

APPLIED
ANALYSIS



2019 & BEYOND

The Future We Are Building

Jeremy Aguero
January 24, 2019



ARE WE HEADED INTO A RECESSION?



“The record of *failure to predict recessions* is virtually unblemished.”

-- 2001 International Journal of Forecasting

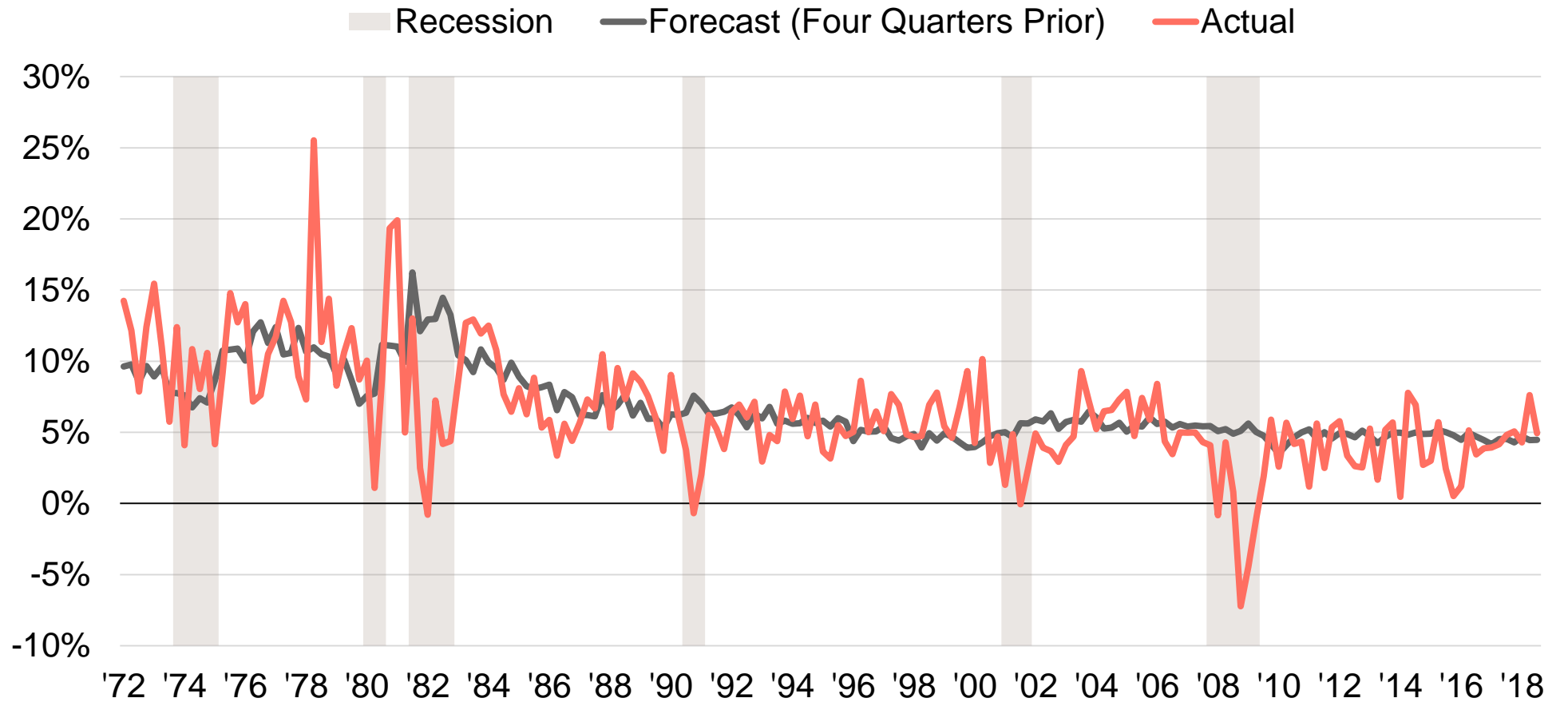
“I look forward to the day when economists manage to get themselves *thought of as humble, competent people*, on a level with dentists.”

-- John Maynard Keynes



Quarter-Over-Quarter Growth

Forecast Four Quarters Prior vs. Actual

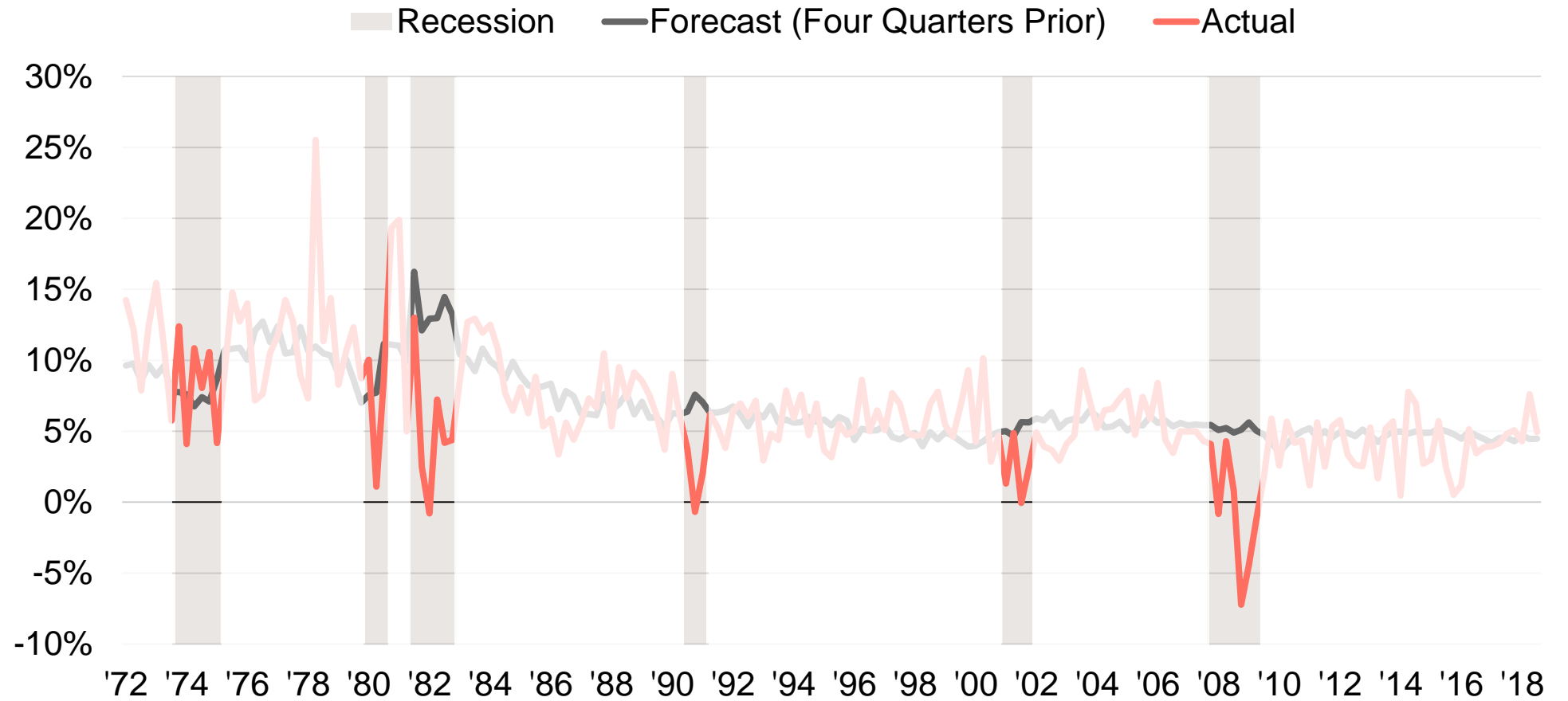


Source: Federal Reserve Bank of Philadelphia and United States Bureau of Economic Analysis



Quarter-Over-Quarter Growth

Forecast Four Quarters Prior vs. Actual



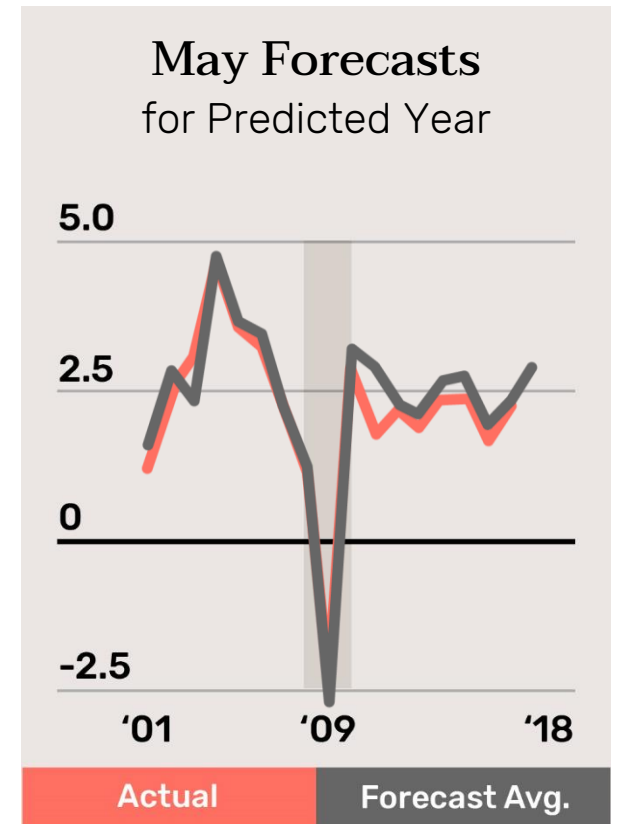
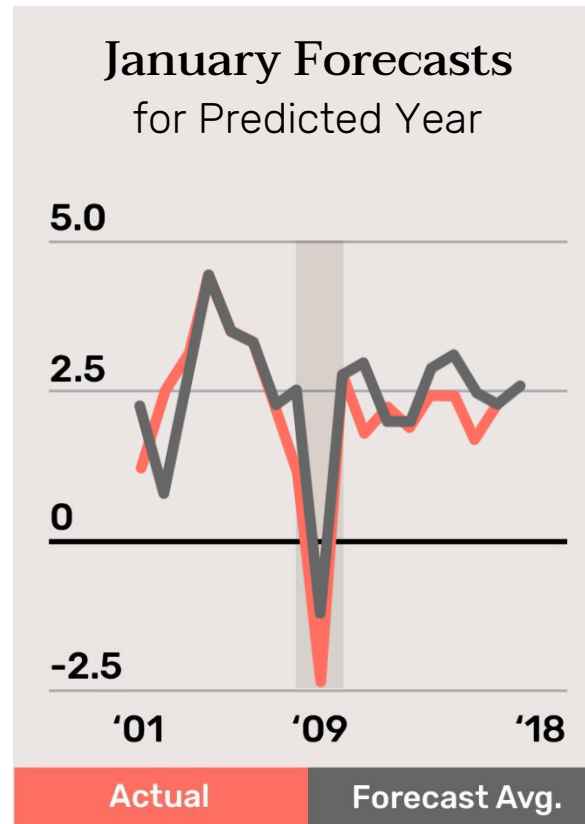
Source: Federal Reserve Bank of Philadelphia and United States Bureau of Economic Analysis



Forecasts: Short Term Reliability

United States GDP Growth Forecasts (Calendar Years)

Percent Change from Previous Year



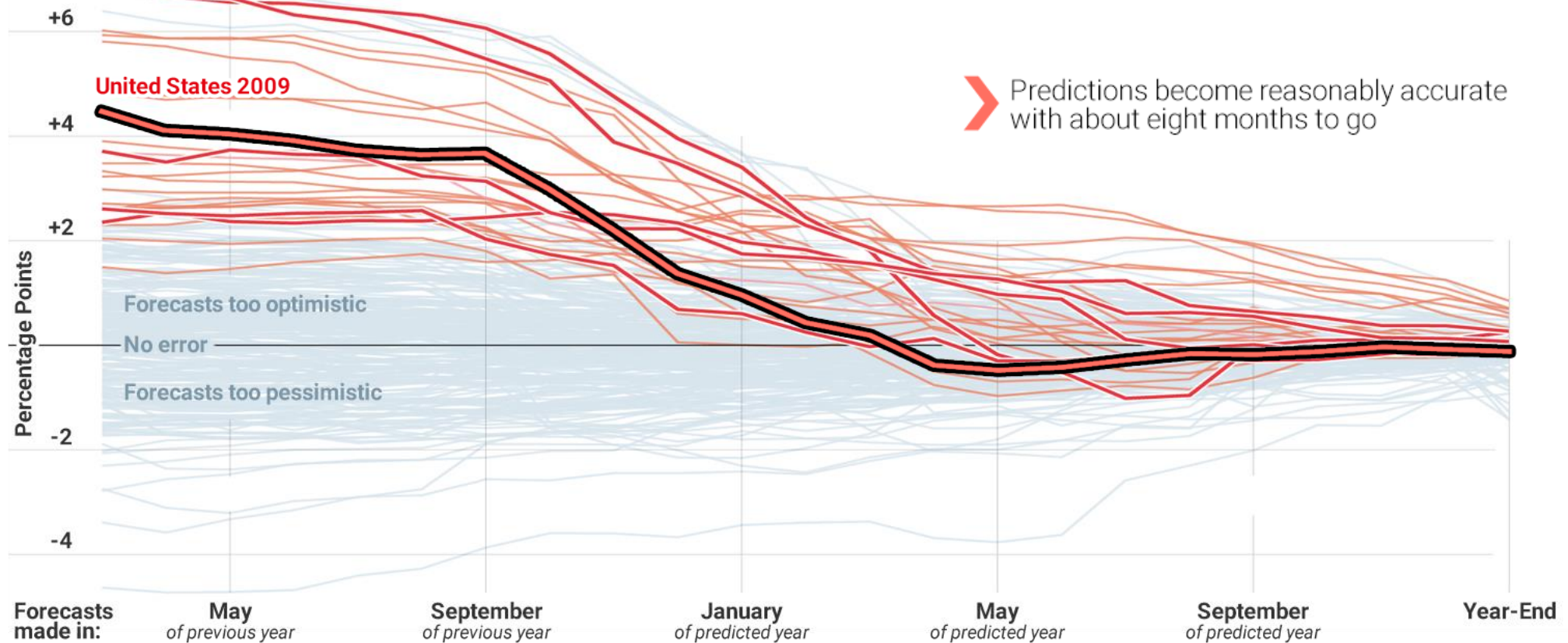
Source: The Economist



Forecasts: Short Term Reliability

GDP Growth Forecasted Difference From Actual Growth for 2000-2017

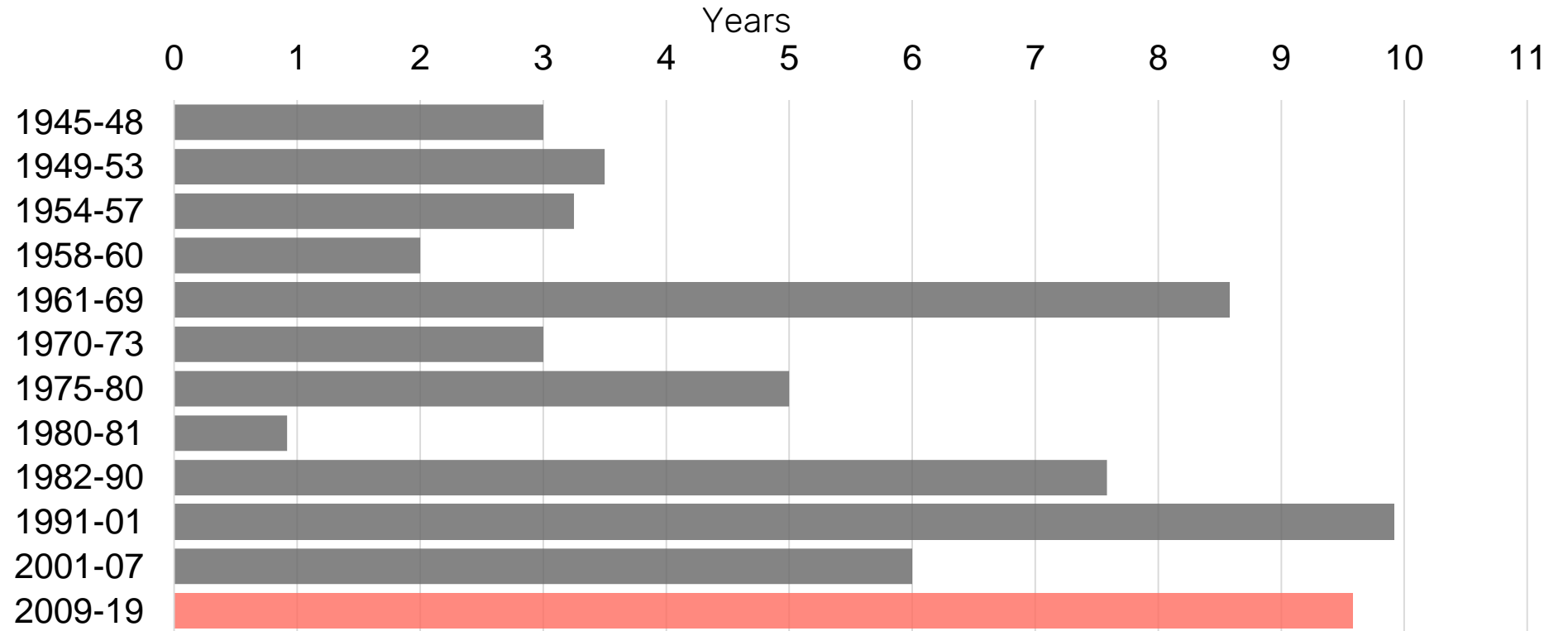
The Economist Poll of Forecasters Average Growths, 15 Rich-World Countries



Source: The Economist



Economic Expansions in the U.S.

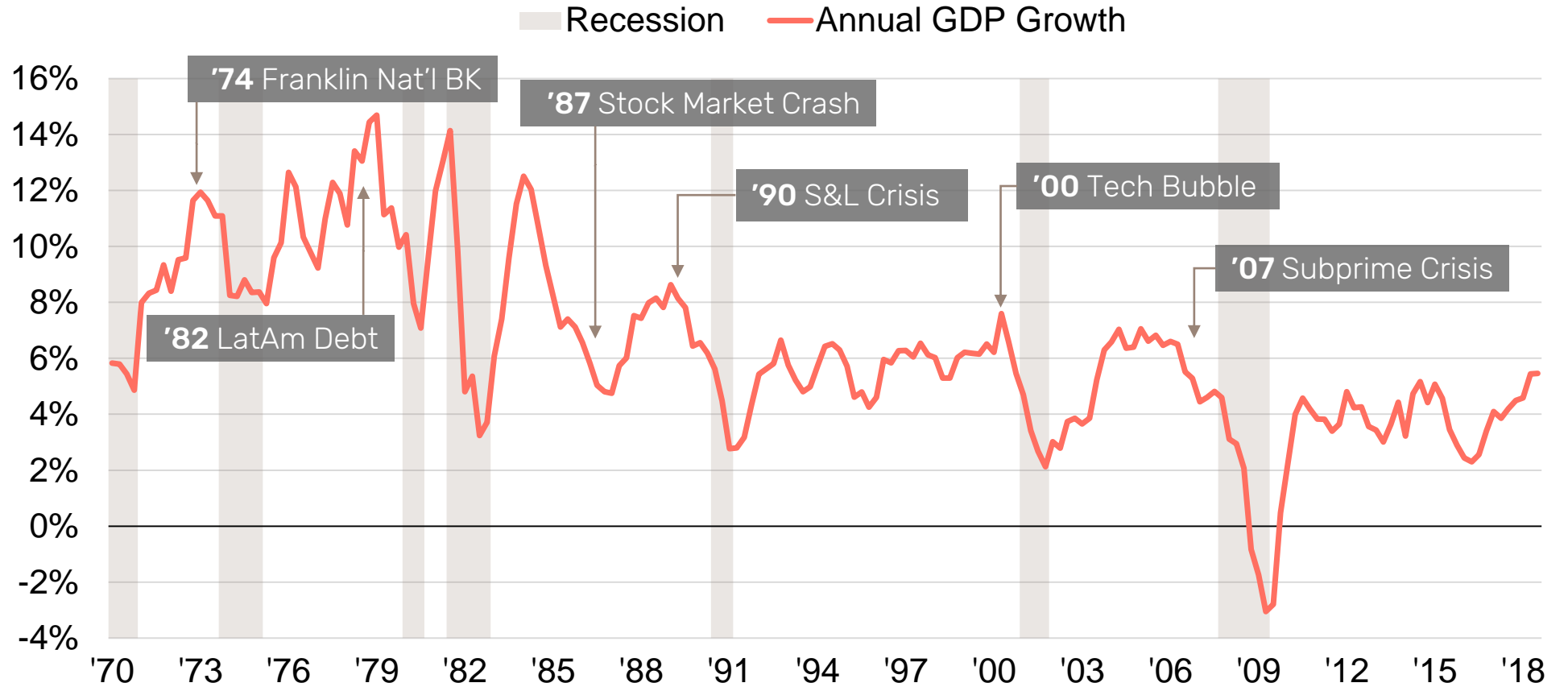


June 2019 would mark the **longest economic expansion** in modern history

Source: National Bureau of Economic Research, The Wall Street Journal, Applied Analysis



Annual GDP Growth and Financial Events



Source: United States Bureau of Economic Analysis



Comparative Analysis of Periods of Expansion and Real GDP Growth

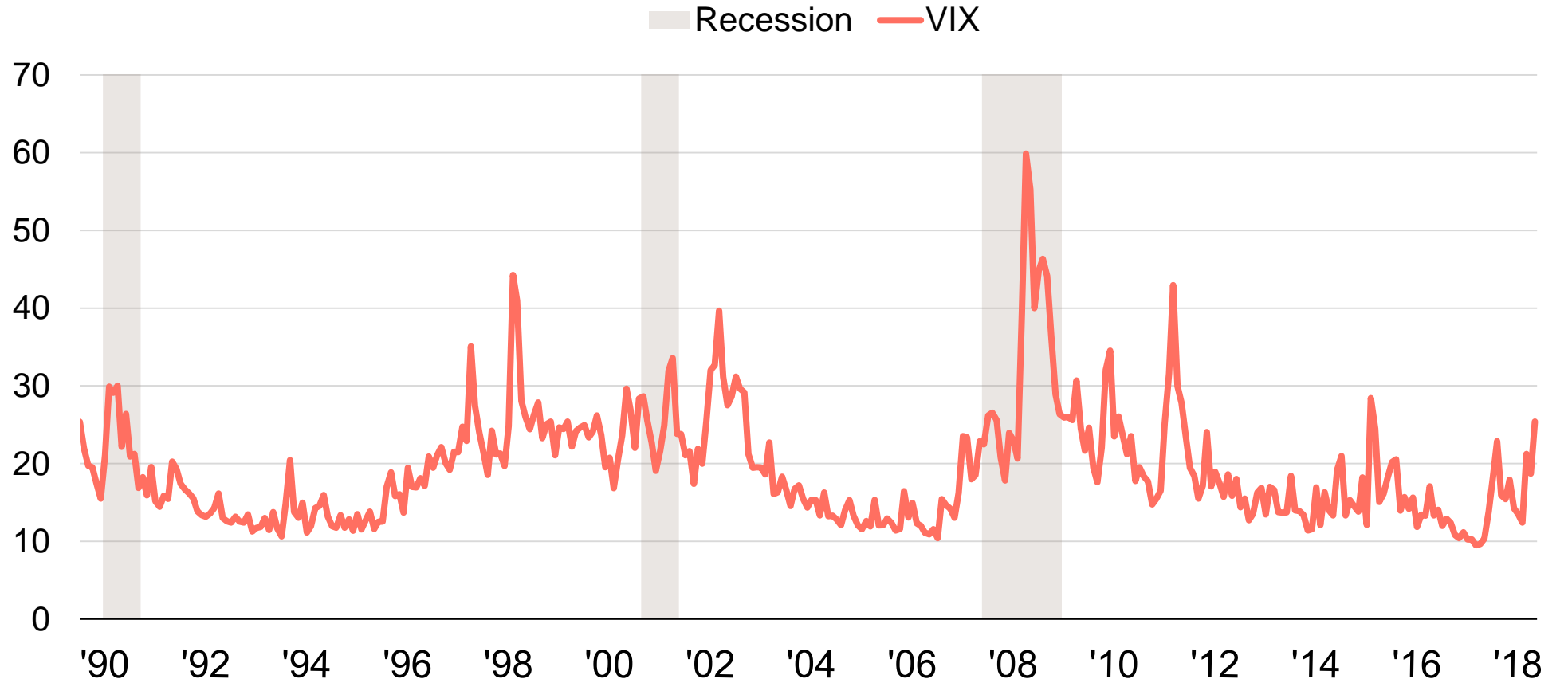
Recent Expansion has experienced the **slowest GDP growth** in history

Trough	Peak	Duration (Qtrs.)	Real GDP Compound Annual Growth Rate
Q4 1949	Q2 1953	15	7.6%
Q2 1958	Q2 1960	9	5.5%
Q4 1970	Q4 1973	13	5.1%
Q1 1961	Q4 1969	36	4.9%
Q3 1980	Q3 1981	5	4.3%
Q1 1975	Q1 1980	21	4.3%
Q4 1982	Q3 1990	32	4.3%
Q2 1954	Q3 1957	14	4.0%
Q1 1991	Q1 2001	41	3.6%
Q4 2001	Q4 2007	25	2.9%
Q2 2009	To Date	37	2.3%
Average		22	4.4%

Source: United States Bureau of Economic Analysis and Applied Analysis



Market Volatility Index (VIX)



Source: Chicago Board Options Exchange (CBOE)

A close-up photograph of an elephant's head, rendered in a monochromatic red color. The elephant's trunk is prominent in the center, and its large ears are visible on either side. The texture of the elephant's skin is highly detailed.

