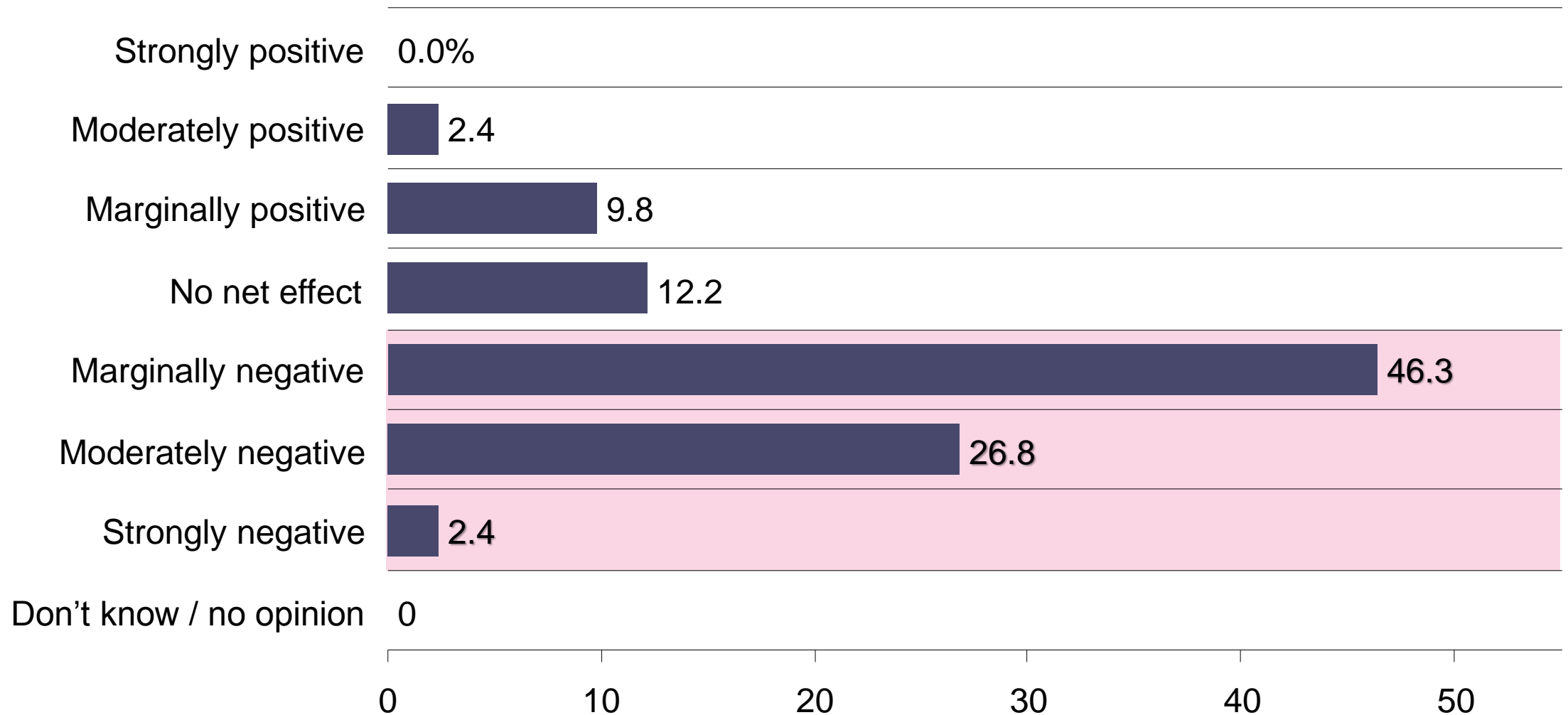
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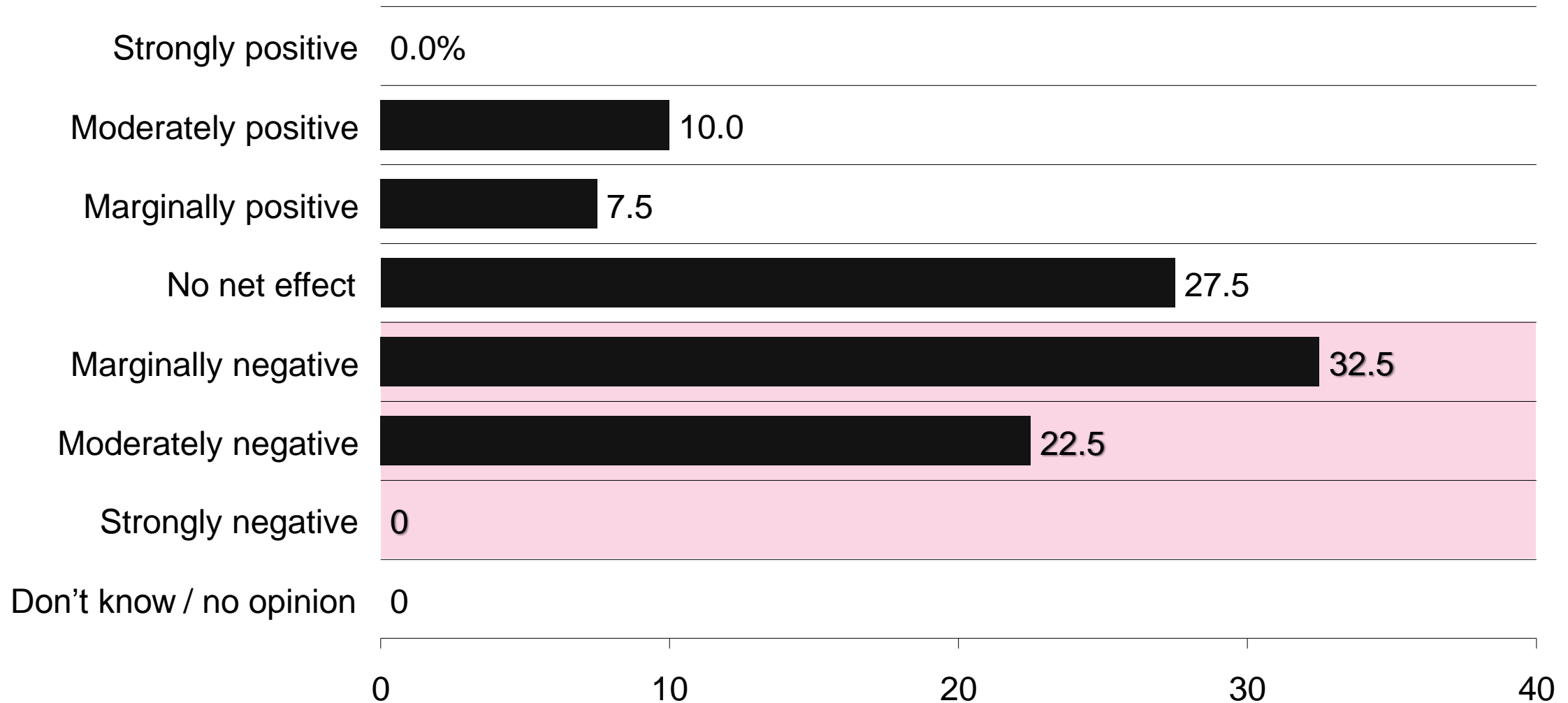
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# June 2018 NABE Survey: "...net effect of trade policy on U.S. real GDP growth?" 75 percent say negative, 12 percent say positive



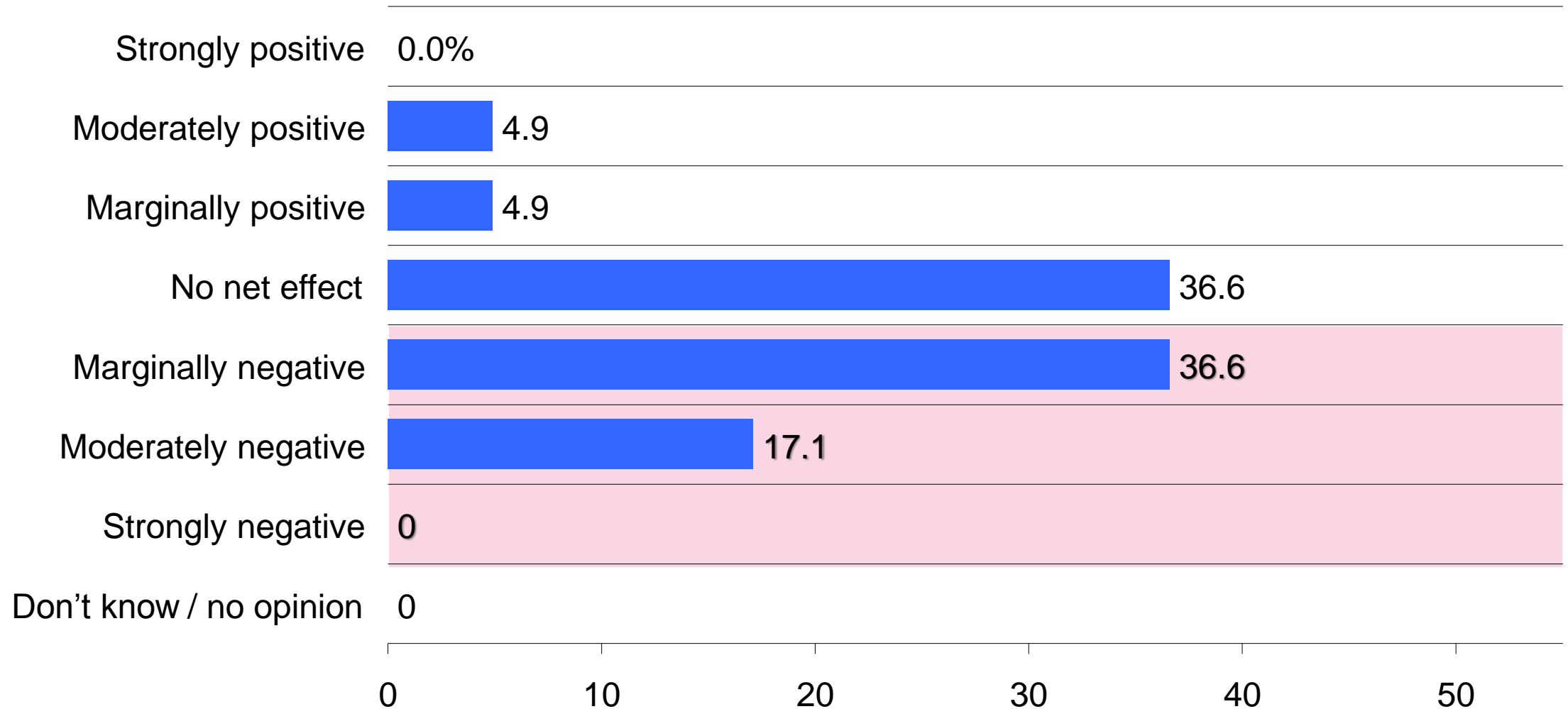
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# June 2018 NABE Survey: “...net effect of energy prices on U.S. real GDP growth?” 55 percent say negative, 17.5 percent say positive



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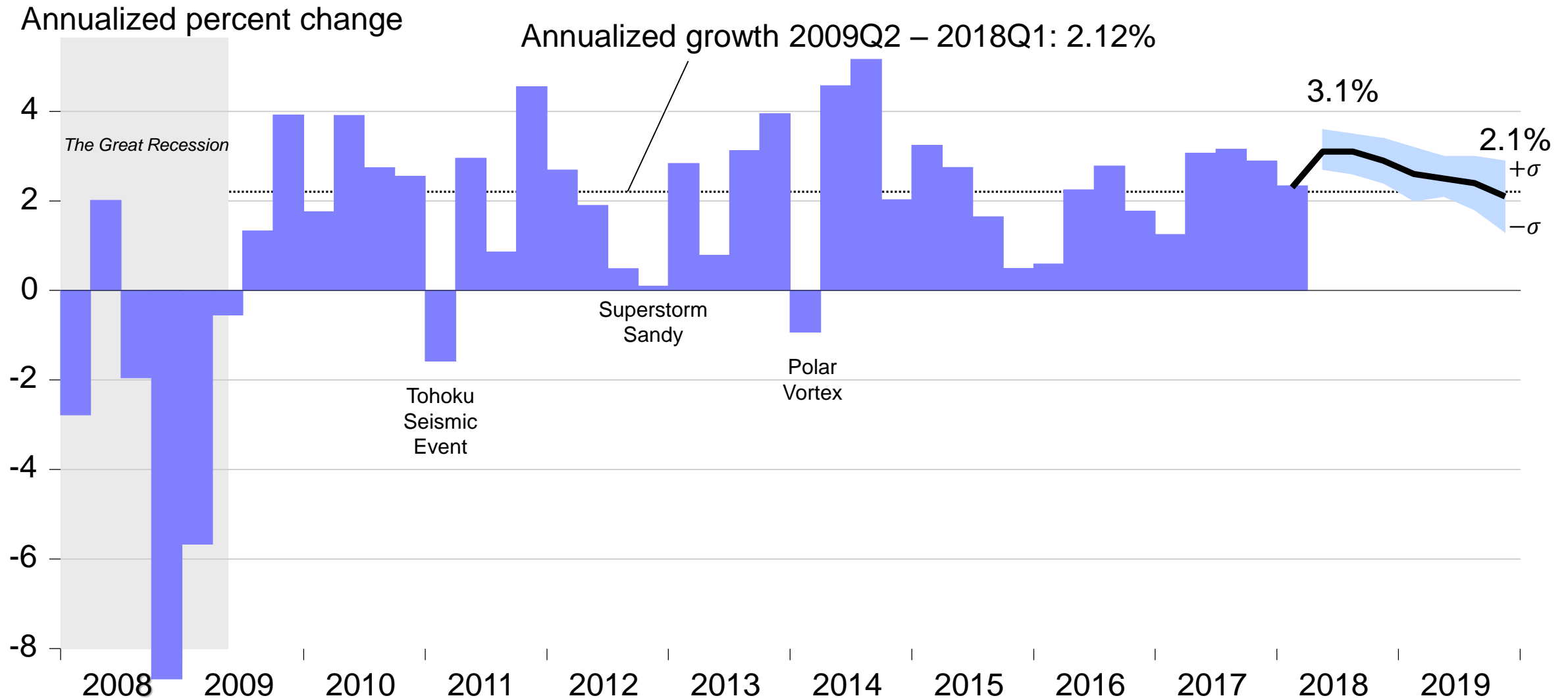
# June 2018 NABE Survey: “...net effect of interest rates on capital expenditures?” 54 percent say negative, 10 percent say positive



