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Welcome to 25th Annual Economic Forecast

January 29, 2020

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2020 Annual Economic Forecast

Robert M. McNab and Vinod Agarwal
Dragas Center for Economic Analysis and Policy
Strome College of Business
Old Dominion University

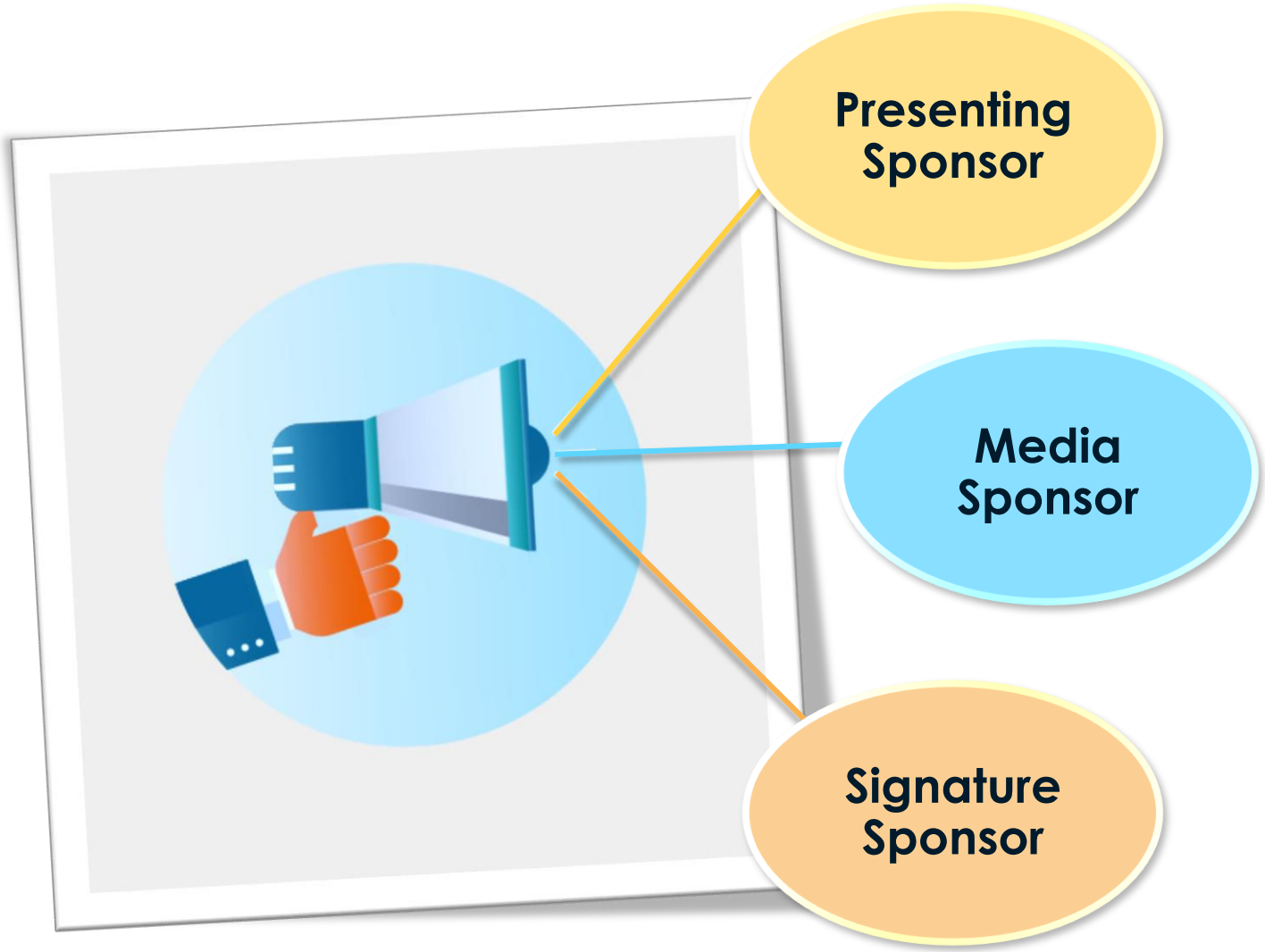
January 29, 2020

Agenda for Today

I will cover economic conditions in the United States and Virginia and the prospects for growth in 2020 and beyond.

My colleague, Vinod Agarwal, will examine economic conditions in Hampton Roads and how the regional economy will fare in 2020.

All our presentation materials can be found at our website: www.ceapodu.com



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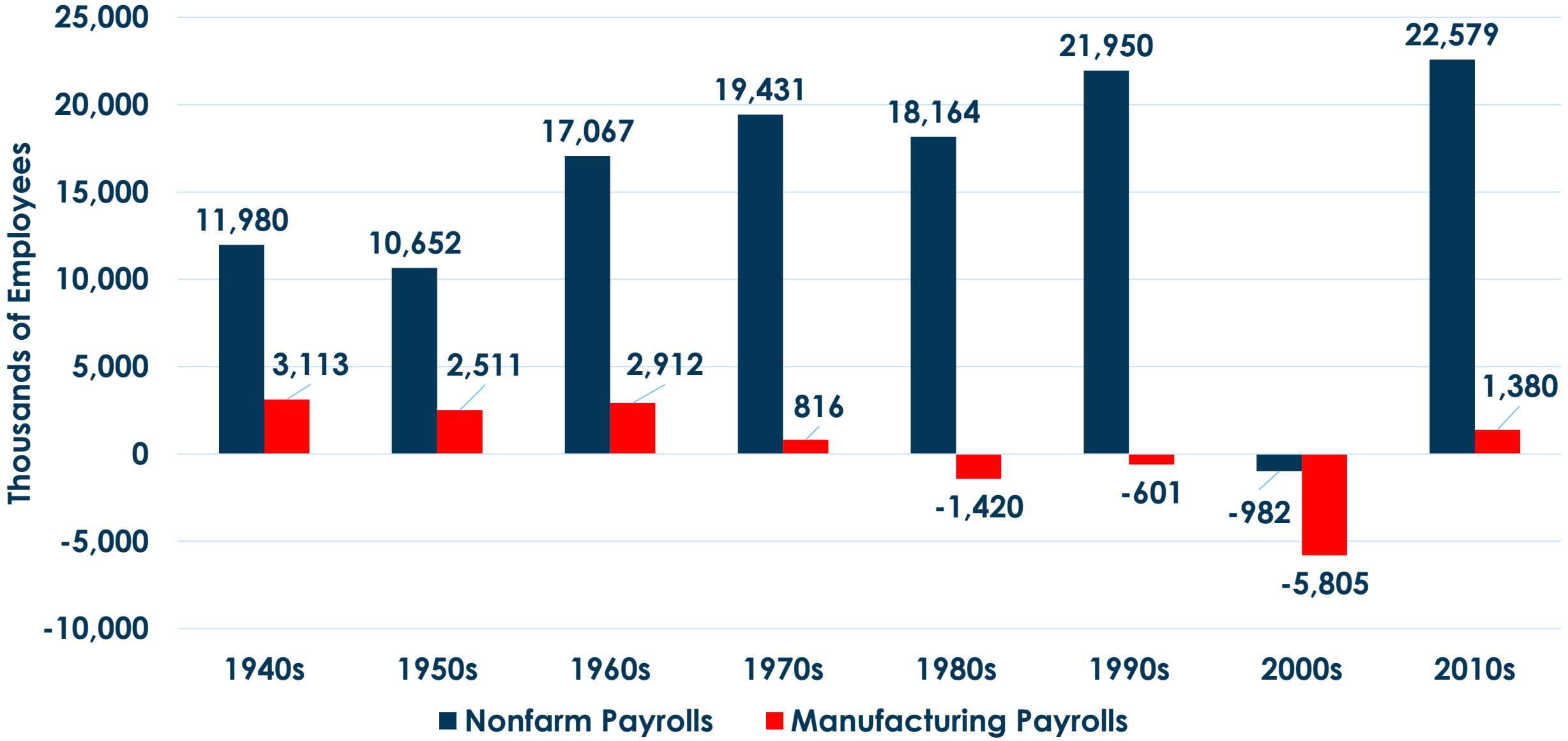
The Long-Term View