RECESSION IS INEVITABLE



1

Debt

2

End to
Aggressive
Monetary
Policies

3

Prolonged
Government
Shutdown

4

International
Trade
Instability

5

Global
Housing
Crisis

6

Global
Conflict



1

Debt

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Instability

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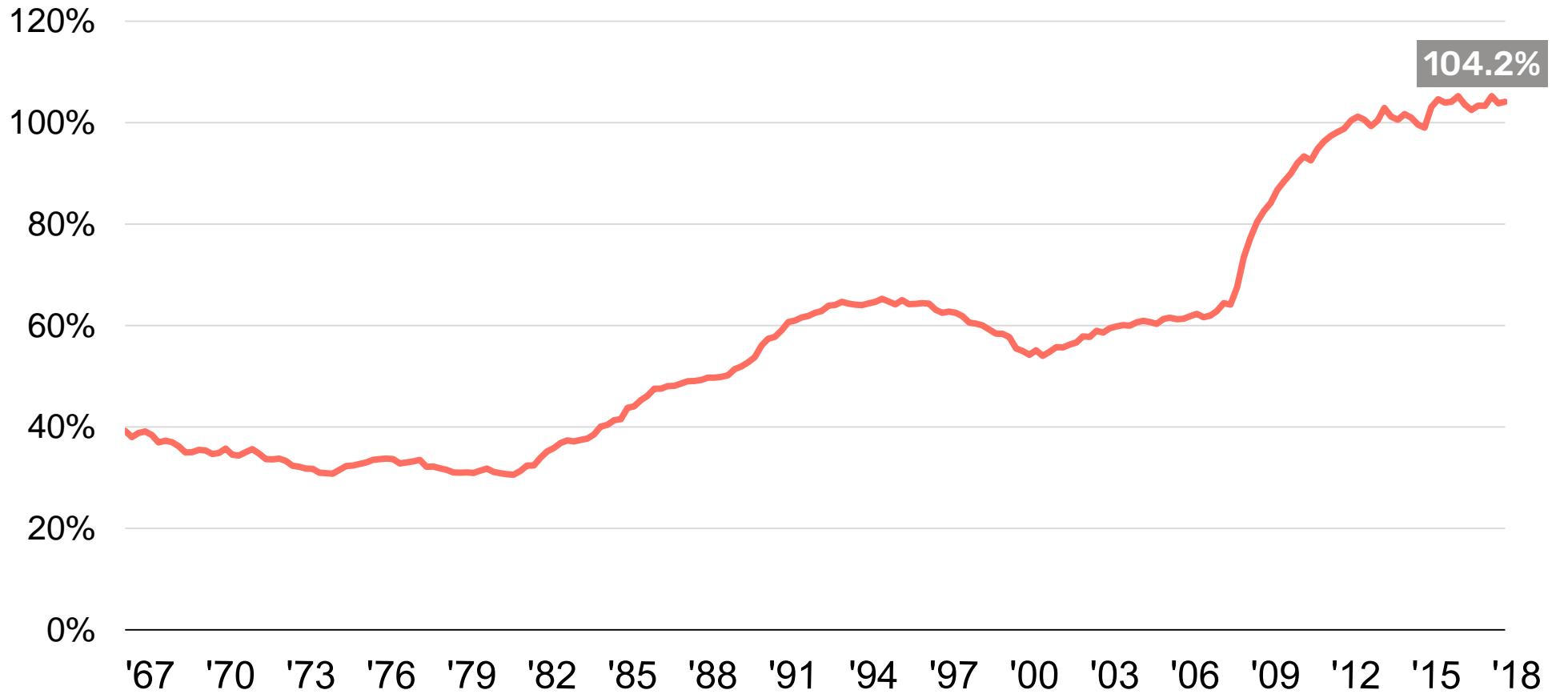
Global
Housing
Crisis

6

Global
Conflict



Public Debt as a Percent of GDP



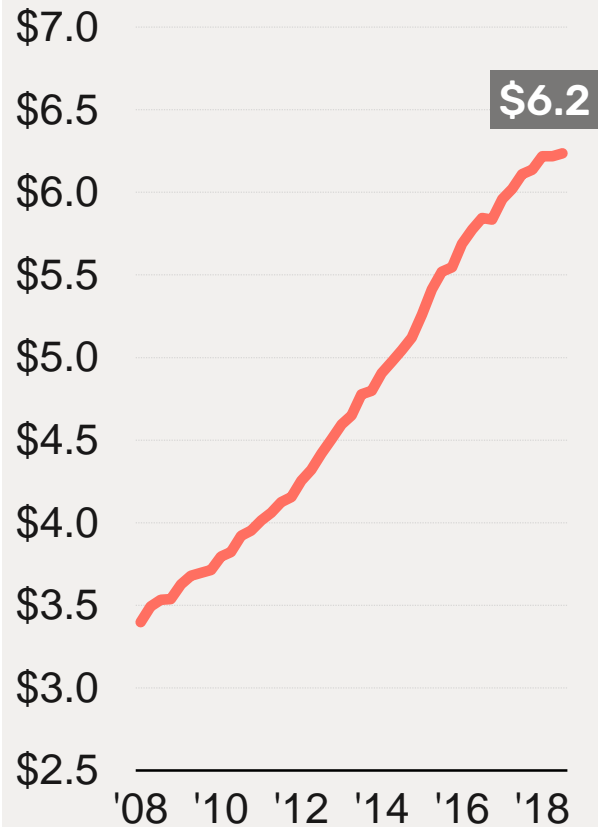
Source: Federal Reserve Bank of St. Louis



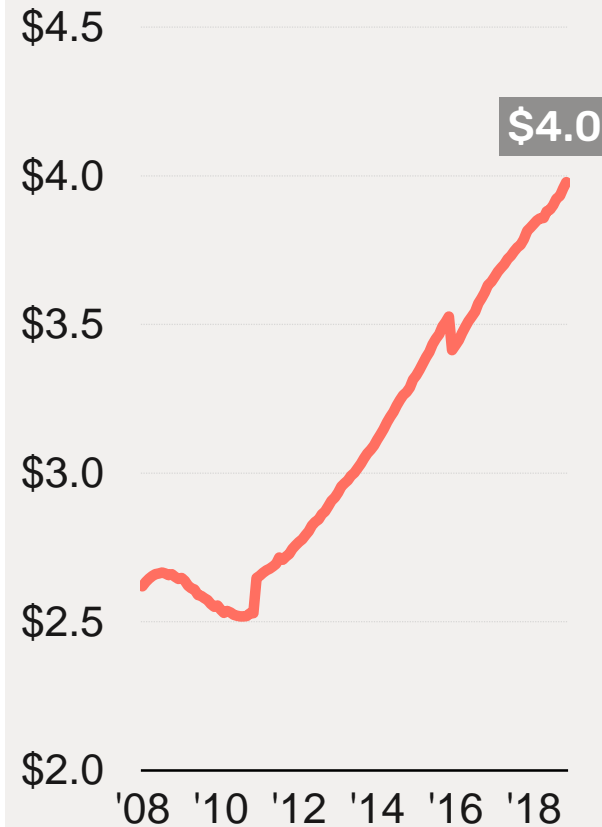
Debt Trends

In Trillions

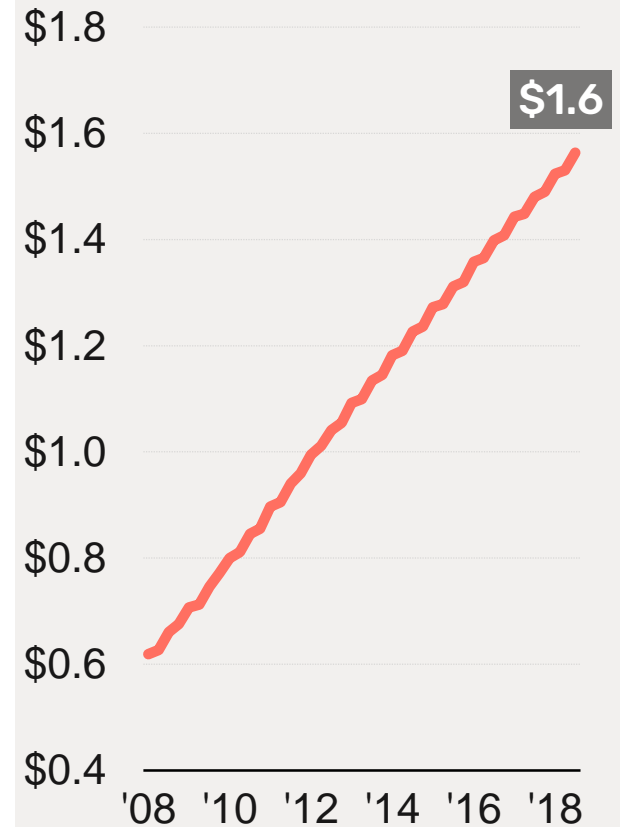
Corporate Debt



Consumer Debt



Student Debt



Source: Board of Governors of the Federal Reserve System

Three dark brown wooden blocks are stacked on a light brown background. The top block is centered on two larger blocks below it. The text 'THE FUNDAMENTALS' is overlaid in white, serif font across the middle of the blocks.

THE FUNDAMENTALS



Population
Growth



Employment &
Unemployment



Wages &
Salaries



Business
Formation



Residential
Housing Market



Commercial &
Industrial Sectors



Taxable Retail
Spending



Visitor Volume &
Visitor Spending



**Population
Growth**



**Employment &
Unemployment**



**Wages &
Salaries**



**Business
Formation**



**Residential
Housing Market**



**Commercial &
Industrial Sectors**



**Taxable Retail
Spending**

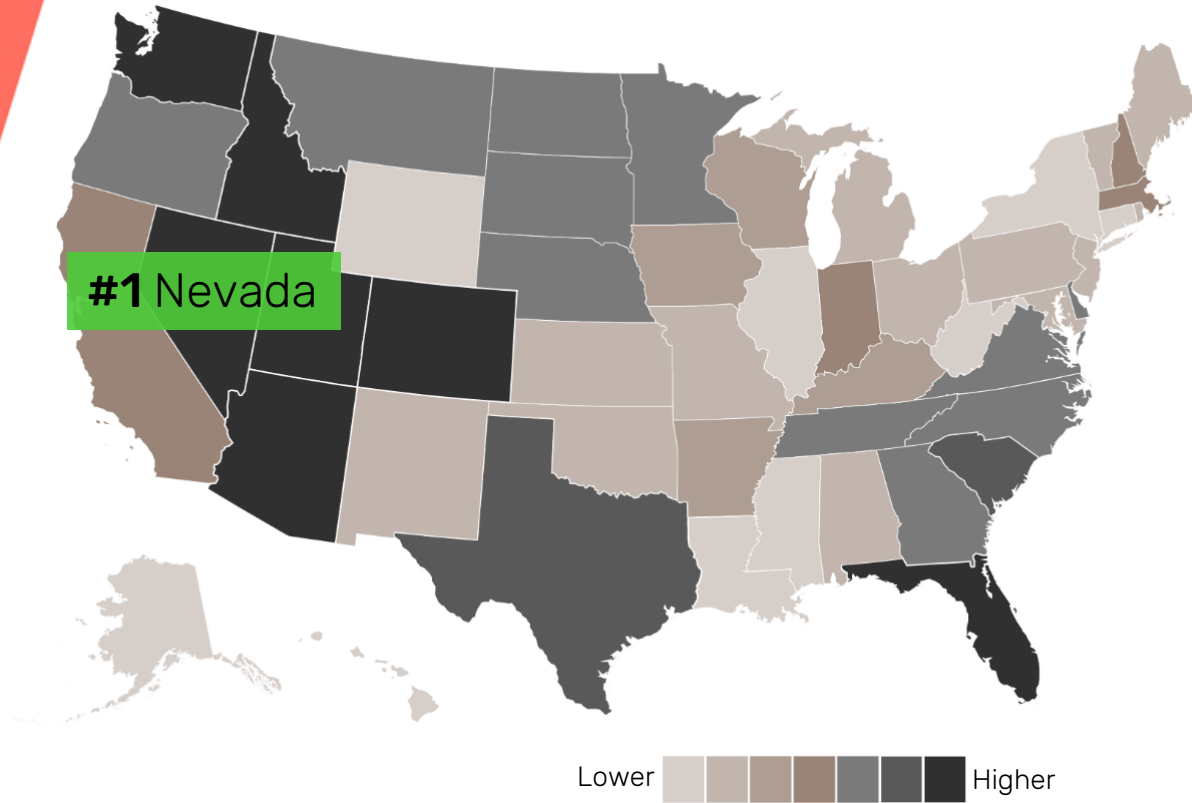


**Visitor Volume &
Visitor Spending**



Fastest Growing State in the Nation

Population Growth



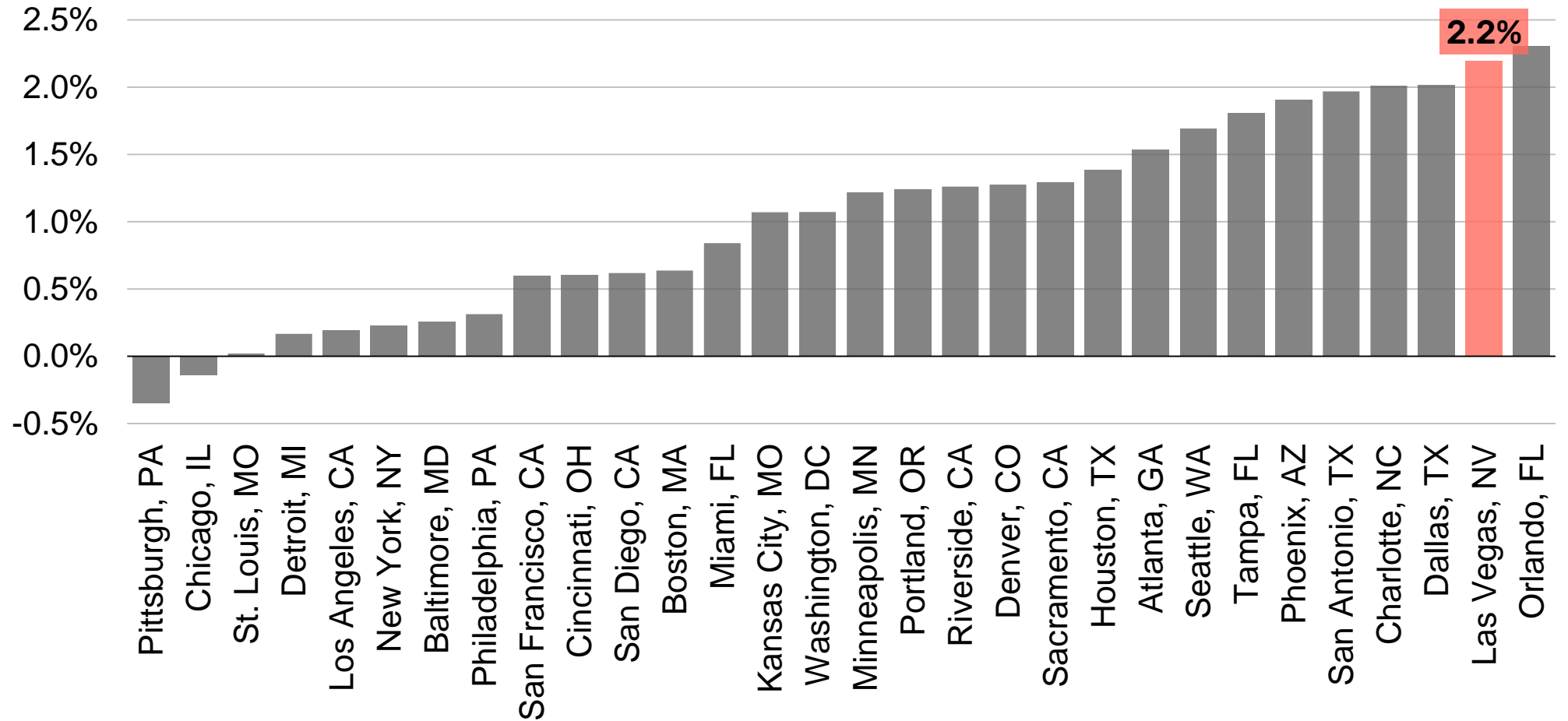
Rank	State	Annual Growth
1	Nevada	+2.09%
2	Idaho	+2.05%
3	Utah	+1.87%
4	Arizona	+1.74%
5	Florida	+1.54%
6	Washington	+1.48%
7	Colorado	+1.42%
8	Texas	+1.34%
9	South Carolina	+1.25%
10	North Carolina	+1.10%
US Average		+0.62%

Source: U.S. Census Bureau (2017 vs. 2018)



Population Growth

Largest 30 MSAs

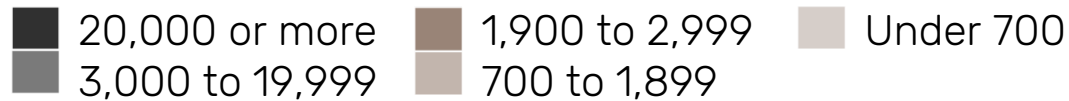
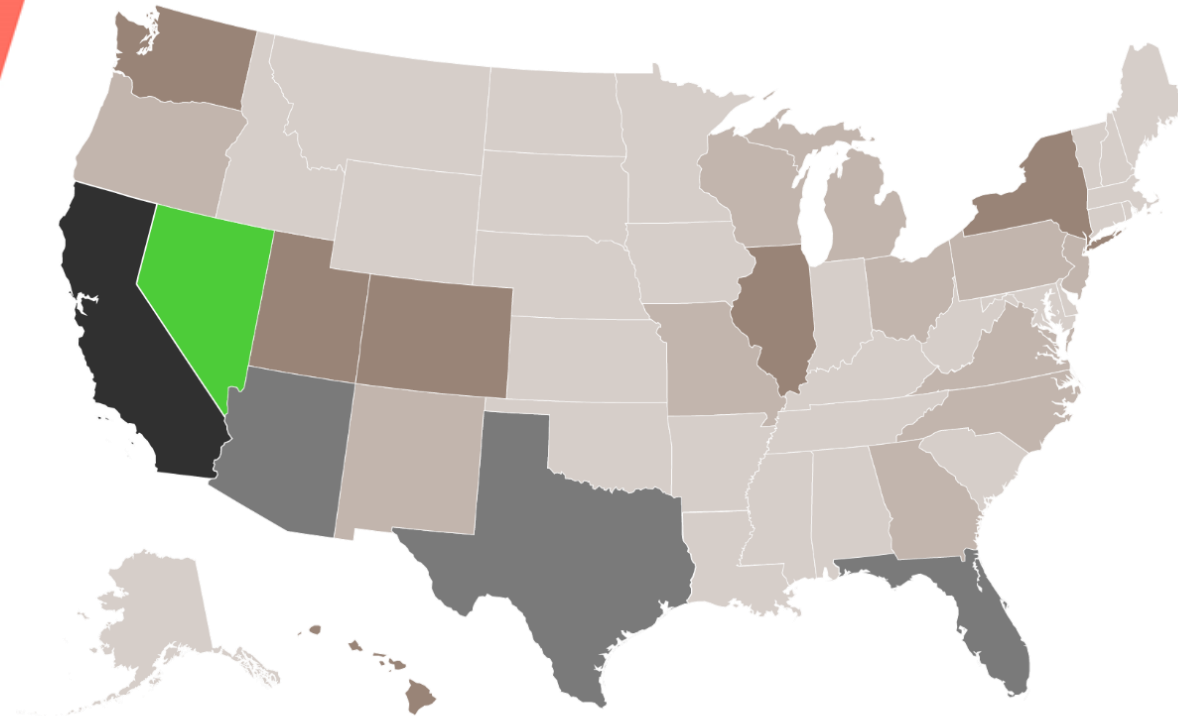


Source: U.S. Census Bureau (2016 vs. 2017)



Driver's License Surrenders

To Nevada By State



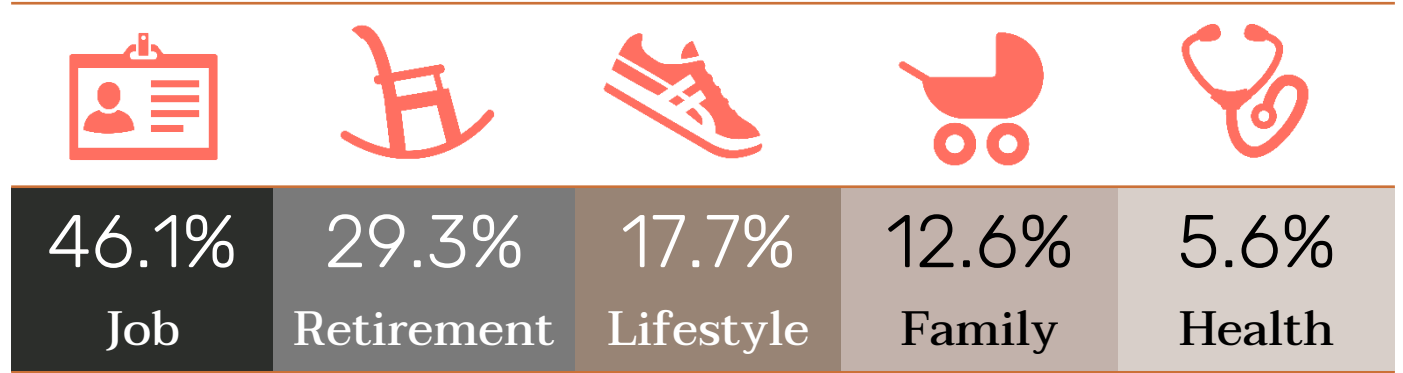
State	Surrenders	Share
California	27,275	35.9%
Florida	4,668	6.1%
Texas	3,607	4.7%
Arizona	3,433	4.5%
Illinois	2,878	3.8%
Washington	2,825	3.7%
Hawaii	2,518	3.3%
Colorado	2,339	3.1%
Utah	2,188	2.9%
New York	2,029	2.7%

Source: UNLV CBER

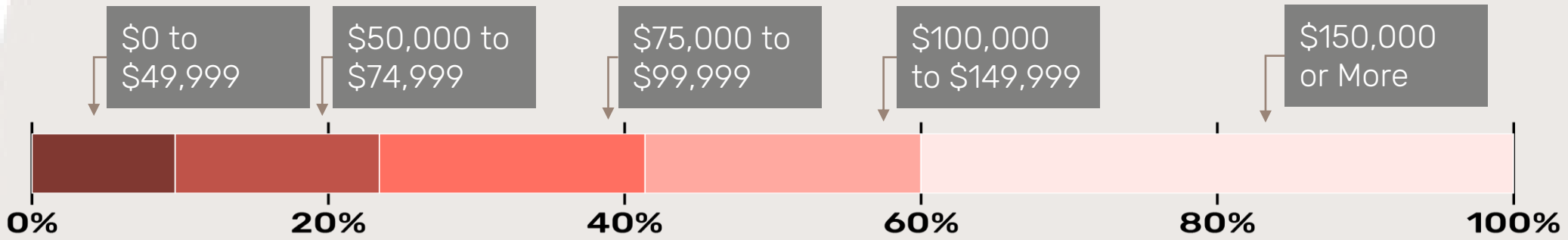
Note: Based on driver's license surrenders from the DMV for the latest available trailing 12-month data.



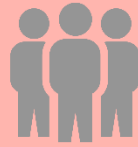
Primary Reason for Moving to Nevada



Income of Newcomers



Source: United Van Lines National Movers Survey



Population
Growth



Residential
Housing Market



**Employment &
Unemployment**



Commercial &
Industrial Sectors



Wages &
Salaries



Taxable Retail
Spending



Business
Formation

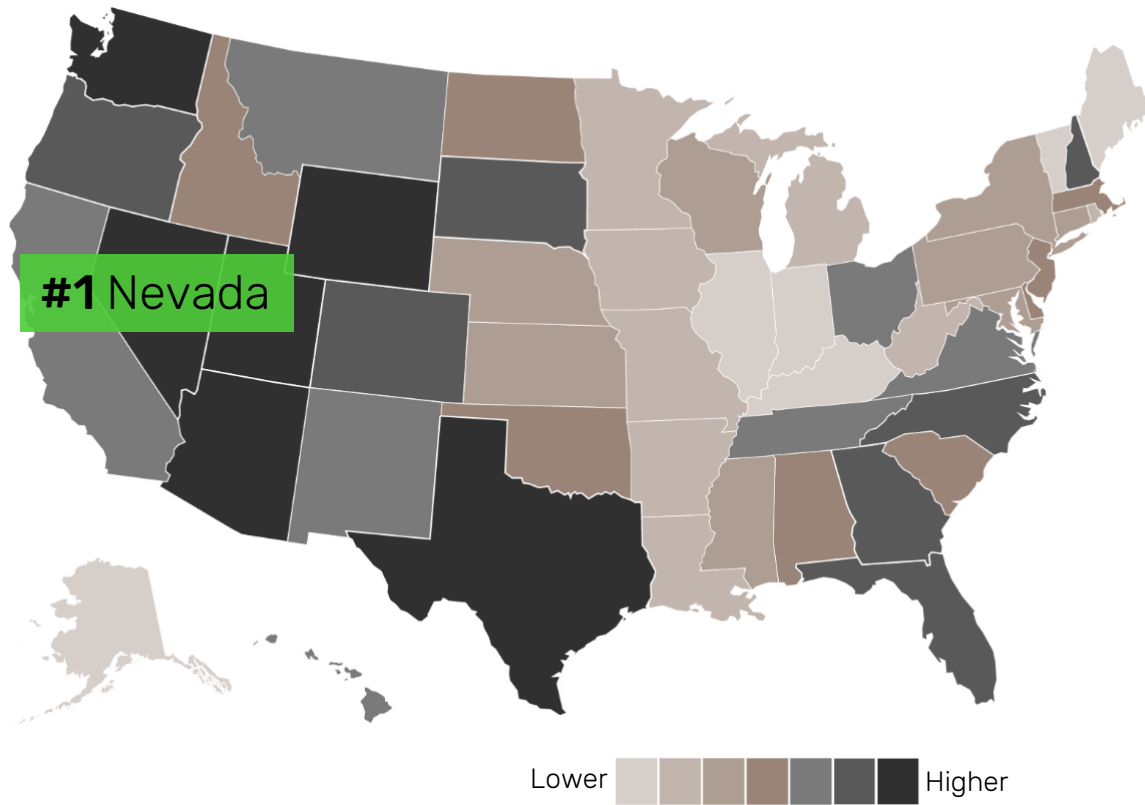


Visitor Volume &
Visitor Spending



Fastest Job Growth in the Nation

Employment Growth



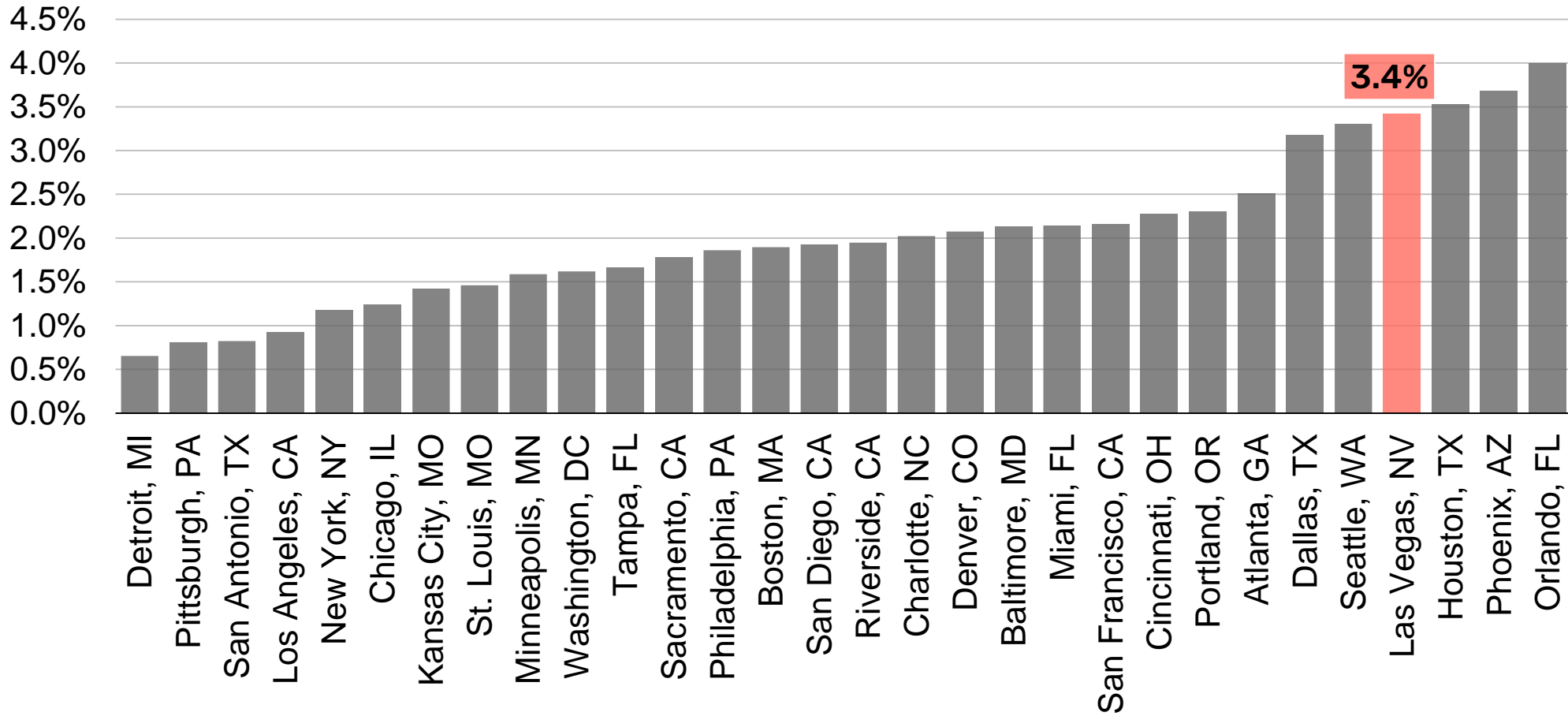
Rank	State	Annual Growth
1	Nevada	+3.8%
2	Arizona	+3.3%
3	Washington	+3.2%
4	Utah	+3.1%
5	Texas	+3.1%
6	Wyoming	+2.9%
7	Colorado	+2.8%
8	Florida	+2.7%
9	Georgia	+2.6%
10	New Hampshire	+2.6%
U.S. Average		+1.8%

Source: U.S. Bureau of Labor Statistics (December 2018 vs. December 2017)



Employment Growth

Largest 30 MSAs

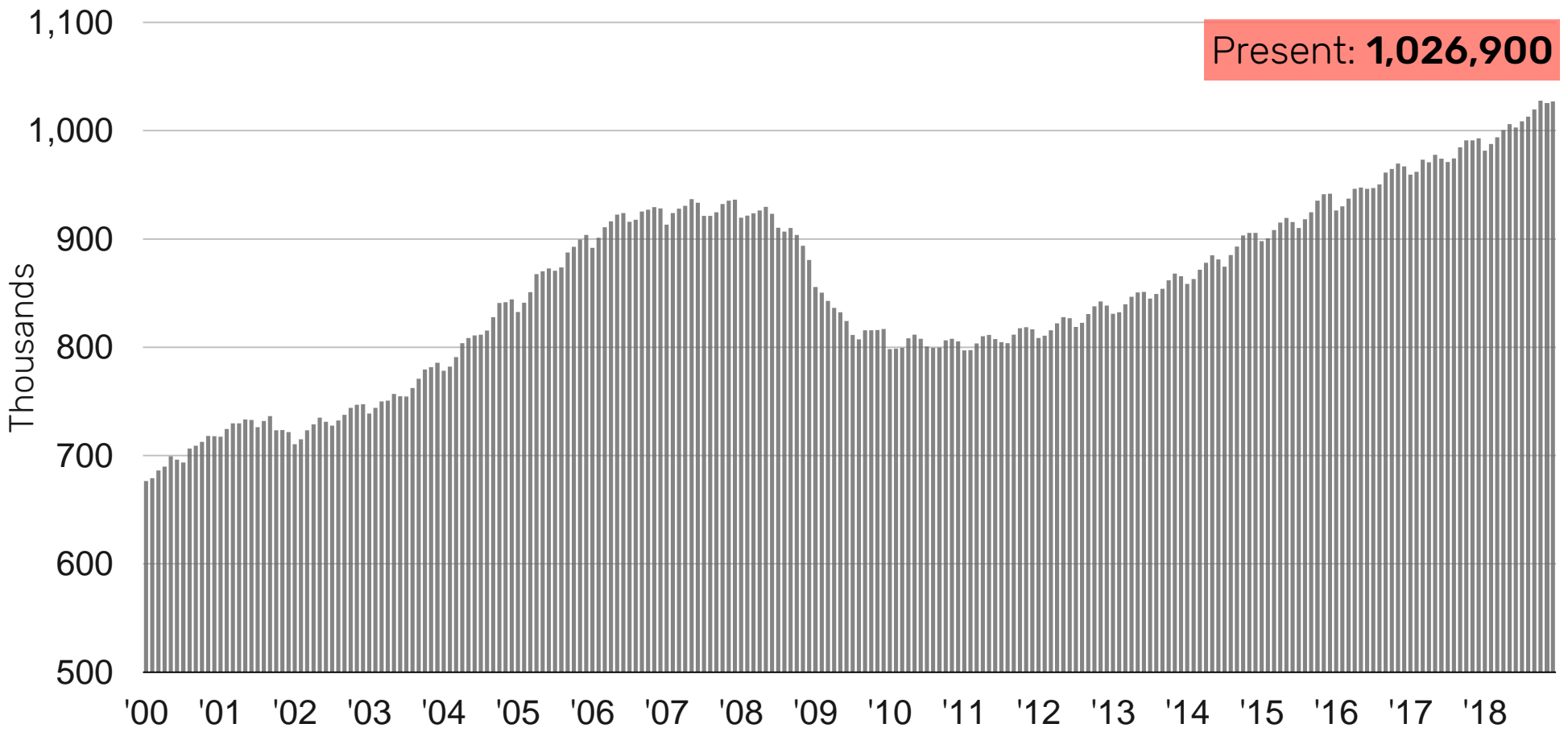


Source: U.S. Bureau of Labor Statistics (December 2018 vs. December 2017)