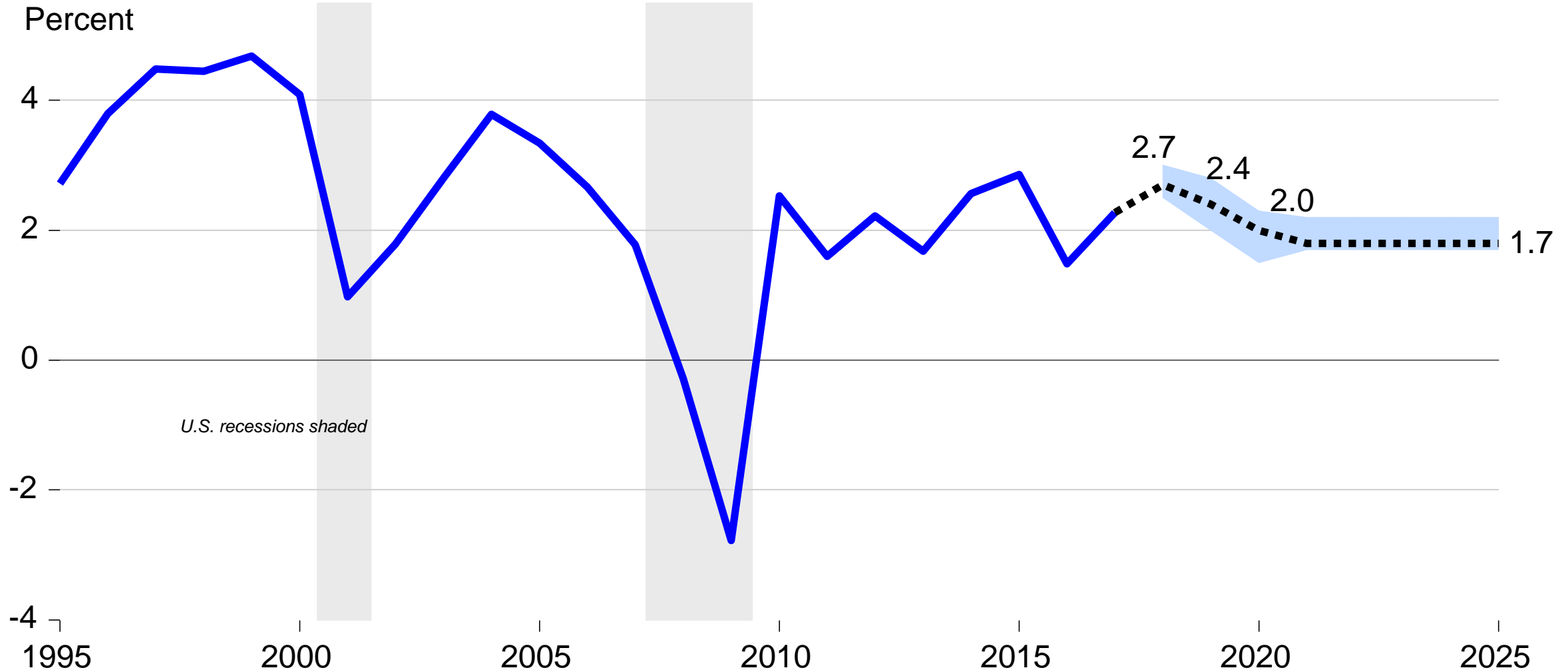
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# June 2018 NABE forecast survey expectation for U.S. real GDP growth: 3.1 percent this quarter, subsiding to average 2.1 percent by end-2019



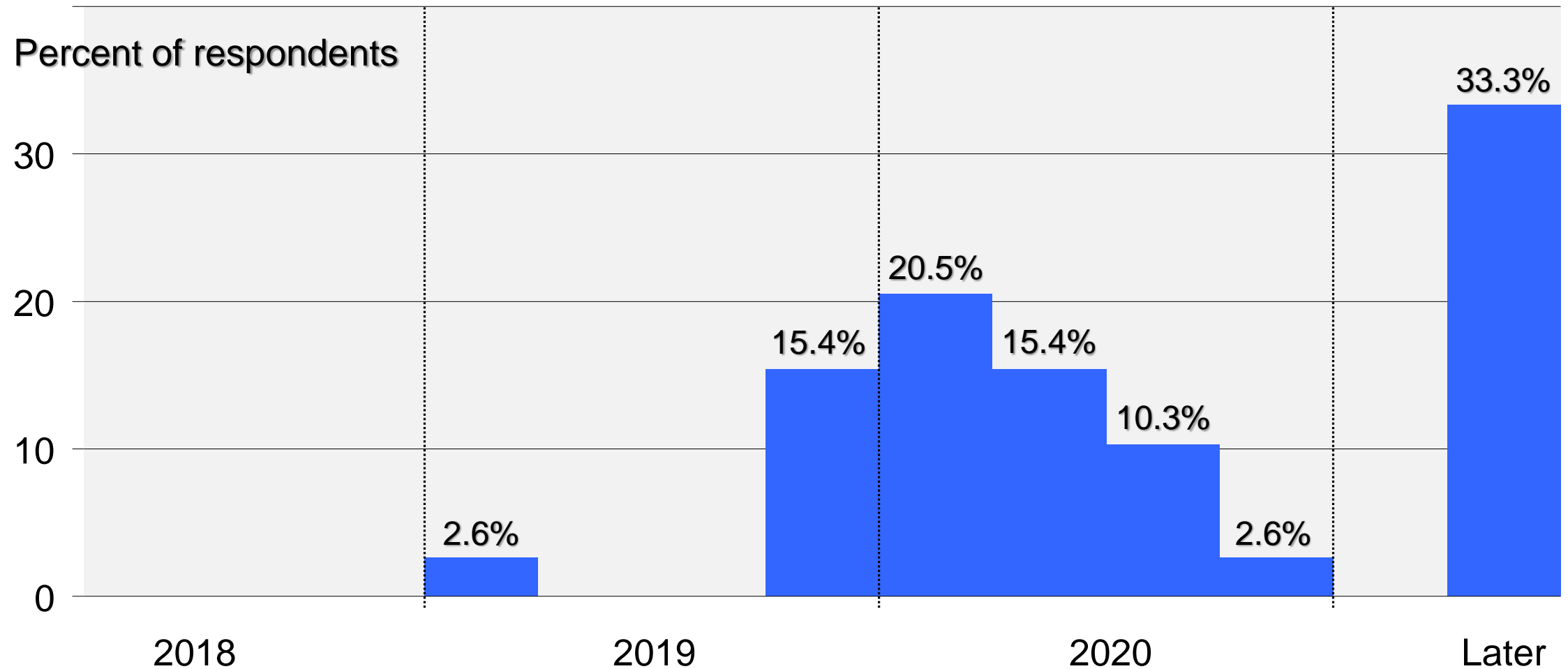
# Federal Reserve Board FOMC projections for U.S. real GDP growth: 2.7 percent this year, decelerating to longer run potential 1.7 percent



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Sources: Bureau of Economic Analysis, U.S. Department of Commerce (<https://bea.gov/national/xls/gdplev.xlsx>); annual data through 2017; Federal Reserve Board, Federal Open Market Committee median projections 2018-2020 and longer run, along with range from high and low (of 15 projections)(<https://www.federalreserve.gov/monetarypolicy/fomcprojt20180321.htm>).

# June 2018 NABE Survey: “...When do you expect the next recession?” one-third say not before 2021; two-thirds say most likely in early-2020

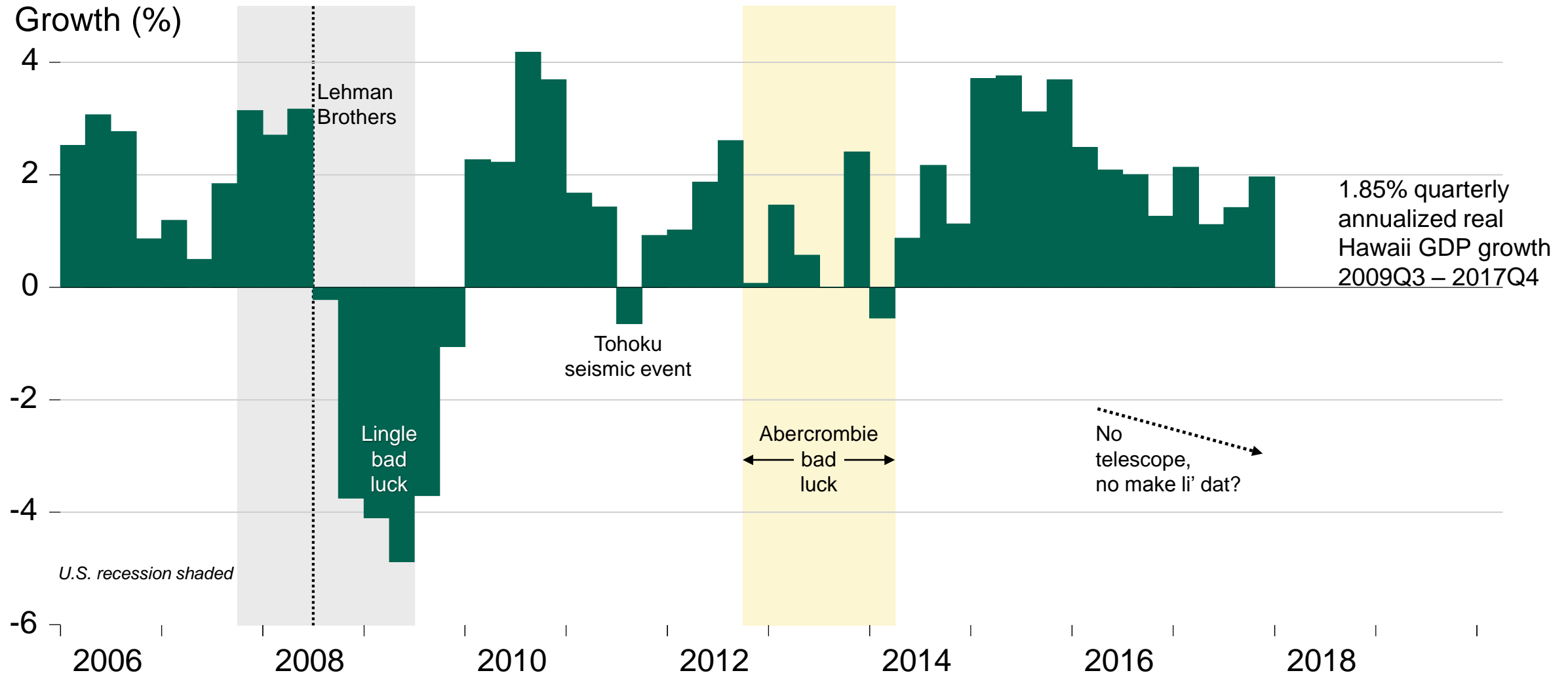


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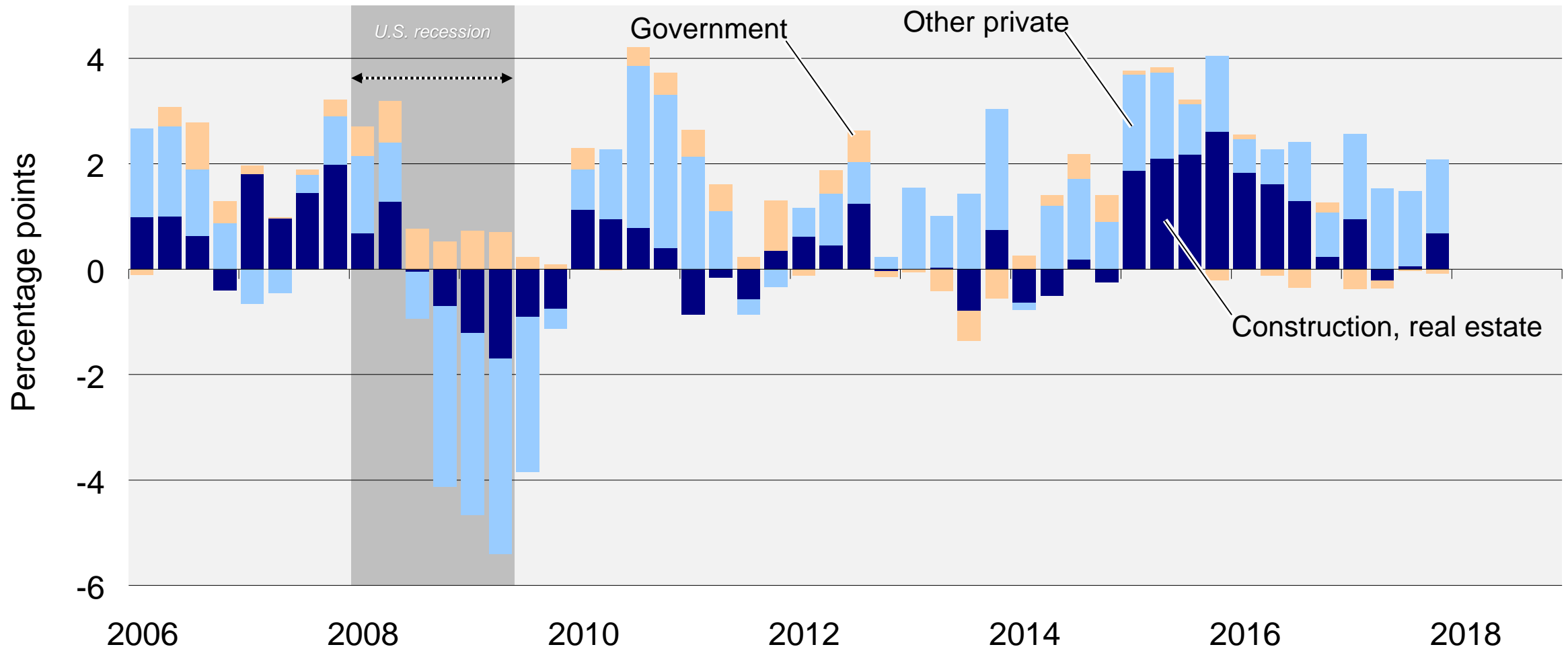
Source: National Association for Business Economics Economic Outlook Survey (June 2018) ([http://nabe.com/NABE/Surveys/Outlook\\_Surveys/June\\_2018\\_Outlook\\_Survey\\_Summary\\_v2.aspx](http://nabe.com/NABE/Surveys/Outlook_Surveys/June_2018_Outlook_Survey_Summary_v2.aspx)); Question: “When (in what year and quarter) do you expect the beginning of the next recession?”