Current and Historical Economic Expansions

Expansion	Duration In Months	Annual Employment Growth	Annual Real GDP Growth
October 1949 – July 1953	45	4.4%	6.9%
May 1954 – August 1957	39	2.5%	4.0%
April 1958 – April 1960	24	3.6%	5.5%
February 1961 – December 1969	106	3.3%	4.9%
November 1970 – November 1973	36	3.4%	5.1%
March 1975 – January 1980	58	3.6%	4.3%
December 1982 – July 1990	91	2.8%	4.0%
March 1991 – March 2001	120	2.0%	3.6%
November 2001 – December 2007	73	0.9%	2.9%
June 2009 – Present*	126	1.4%	2.3%

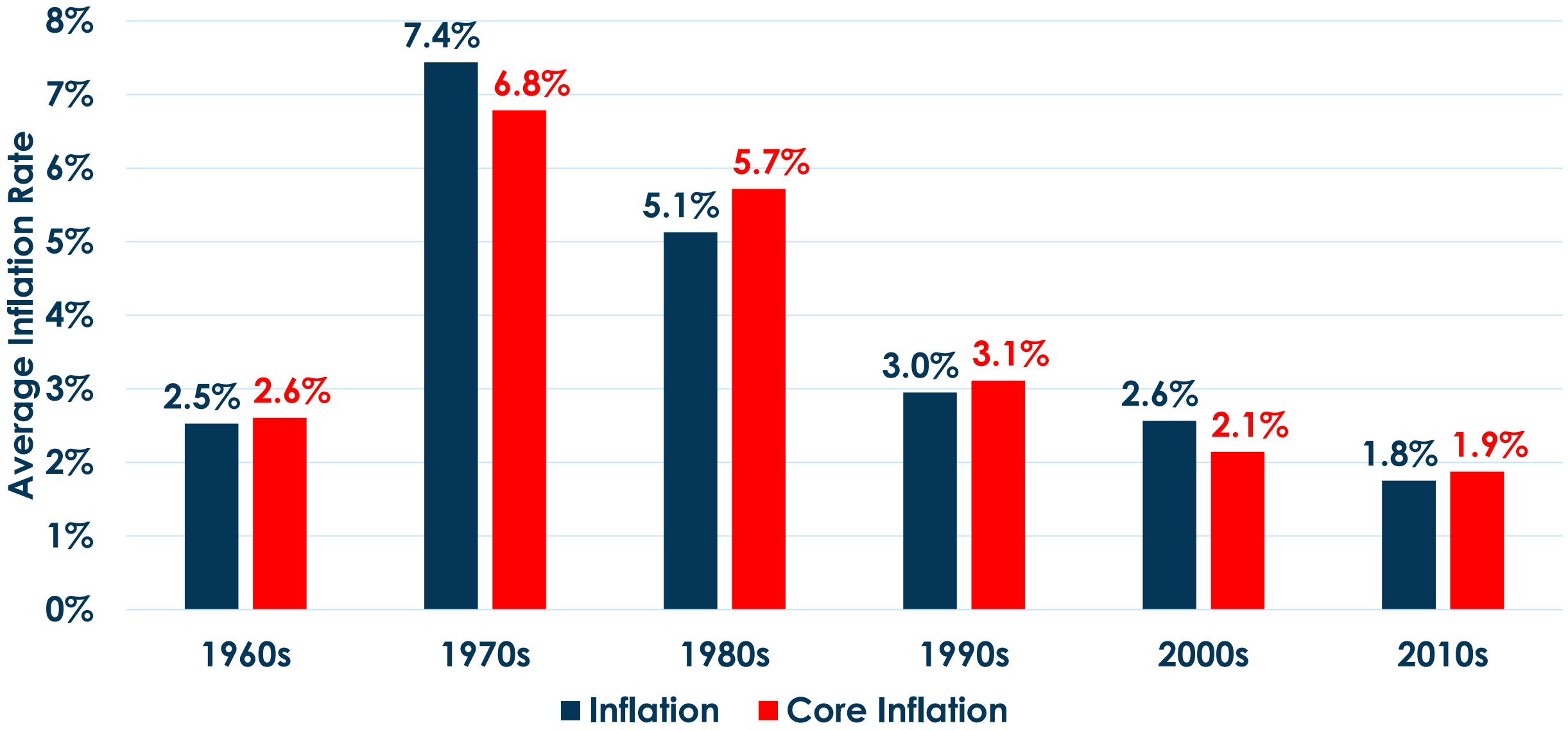
Sources: Bureau of Labor Statistics, Bureau of Economic Analysis, National Bureau of Economic Research, and Dragas Center for Economic Analysis and Policy. Real GDP in chained 2012 dollars. CAGR = Compound Annual Growth Rate. Annual Real GDP CAGR derived from quarterly series. Annual employment CAGR derived from monthly series. *Current expansion data ends in 2019 Q3 for GDP and December 2019 for US Nonfarm Payrolls. Average annual Real GDP CAGR of previous expansions = 4.5% while average annual employment CAGR from previous expansions = 2.96%.