Employment

Las Vegas MSA



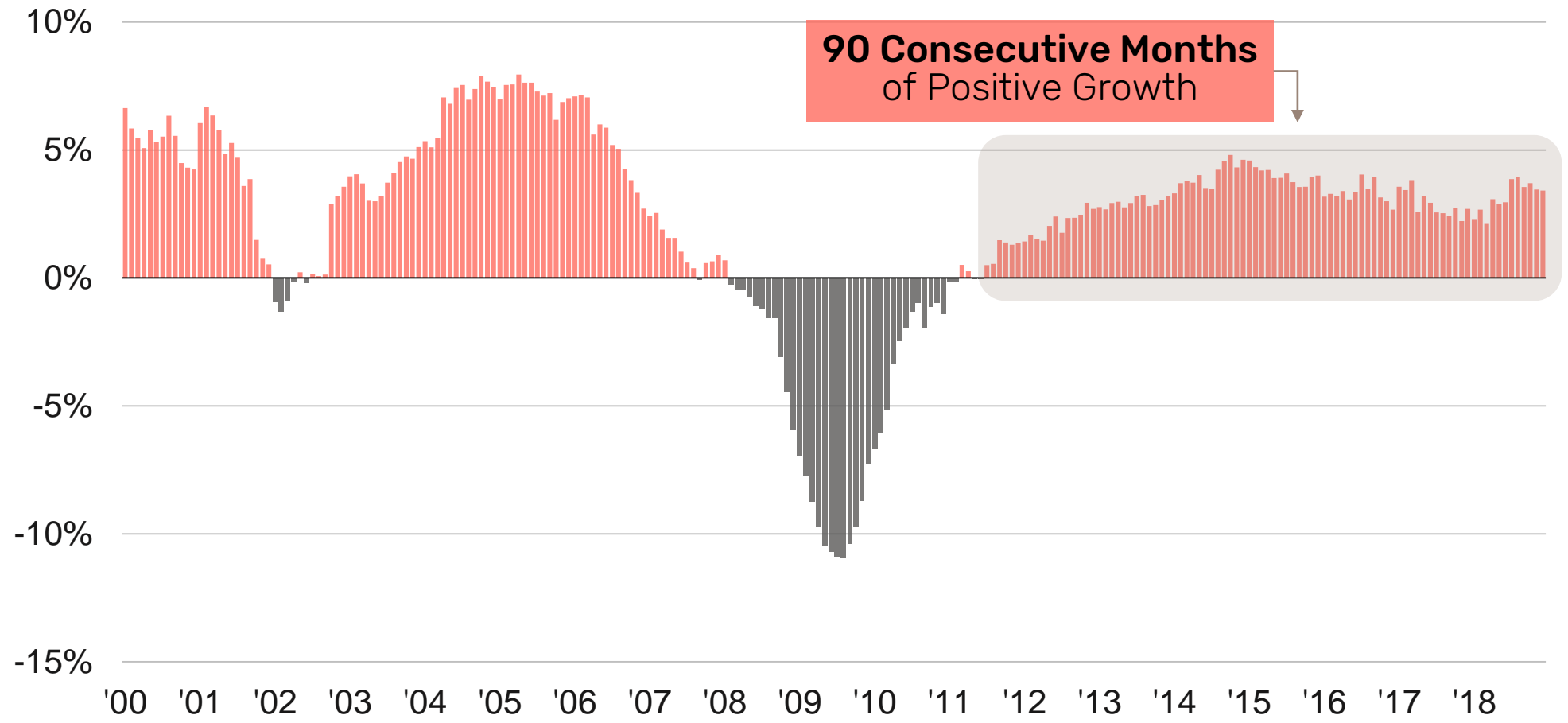
Present: **1,026,900**

Source: U.S. Bureau of Labor Statistics

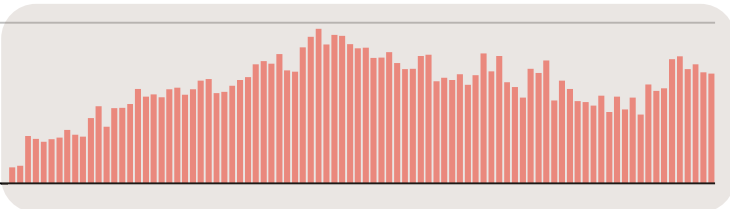


Employment Growth

Las Vegas MSA | Year-over-Year



90 Consecutive Months
of Positive Growth

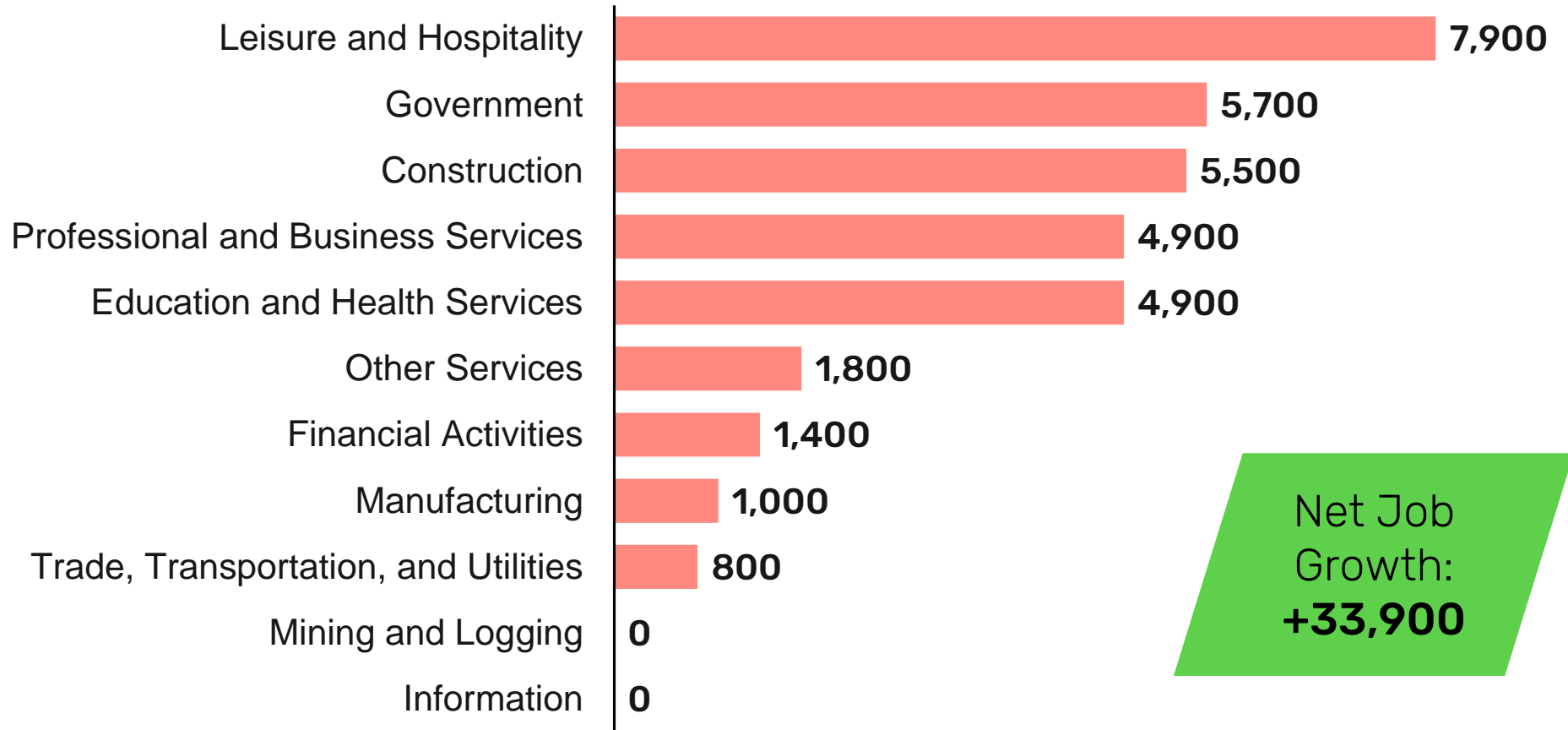


Source: U.S. Bureau of Labor Statistics



Employment Growth

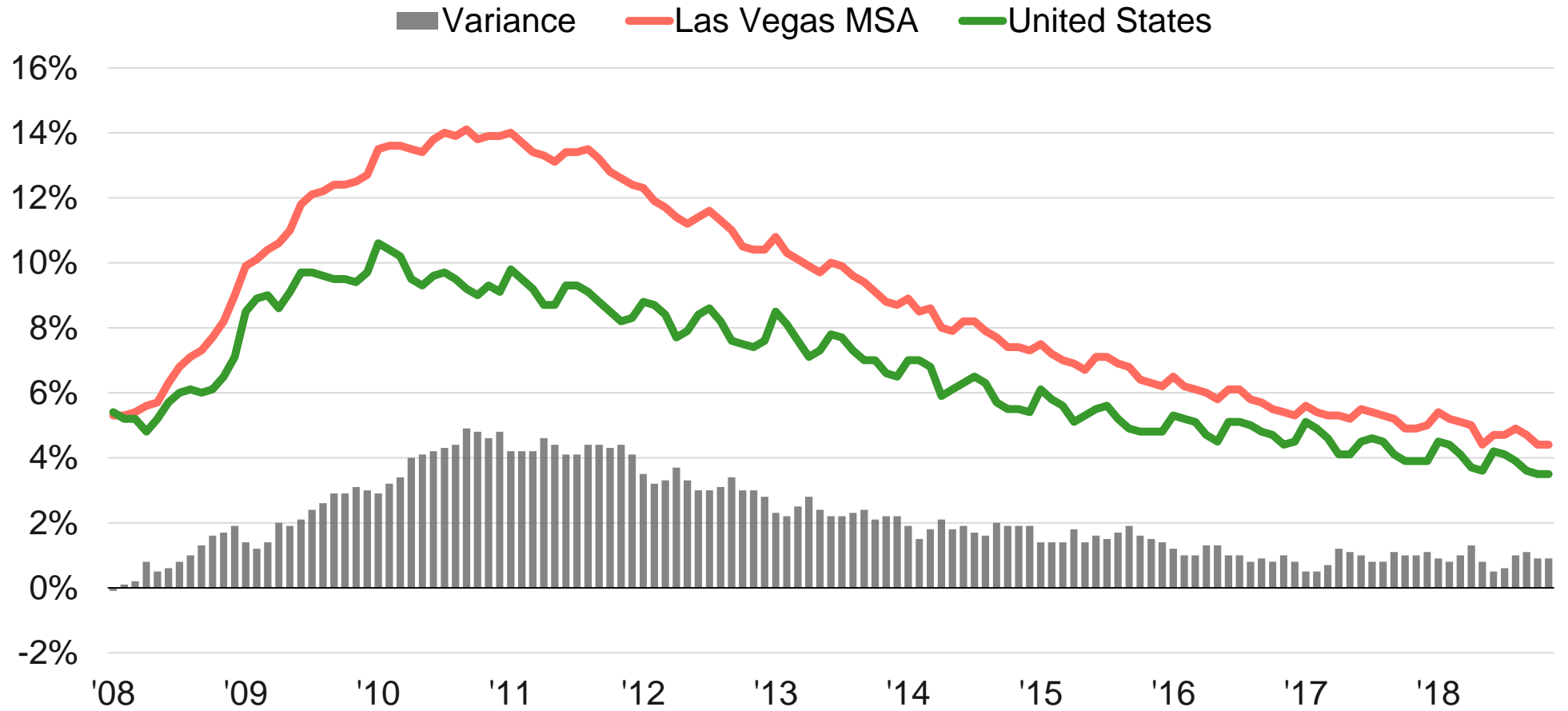
Las Vegas MSA | Last 12 Months



Source: U.S. Bureau of Labor Statistics (December 2018 vs. December 2017)



Unemployment Rate



Source: U.S. Bureau of Labor Statistics



Changing the Employment Base

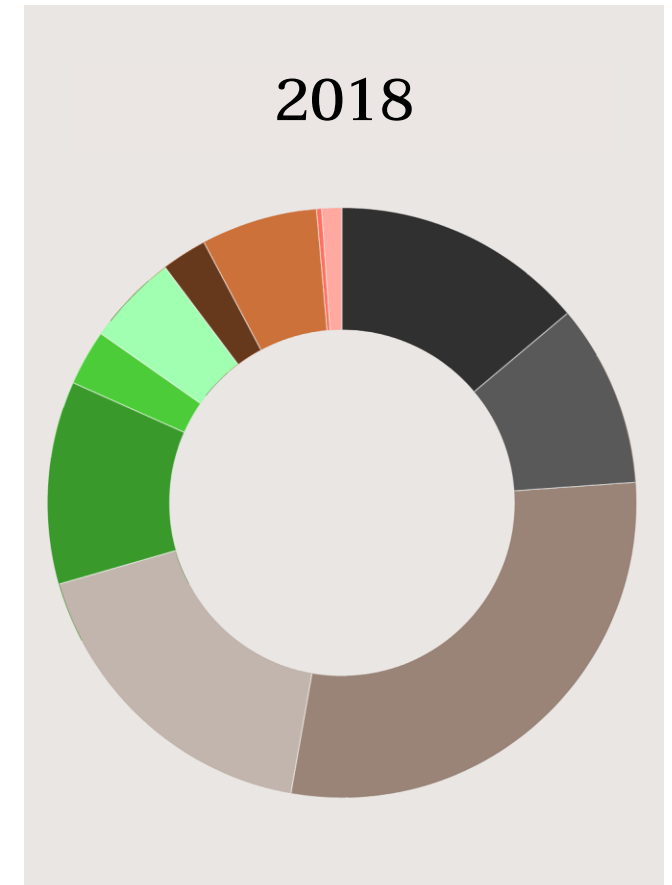
Sector	2000	2018	Net Growth
Professional and Business Services	76,600	142,000	+65,400
Education and Health Services	43,000	104,100	+61,100
Leisure and Hospitality	235,700	292,800	+57,100
Trade, Transportation and Utilities	129,000	186,100	+57,100
Government	74,200	112,400	+38,200
Other Services	18,900	33,400	+14,500
Financial Activities	39,300	52,300	+13,000
Manufacturing	20,600	24,500	+3,900
Construction	66,900	67,900	+1,000
Mining and Logging	500	400	-100
Information	13,200	11,000	-2,200
Total	717,900	1,026,900	+309,000

Source: U.S. Bureau of Labor Statistics



Changing the Employment Base

Sector	Net Job Growth (2000 vs. 2018)	Share Change
Professional and Business Services	+65,400	+3.2%
Education and Health Services	+61,100	+4.1%
Leisure and Hospitality	+57,100	-4.3%
Trade, Transportation and Utilities	+57,100	+0.2%
Government	+38,200	+0.6%
Other Services	+14,500	+0.6%
Financial Activities	+13,000	-0.4%
Manufacturing	+3,900	-0.5%
Construction	+1,000	-2.7%
Mining and Logging	-100	+0.03%
Information	-2,200	-0.8%

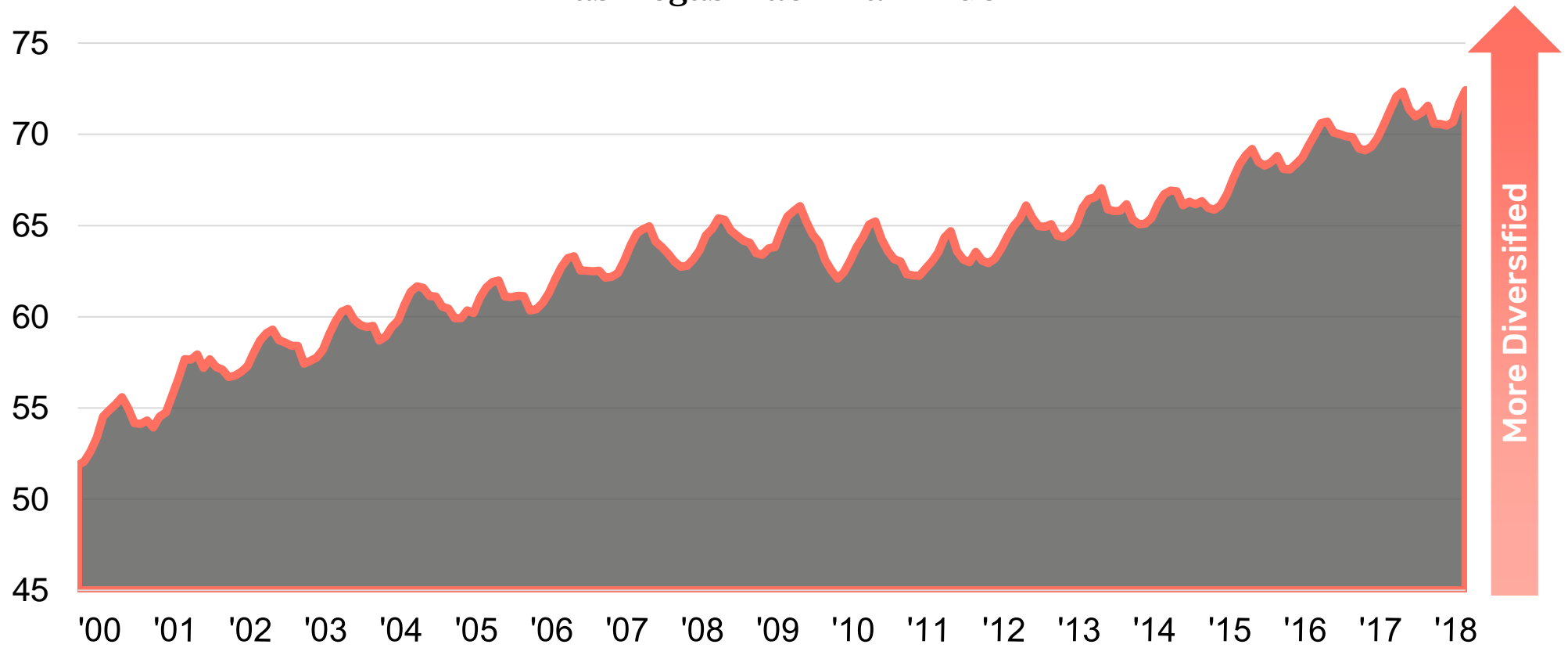


Source: U.S. Bureau of Labor Statistics

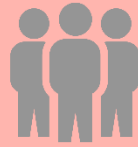


Diversifying the Job Market

Las Vegas Hachman Index



Source: U.S. Bureau of Labor Statistics and Applied Analysis



Population
Growth



Employment &
Unemployment



**Wages &
Salaries**



Business
Formation



Residential
Housing Market



Commercial &
Industrial Sectors



Taxable Retail
Spending

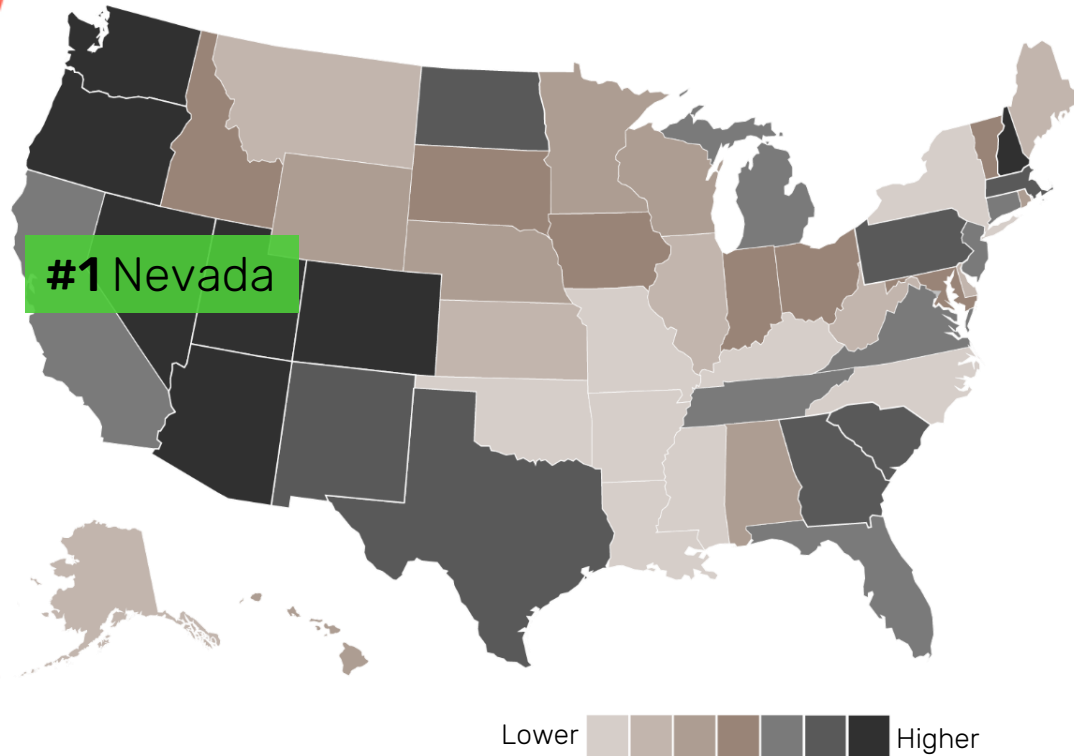


Visitor Volume &
Visitor Spending



Fastest Growing Personal Income

Personal Income Growth



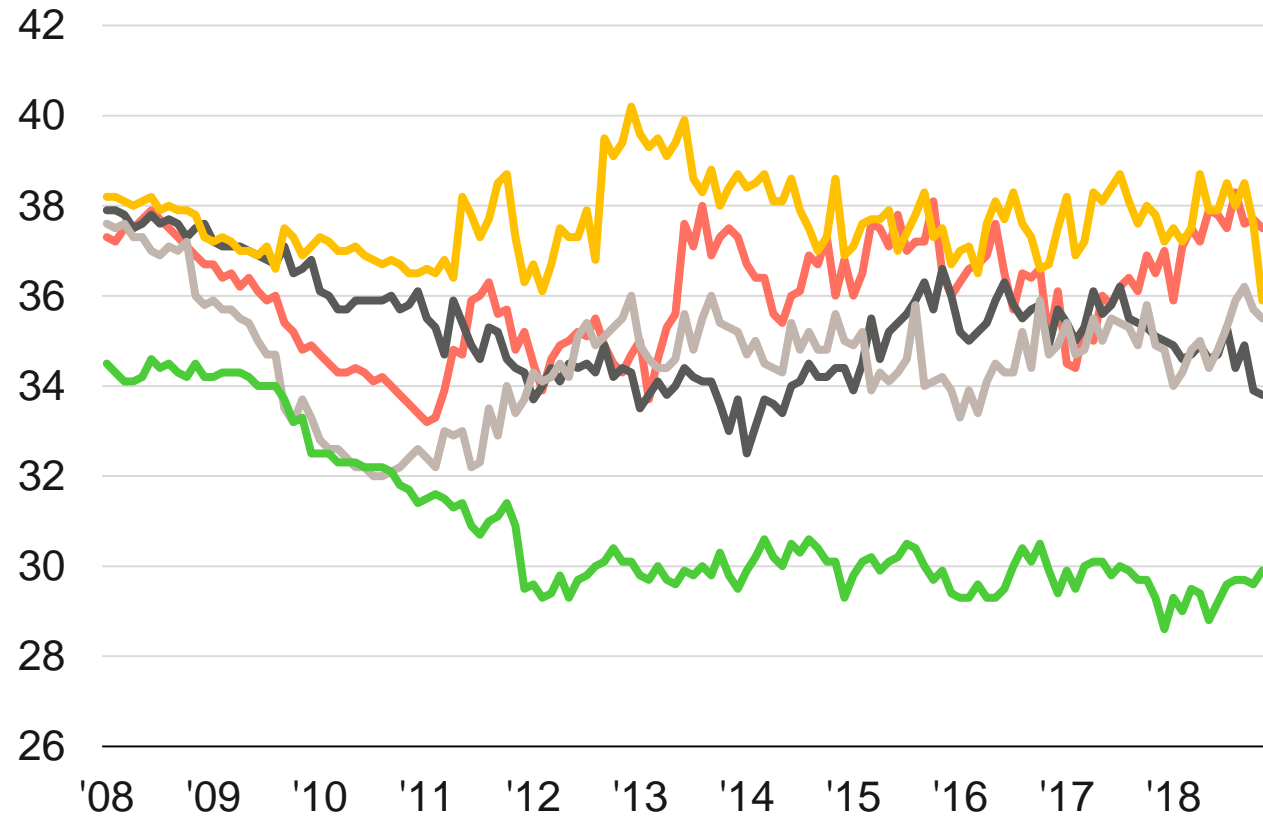
Rank	State	Quarterly Growth	Annualized Growth
1	Nevada	+1.52%	+6.21%
2	Washington	+1.51%	+6.16%
3	Arizona	+1.33%	+5.42%
4	Colorado	+1.29%	+5.27%
5	New Hampshire	+1.25%	+5.12%
6	Oregon	+1.25%	+5.10%
7	Utah	+1.17%	+4.75%
8	Pennsylvania	+1.16%	+4.71%
9	Texas	+1.14%	+4.65%
10	North Dakota	+1.14%	+4.63%

Source: U.S. Bureau of Economic Analysis (Q2 2018 vs. Q3 2018)



Average Weekly Hours

Nevada | By Sector



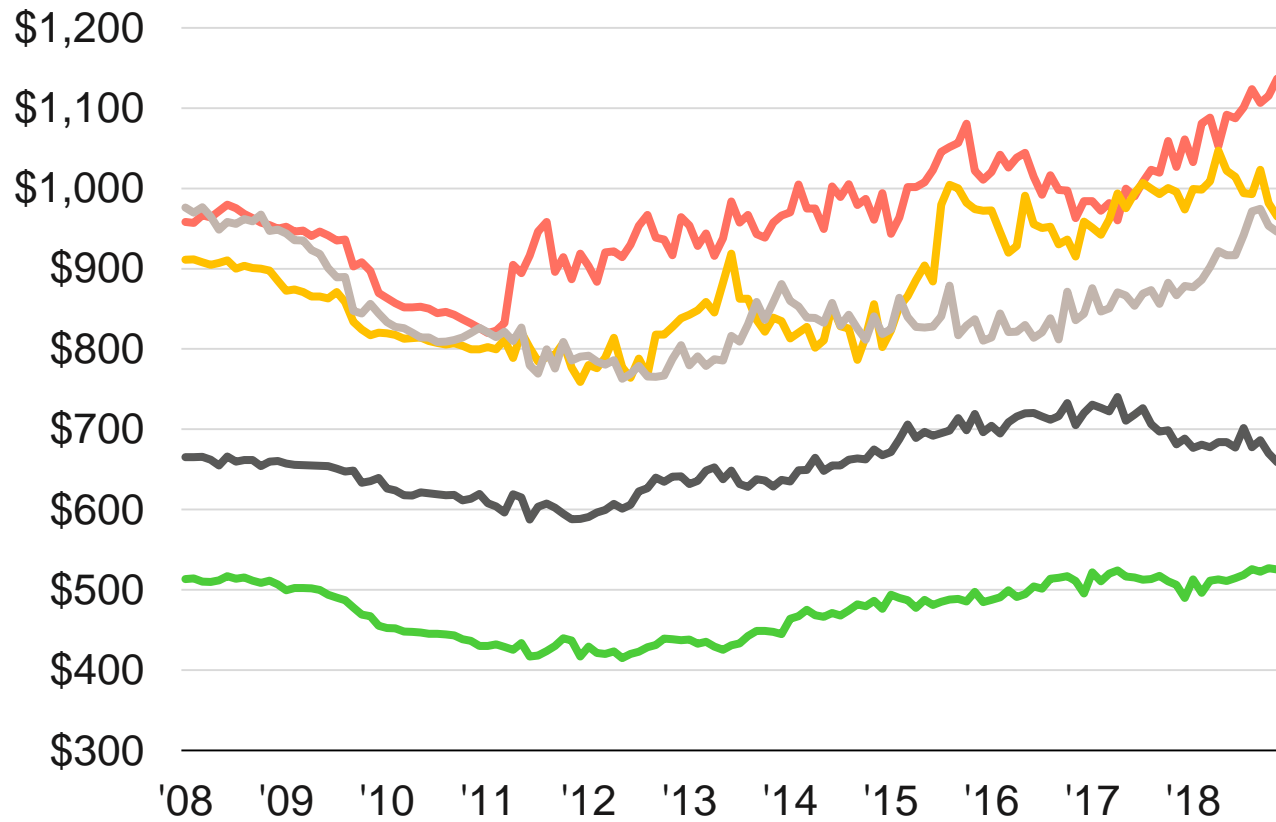
	Construction 37.5 Hrs
	Financial Activities 35.9 Hrs.
	Prof. & Business Svcs. 35.5 Hrs.
	Trade, Trans. & Util. 33.8 Hrs.
	Leisure & Hospitality 29.9 Hrs.

Source: U.S. Bureau of Labor Statistics



Average Weekly Earnings

Nevada | By Sector



	Construction \$1,137
	Financial Activities \$965
	Prof. & Business Svcs. \$946
	Trade, Trans. & Util. \$659
	Leisure & Hospitality \$525

Source: U.S. Bureau of Labor Statistics



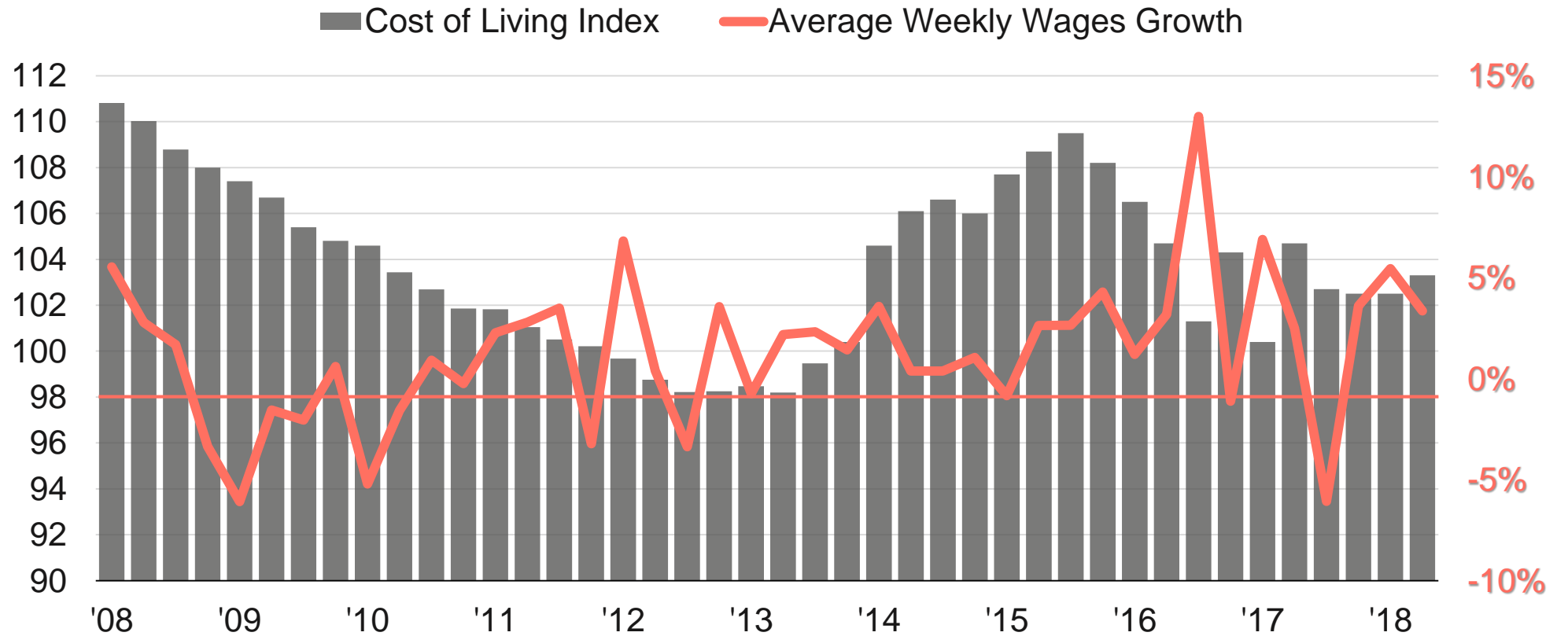
ARE WAGES
KEEPING PACE
WITH THE
COST OF LIVING?