# Hawaii statewide real GDP growth rates (year-over-year): tourism led start, investment led finish, soft patch in-between; now what?

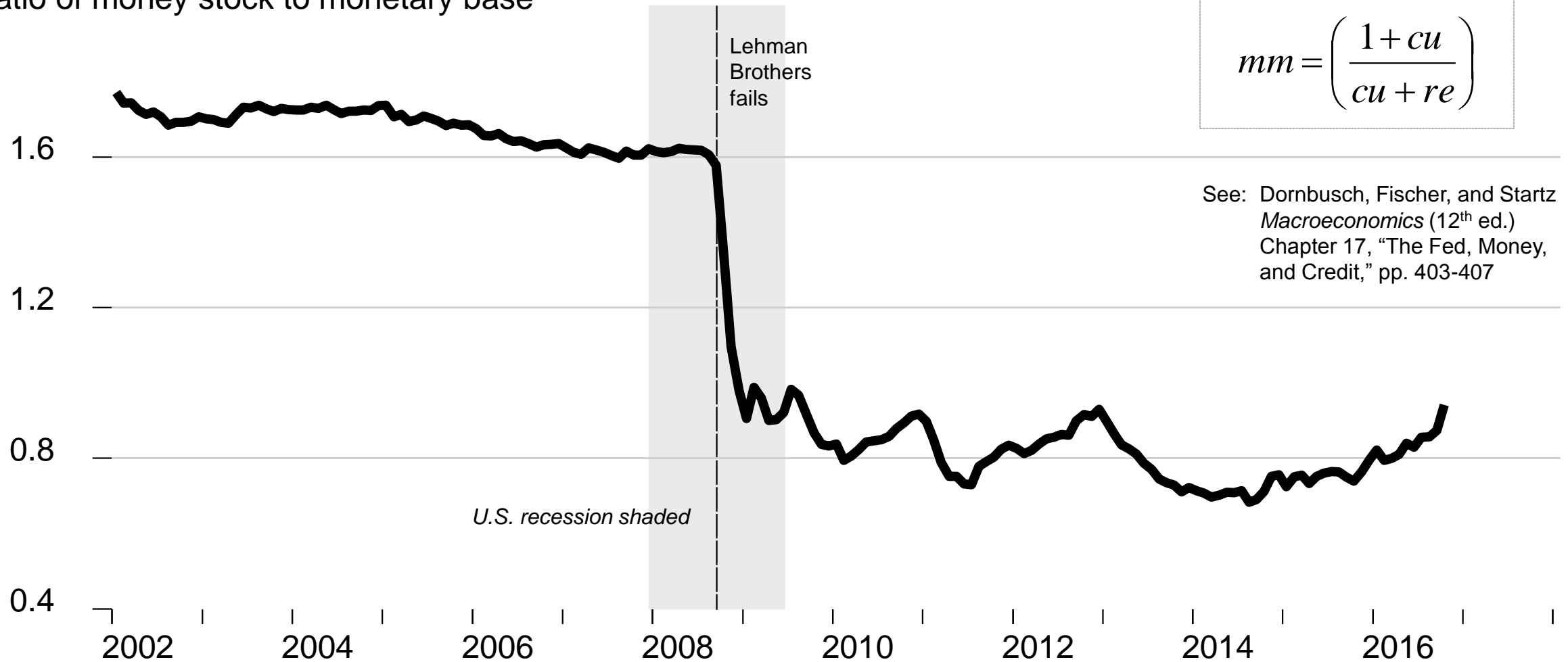


# Weighted contributions to Hawaii quarterly real GDP growth: the investment surge of the mid-2010s extended economic expansion

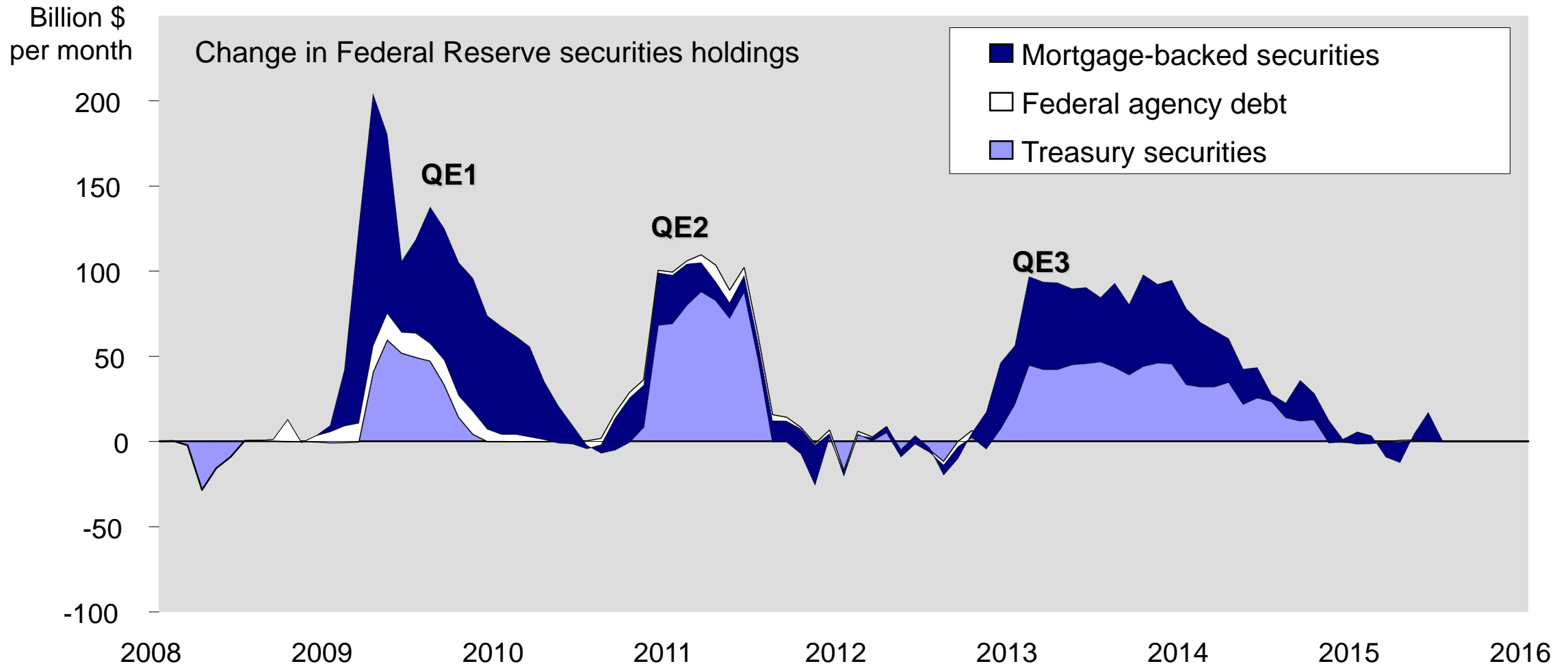


# The U.S. M1 money multiplier collapsed after Lehman Brothers failed—why? Flight to liquidity (excess reserves) $\Rightarrow re$ rises

Ratio of money stock to monetary base



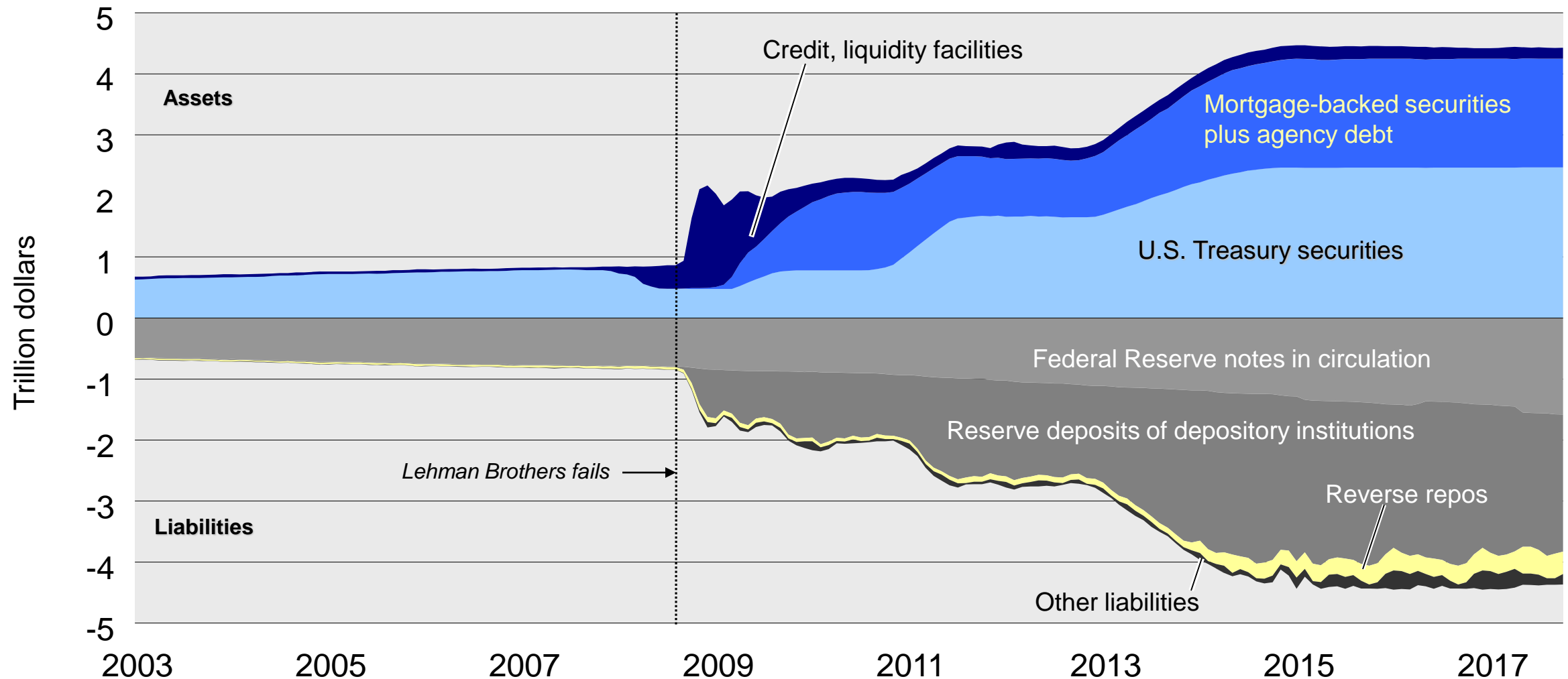
# Three rounds of Quantitative Easing concluded at the end of 2014



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Source: Federal Reserve Board (H.4.1 Factors Affecting Reserve Balances of Depository Institutions); average monthly changes in U.S. Treasury notes and bonds (including TIPS), federal agency debt securities, and mortgage-backed securities (<http://www.federalreserve.gov/releases/h41/>)