Change in Nonfarm and Manufacturing Employees (Jobs)
United States, 1940 - 2019



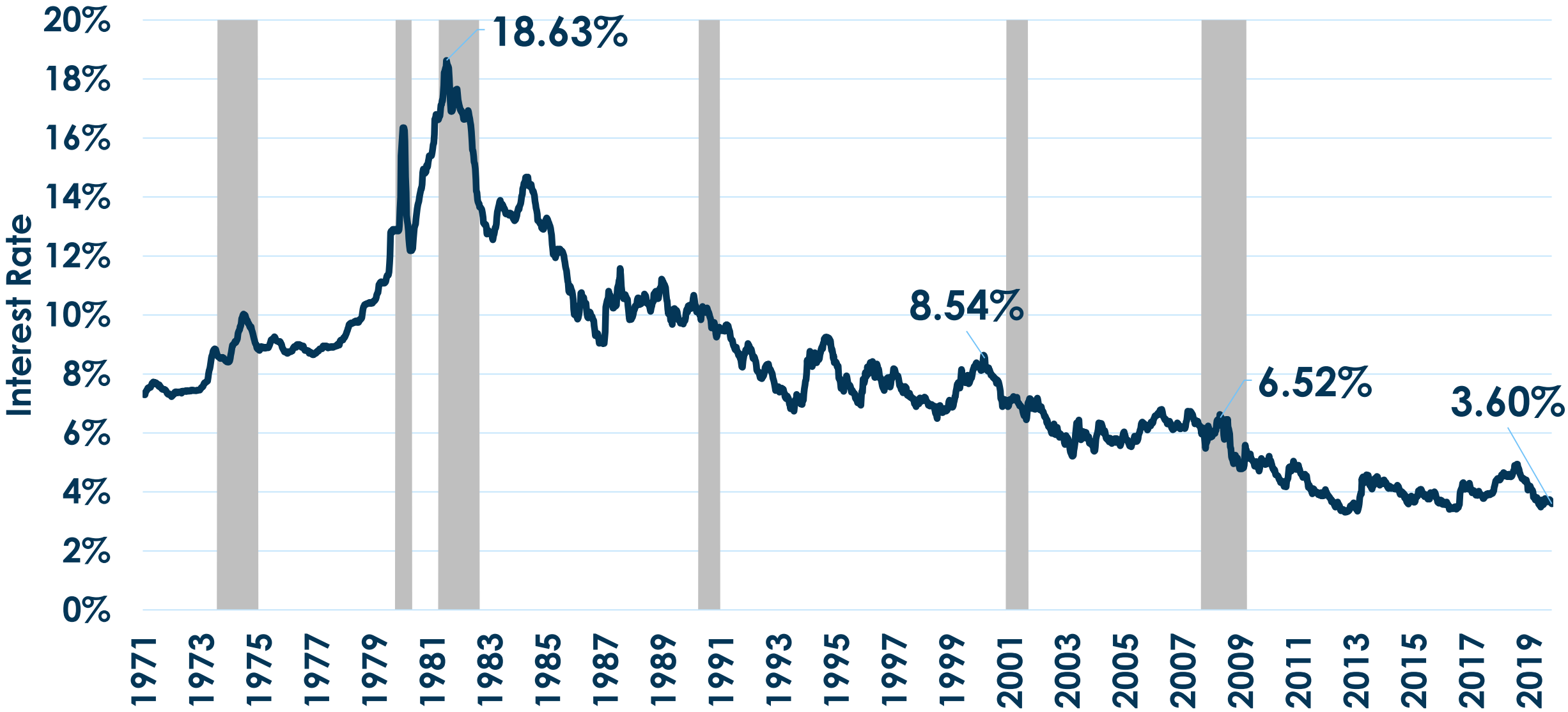
Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Thousands of employees. Seasonally adjusted data. Change in nonfarm employees is measured from December of the preceding decade to the end of the next decade.

Average Inflation
United States, 1960 - 2019



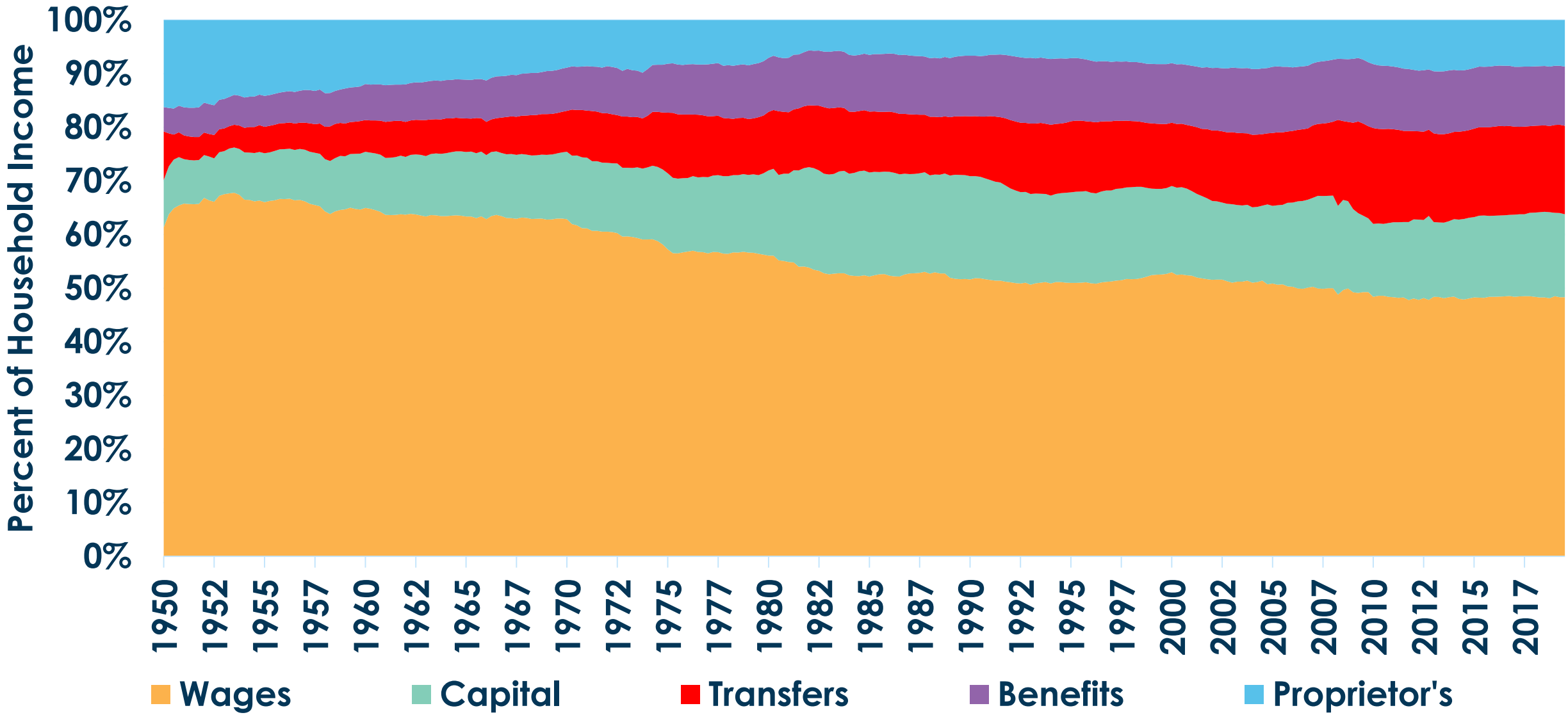
Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data. Consumer Price Index for All Urban Consumers (CPI-U) and CPI-U less food and energy. The inflation rate is the December to December change in the Consumer Price Index.

Thirty Year Fixed Rate Conventional Mortgage
United States, January 1972 – January 2019