Cost of Living Index (COLI) vs. Average Weekly Wage Growth

Southern Nevada

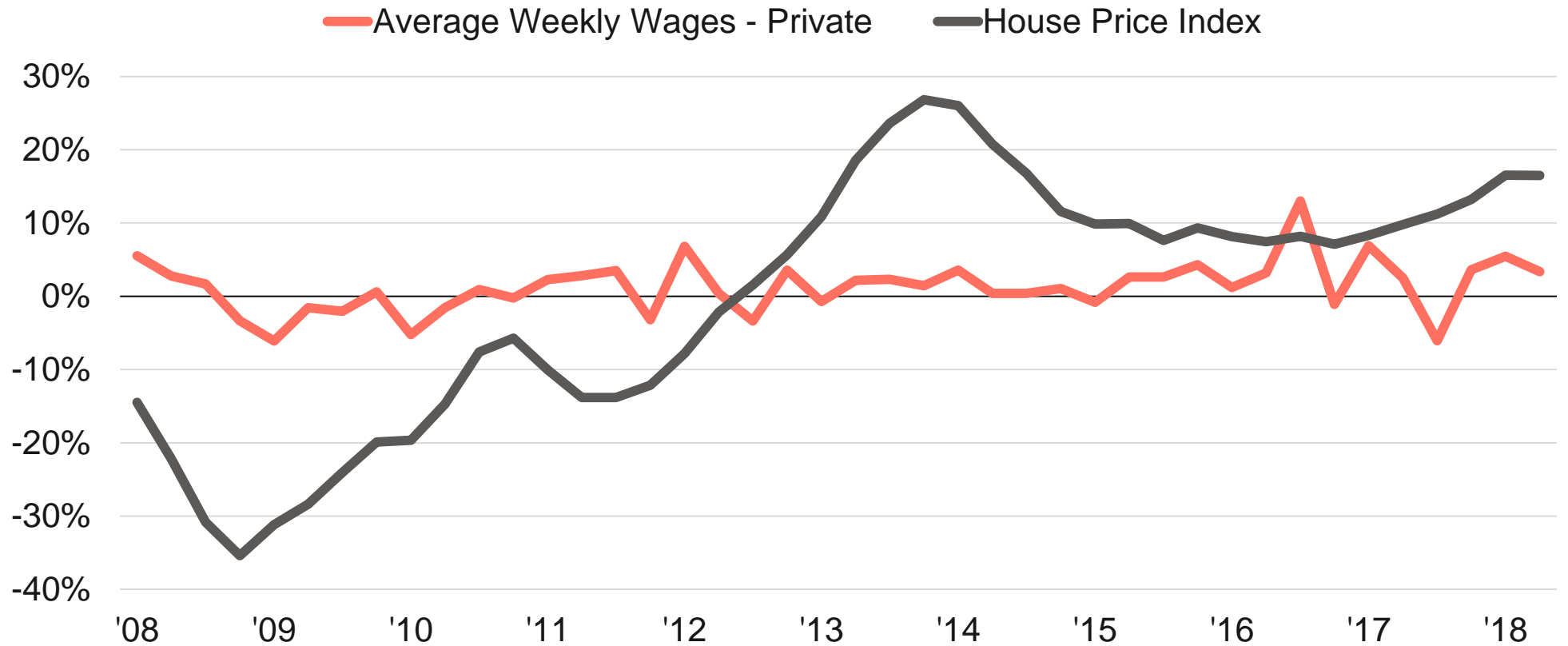


Source: U.S. Bureau of Labor Statistics and The Council for Community and Economic Research



Average Weekly Wage vs. House Price Index (HPI) Growth

Southern Nevada

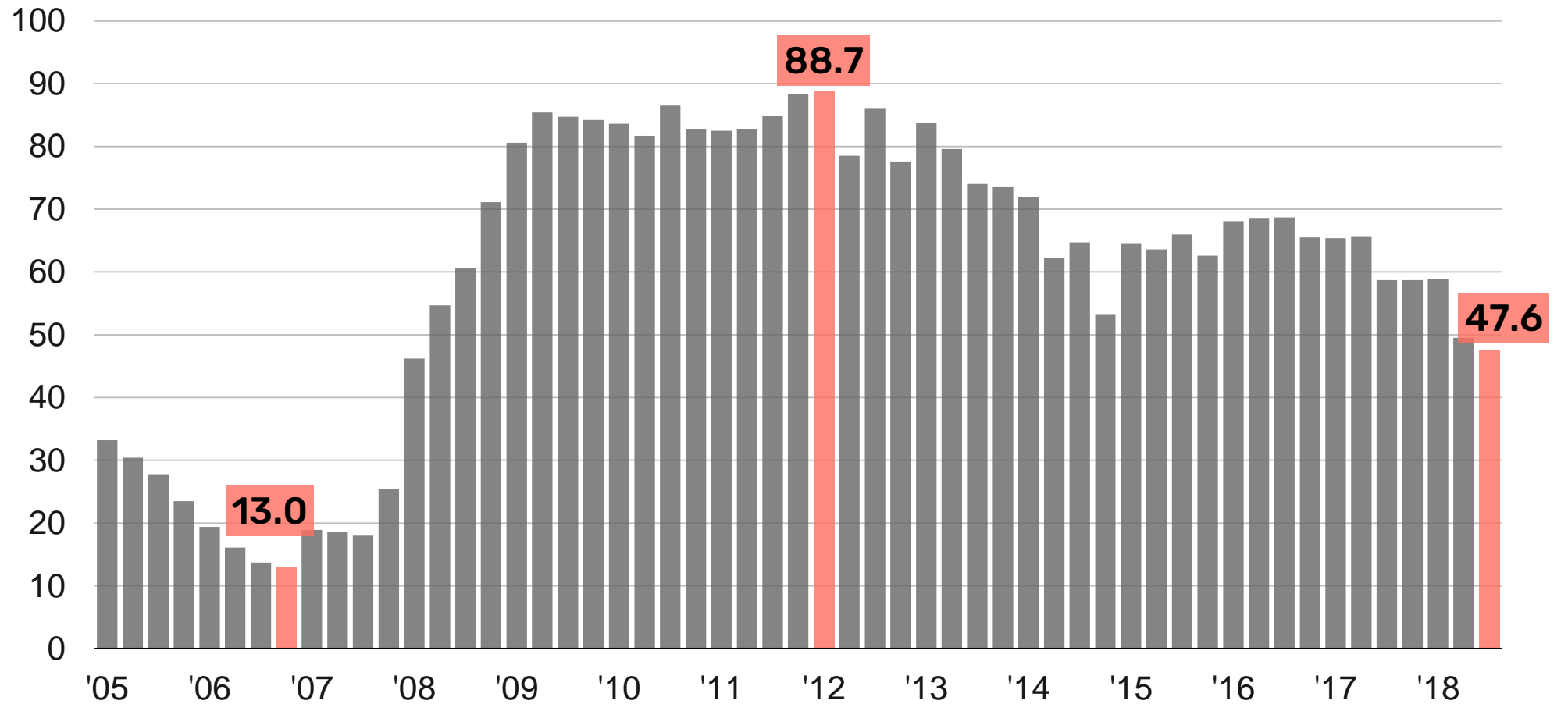


Source: U.S. Bureau of Labor Statistics and Federal Housing Finance Agency



Housing Opportunity Index

Las Vegas MSA



Source: National Association of Homebuilders



The Missing Middle

1 in 4
Southern Nevada
Households
**Fall into the
Missing Middle**



186,000

Households



129,500

Family Households



72,700

Households with Children

Source: U.S. Census Bureau, Applied Analysis



Population
Growth



Employment &
Unemployment



Wages &
Salaries



**Business
Formation**



Residential
Housing Market



Commercial &
Industrial Sectors



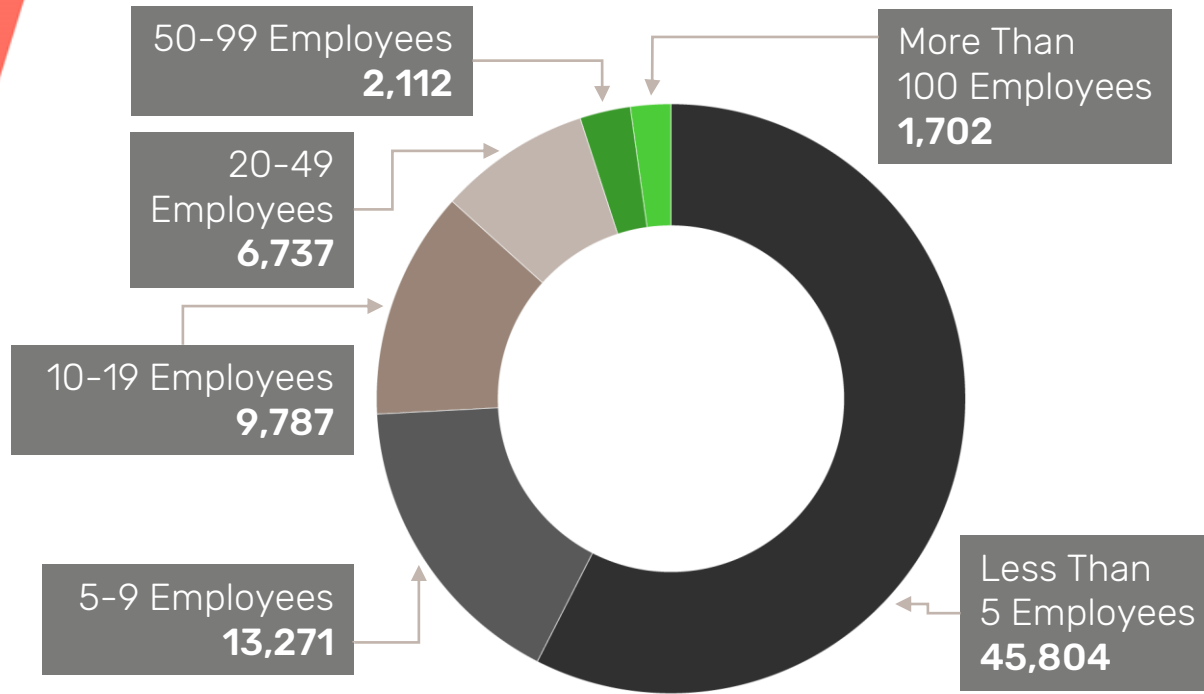
Taxable Retail
Spending



Visitor Volume &
Visitor Spending



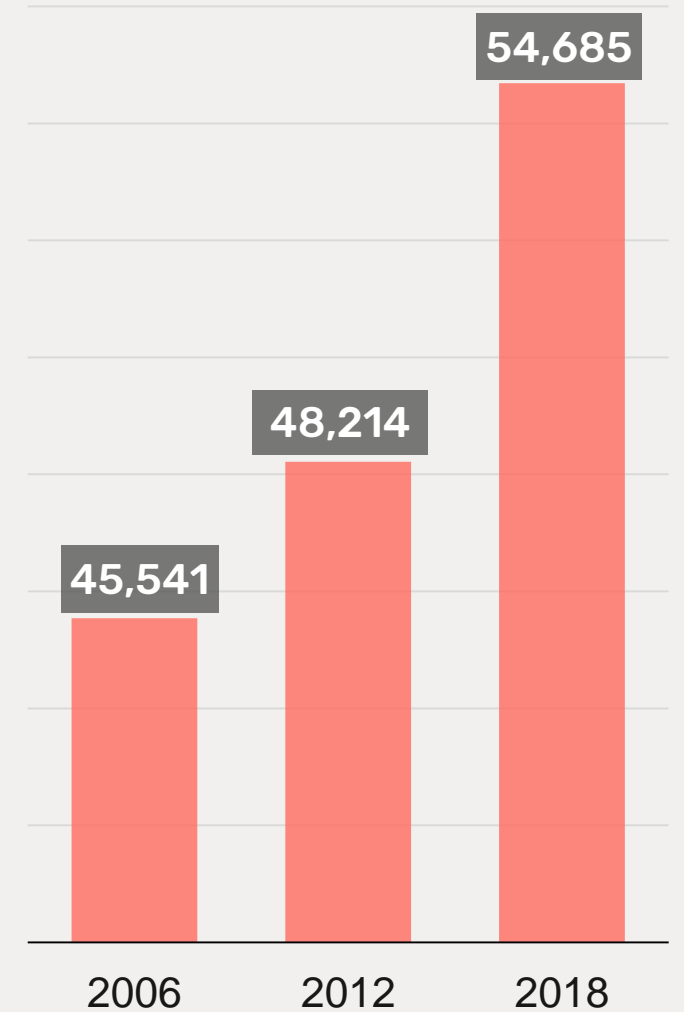
Nevada Private Business by Class Size



68%

Clark County Share of Statewide
Private Businesses

Private Businesses Clark County

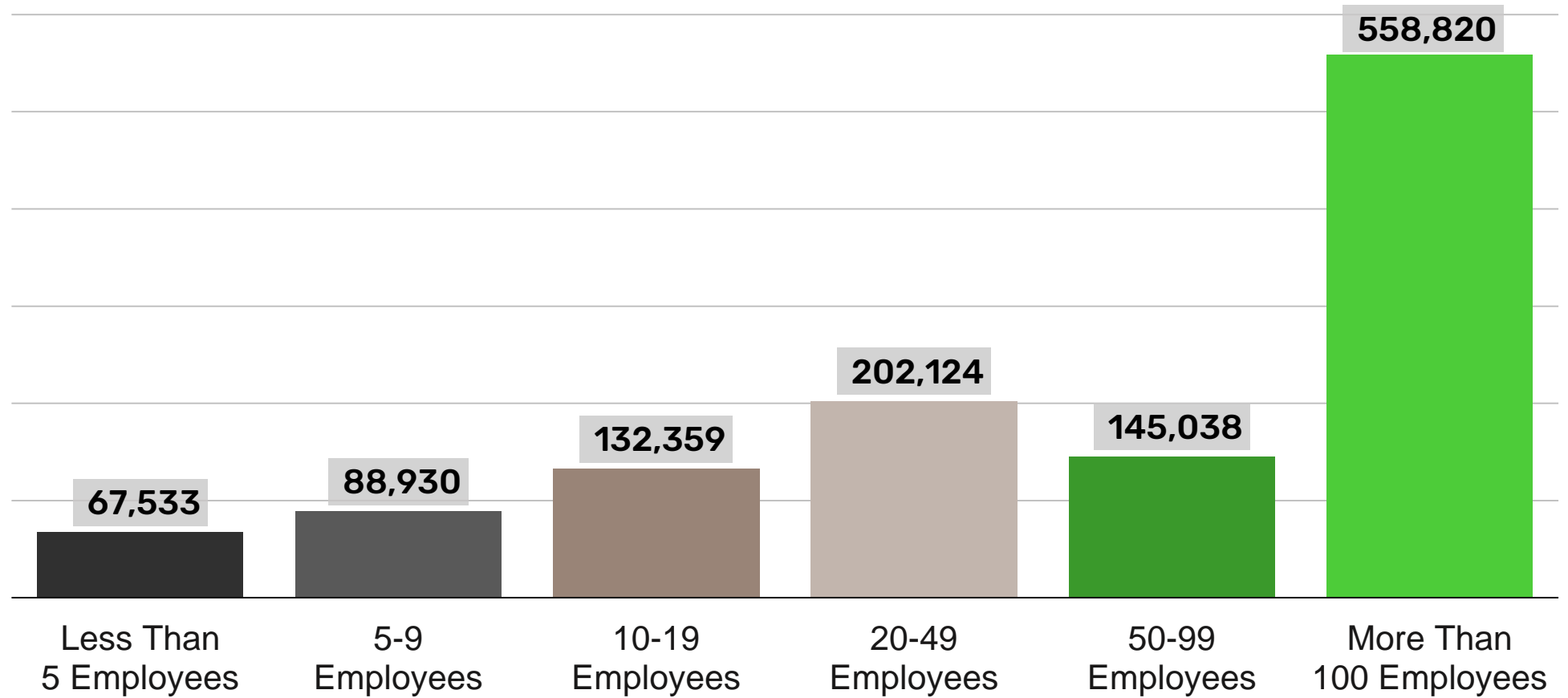


Source: U.S. Bureau of Labor Statistics



Employment by Class Size

Nevada



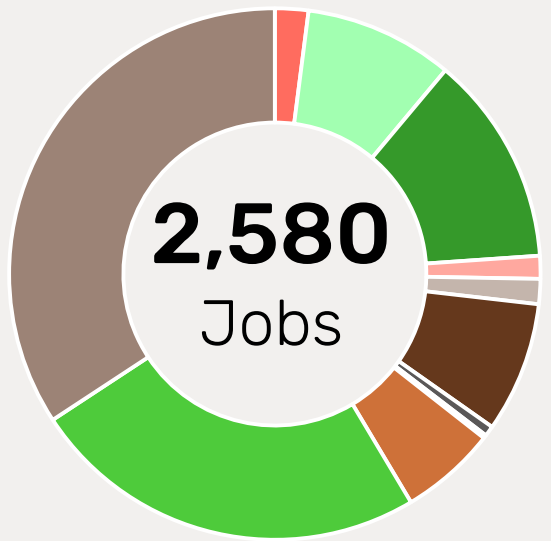
Source: U.S. Bureau of Labor Statistics



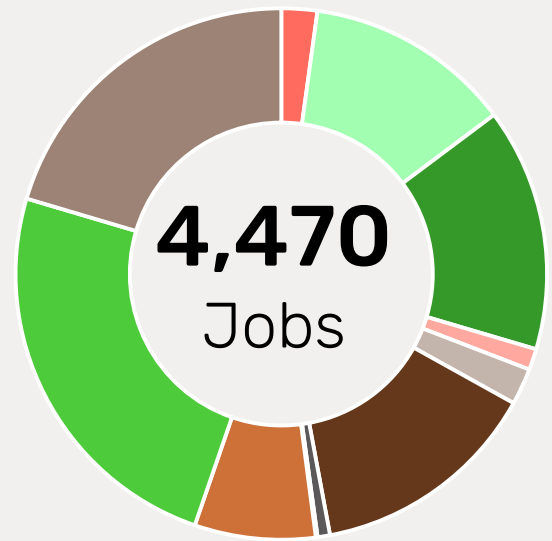
Impact of \$1 Billion Investment

Indirect and Induced Job Impacts by Sector

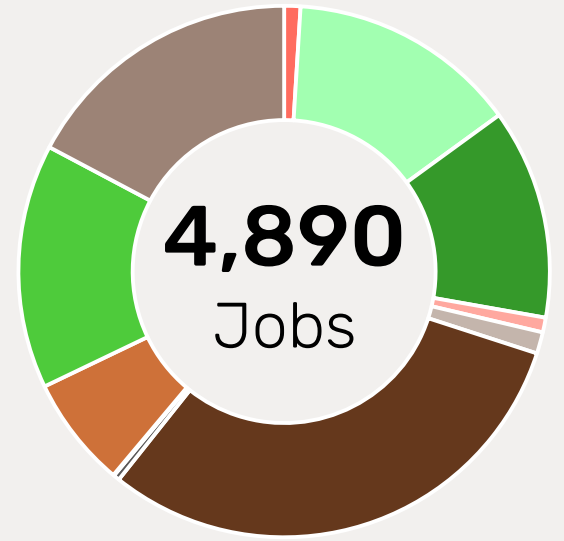
Advanced Manufacturing



Leisure & Hospitality



Sports & Entertainment





Population
Growth



Employment &
Unemployment



Wages &
Salaries



Business
Formation



**Residential
Housing Market**



Commercial &
Industrial Sectors



Taxable Retail
Spending



Visitor Volume &
Visitor Spending



The New York Times

Wednesday, September 12, 2018

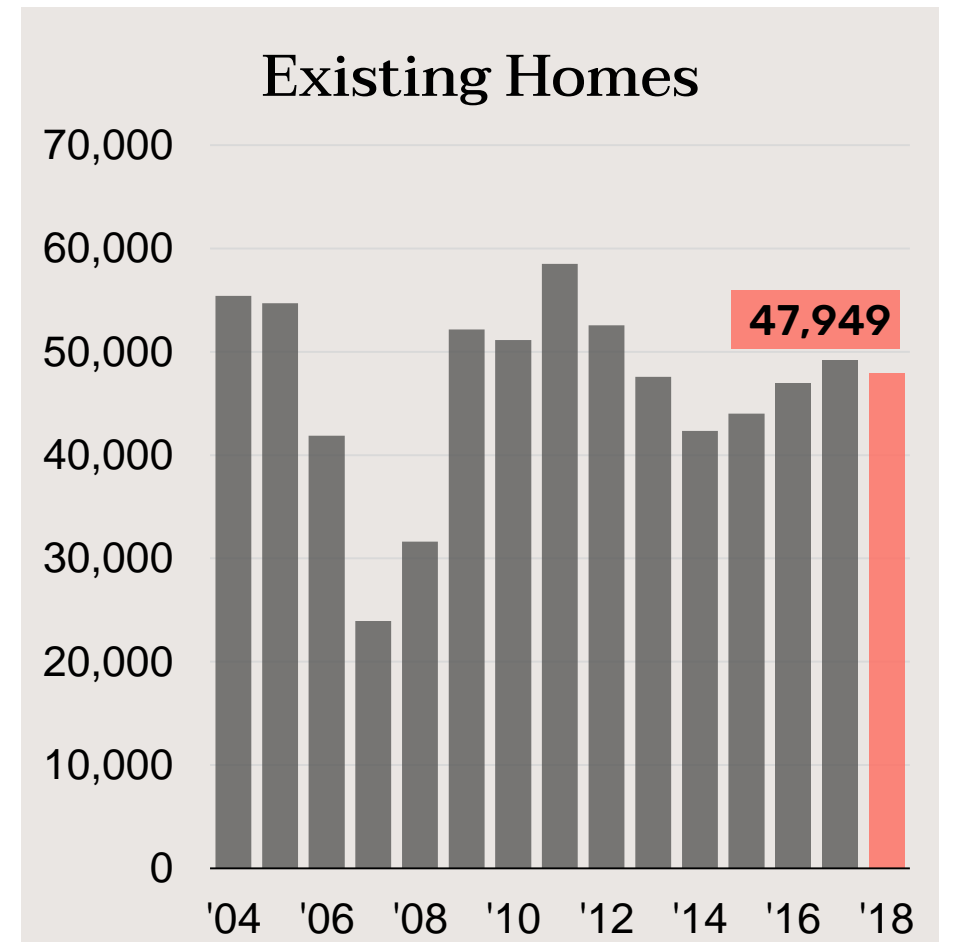
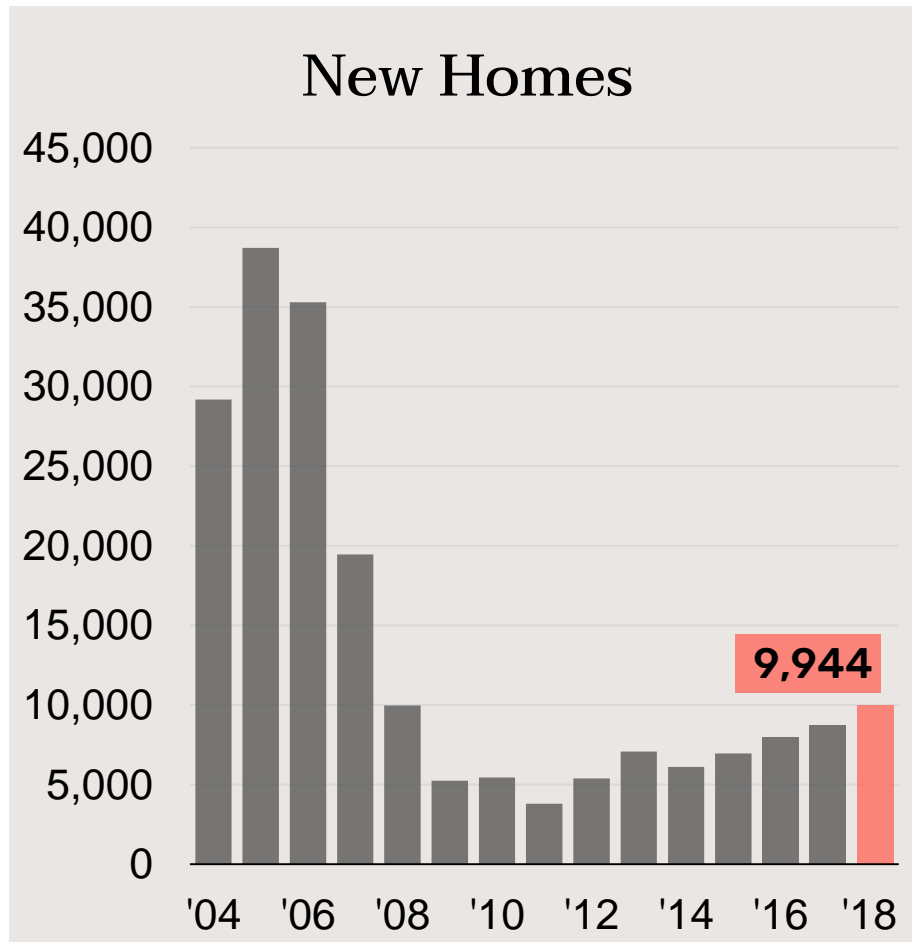
CRISIS AND CONSEQUENCES