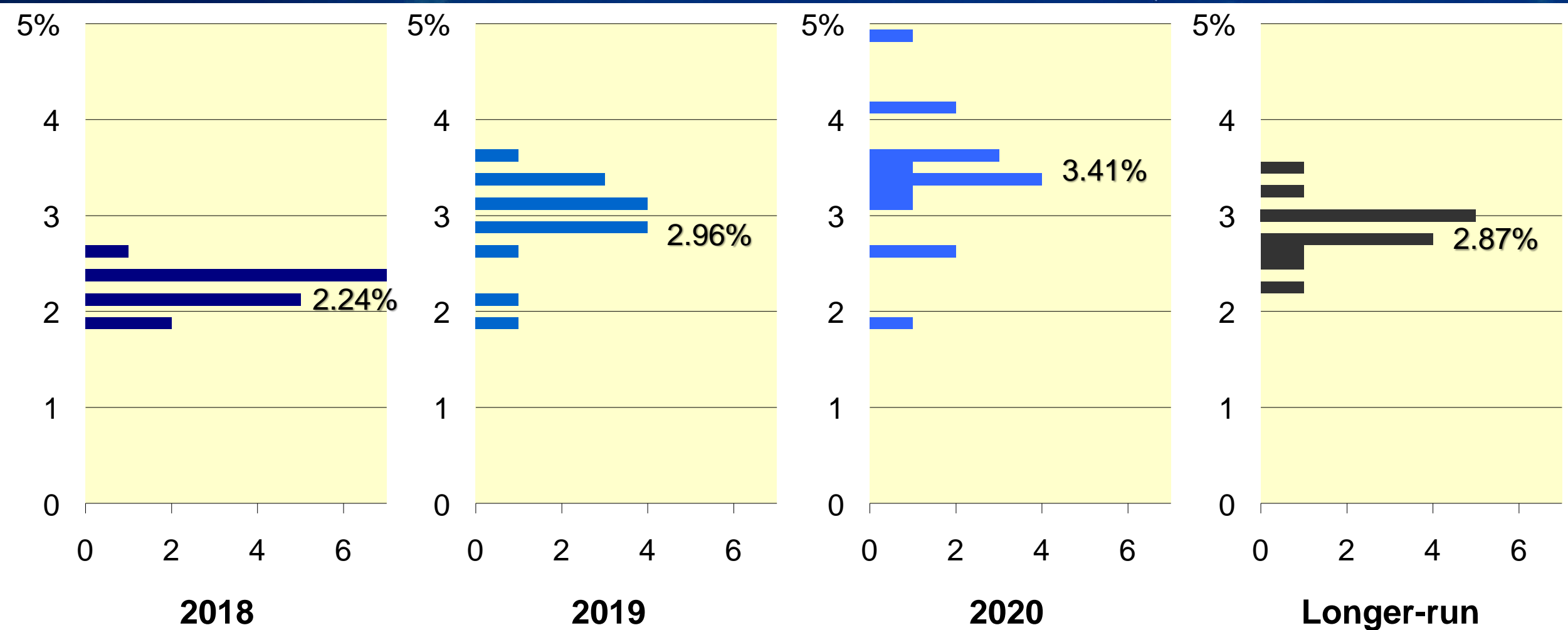
# Fed to “begin implementing a balance sheet normalization program this year [2017], provided that the economy evolves broadly as anticipated”



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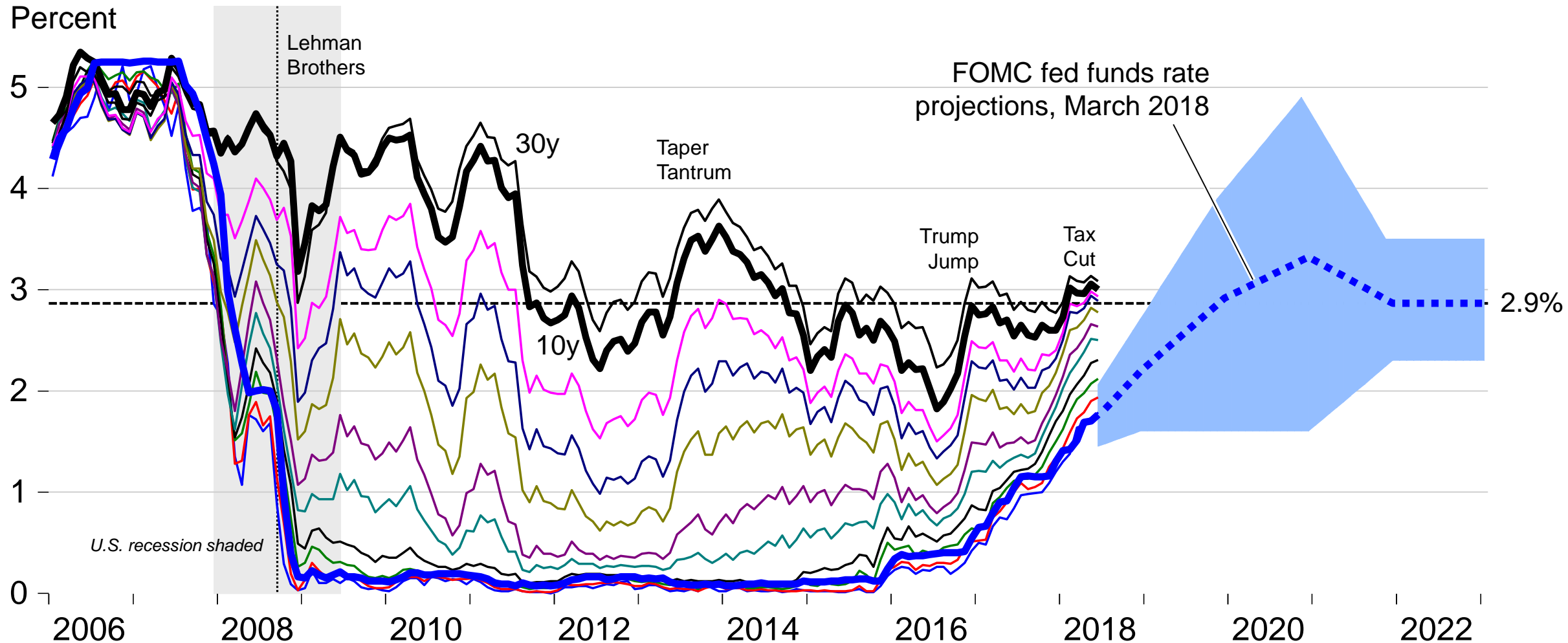


# June 2018 federal funds target rate distribution of FOMC participants' pre-meeting projections—overshooting to tamp down inflation risk



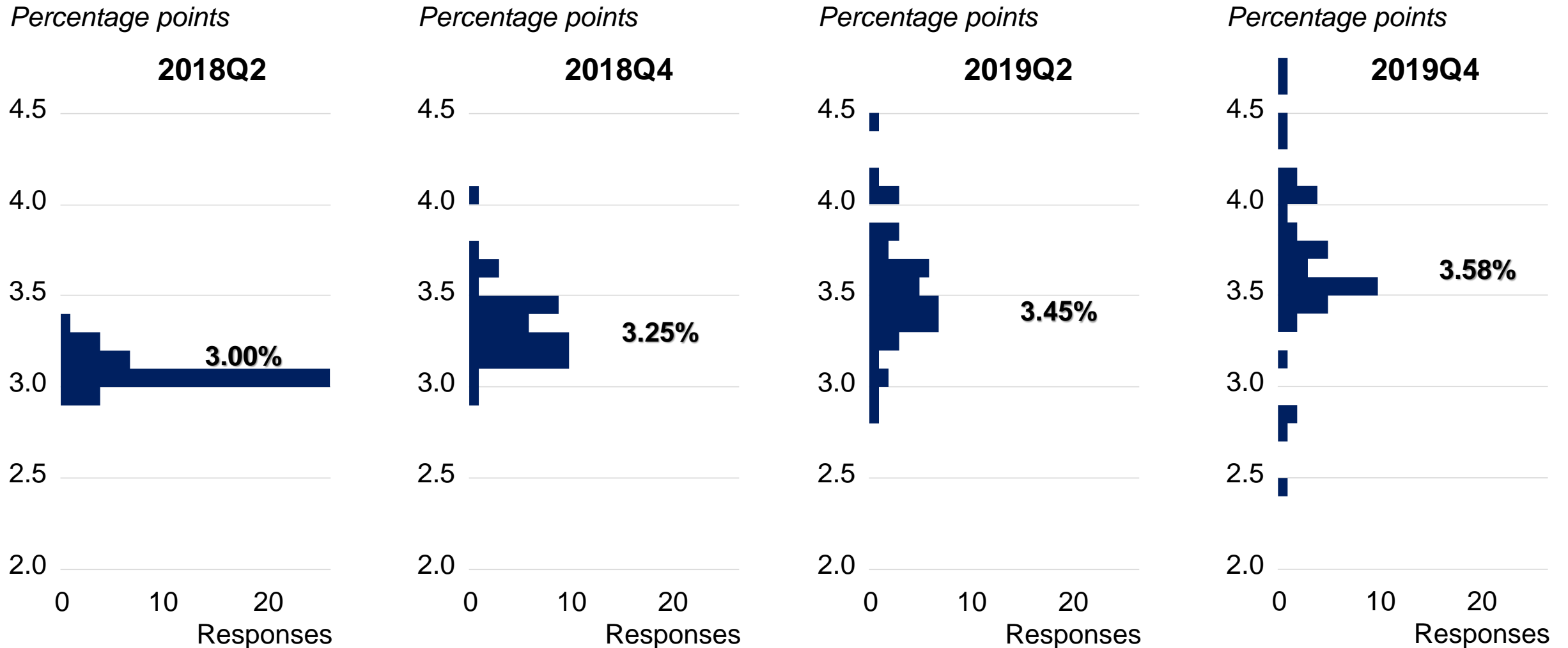
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# Treasury yields through June 12, 2018, FOMC fed funds projections (March 2018); longer-run “neutral” fed funds rate expectation of FOMC



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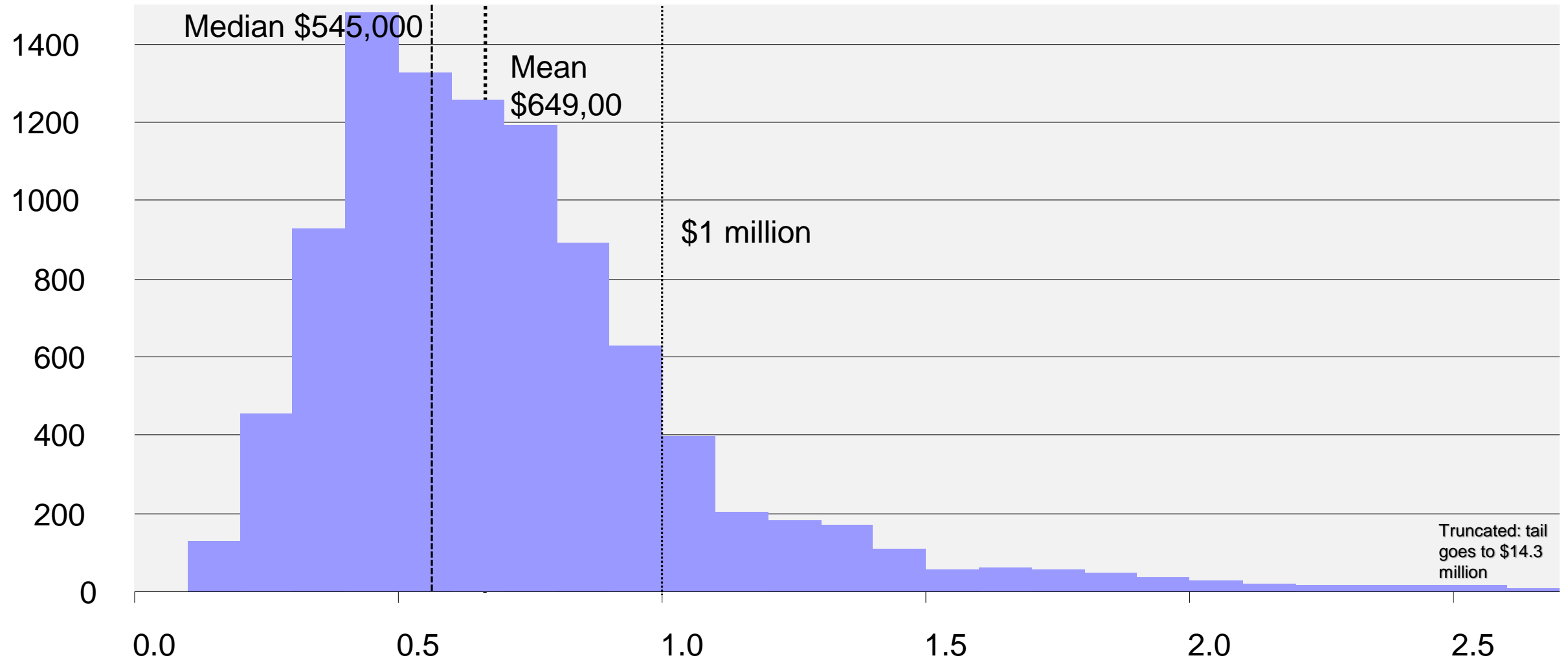
# NABE June 2018 forecast survey response distributions for yields on 10-year U.S. Treasury Notes: averages for second, fourth quarters