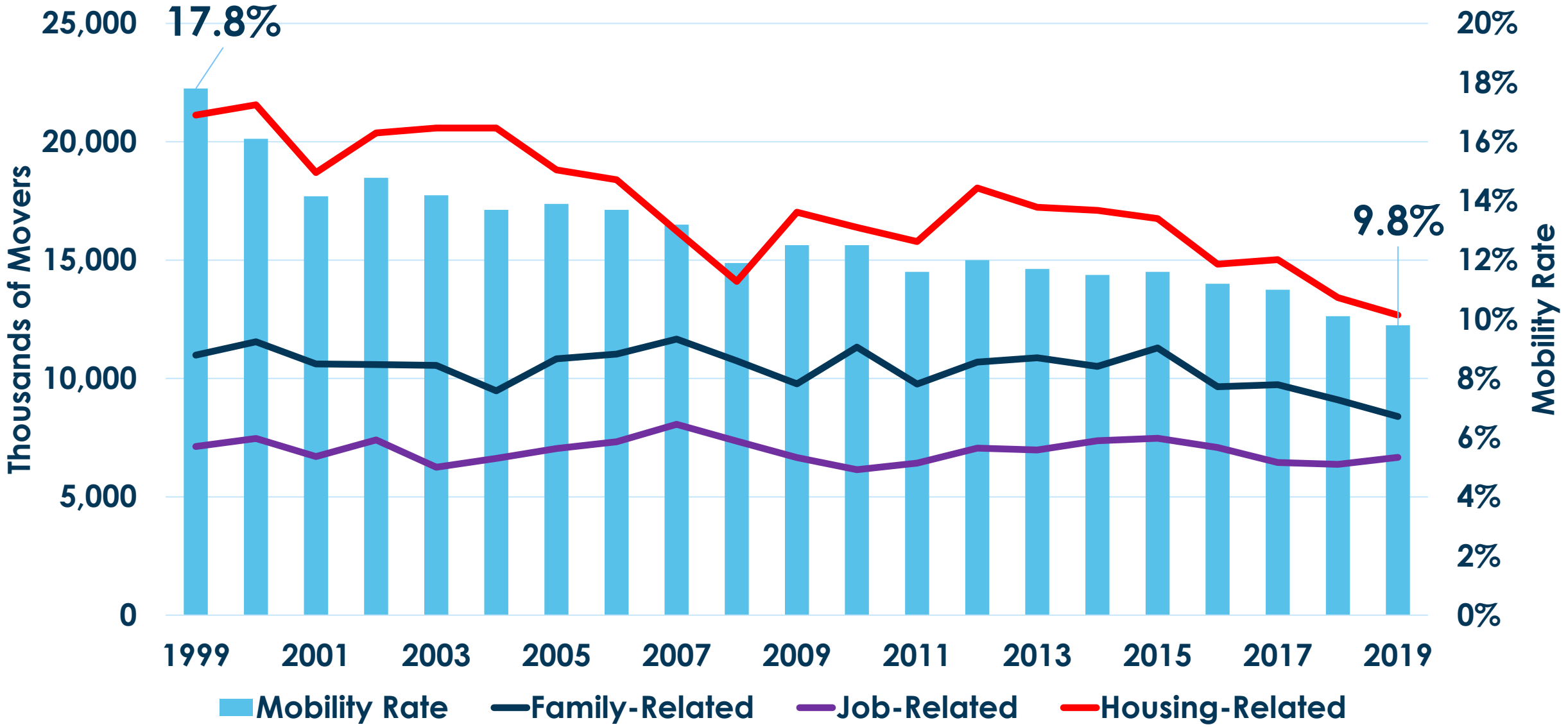
Sources: FreddieMac and Dragas Center for Economic Analysis and Policy. Grey bars are recessionary months. Monthly averages.

Sources of Household Income
United States, 1950 Q1 to 2019 Q3



Sources: Bureau of Economic Analysis, Personal Income Tables and Dragas Center for Economic Analysis and Policy.

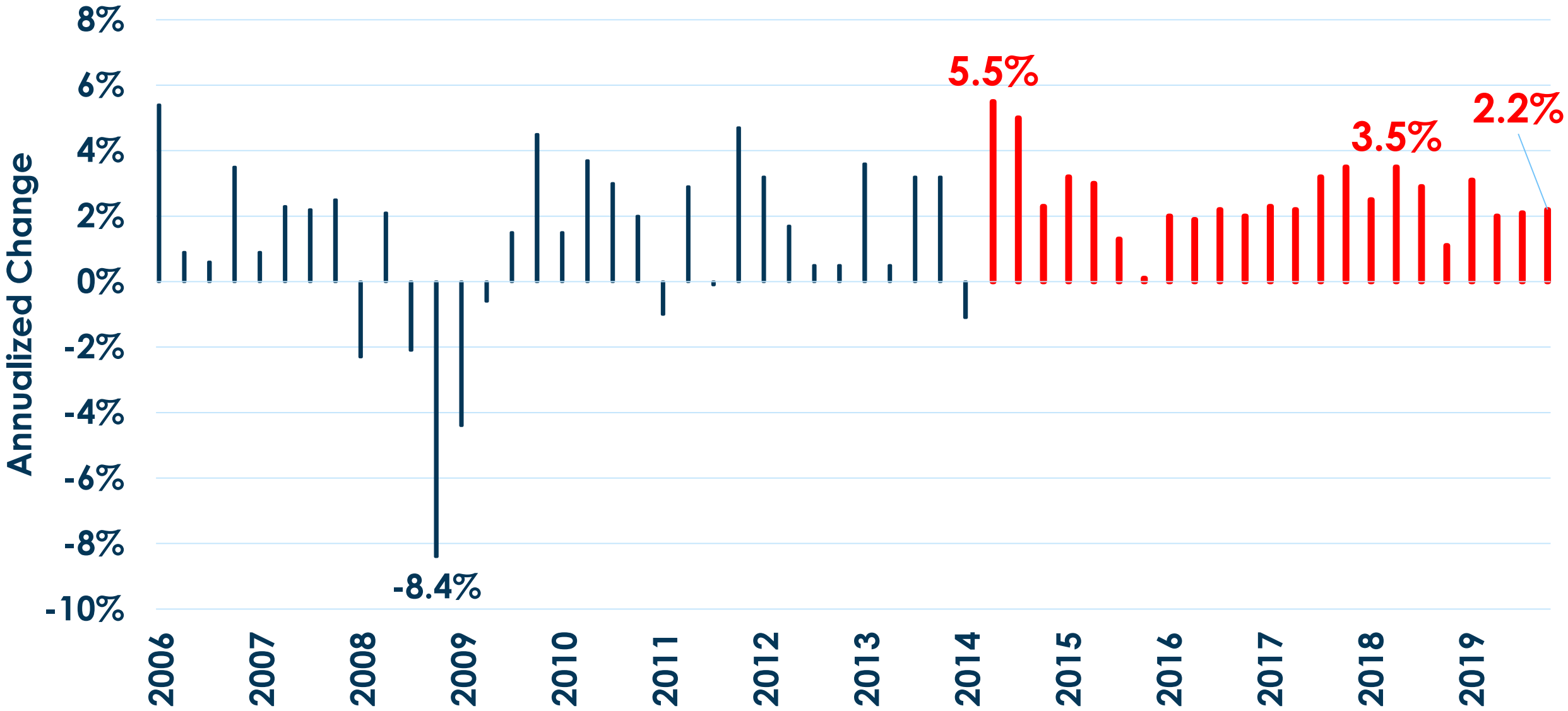
Mobility Rates and Reason for Moving
United States, 1999 - 2019



Source: U.S. Census Bureau, Mortgage Bankers Association, and Dragas Center for Economic Analysis and Policy.