**THE EPICENTER OF THE
HOUSING BUST IS BOOMING AGAIN.
(THAT'S A WARNING SIGN.)**



Home Closings

Las Vegas Area

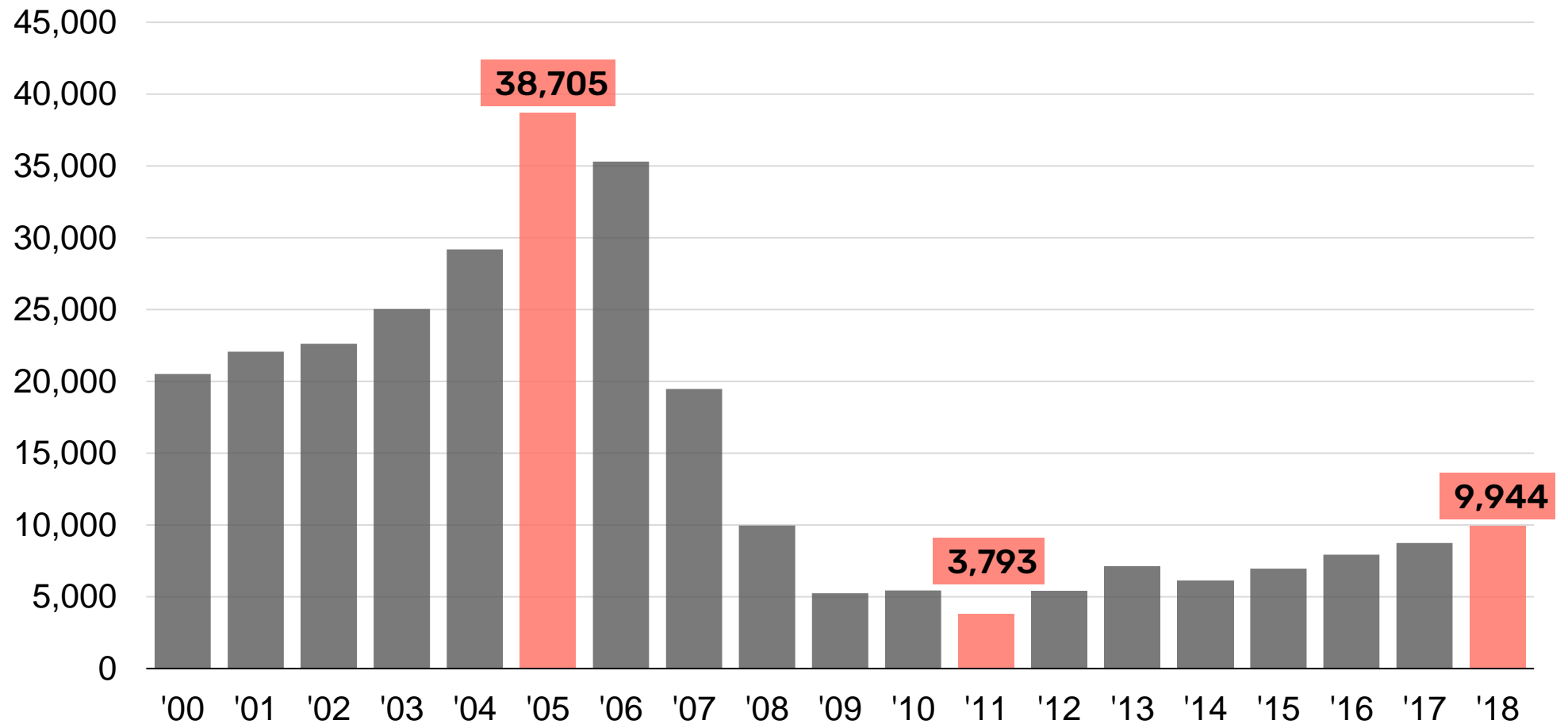


Source: SalesTraq



New Home Closings

Las Vegas Area

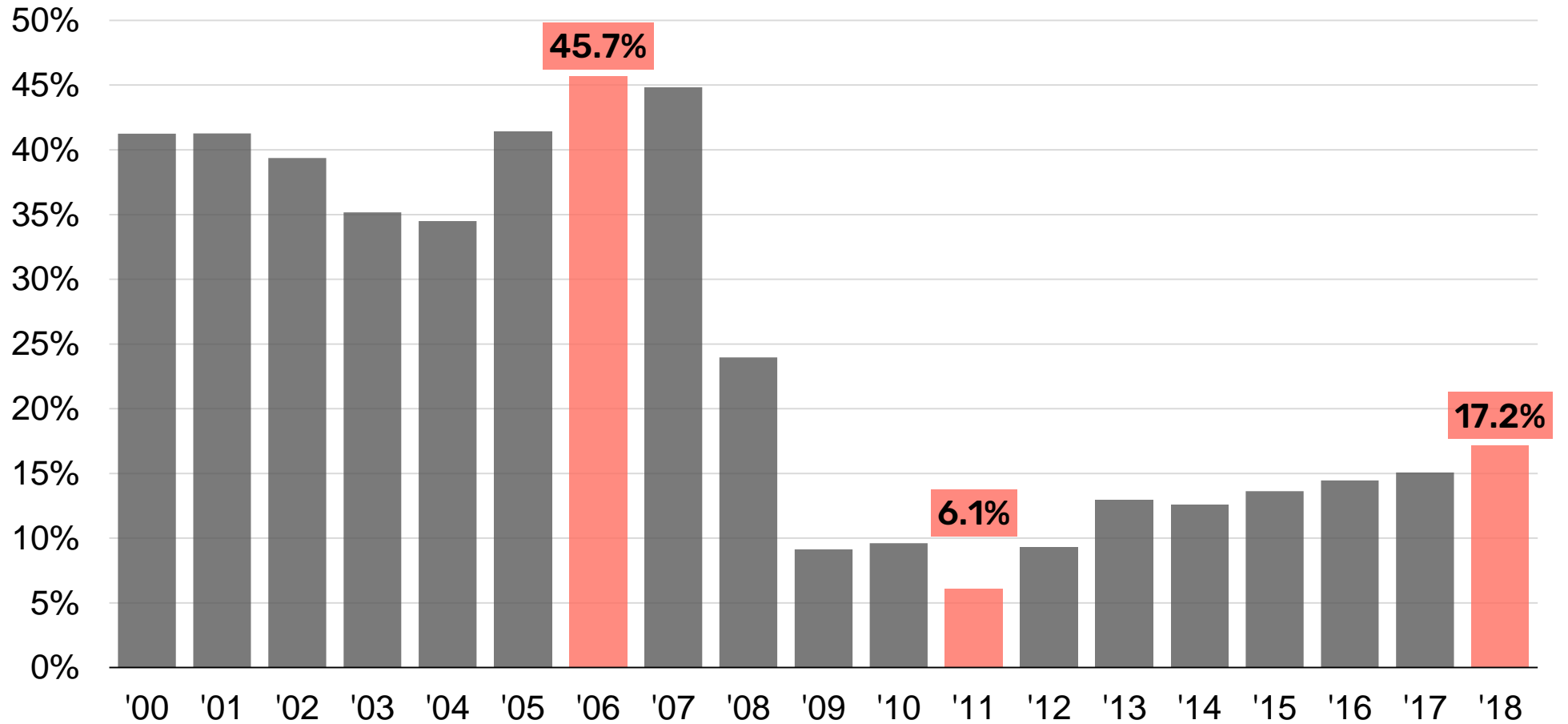


Source: SalesTraq



New Home Market Share

Las Vegas Area



Source: SalesTraq



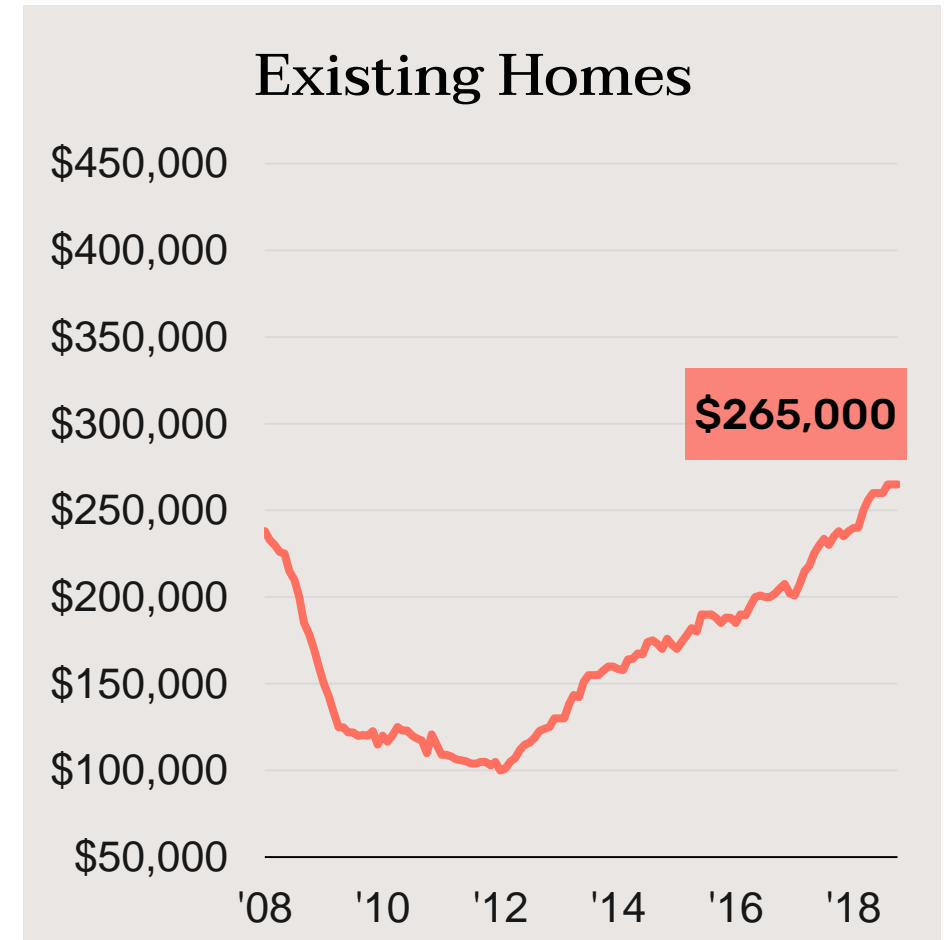
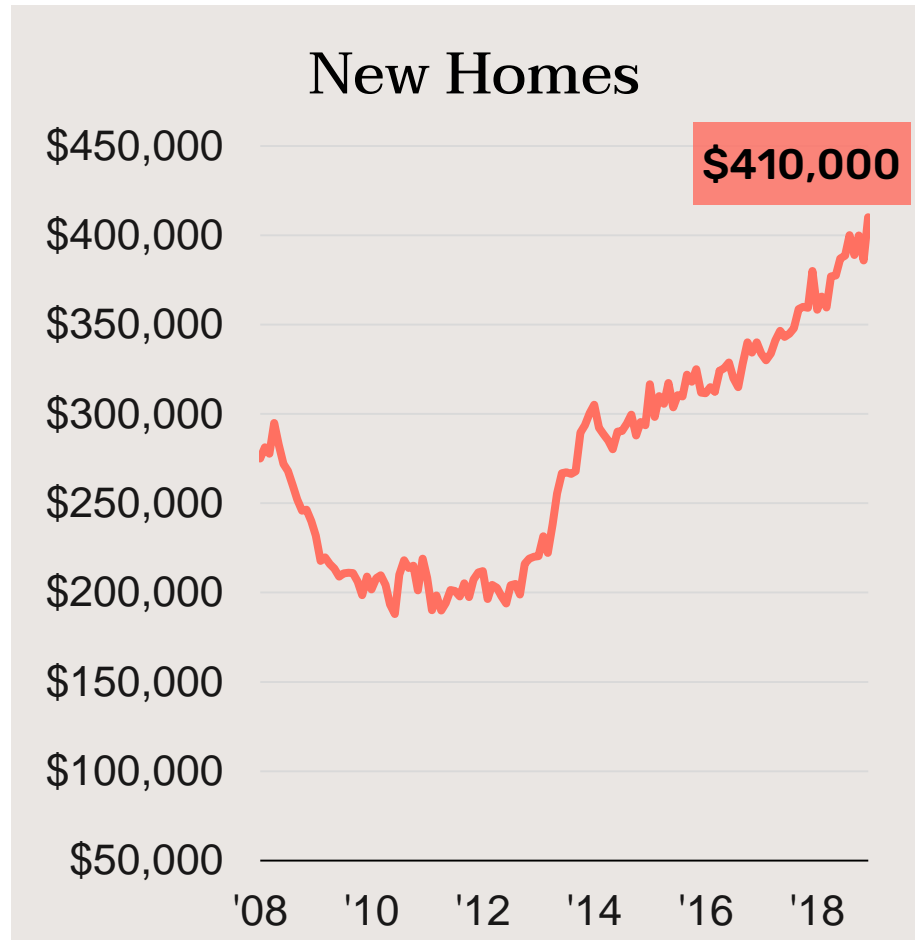
HOUSING AFFORDABILITY IS CONCERNING, BUT WHERE DO WE STAND?





Median Home Prices

Las Vegas Area

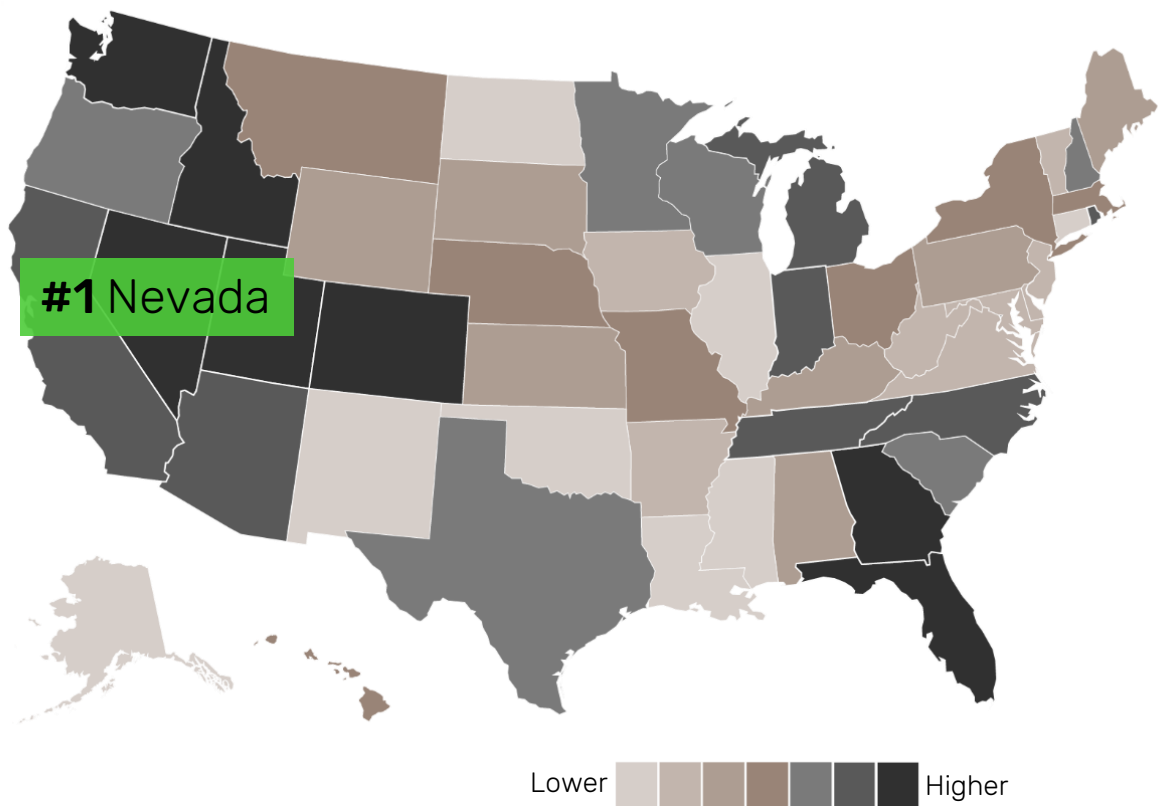


Source: SalesTraq



Fastest House Price Appreciation

House Price Index Growth



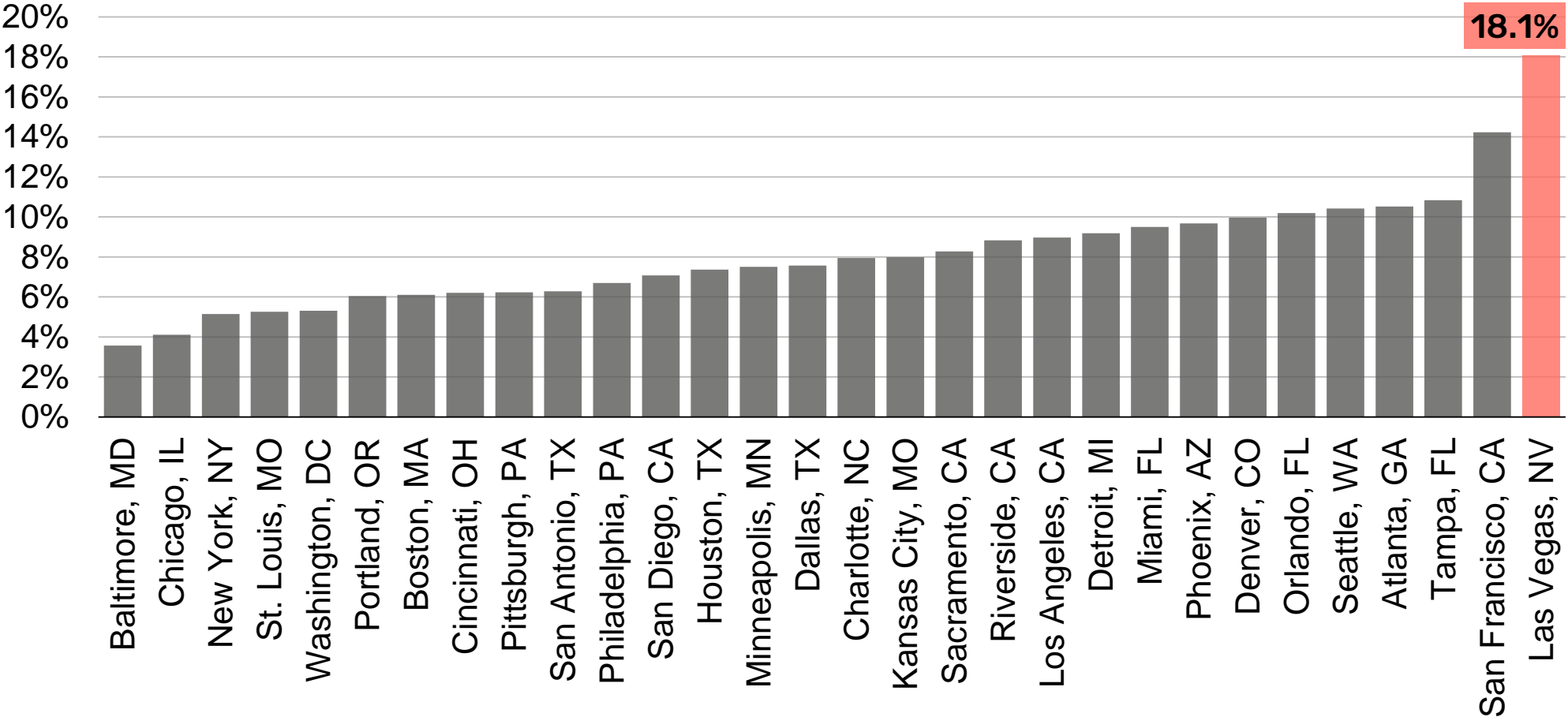
Rank	State	Growth
1	Nevada	+15.0%
2	Idaho	+13.0%
3	Utah	+10.4%
4	Washington	+9.9%
5	Colorado	+9.8%
6	Florida	+9.2%
7	Georgia	+8.9%
8	Arizona	+8.8%
9	California	+8.6%
10	Tennessee	+7.7%

Source: Federal Housing Finance Agency (Q3 2017 vs. Q3 2018)



House Price Index Growth

Largest 30 MSAs

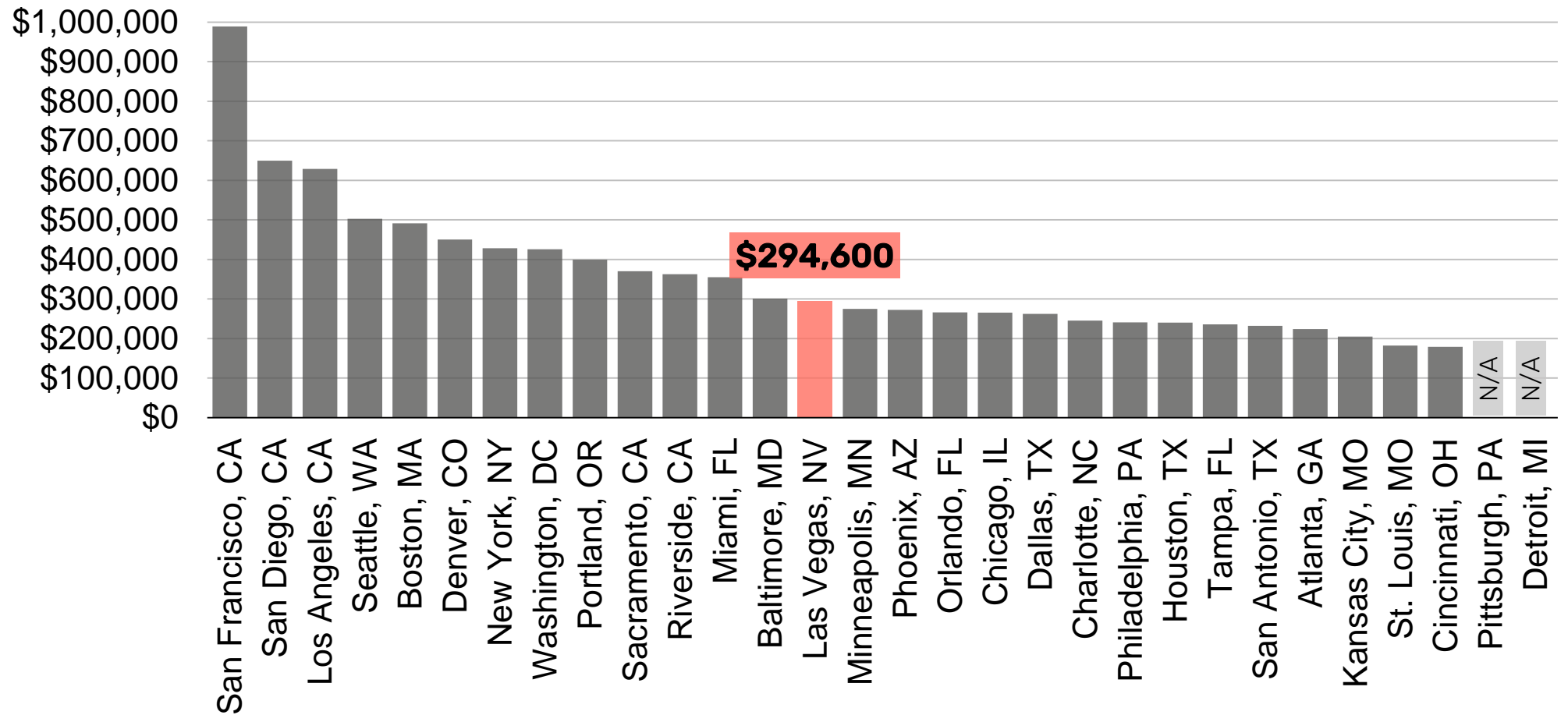


Source: Federal Housing Finance Agency (Q3 2017 vs. Q3 2018)



Single Family Median Home Price

Largest 30 MSAs



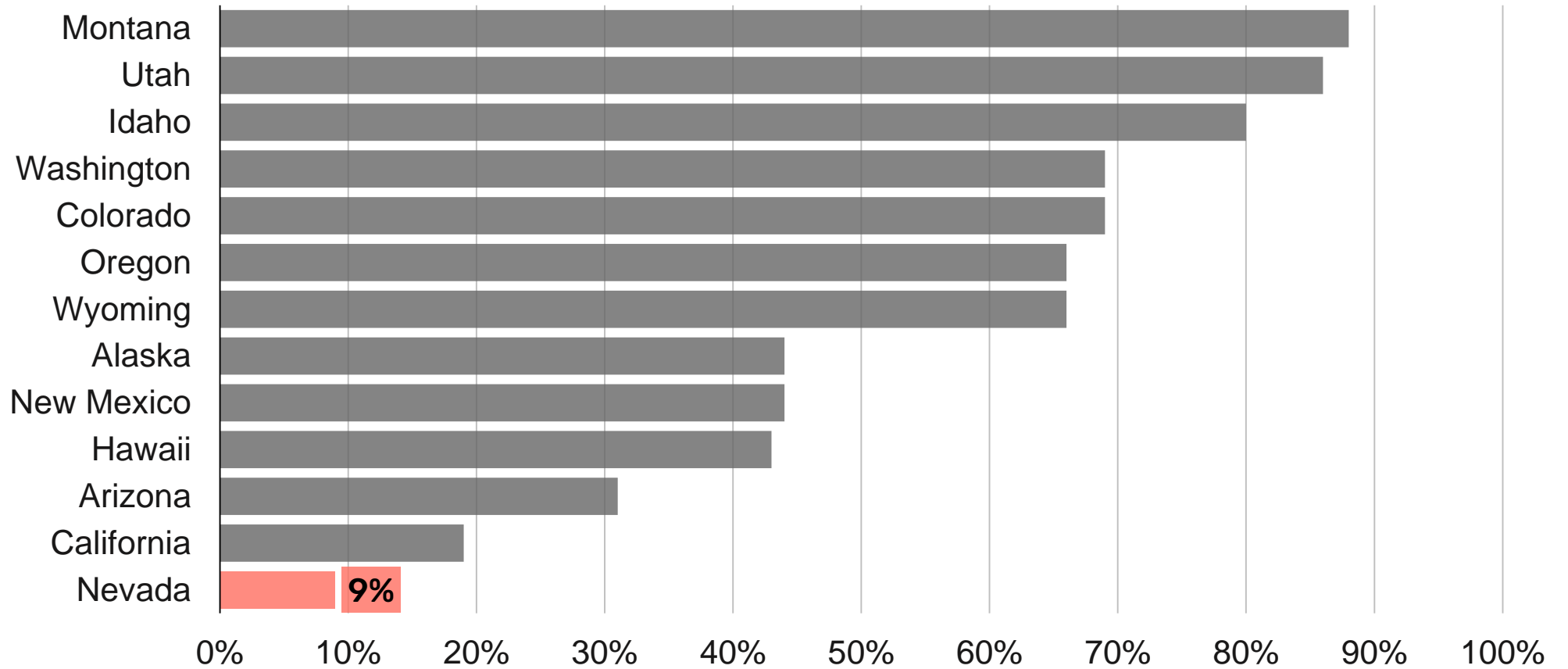
Source: National Association of Realtors (Q3 2018)

Note: Pittsburgh and Detroit not reported by the same source.



Growth in Values Since 2005

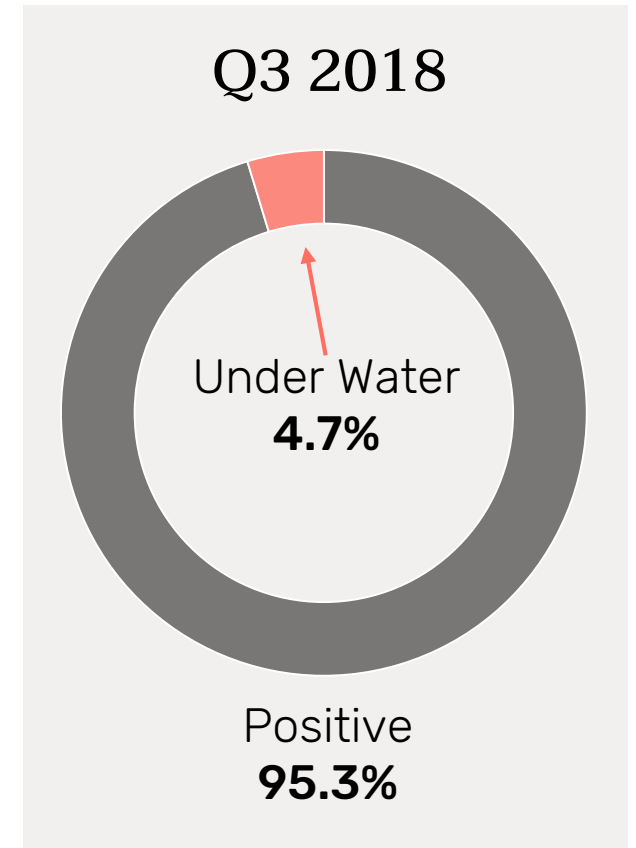
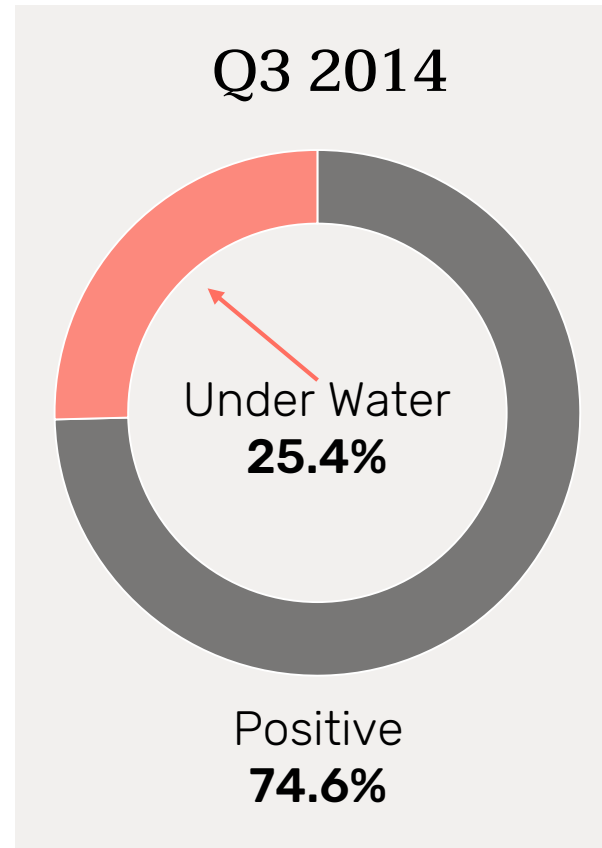
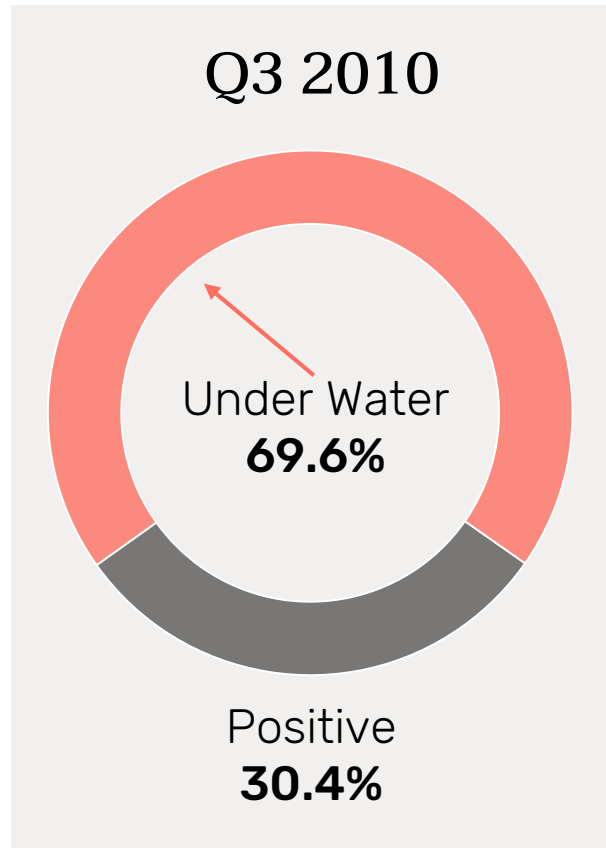
In Western States



Source: National Association of Realtors (ACS and FHFA)