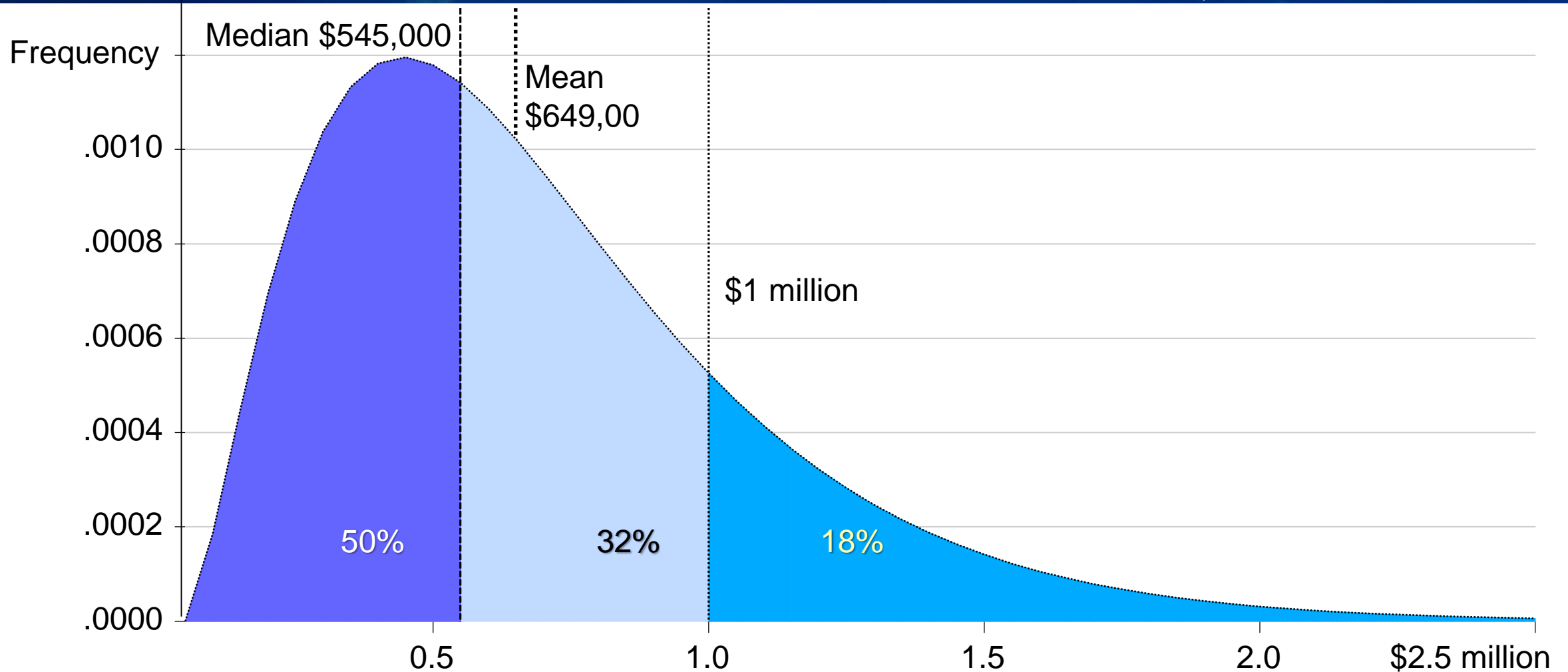
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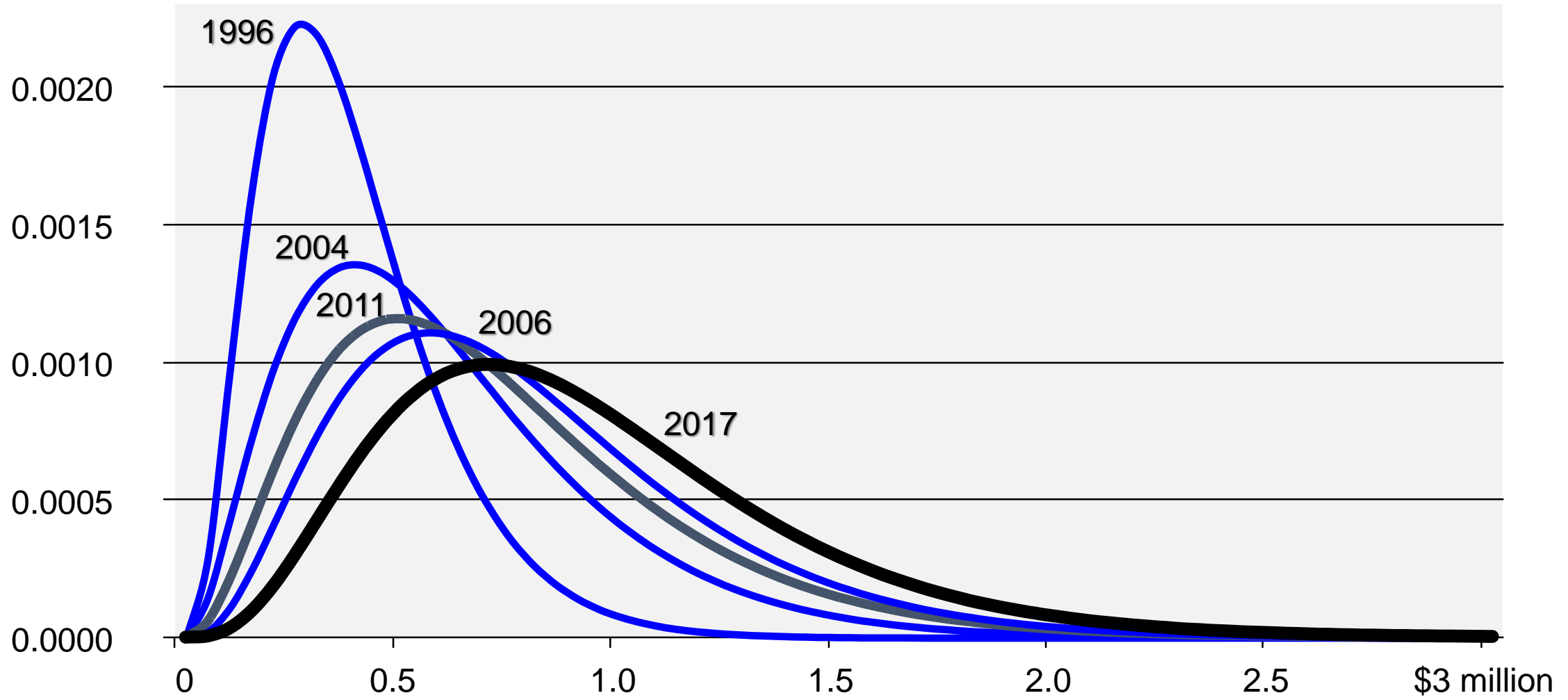
# Histogram of actual Oahu existing home prices (2017) in \$100,000 increments ( $n = 9,850$ ); 88/100 transactions were below \$1 million



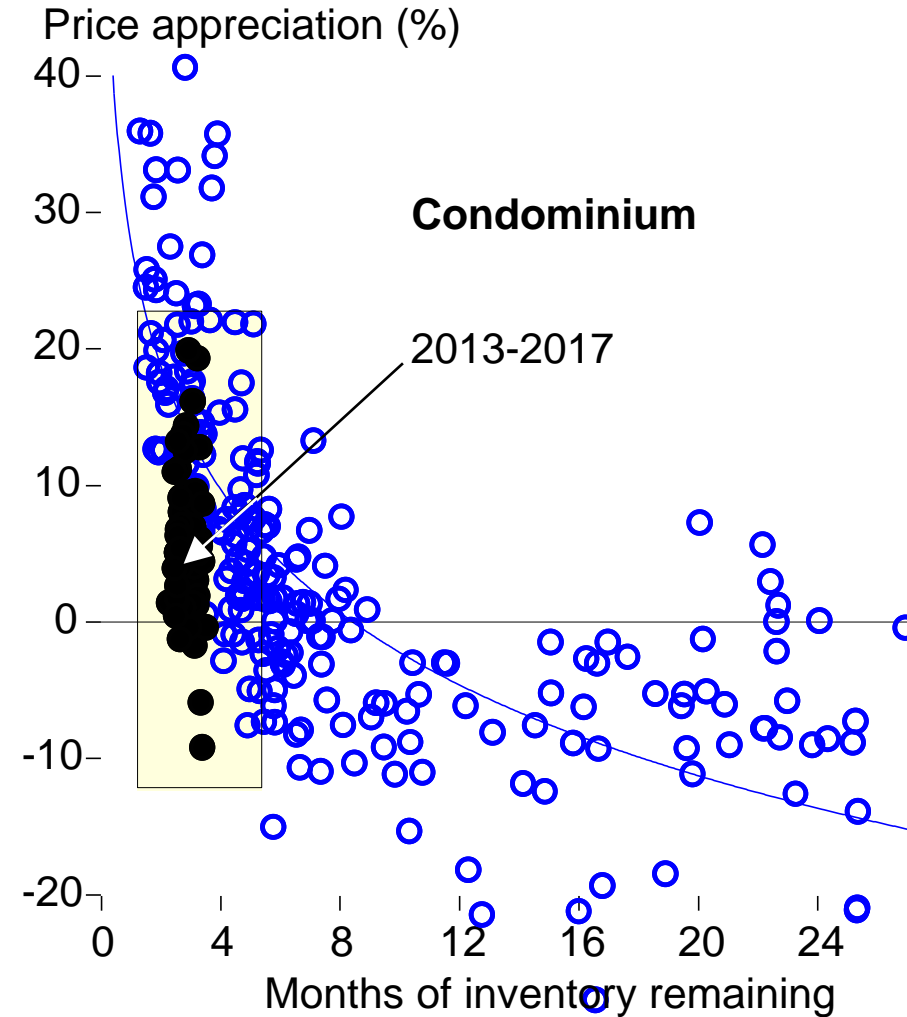
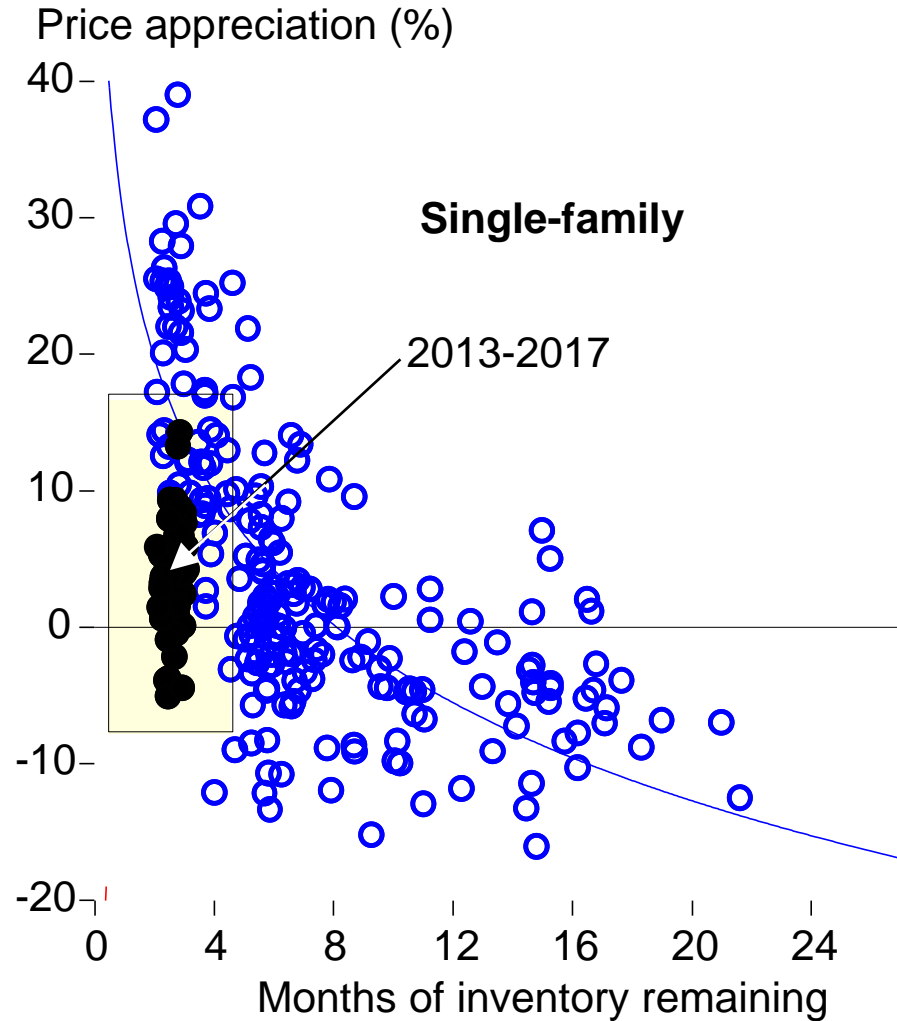
# Estimated empirical gamma distribution of all 2017 Oahu existing home sales prices: $\geq 4$ out of 5 transactions were below \$1 million



# Approximating the actual distribution of annual Oahu *single-family* home prices using an estimated empirical gamma distribution: “moving along”

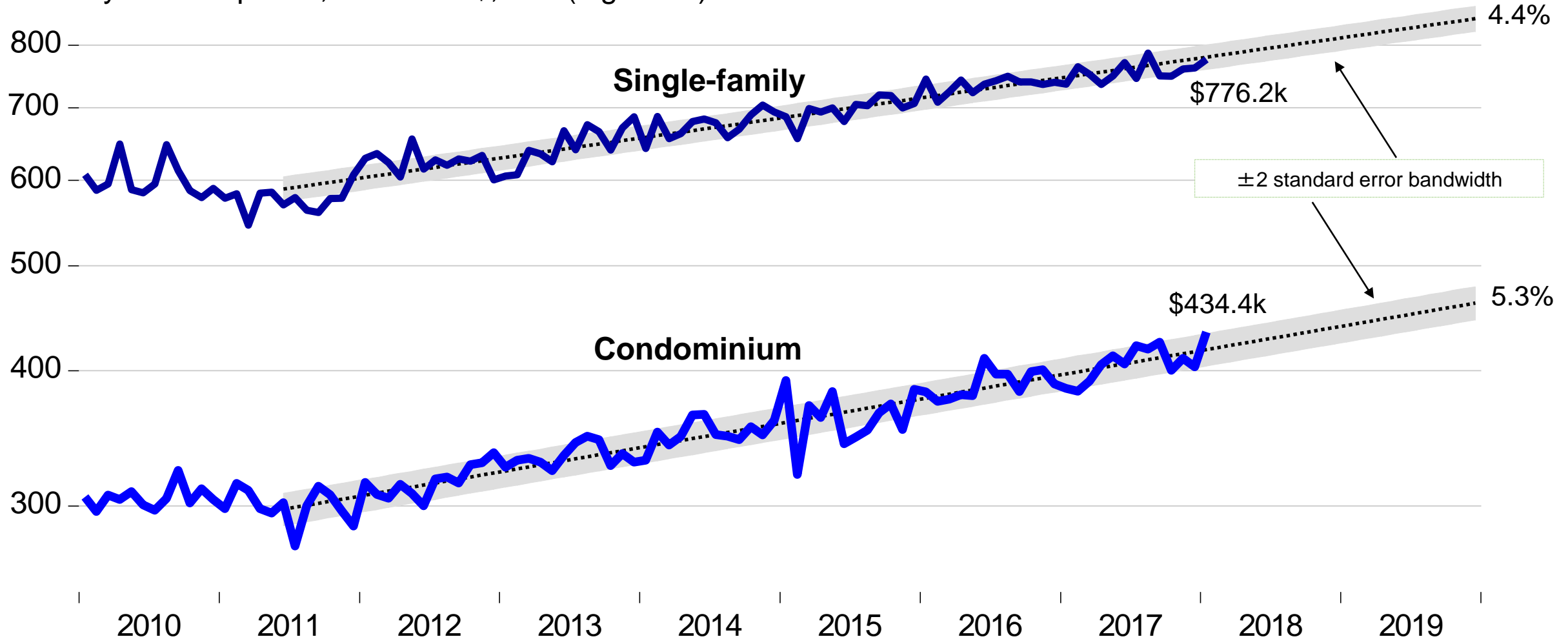


# Oahu data since mid-2012, tight with NO apparent trade-off between months of inventory remaining (2-3) and home price appreciation (!)