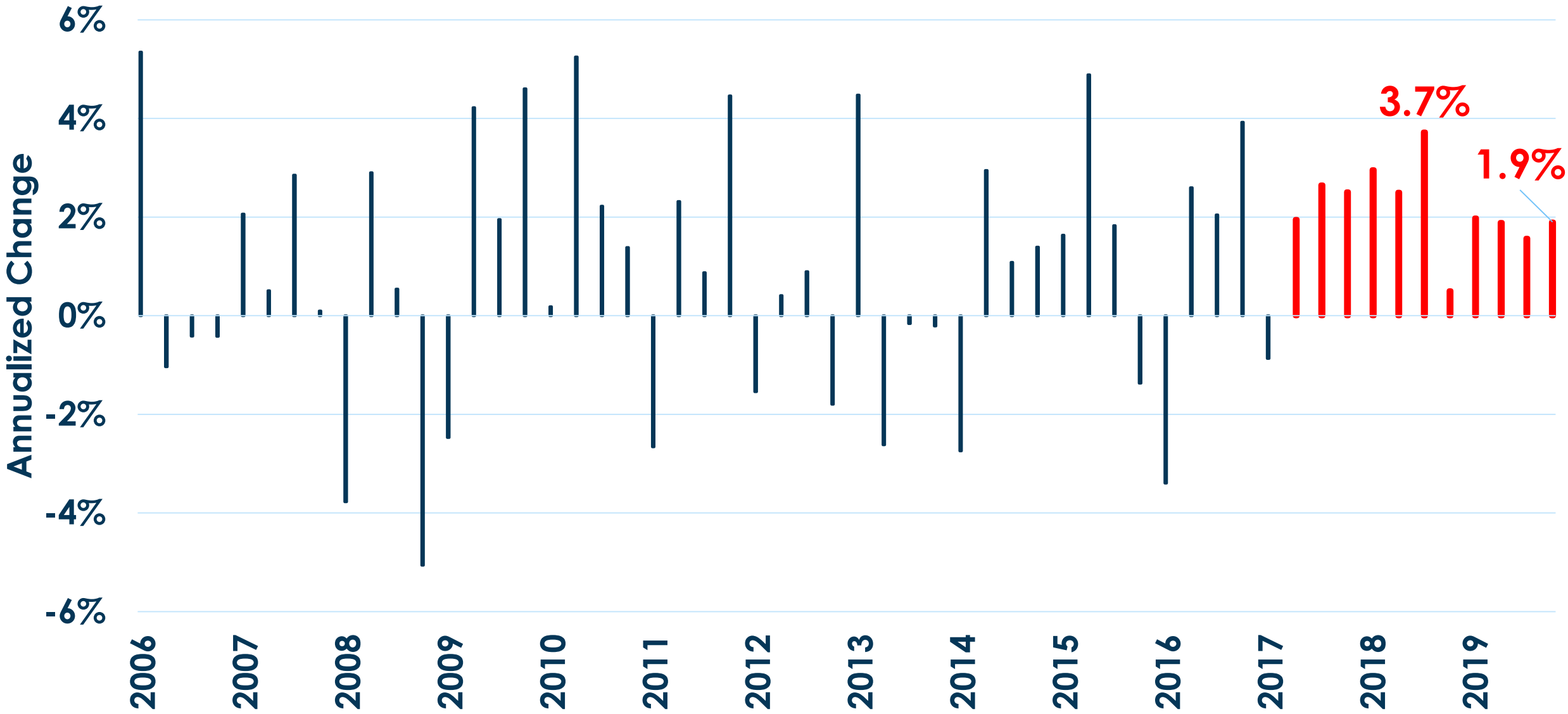
The Expansion

Growth in Real Gross Domestic Product
United States, 2006 Q1- 2019 Q4*



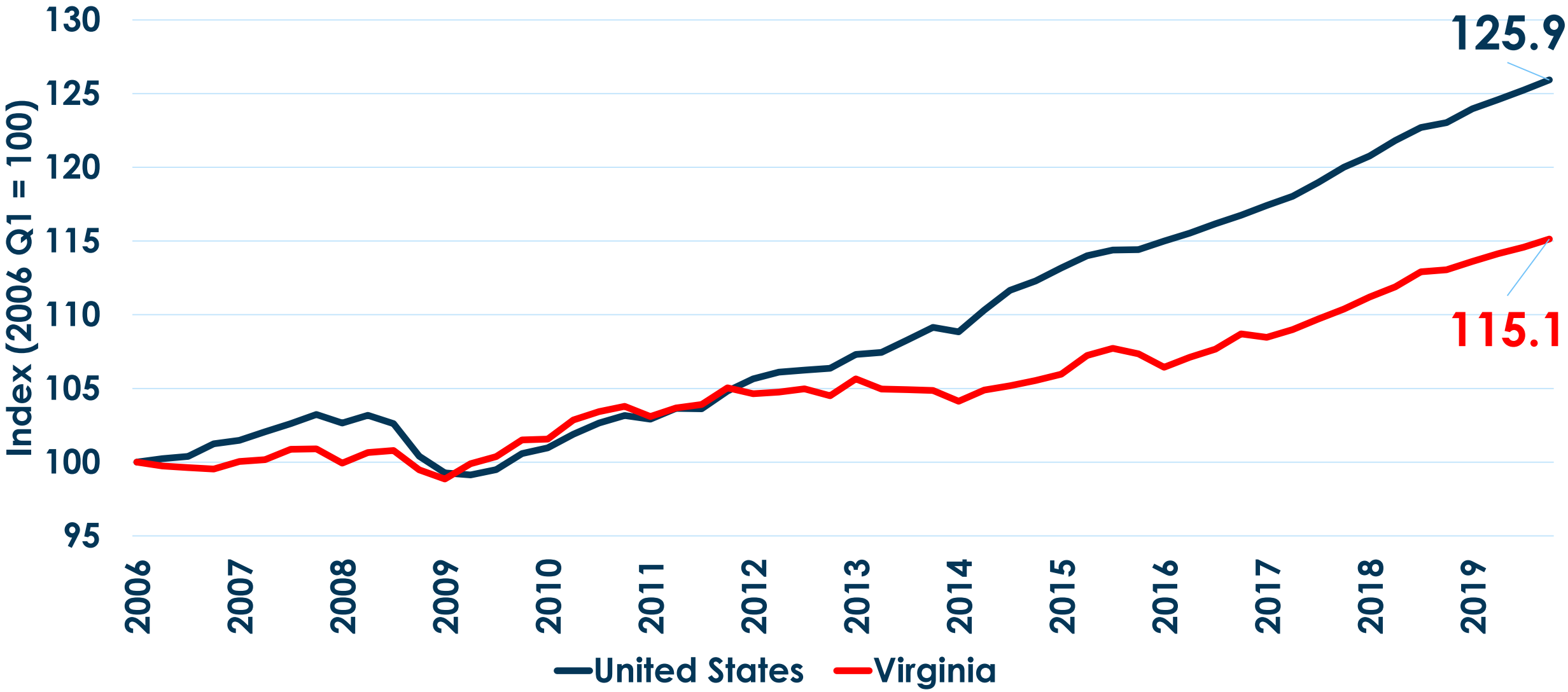
Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporate latest BEA revisions in January 2020. Data for 2019 Q3 are the third estimate. Data for 2019 Q4 represents our forecast.