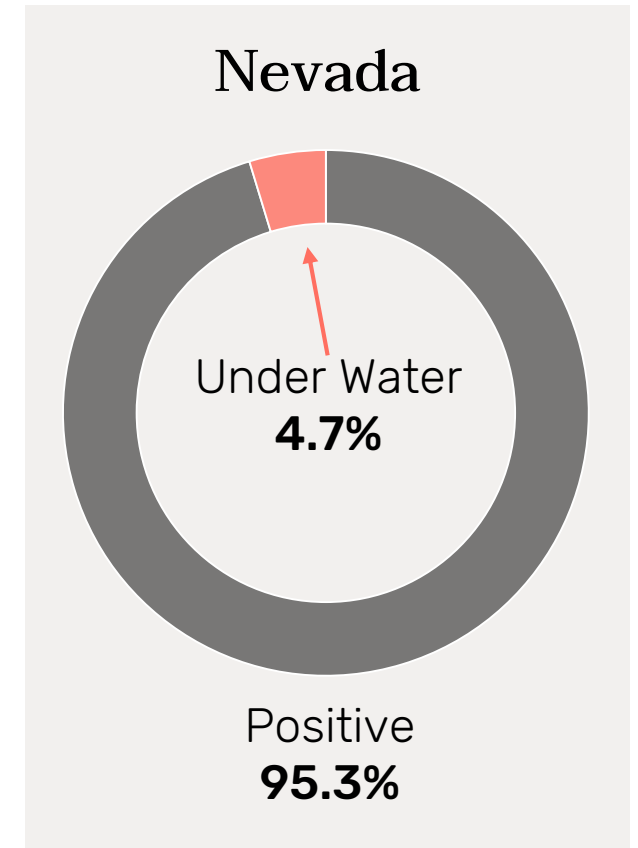
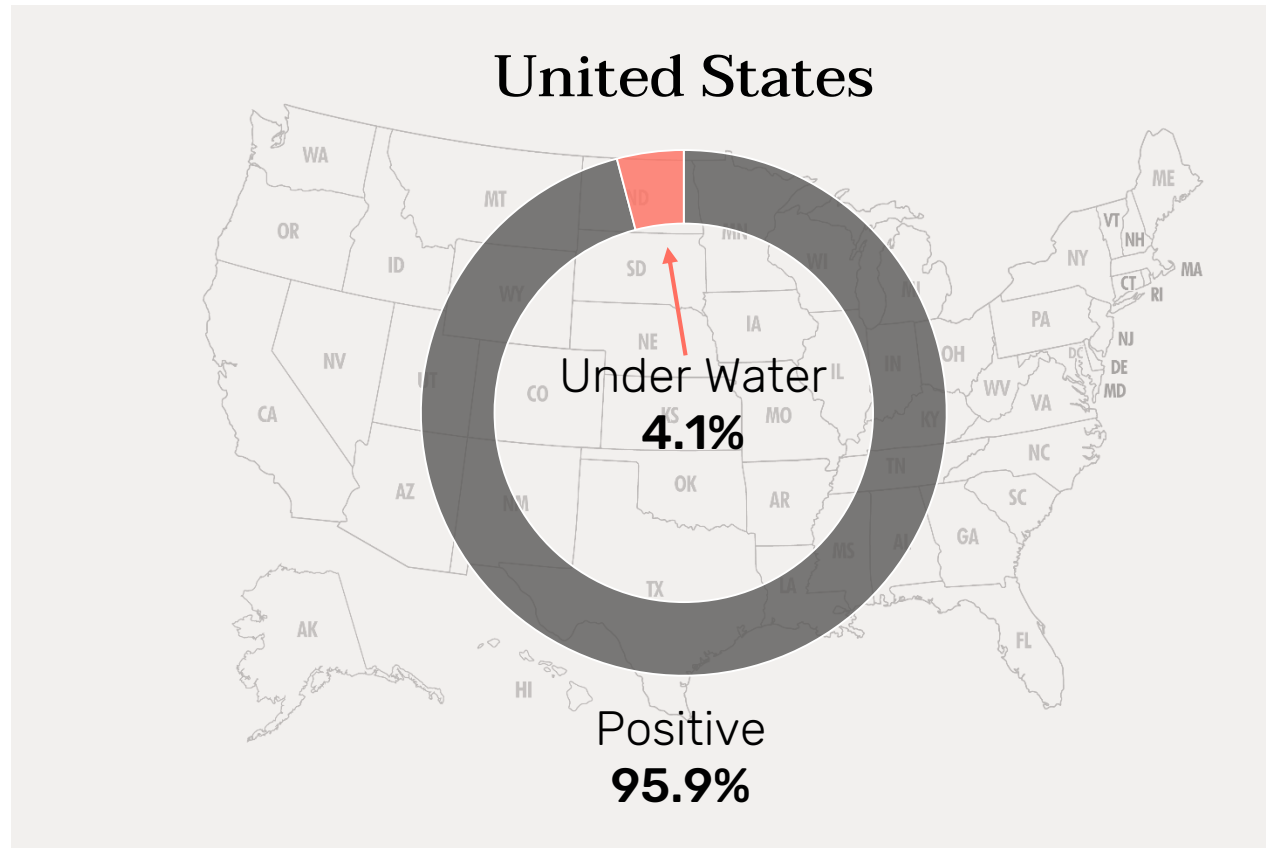
Nevada Homeowner's Equity



Source: CoreLogic



Homeowner's Equity



Source: CoreLogic

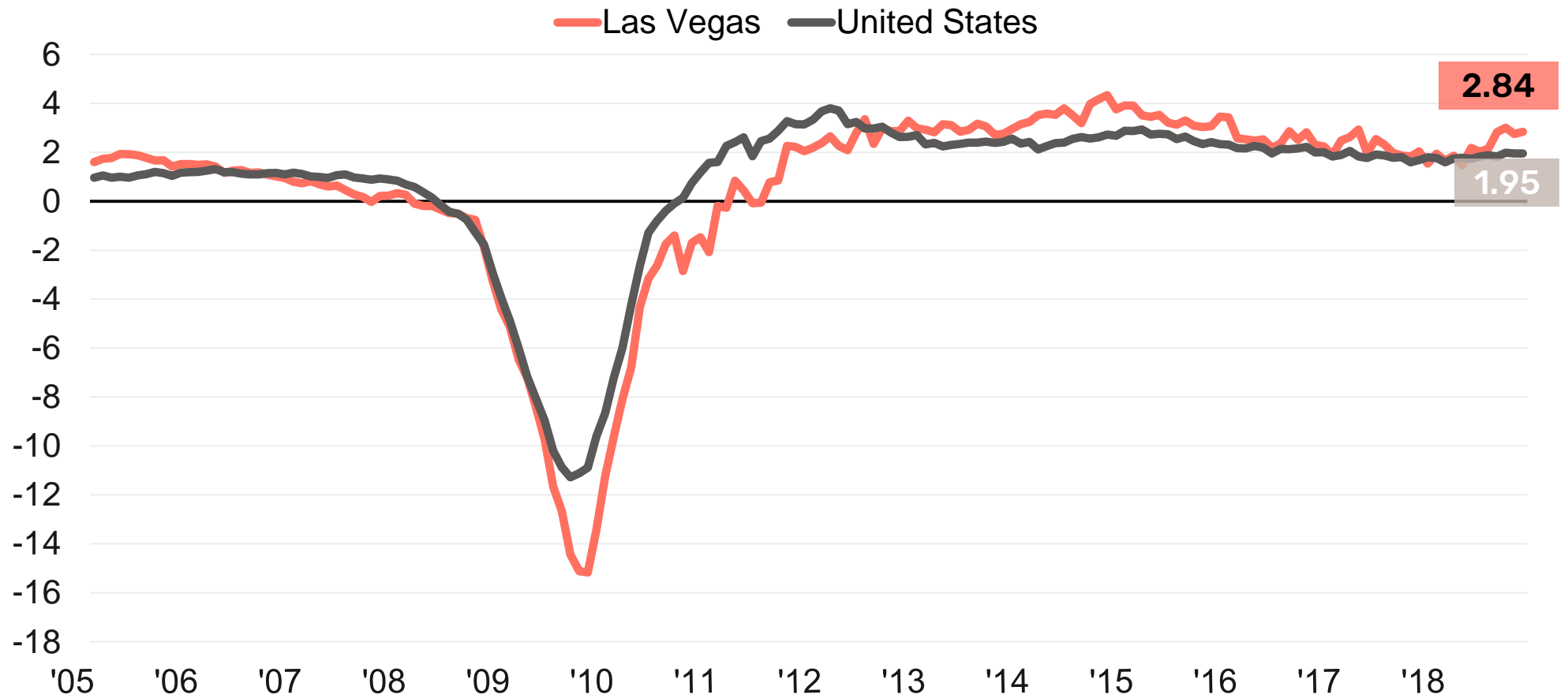


SUPPLY-DEMAND DYNAMICS WILL DICTATE FUTURE PERFORMANCE





Employment-Growth-to-Permit Ratio (E/P)

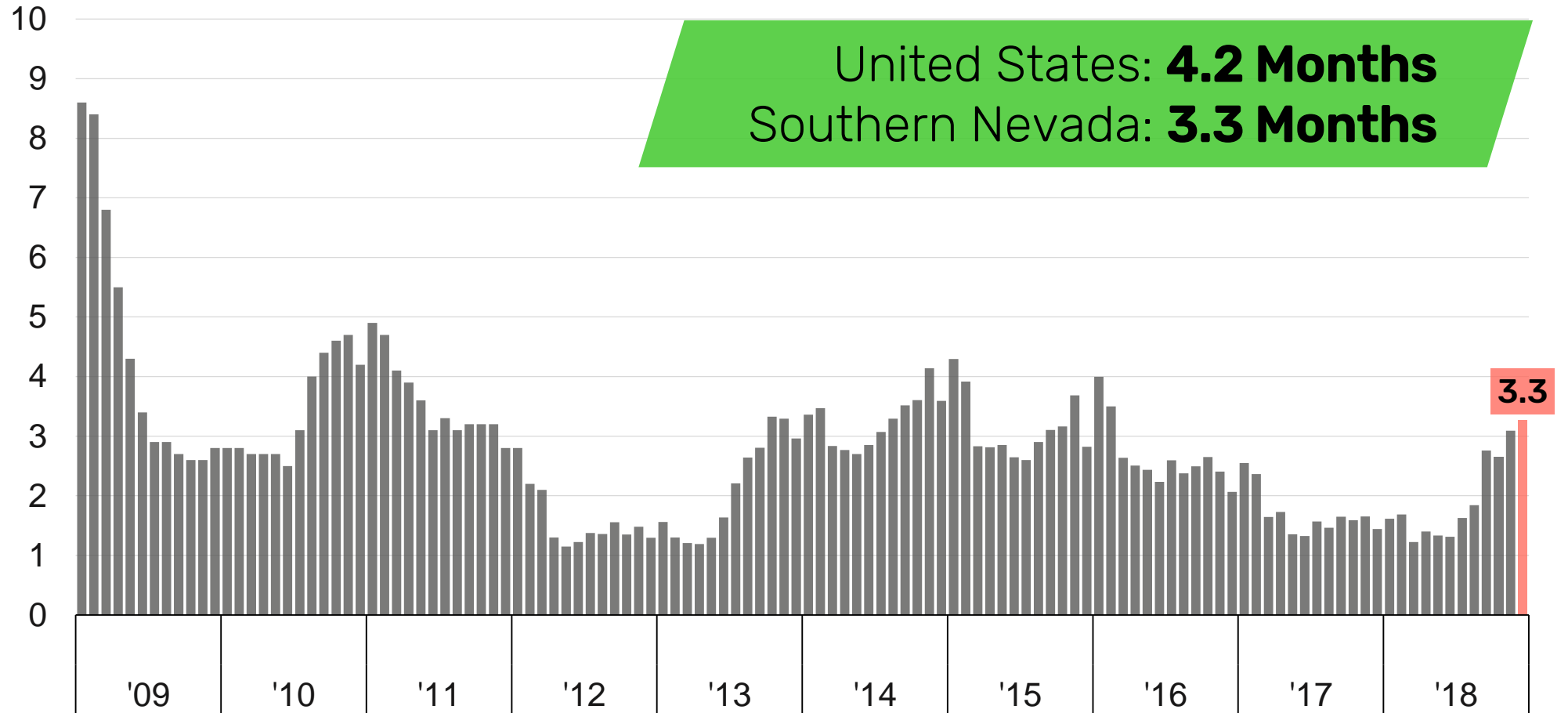


Source: United States Bureau of Labor Statistics, United States Census Bureau and Applied Analysis



Effective Months of Availability

Multiple Listings Service (MLS)



United States: **4.2 Months**
Southern Nevada: **3.3 Months**

3.3

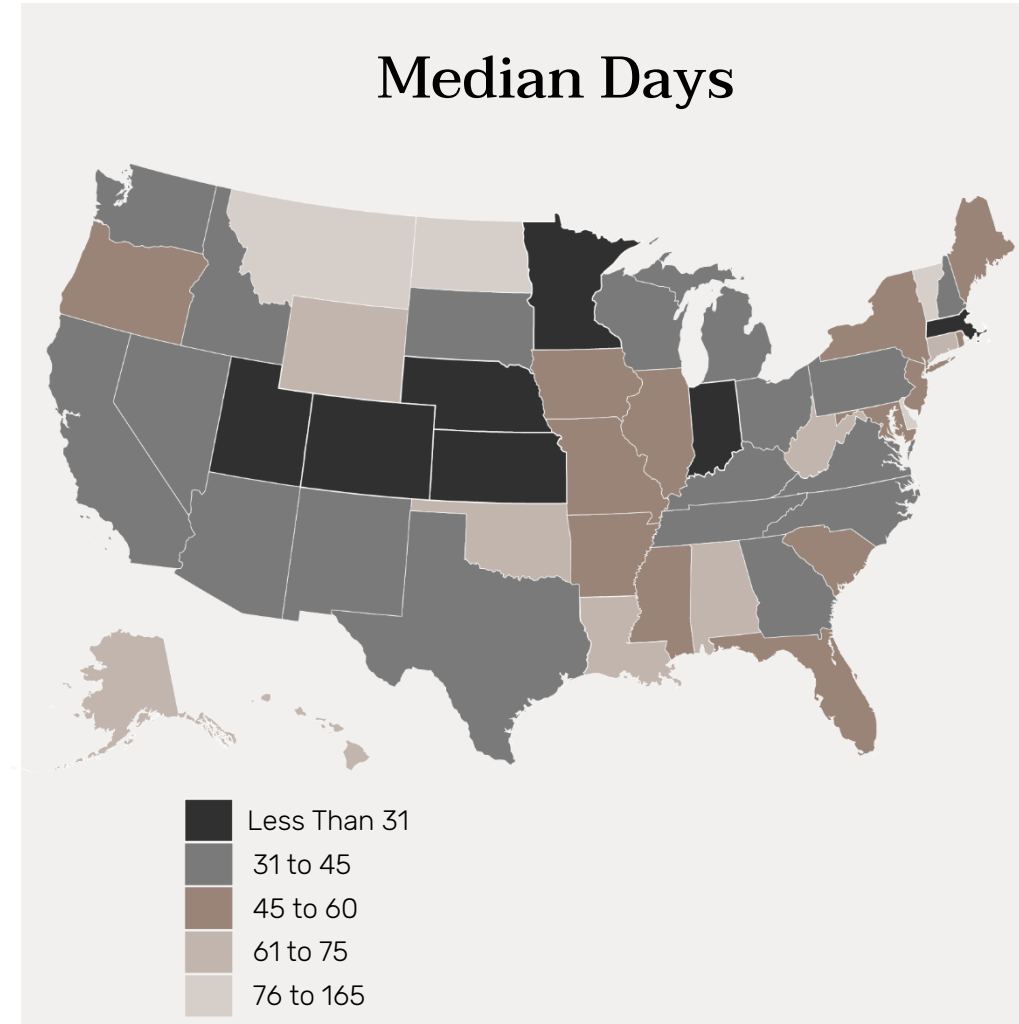
Source: SalesTraq



Median Days on the Market

46 Days

U.S. Average Median Days on the Market

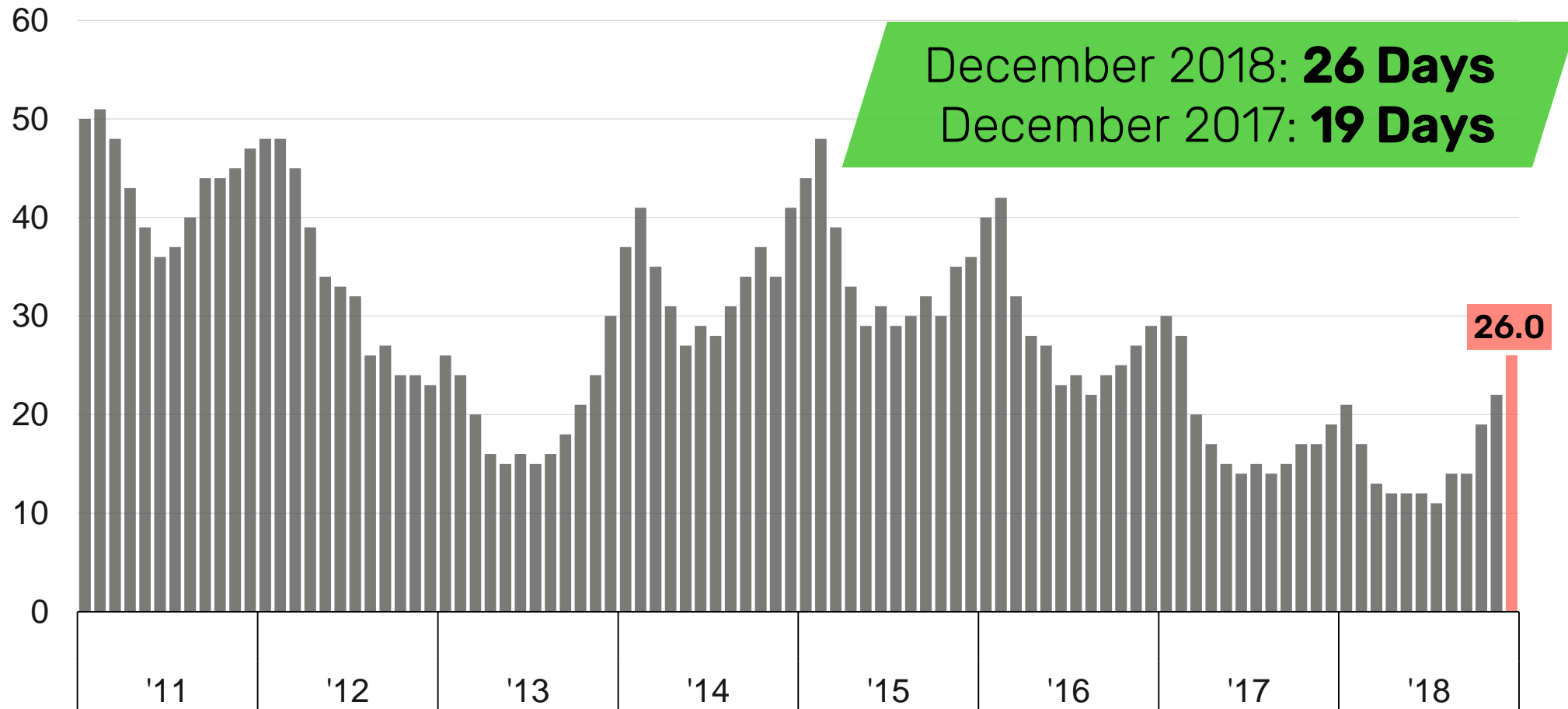


Source: SalesTraq, GLVAR/MLS, NAR



Median Days on the Market

Las Vegas Area Single Family Market



Source: SalesTraq, GLVAR/MLS



Typical Las Vegas Area Homeowners Three Months Ago





Typical Las Vegas Area Homeowners Two Months Ago





Typical Las Vegas Area Homeowners One Month Ago





Typical Las Vegas Area Homeowners

Today





Population
Growth



Employment &
Unemployment



Wages &
Salaries



Business
Formation



Residential
Housing Market



**Commercial &
Industrial Sectors**



Taxable Retail
Spending

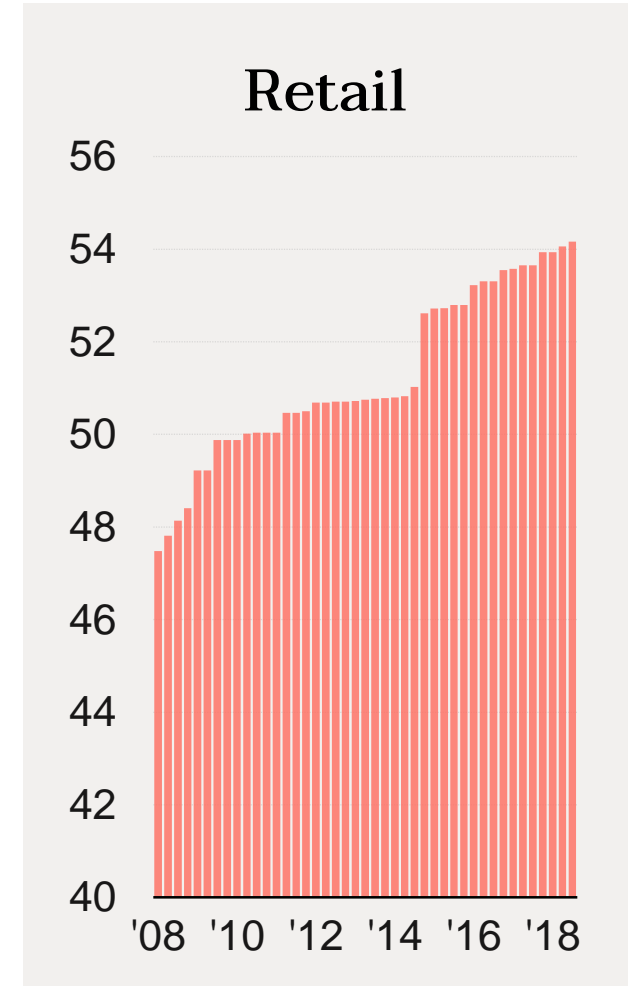
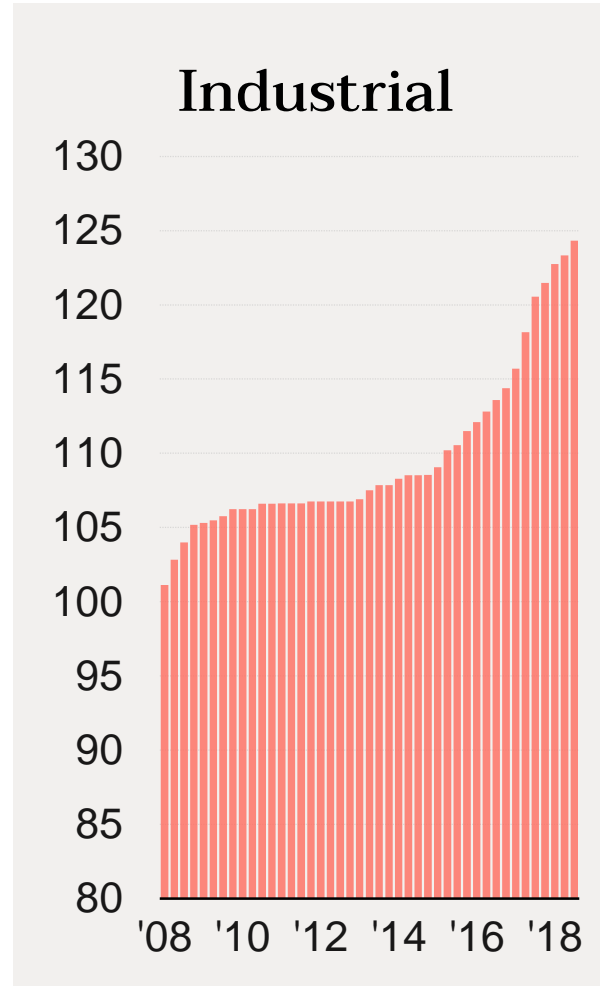
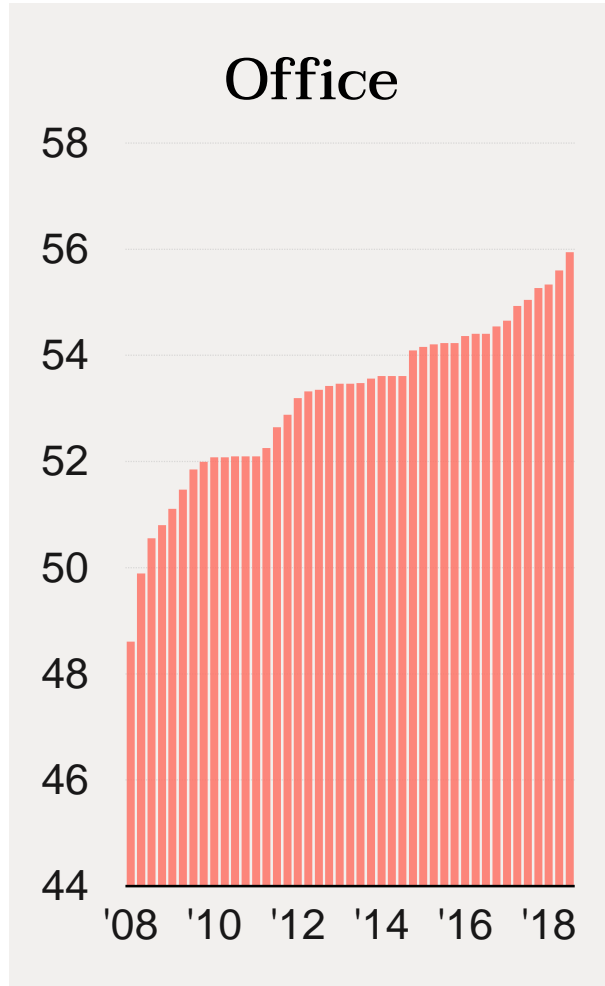


Visitor Volume &
Visitor Spending



Inventory by Market (Square Feet)

Las Vegas Area | In Millions

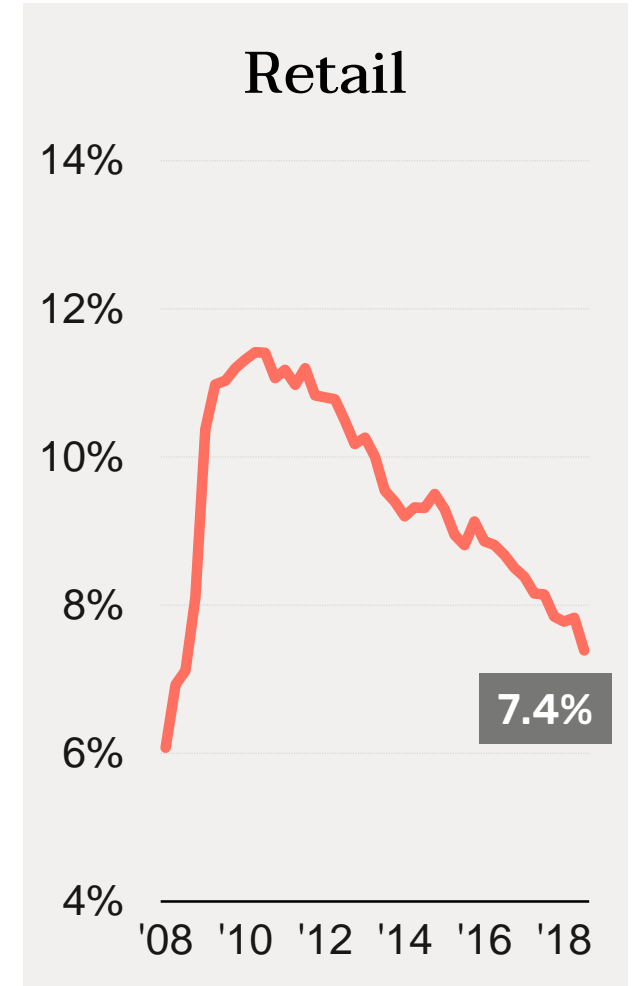
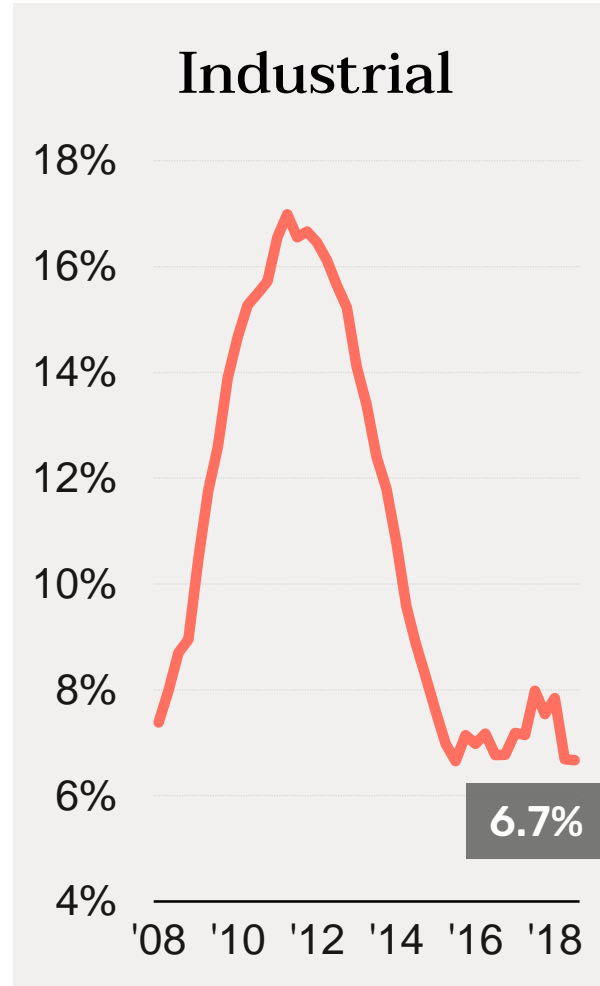
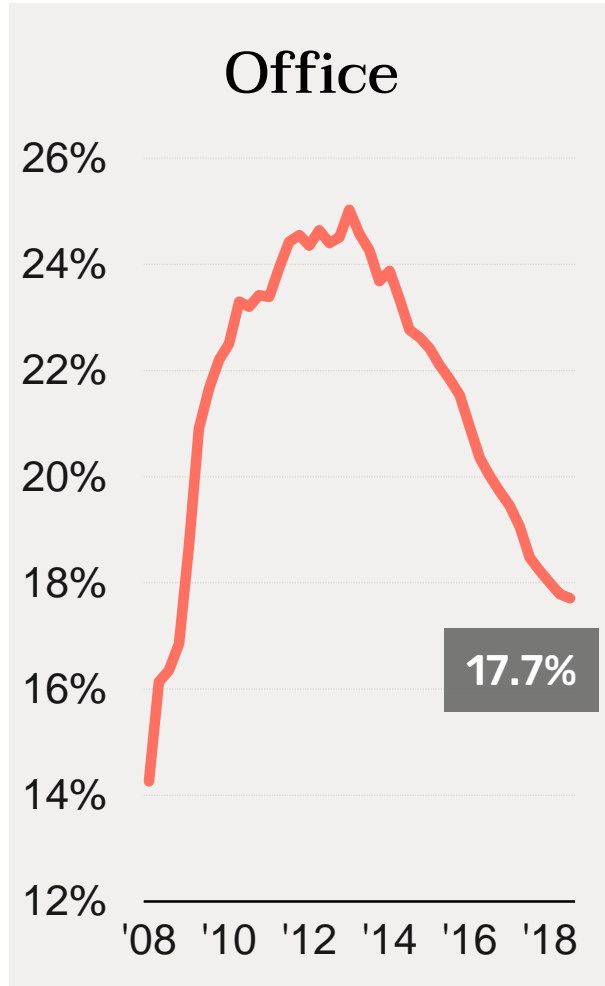