# For the last six years existing home price appreciation rates on Oahu have remained remarkably steady, with narrow bandwidth

Monthly median prices, thousand \$, s.a. (log scale)

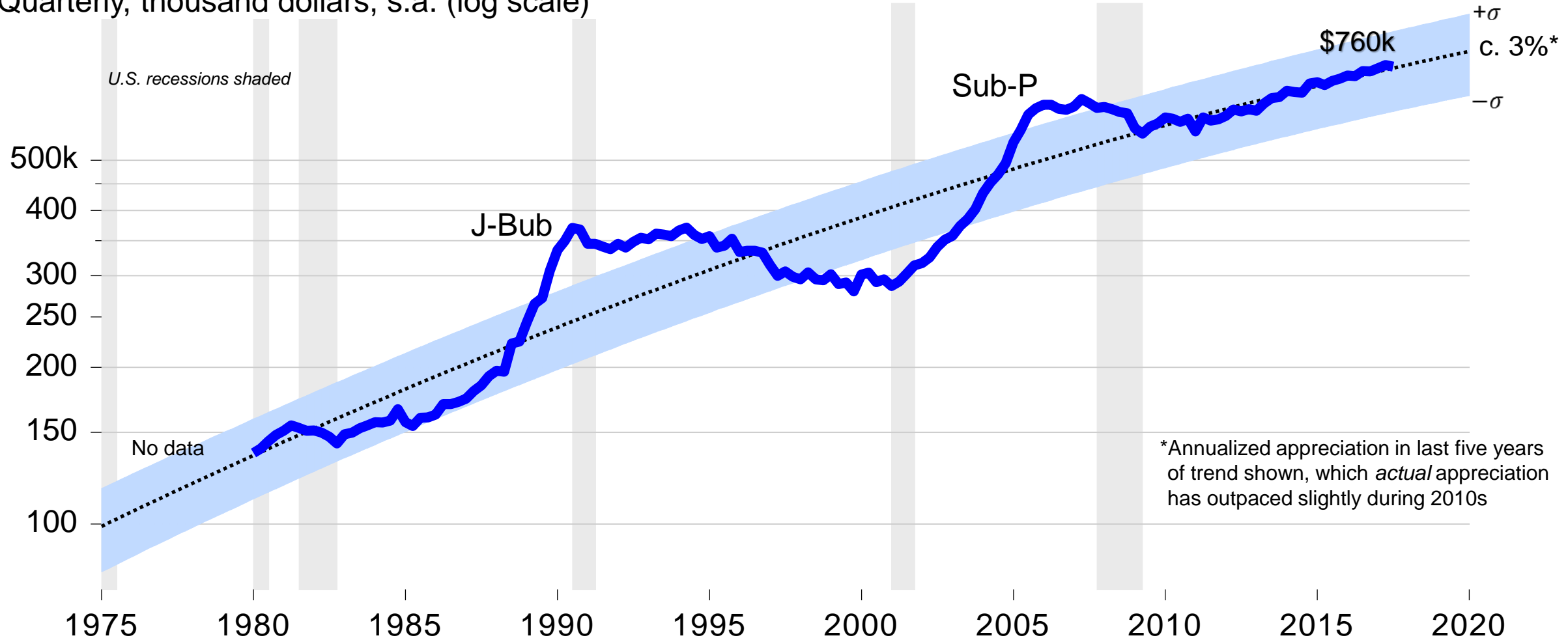


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# Oahu median single-family existing home sales *nominal* prices are convergent to long-run disinflationary trend; no asset pricing bubble

Quarterly, thousand dollars, s.a. (log scale)

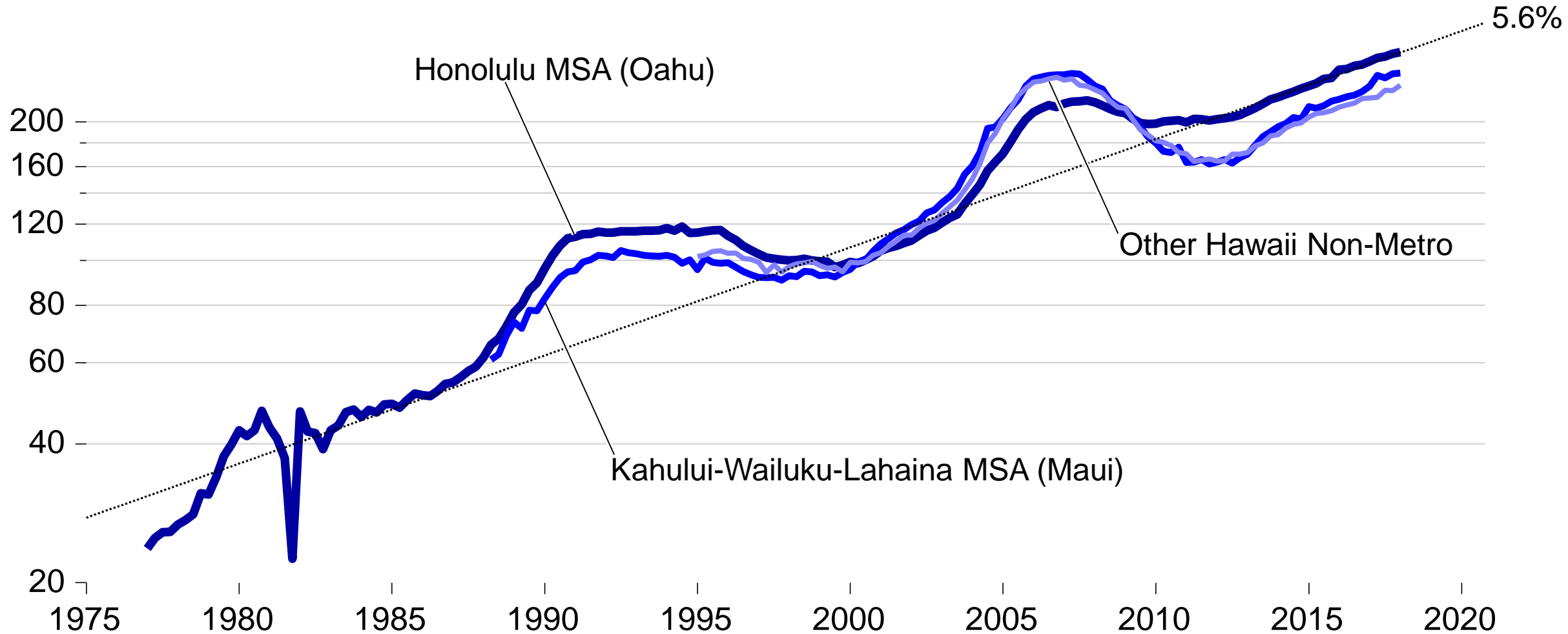


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# Broader FHFA All-Transactions Indexes of housing valuations display convergence to longer-run trends and absence of asset price bubble

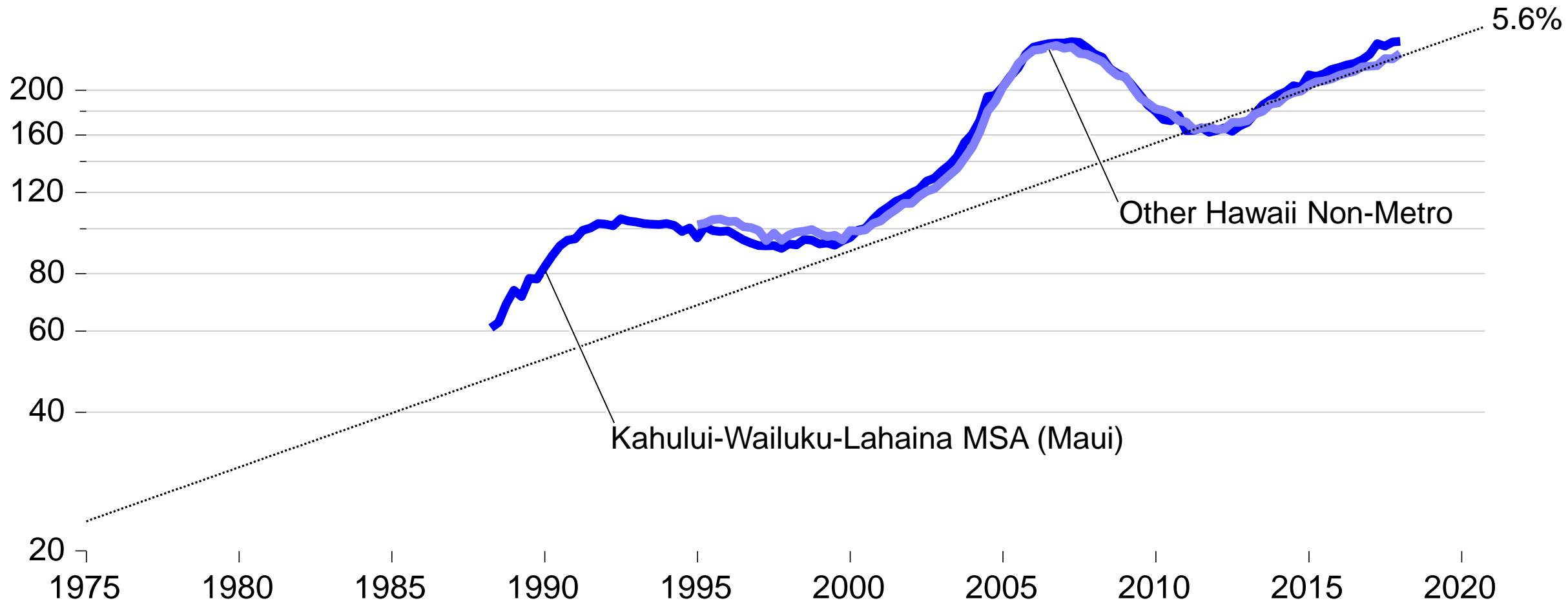
Index, 2000 = 100 (log scale)



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# Broader FHFA All-Transactions Indexes of housing valuations display convergence to longer-run trends and absence of asset price bubble

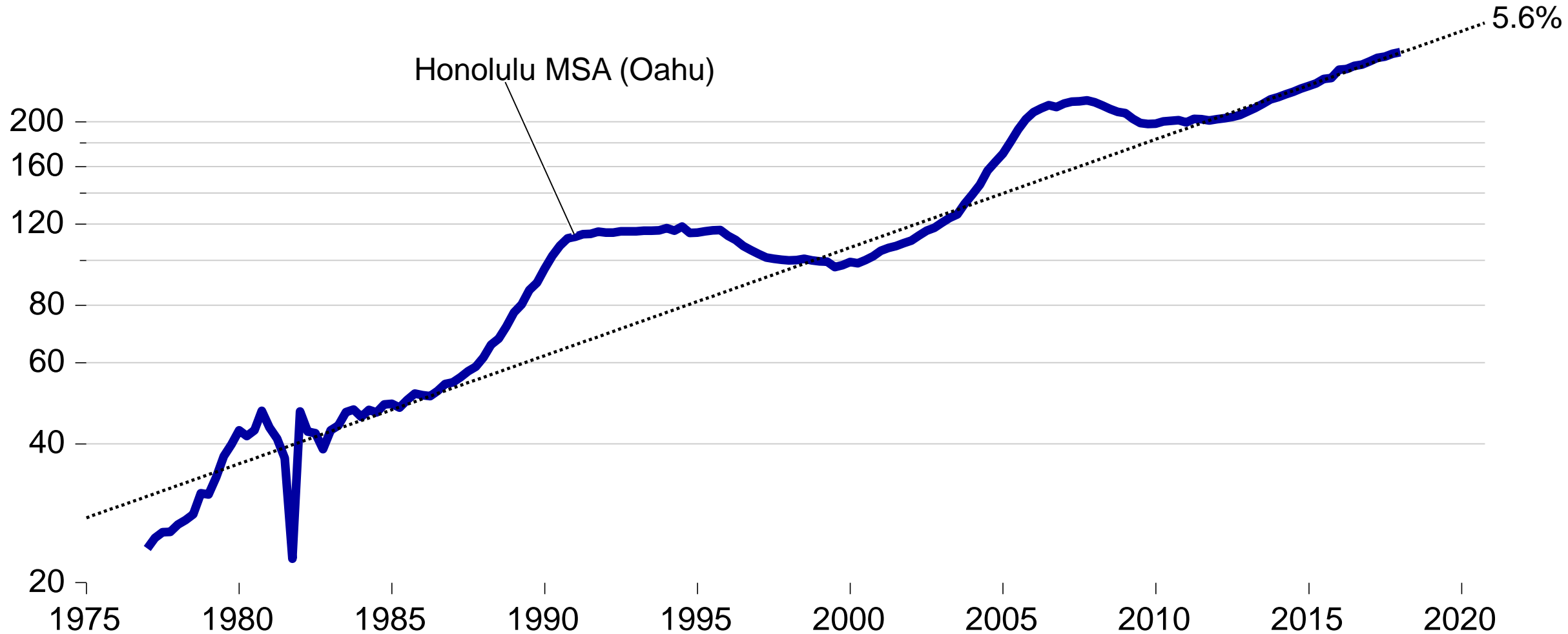
Index, 2000 = 100 (log scale)