Growth in Real Gross Domestic Product
Virginia, 2006 Q1- 2019 Q4*



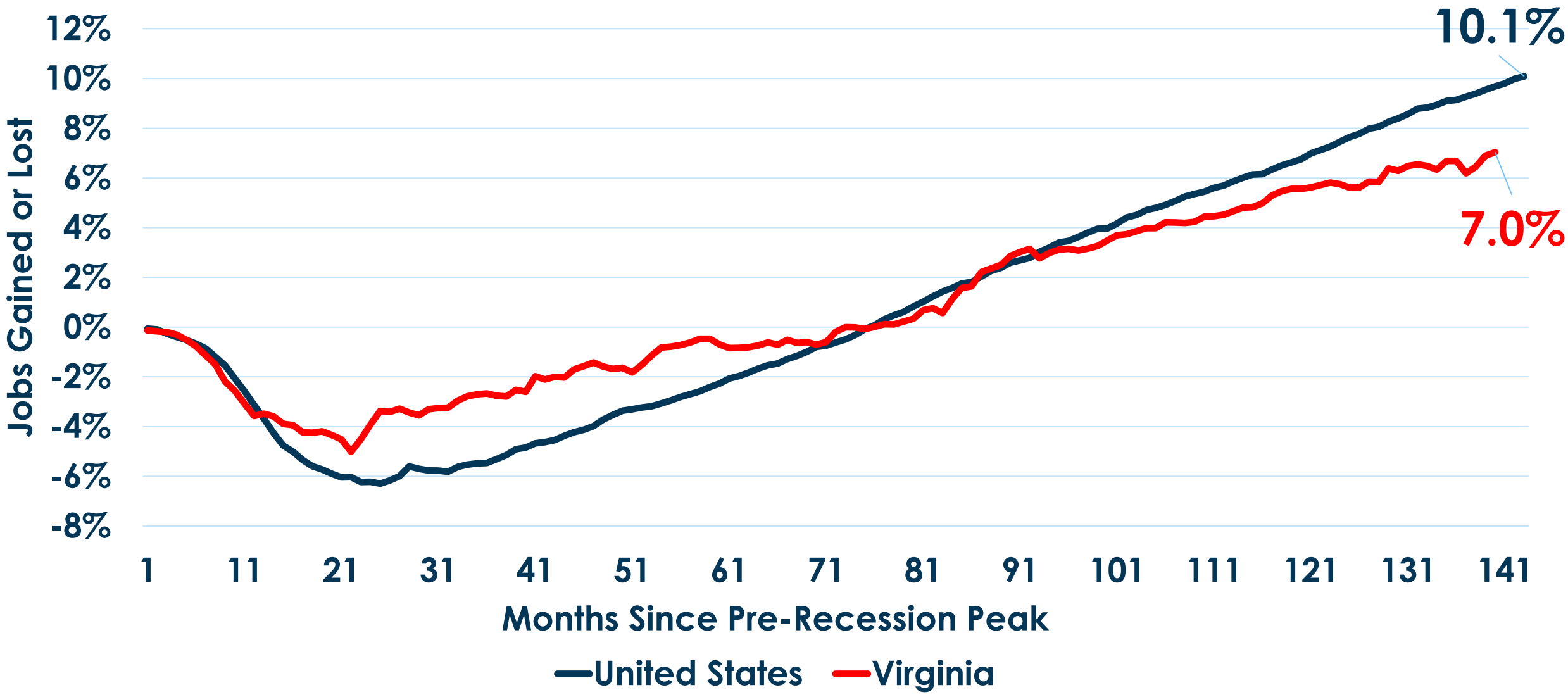
Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporate latest BEA revisions in January 2020. Data for 2019 Q3 are the third estimate. Data for 2019 Q4 represents our forecast.

Index of Real Gross Domestic Product
Virginia and the United States, 2006 Q1 to 2019 Q4*



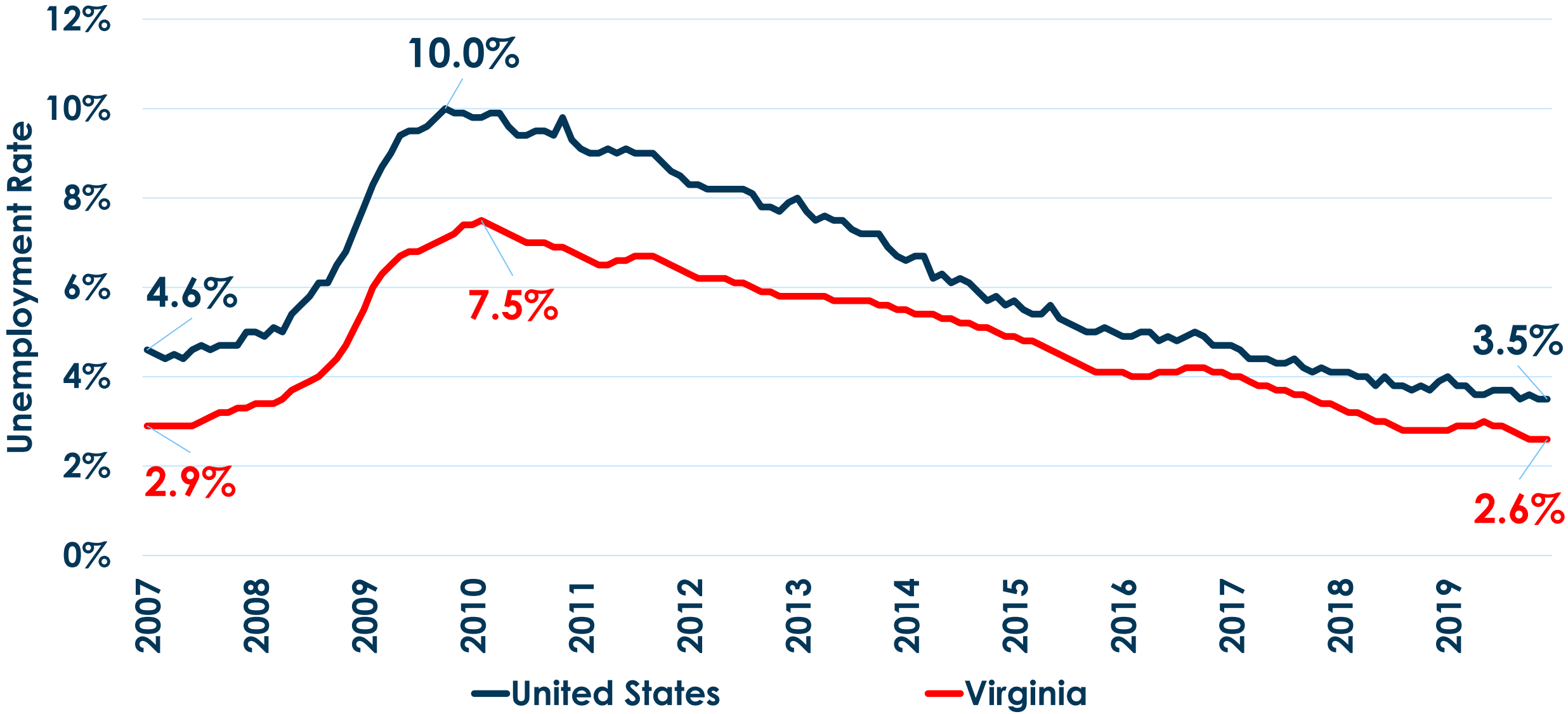
Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporate latest BEA revisions in January 2020. Data for 2019 Q3 are the third estimate. Data for 2019 Q4 represents our forecast.