Source: Applied Analysis



Vacancy Rate by Market

Las Vegas Area

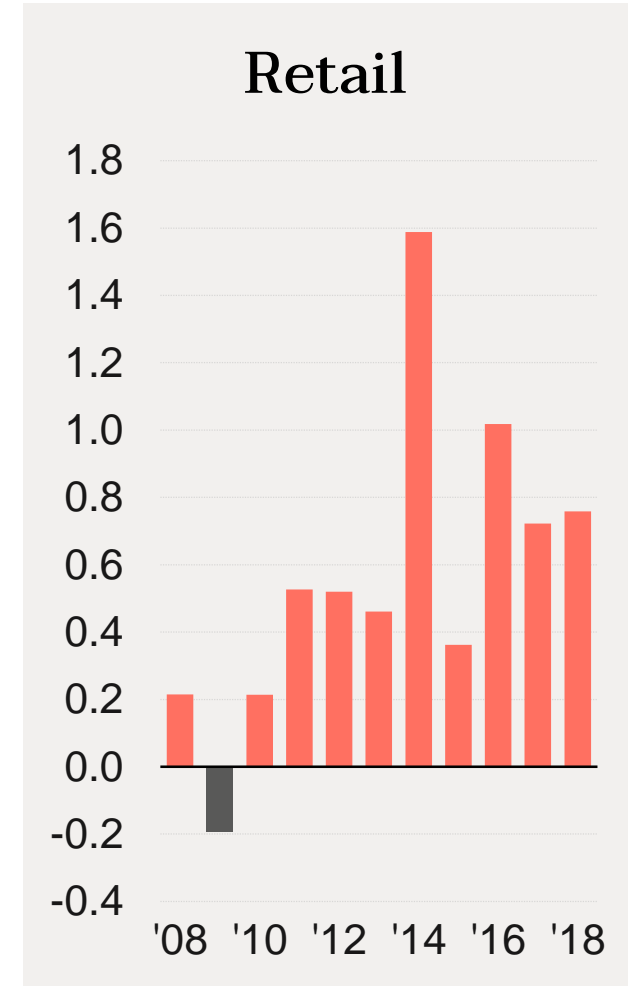
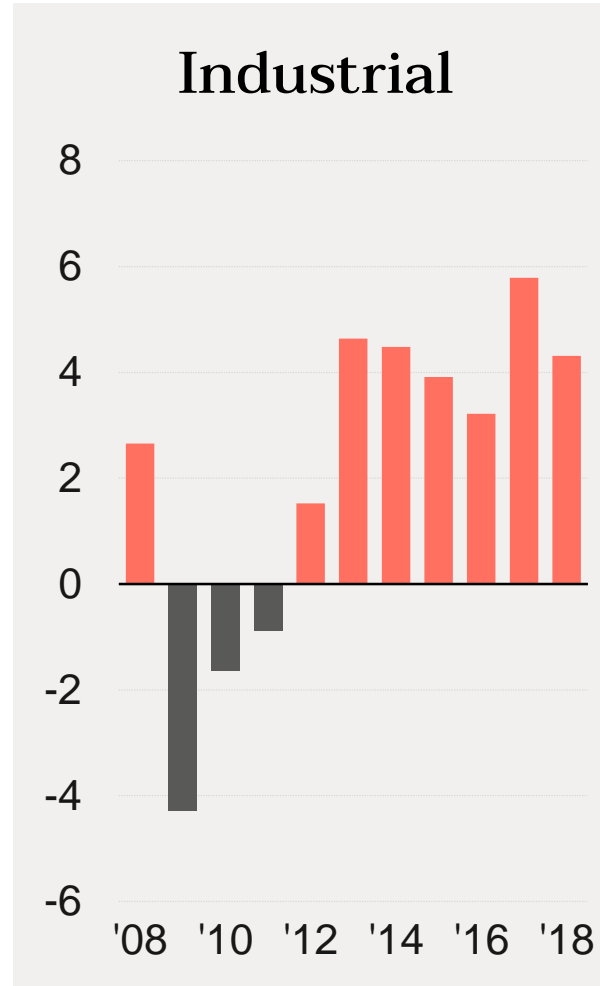
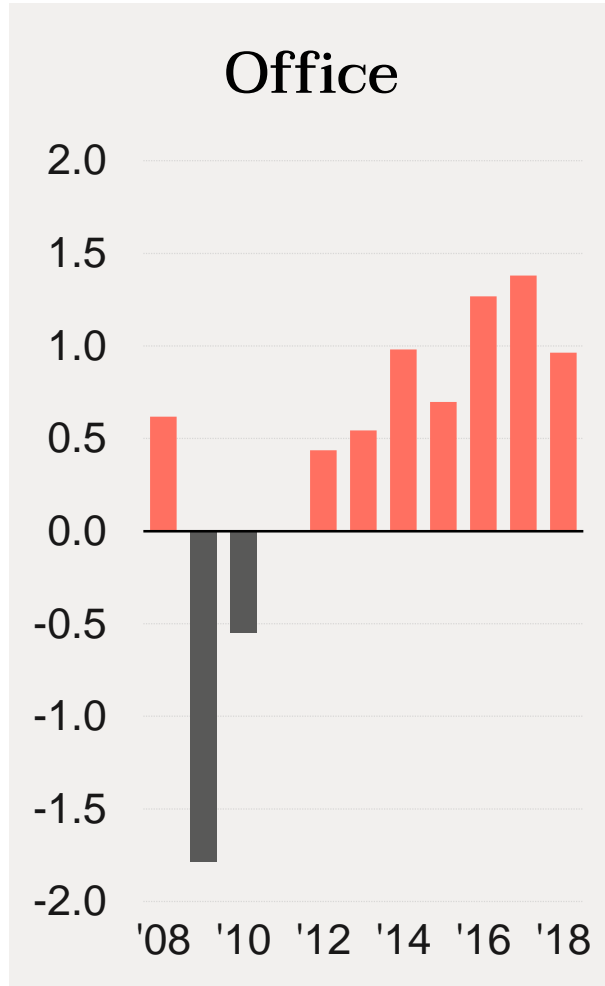


Source: Applied Analysis



Net Absorption (Square Feet)

Las Vegas Area | In Millions

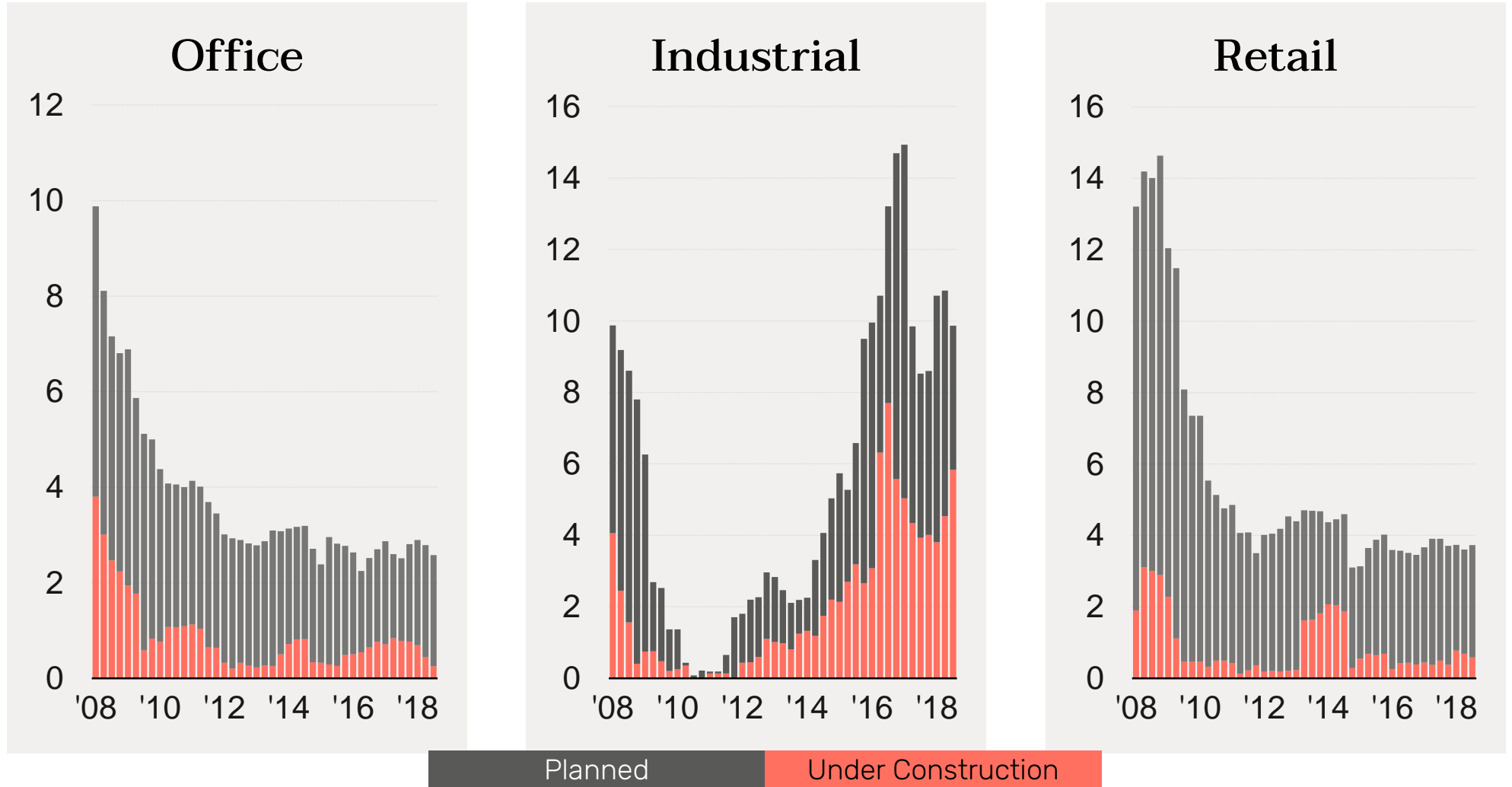


Source: Applied Analysis



Under Construction and Planned Space (Square Feet)

Las Vegas Area | In Millions



Source: Applied Analysis



CHANGING COMPETITIVE LANDSCAPES: *OFFICE*



CHANGING COMPETITIVE LANDSCAPES: *OFFICE*



CHANGING COMPETITIVE LANDSCAPES: *INDUSTRIAL*



SEPHORA



CHANGING COMPETITIVE LANDSCAPES: *INDUSTRIAL*



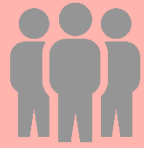


CHANGING COMPETITIVE LANDSCAPES: *RETAIL*



CHANGING COMPETITIVE LANDSCAPES: *RETAIL*





Population
Growth



Employment &
Unemployment



Wages &
Salaries



Business
Formation



Residential
Housing Market



Commercial &
Industrial Sectors



**Taxable Retail
Spending**

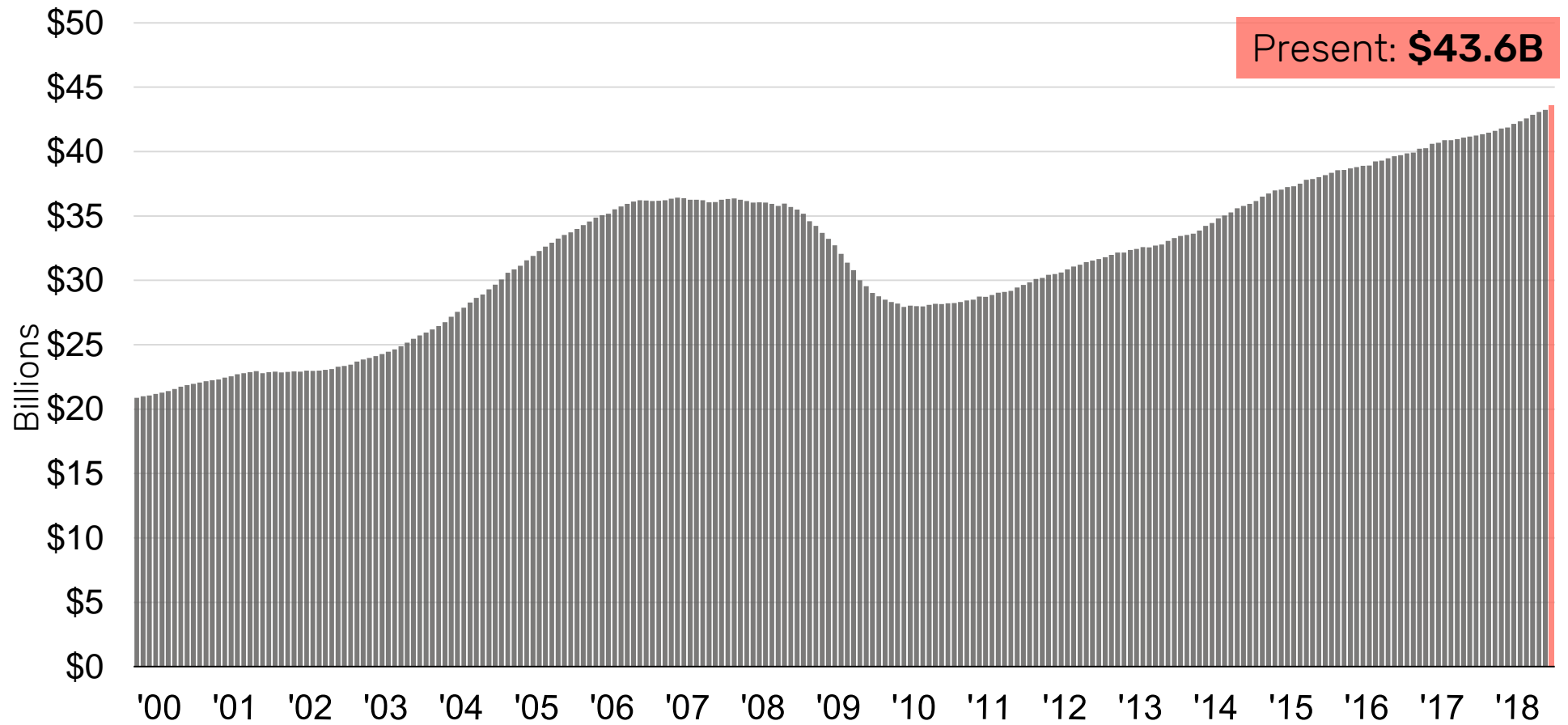


Visitor Volume &
Visitor Spending



Taxable Retail Sales

Clark County | Trailing 12-Month Total

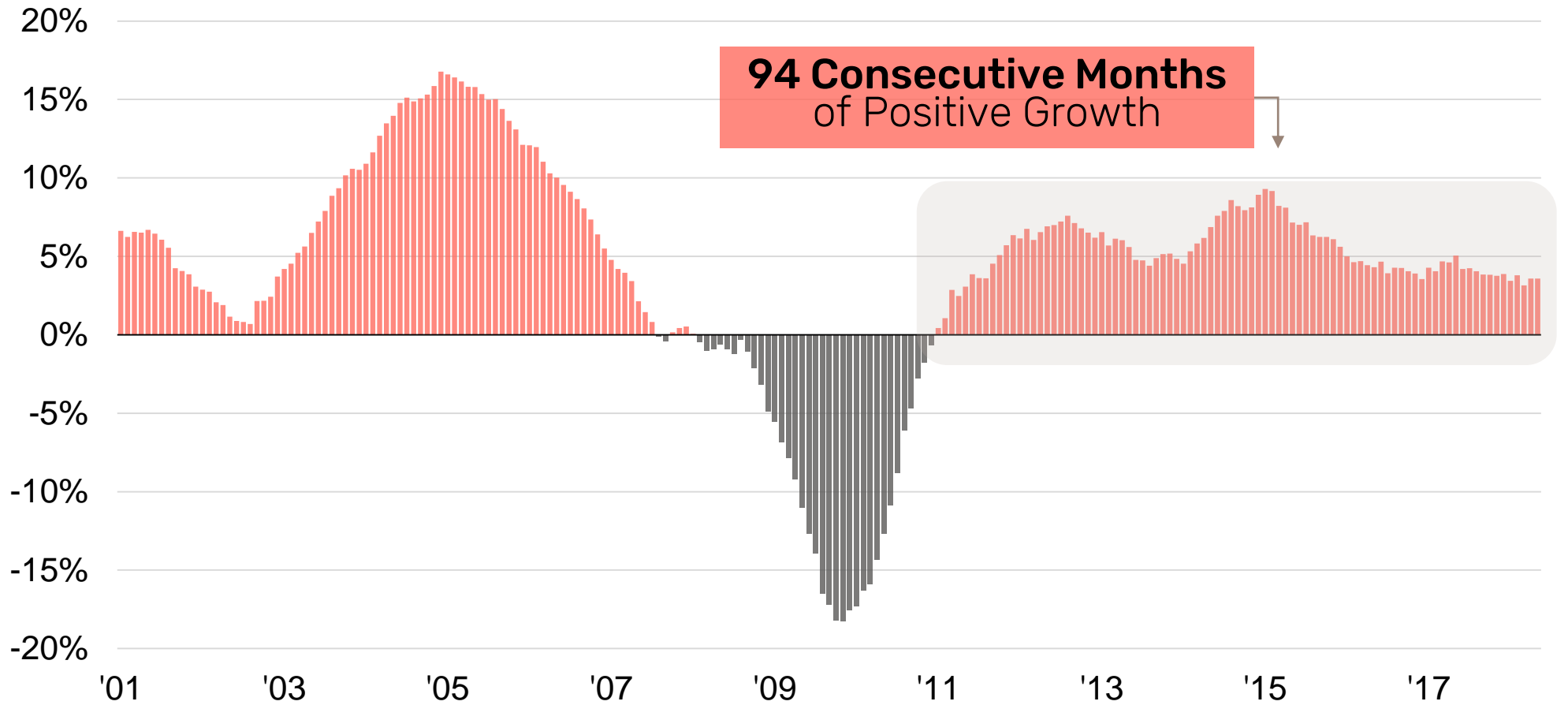


Source: Nevada Department of Taxation

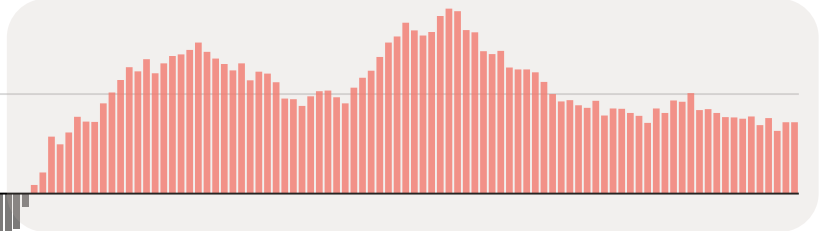


Taxable Retail Sale Growth

Clark County | Trailing 12-Month, Year-over-Year



94 Consecutive Months
of Positive Growth

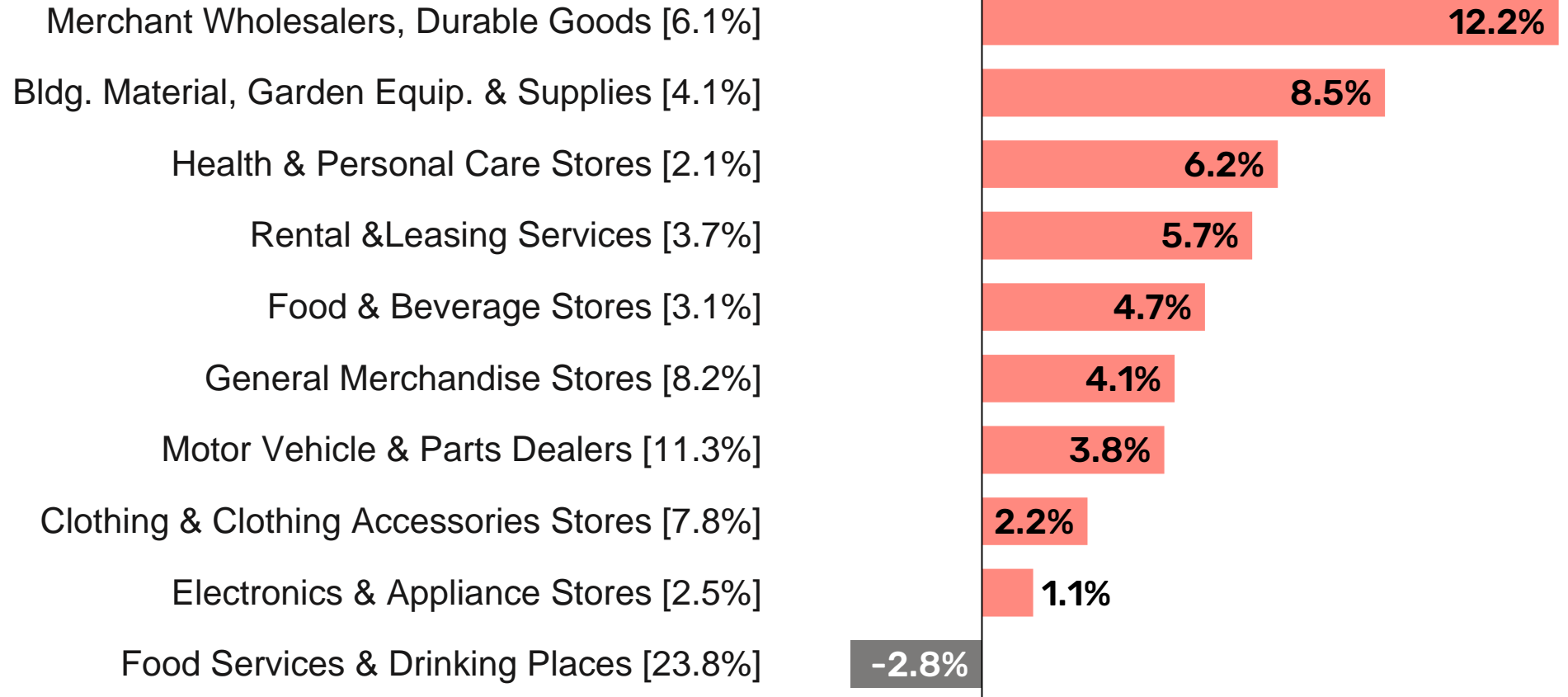


Source: Nevada Department of Taxation



Taxable Retail Sale Growth

Clark County | Ten Largest Sectors 2017 vs. 2018



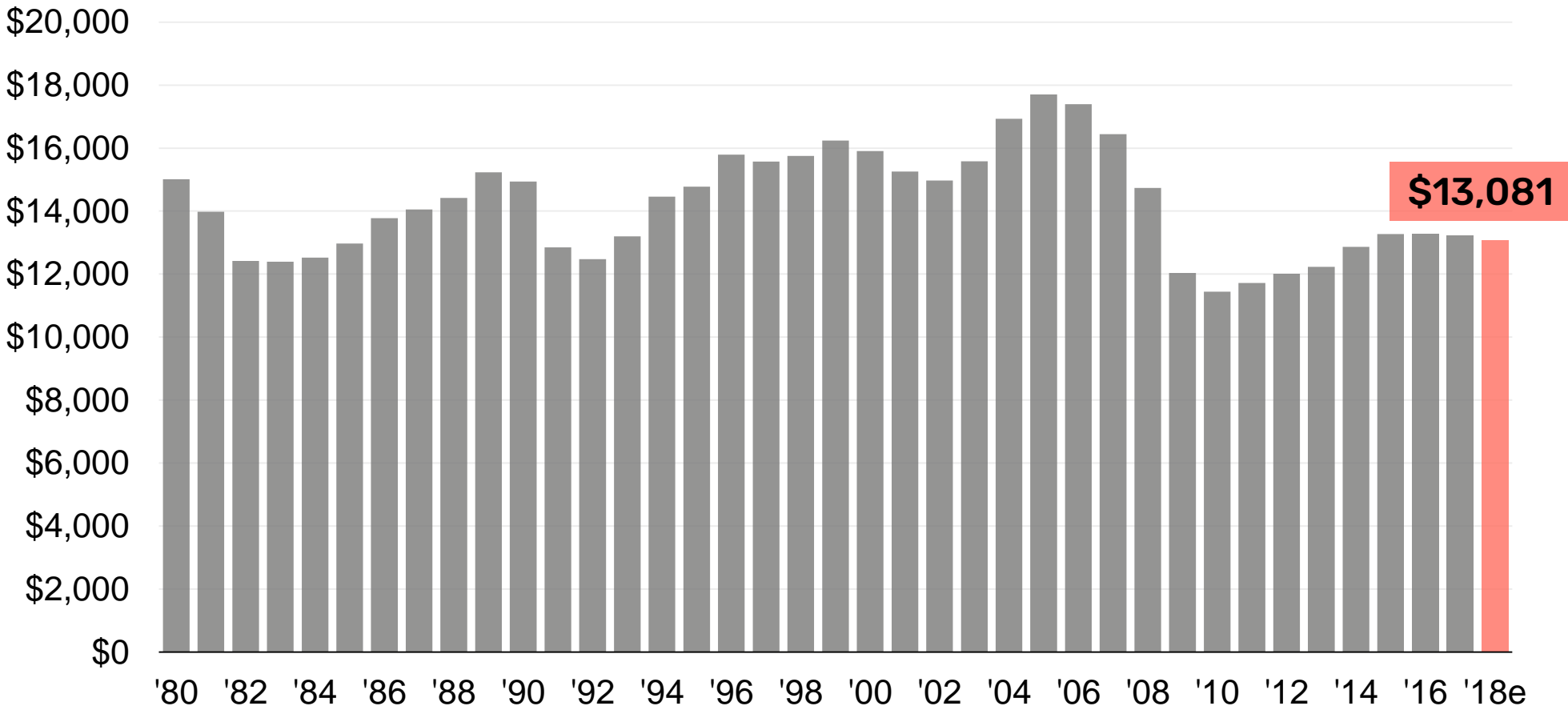
Source: Nevada Department of Taxation (October 2017 vs. October 2018)

Note: Excludes 'Miscellaneous Store Retailers' sales due to classification changes.



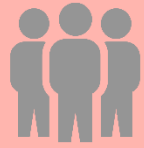
Taxable Retail Sales

Clark County | Inflation-Adjusted Per Capita (2000=100)



Source: Nevada Department of Taxation; United States Census Bureau; and Applied Analysis

Note: 2018 estimate uses taxable retail sales data for the 12 months ending October.