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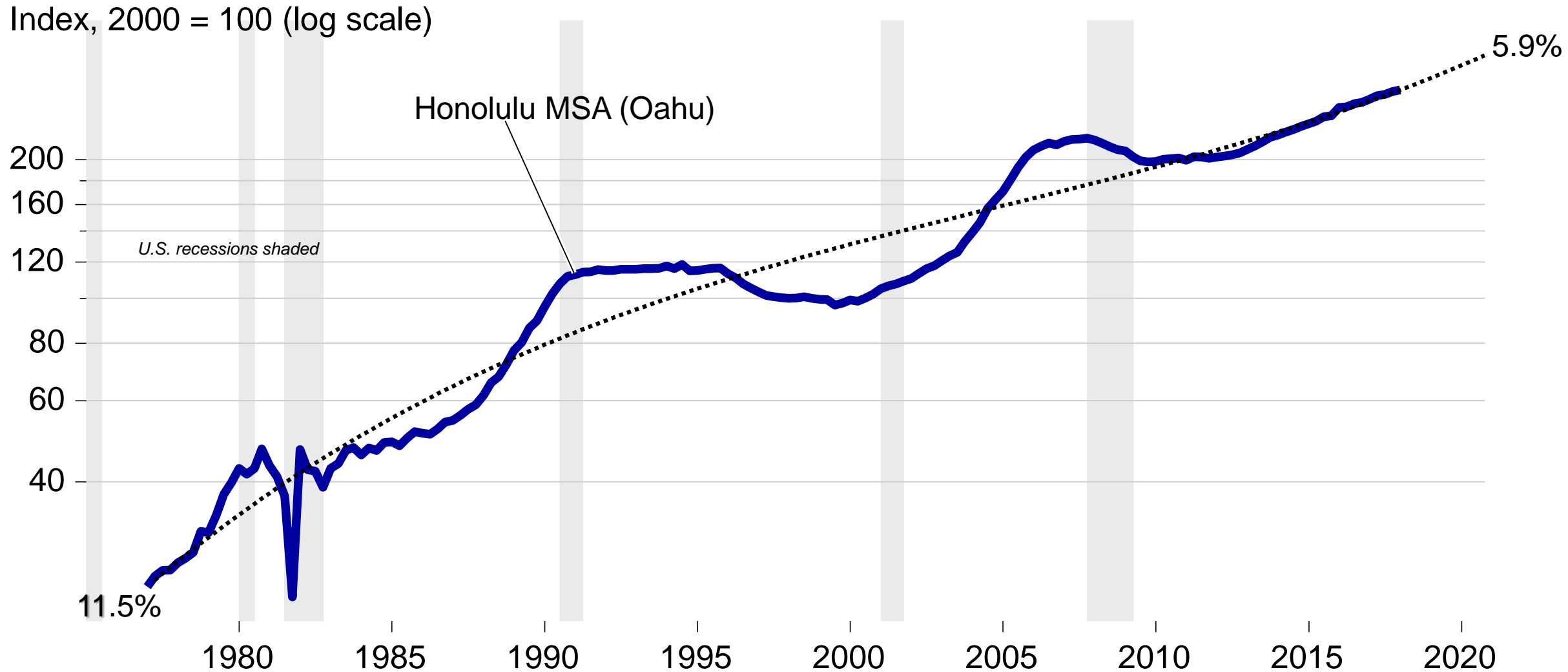
# Broader FHFA All-Transactions Indexes of housing valuations display convergence to longer-run trends and absence of asset price bubble

Index, 2000 = 100 (log scale)



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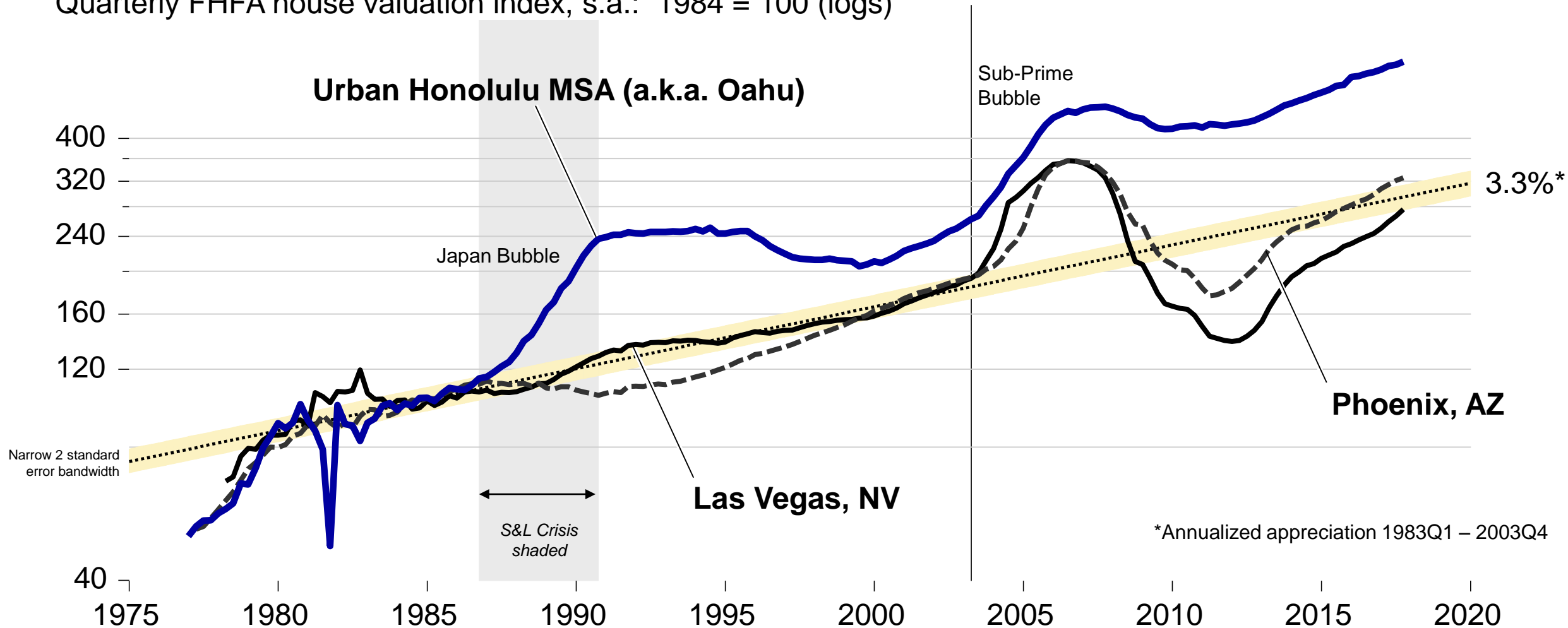
# A trend-fitting exercise on what's called the "stationary component" of Oahu housing valuations reveals a more nuanced characterization



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# Nominal Honolulu vs. Southwest U.S. metro values: The Ninth Island (Las Vegas), Phoenix both overshoot 2007-2012, now back to '90s trend

Quarterly FHFA house valuation index, s.a.: 1984 = 100 (logs)

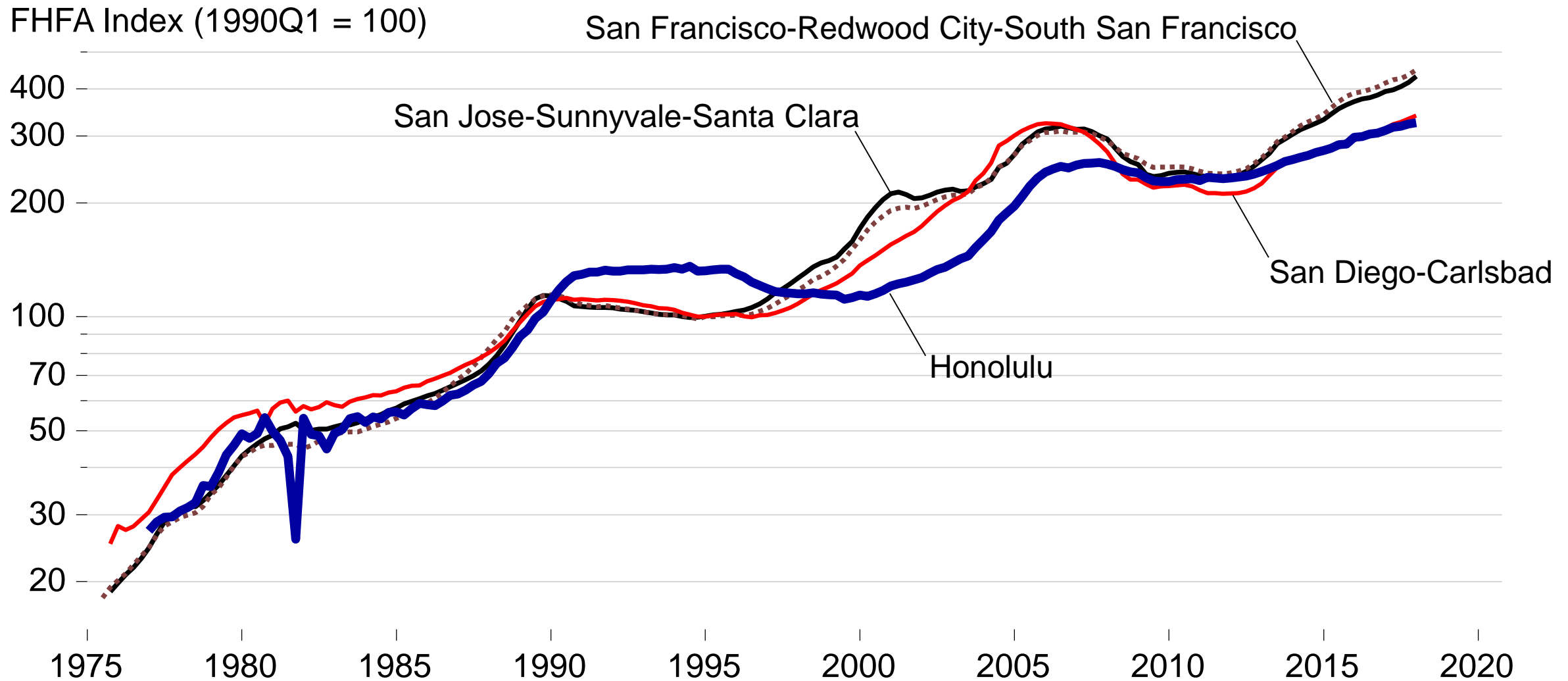


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Source: Federal Housing Finance Administration ([https://www.fhfa.gov/DataTools/Downloads/Documents/HPI/HPI\\_AT\\_metro.txt](https://www.fhfa.gov/DataTools/Downloads/Documents/HPI/HPI_AT_metro.txt)); seasonal adjustment, trend regression estimates on Las Vegas valuations, 1978Q2 – 2003Q4 by TZE, comparable trend appreciation rate for Honolulu, 1983Q1 – 2003Q4 is 4.7 percent/annum