Recovery from the Great Recession
Measured in Total Jobs Restored, 2008-2019*



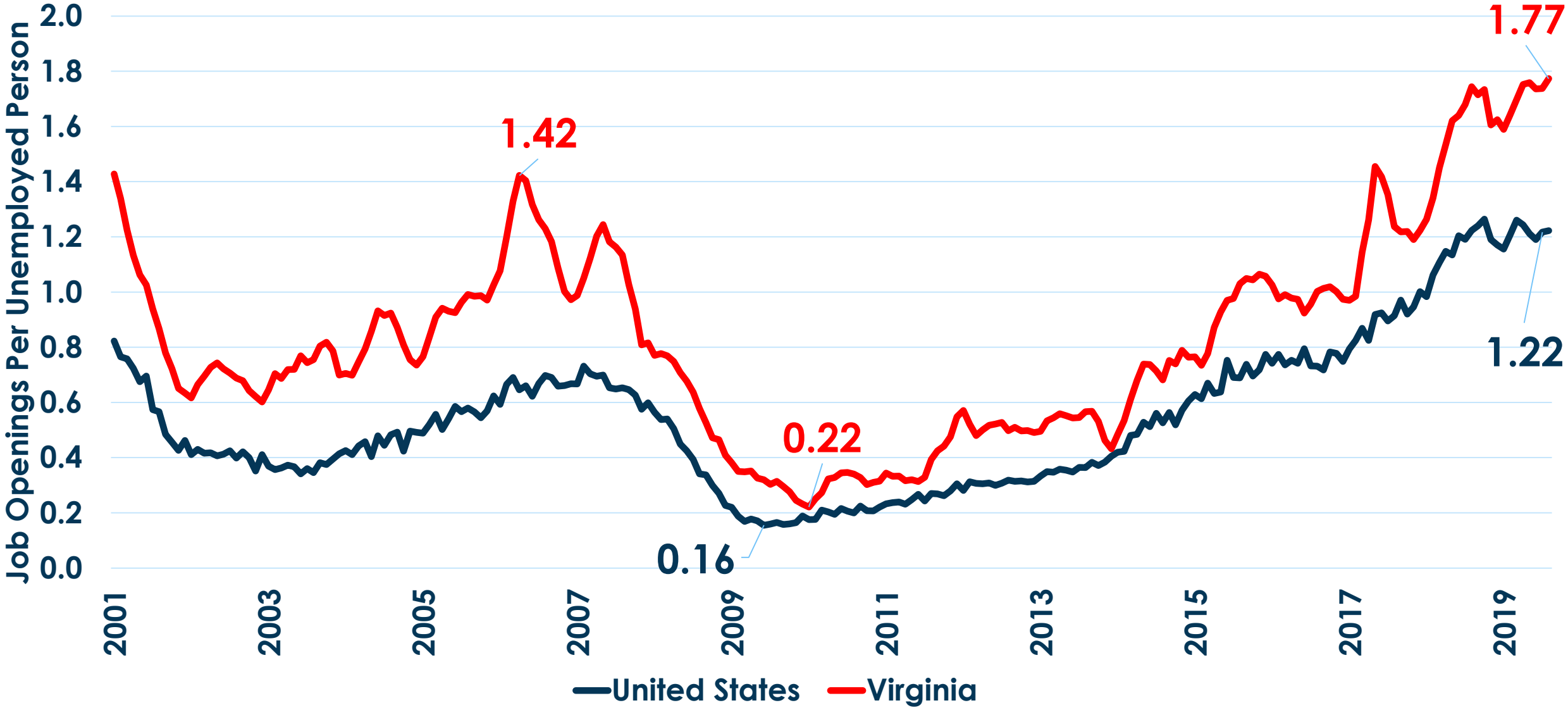
Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Peak Pre-Recession Dates are January 2008 (United States), and April 2008 (Virginia). *Data through December 2019. US data are preliminary the last two months. Virginia data are preliminary for the last month. Seasonally adjusted data.

Unemployment Rate (U3)
United States and Virginia, January 2007 – December 2019



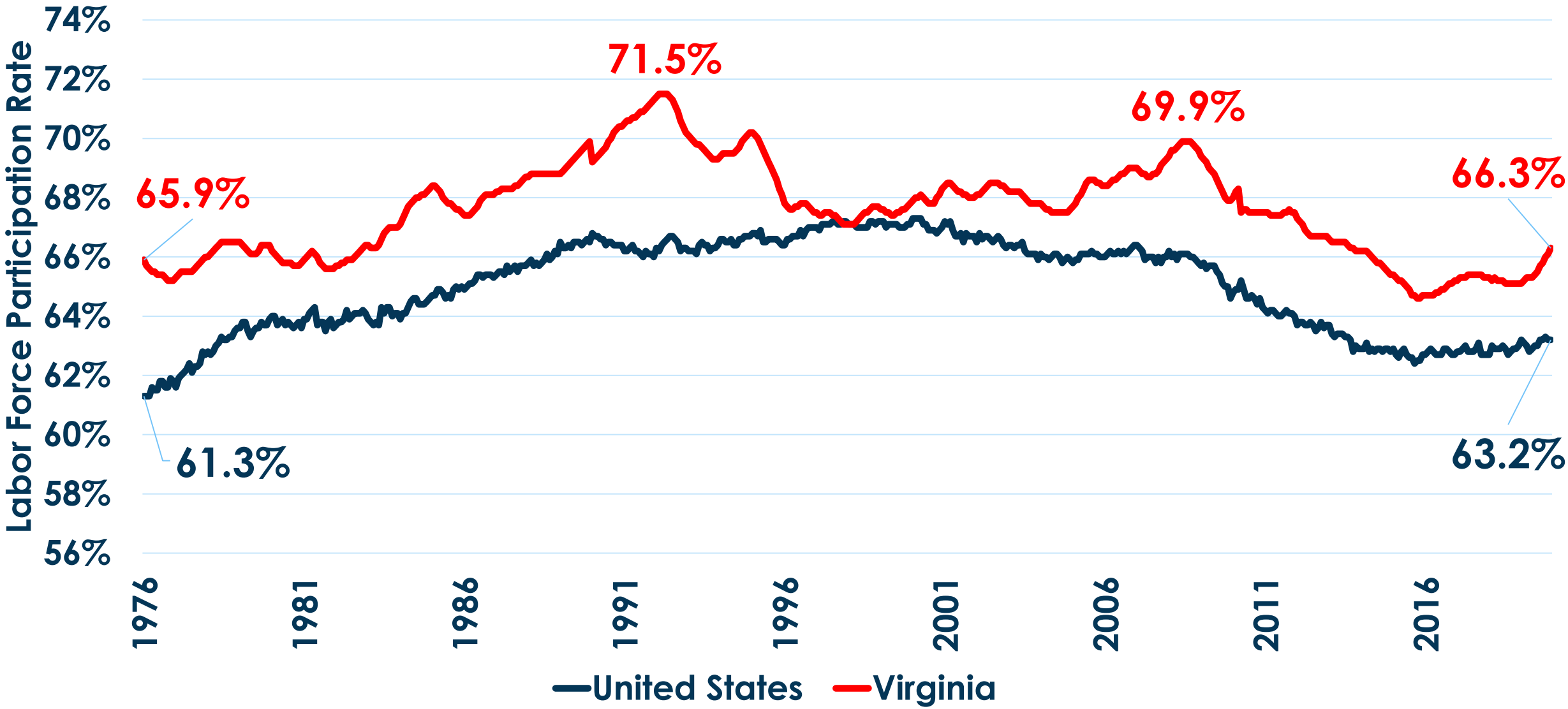
Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data.