Population
Growth



Employment &
Unemployment



Wages &
Salaries



Business
Formation



Residential
Housing Market



Commercial &
Industrial Sectors



Taxable Retail
Spending

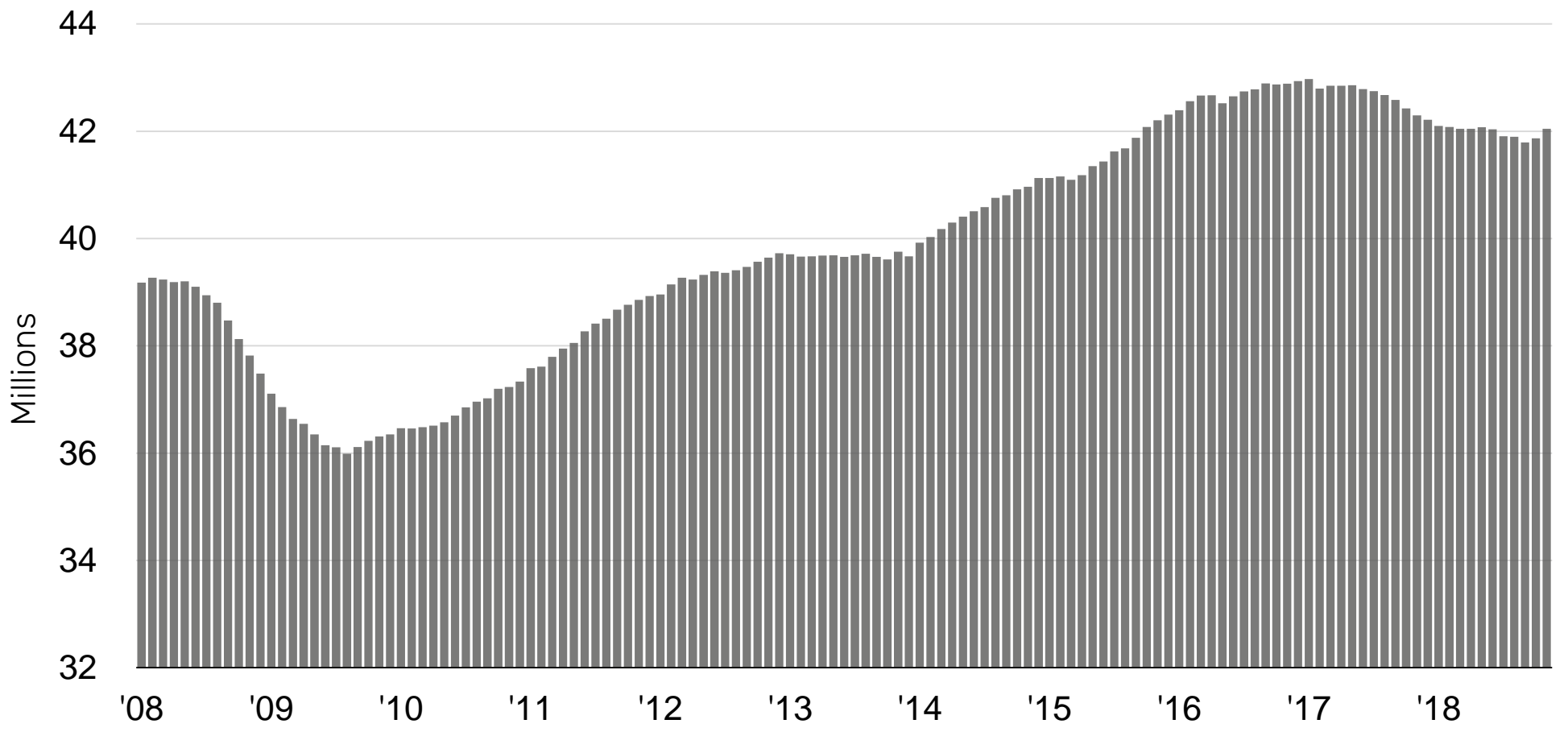


**Visitor Volume &
Visitor Spending**



Visitor Volume

Las Vegas Area | Trailing 12-Month Total

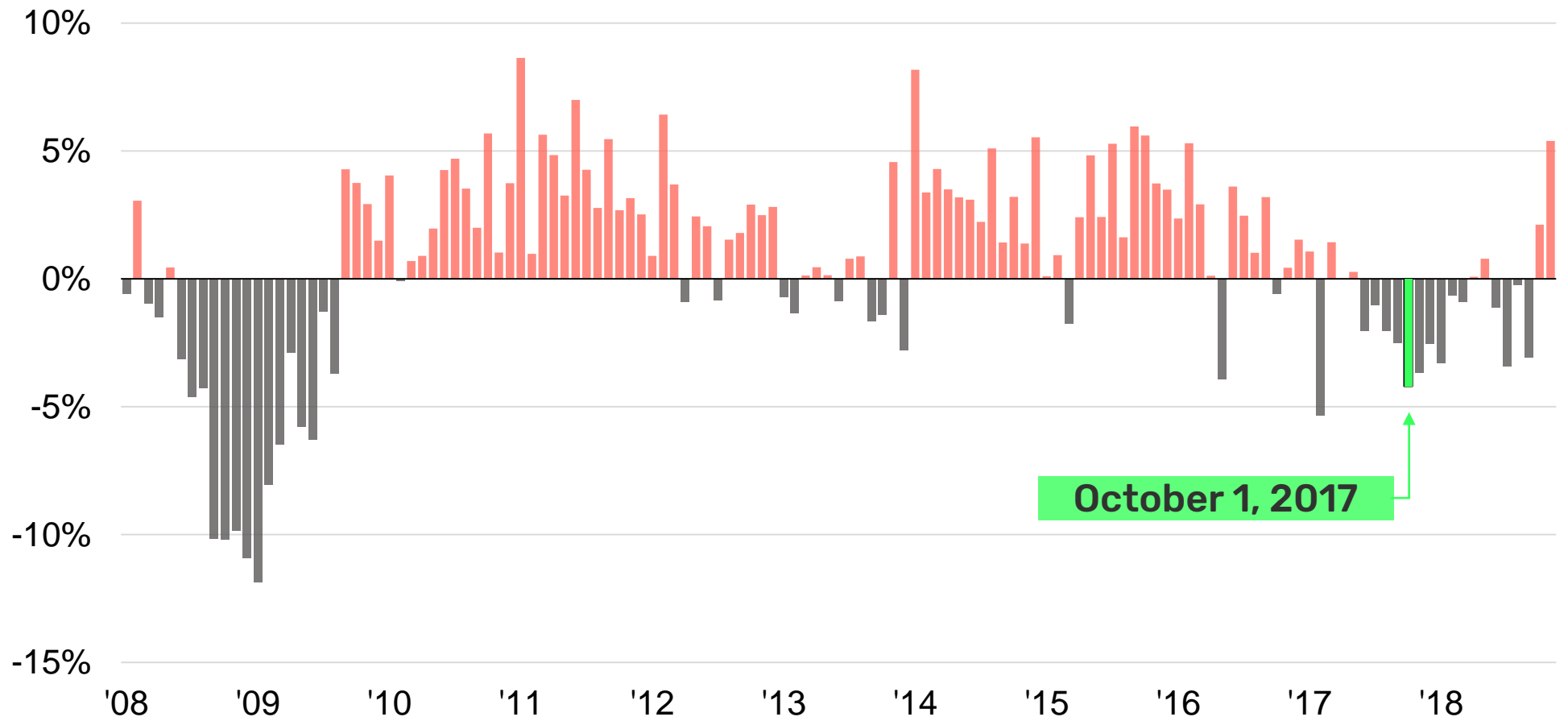


Source: Las Vegas Convention and Visitors Authority



Visitor Volume Growth

Las Vegas Area | Year-over-Year

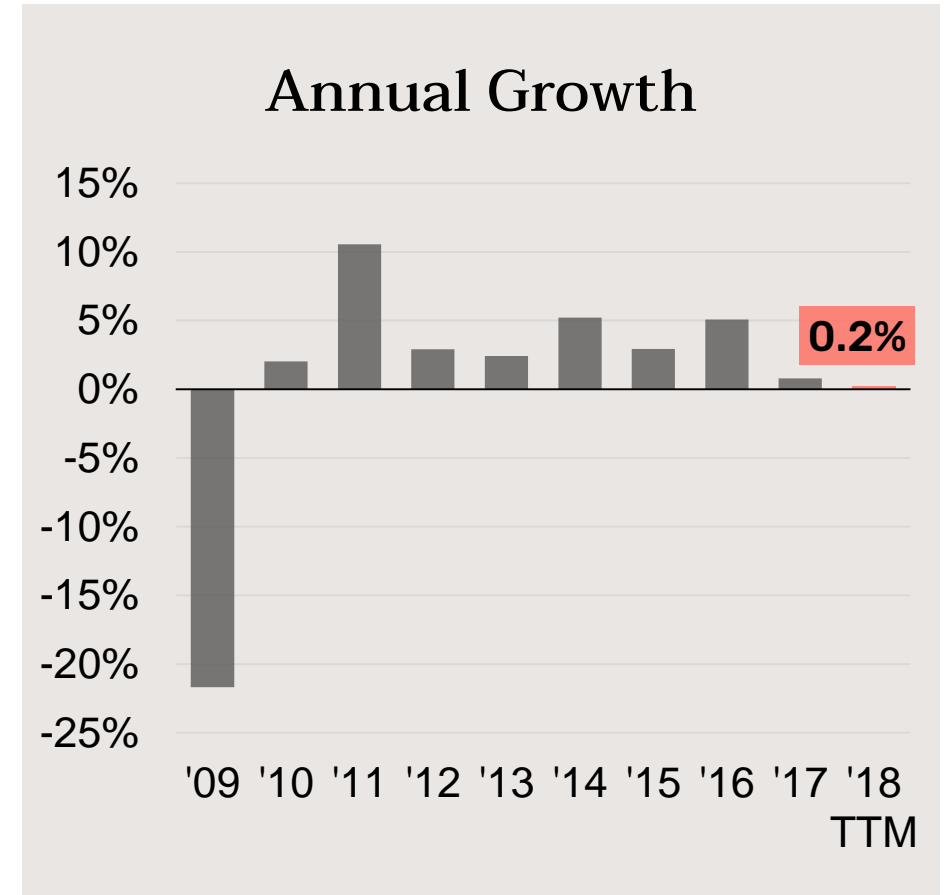
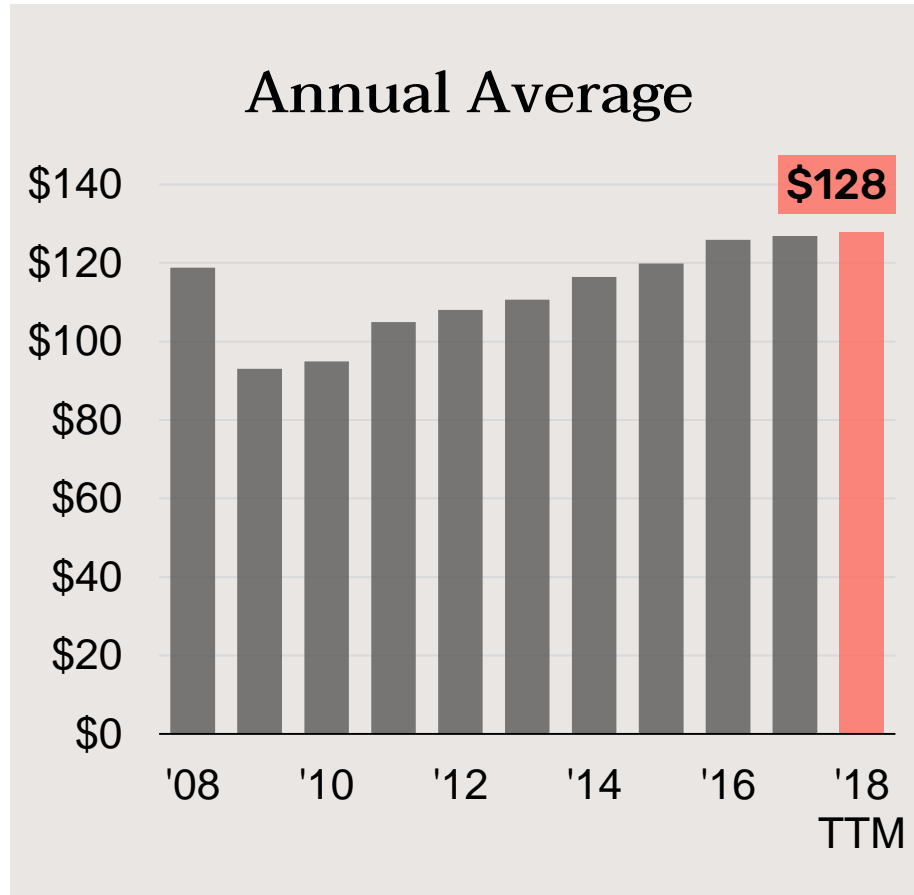


Source: Las Vegas Convention and Visitors Authority



Average Daily Room Rate

Las Vegas Area

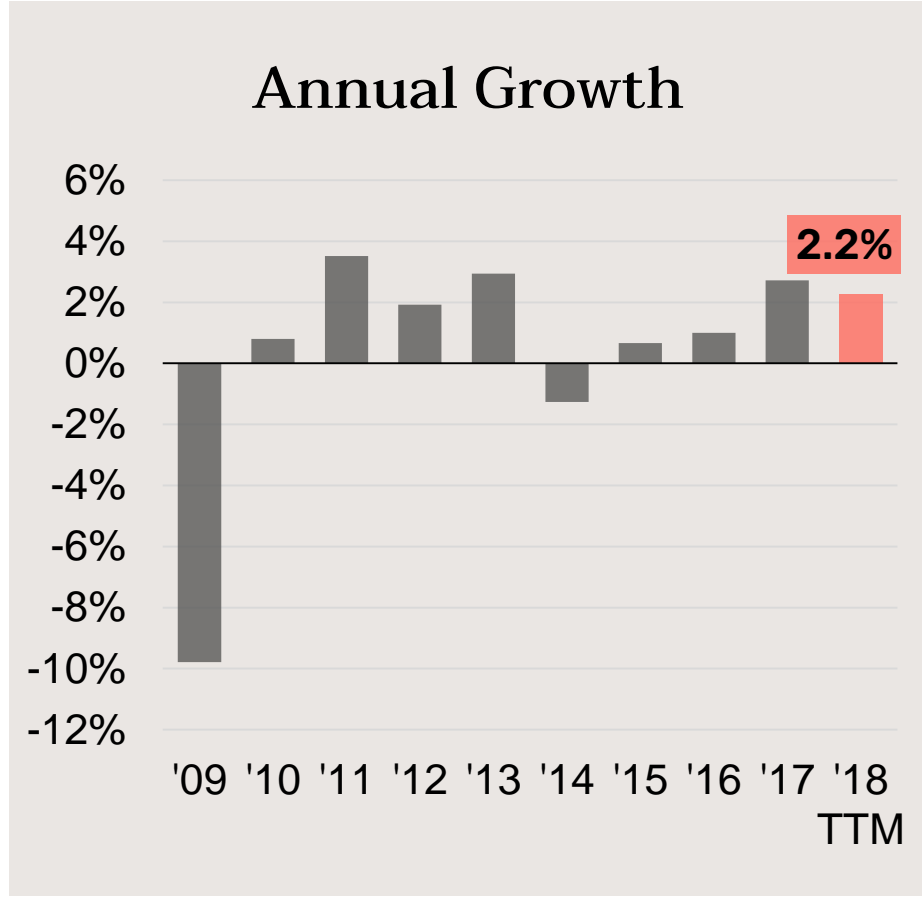
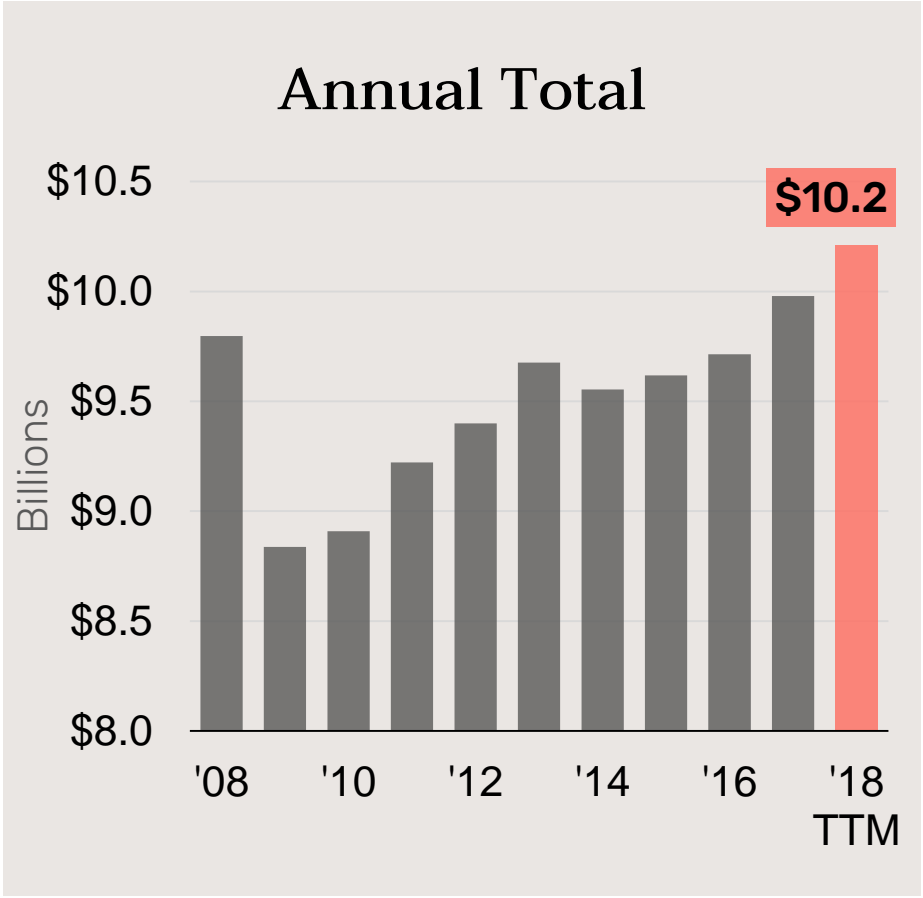


Source: Las Vegas Convention and Visitors Authority



Gross Gaming Revenue

Clark County



Source: Nevada Department of Taxation



2019 & BEYOND

2019 & BEYOND The Future We Are Building



SUSTAINABILITY



324,000



State Senator Mo Denis



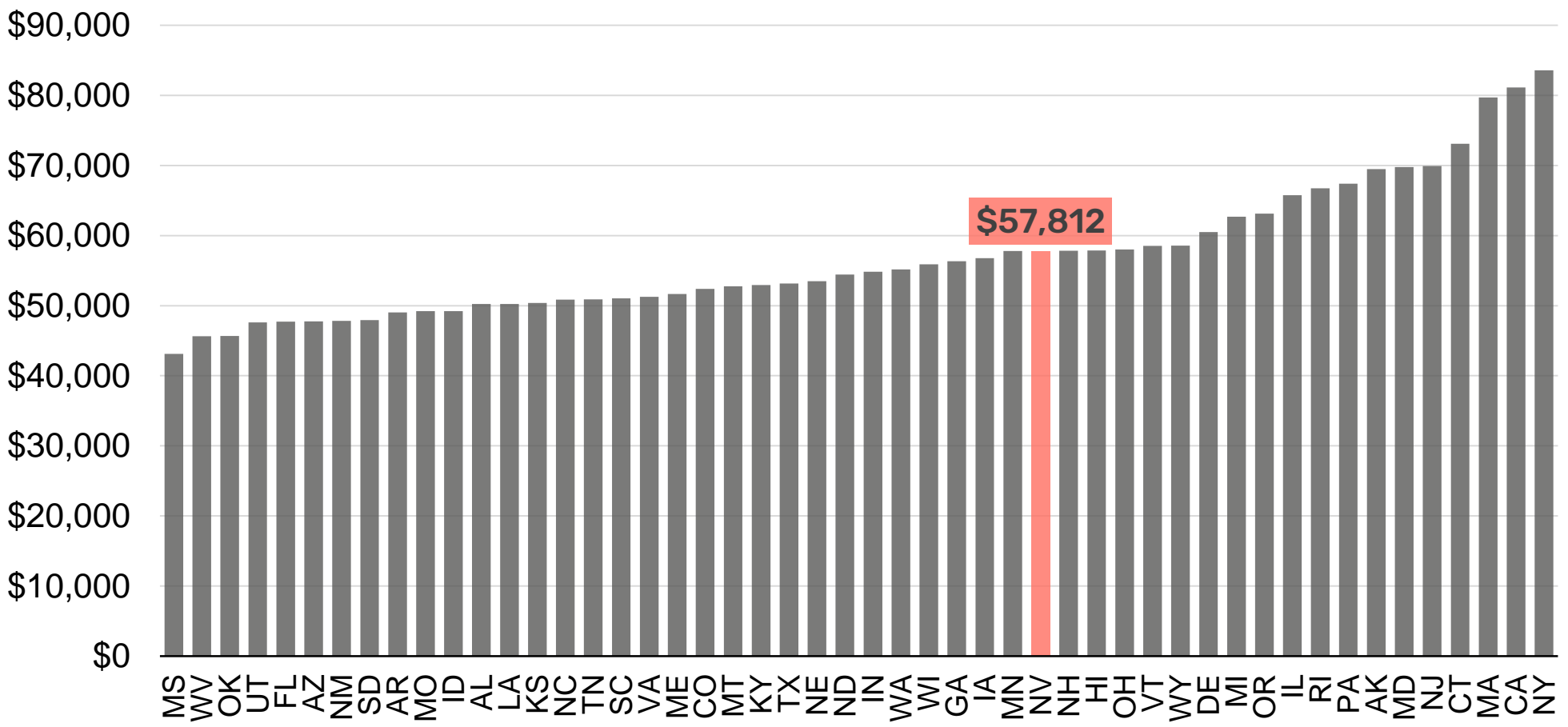
When the Nevada Plan for Funding Education Was Created





Average Teacher Salaries

By State

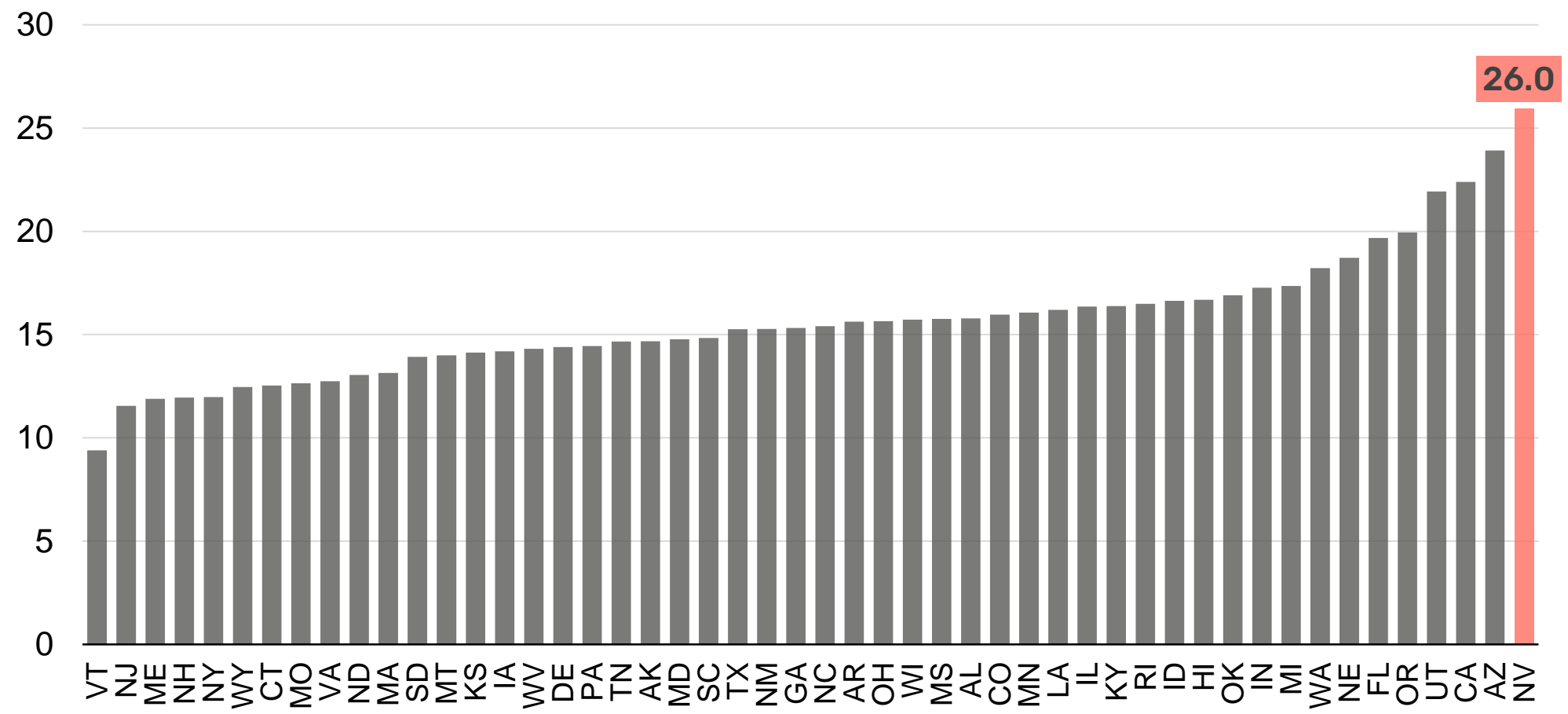


Source: National Education Association (2018 Estimate)



Student Teacher Ratio

By State

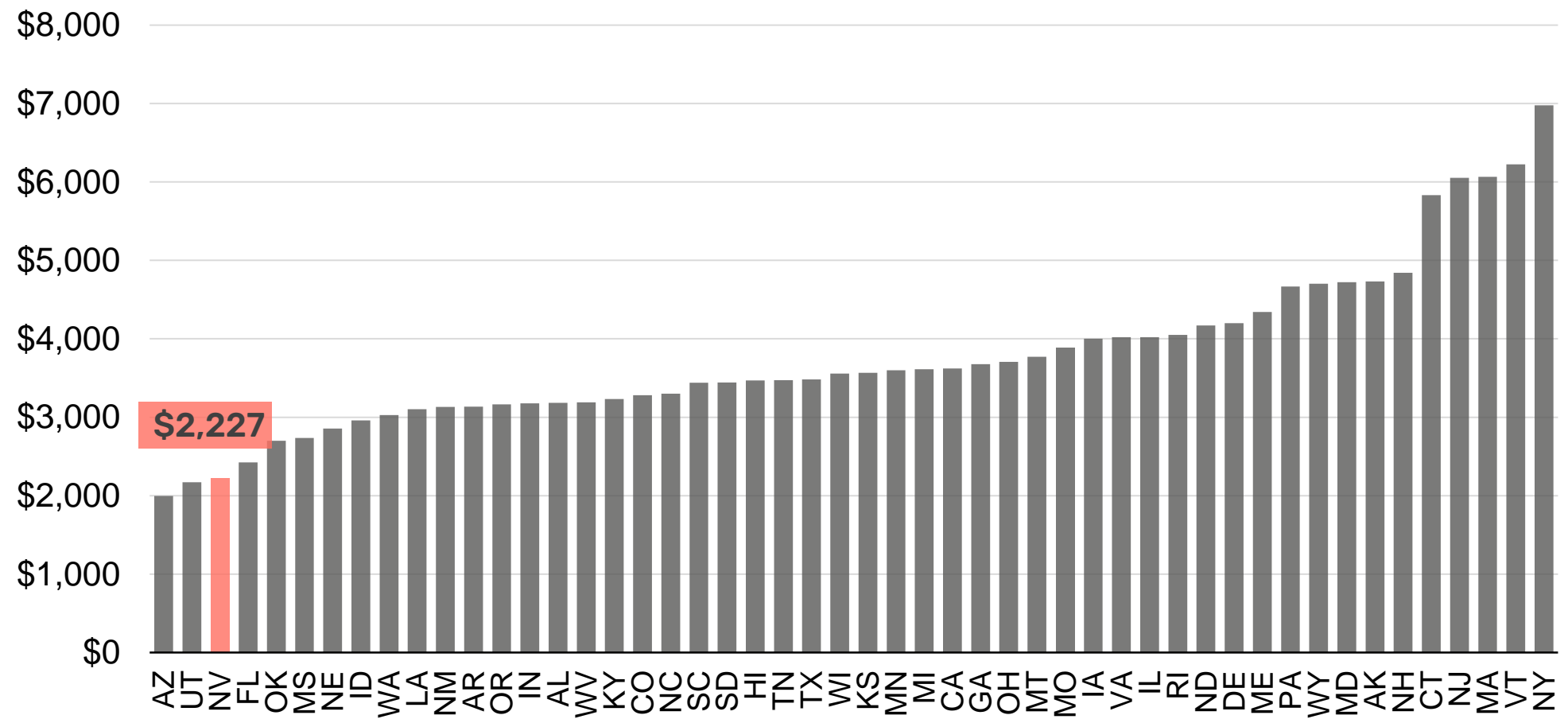


Source: National Education Association (2018 Estimate)



Teacher Salaries Per Pupil

By State



Source: National Education Association (2018 Estimate)



42.0 MILLION



NEVADA'S DEPENDENCE ON TOURISM



Nevada Gaming Fact Book

450,100	\$18.8B	\$67.6B	37.5%	\$1.8B	25.8%
Total Jobs Supported	Total Wage & Salary Payments Supported	Total Economic Output	Share of States General Fund Revenue Generated	Industry-Specific Fees & Taxes Collected	Leisure & Hospitality Share of Total Establishment-based Employment



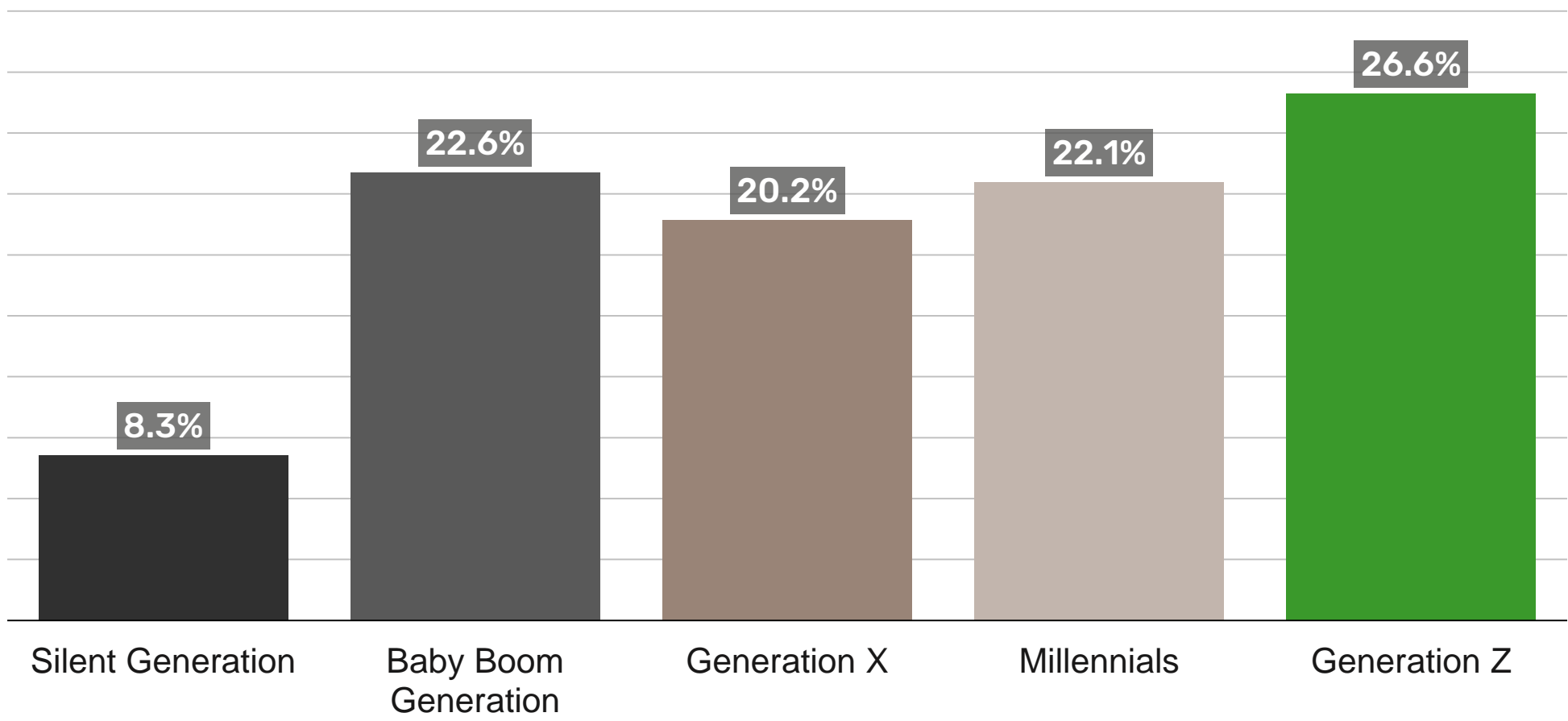
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APPLIED
ANALYSIS 



Population by Generation

United States



Source: U.S. Bureau of Labor Statistics





Washington State Convention Center



Miami Beach Convention Center



Moscone Convention Center



Moscone Convention Center



EXHIBIT HALL



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54,685





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**APPLIED
ANALYSIS** 



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Mehdi Zarhloul



Leila Hale



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ANALYSIS 

James Barlow





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ANALYSIS



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Jeremy Aguero
January 24, 2019