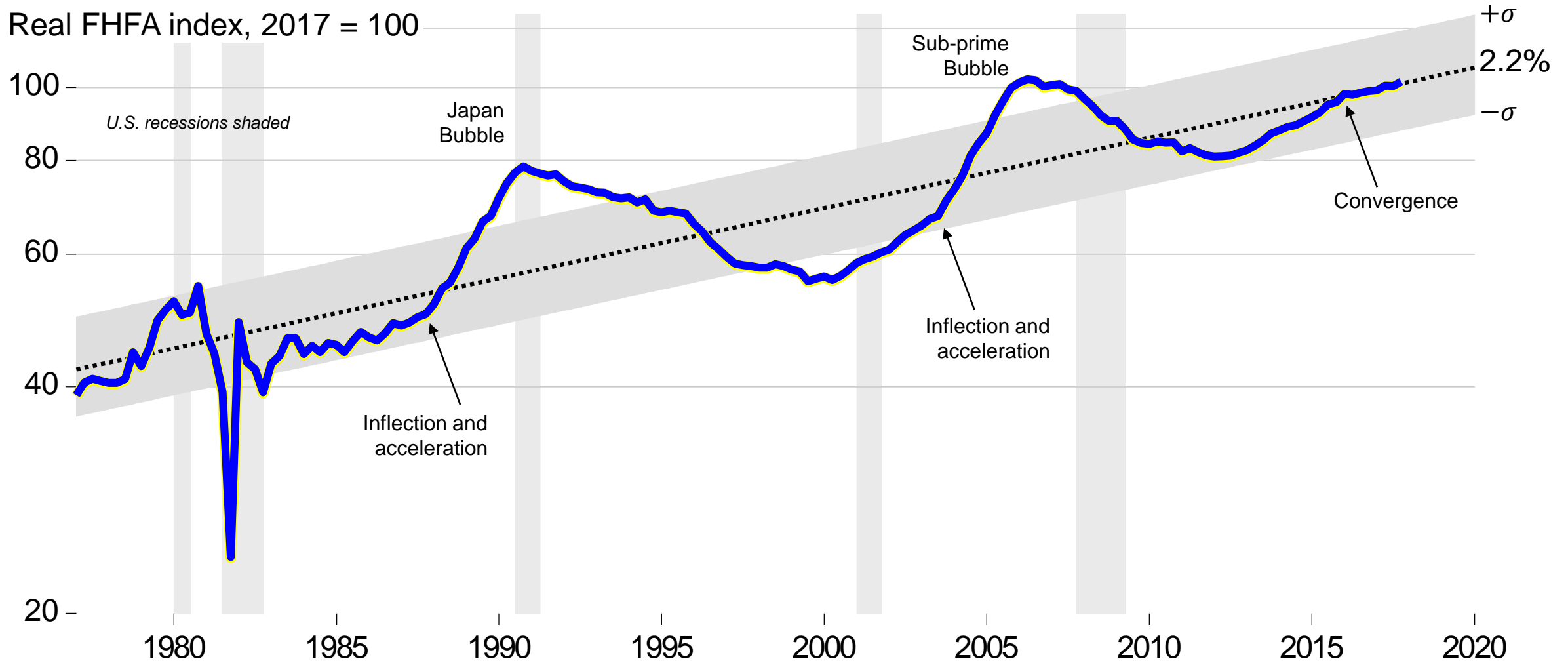
**A reminder that Honolulu is not always in synch, even though capital mobility in the long-run implies that arbitrage will squash “free profit”**



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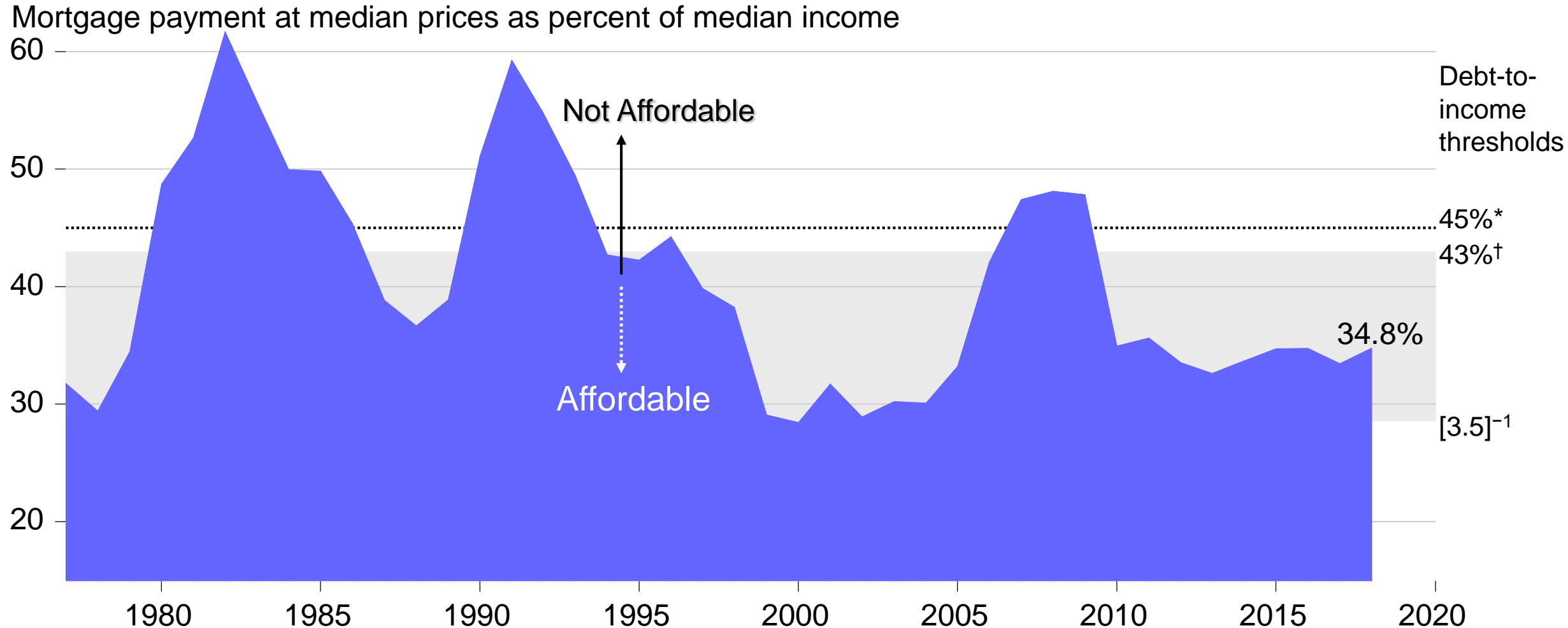


# Real—inflation-adjusted—Oahu quarterly house valuations (sales and mortgage collateral values) exhibit steady real rates of appreciation



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# Oahu conventional mortgage debt service-to-income ratio, a measure of housing affordability, *remains within the affordable zone* in 2010s



\* Fannie Mae (May 30, 2017) *Selling Guide* (<https://www.fanniemae.com/content/guide/selling/b3/6/02.html>)

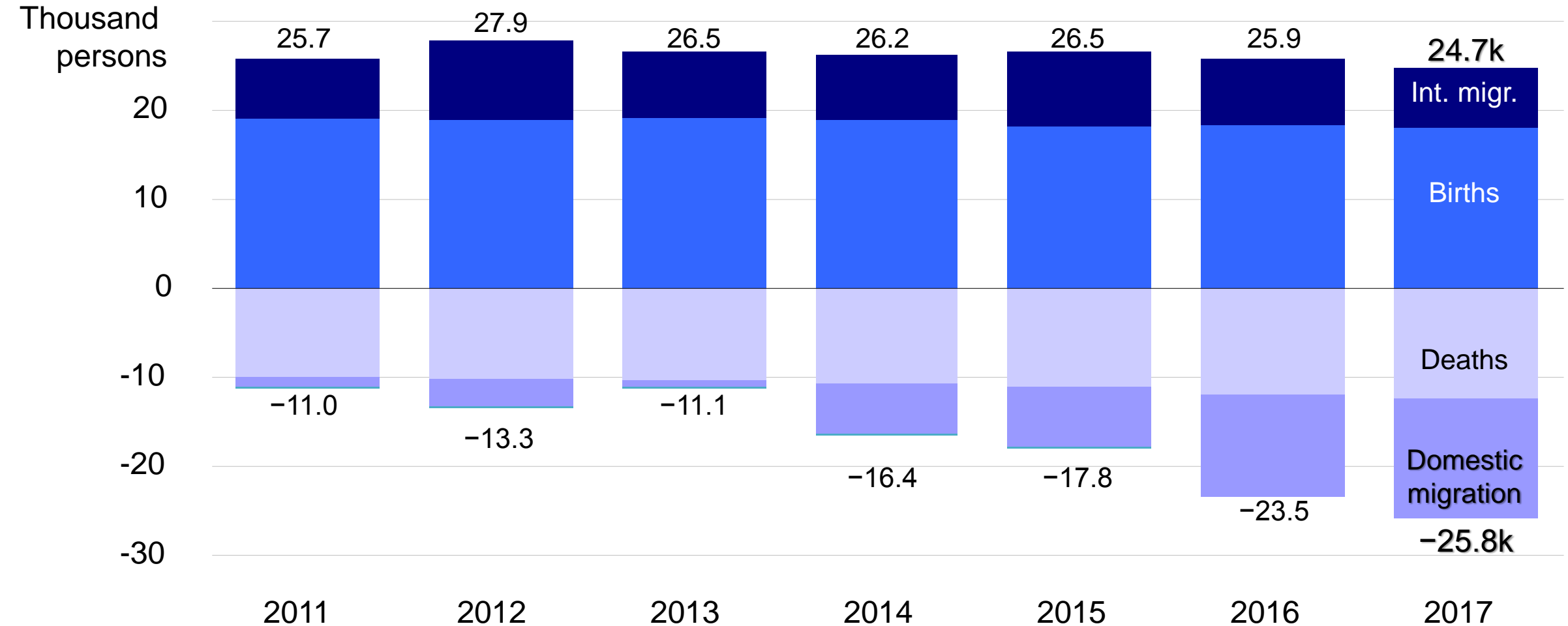
† FHFA (<https://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-Limiting-Fannie-Mae-and-Freddie-MacLoan-Purchases-to-Qualified-Mortgages.aspx>)

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# Last year Hawaii was one of eight states with population decline and one of the *only* states not linked to falling energy commodity prices

State	Populations, changes in thousands			Growth (%)	Growth rank in U.S.
	2016	2017	Change		
Wyoming	584,910	579,315	-5,595	-0.957	51
West Virginia	1,828,637	1,815,857	-12,780	-0.699	50
Illinois	12,835,726	12,802,023	-33,703	-0.263	49
Alaska	741,522	739,795	-1,727	-0.233	48
<b>Hawaii</b>	<b>1,428,683</b>	<b>1,427,538</b>	<b>-1,145</b>	<b>-0.080</b>	<b>47</b>
Mississippi	2,985,415	2,984,100	-1,315	-0.044	46
Louisiana	4,686,157	4,684,333	-1,824	-0.039	45
North Dakota	755,548	755,393	-155	-0.021	44

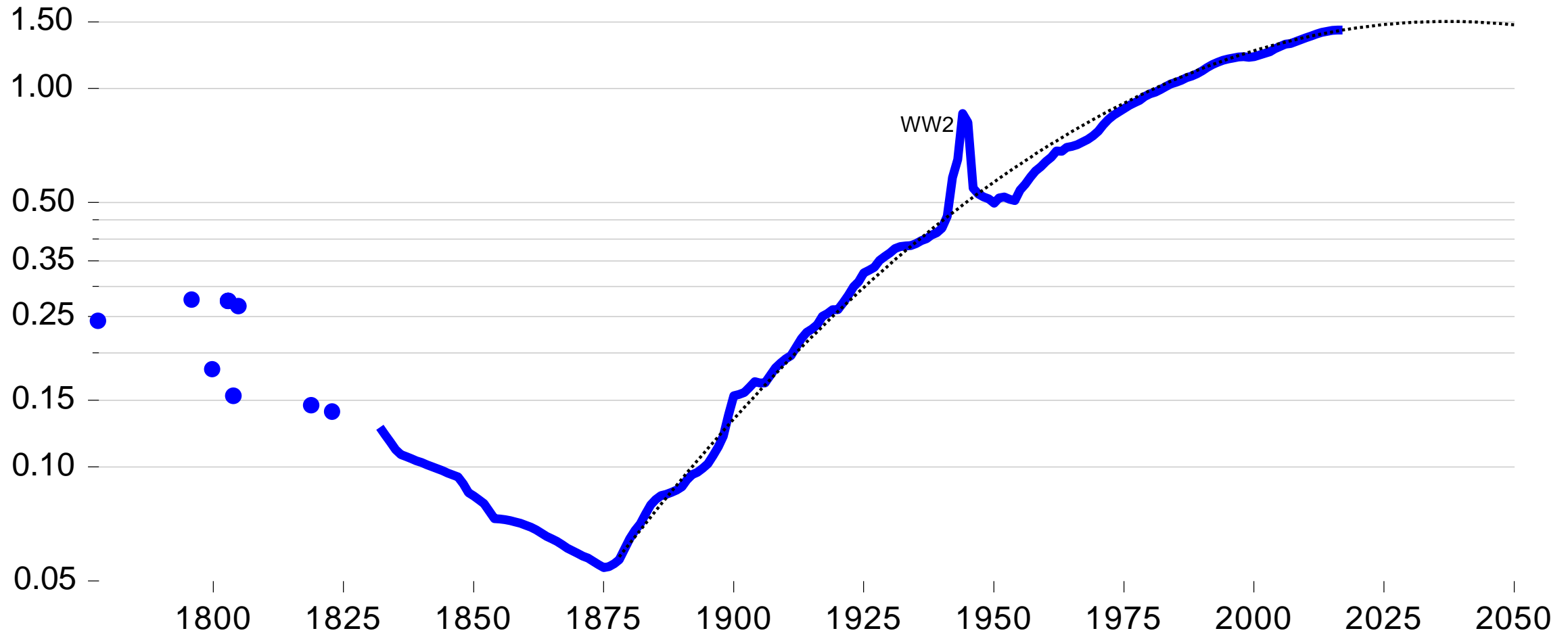
# Hawaii statewide components of population change: natural increase; net int'l.; net domestic migration [from -1k (2011) to -13.5k (2017)]



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# Longer-run trends in Hawaii resident population growth point to early 21<sup>st</sup> century stagnation; 2017 was fourth population decline since 1875

Hawaii annual population (million residents; log scale)



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Sources: Robert C. Schmitt (1976), *Historical Statistics of Hawaii* UH Press; Hawaii DBEDT (<http://dbedt.hawaii.gov/economic/datawarehouse/>); trend estimate from regression of the stationary component of resident population on time, 1878-2017 by TZE



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