Job Openings Per Unemployed Person
United States and Virginia, February 2001 – September 2019



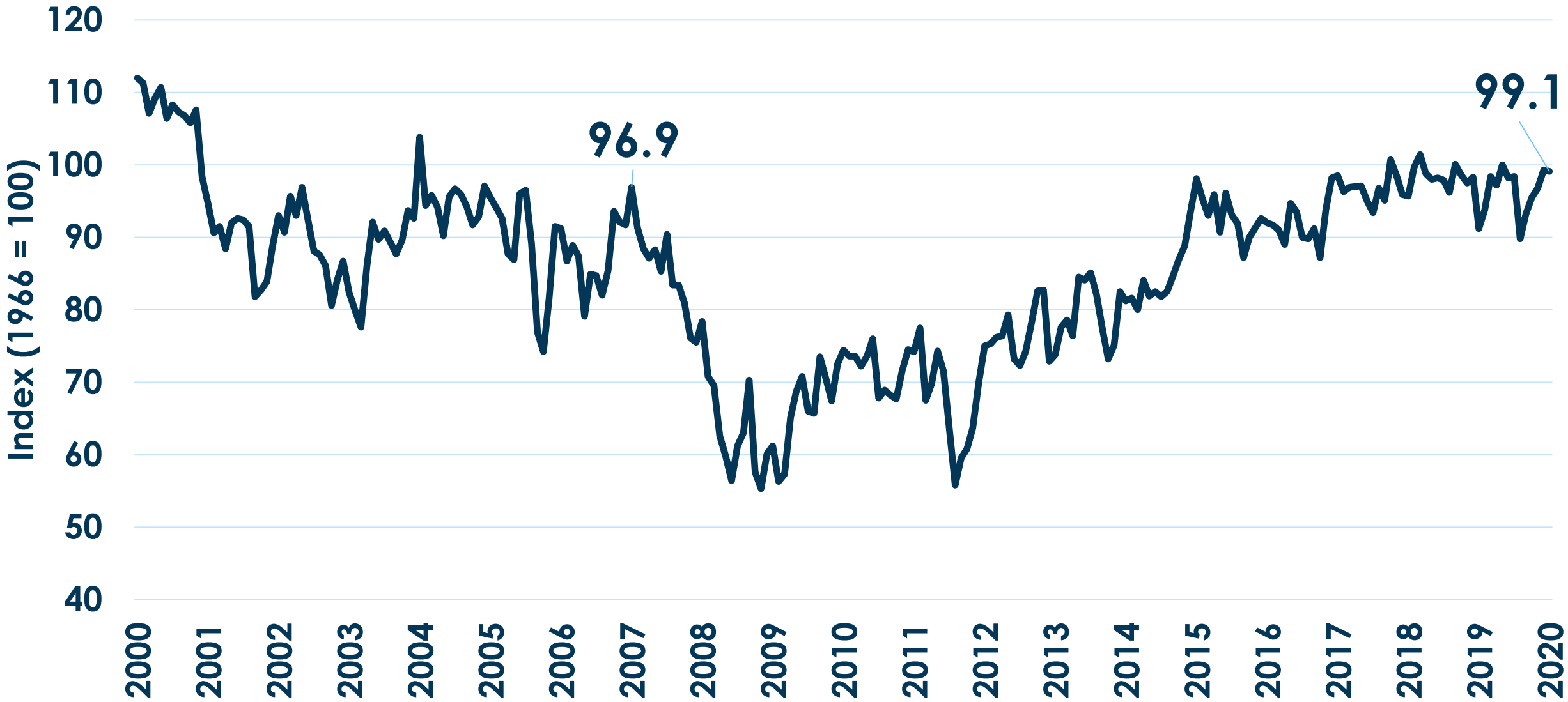
Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data. State level JOLTS data is an experimental product.

Civilian Labor Force Participation Rate
United States and Virginia, January 1976 – December 2019



Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data.

University of Michigan, Consumer Sentiment
January 2000 – January 2020



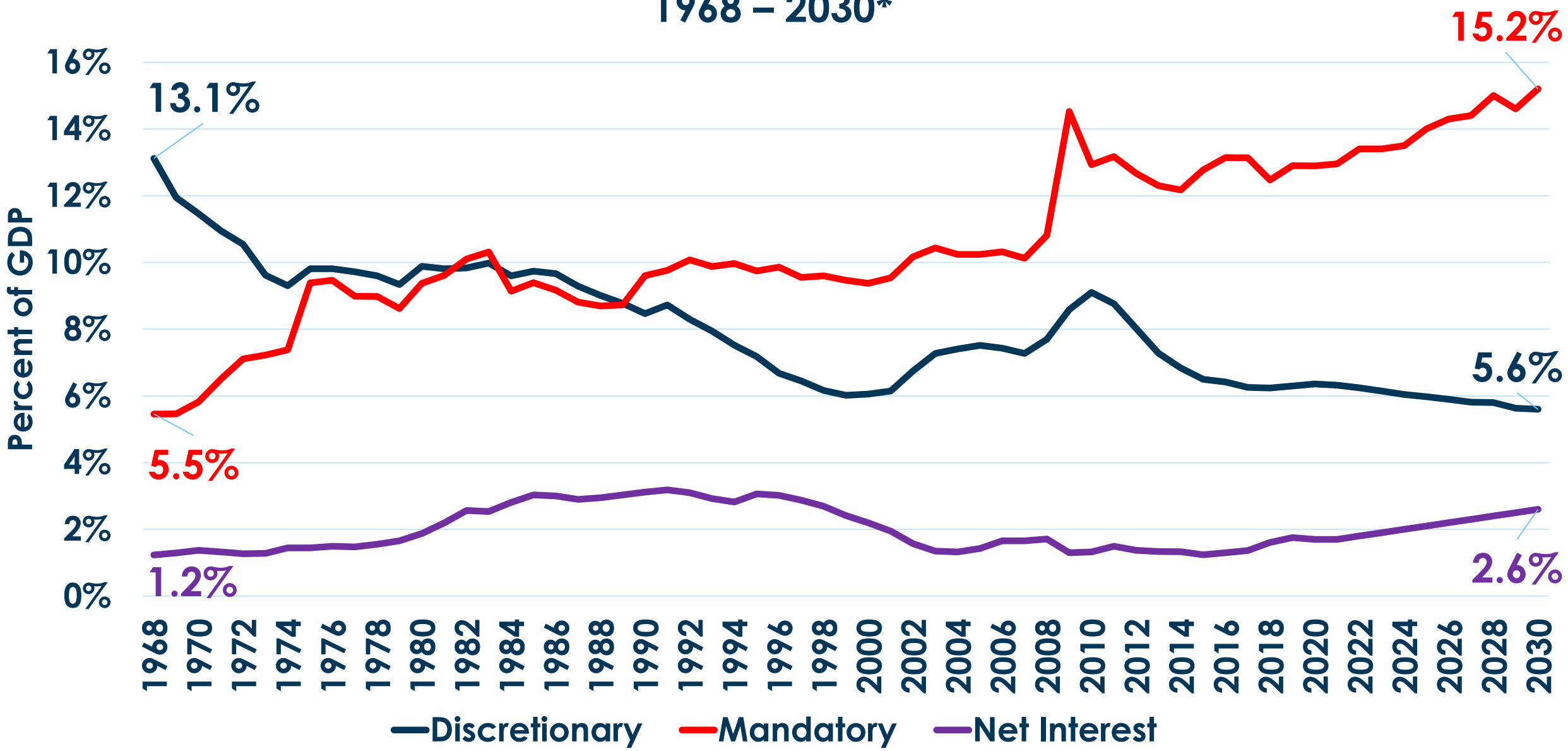
Source: University of Michigan, Survey of Consumer Sentiment, January 2020.

2020: The Economic Expansion Continues

- Price and wage inflation does not accelerate.
- Interest rates and monetary policy remain accommodative.
- Consumer sentiment continues to drive economic activity.
- The Phase I trade deal lifts short-term exports to China.
- Federal spending sustains moderate growth in Virginia.

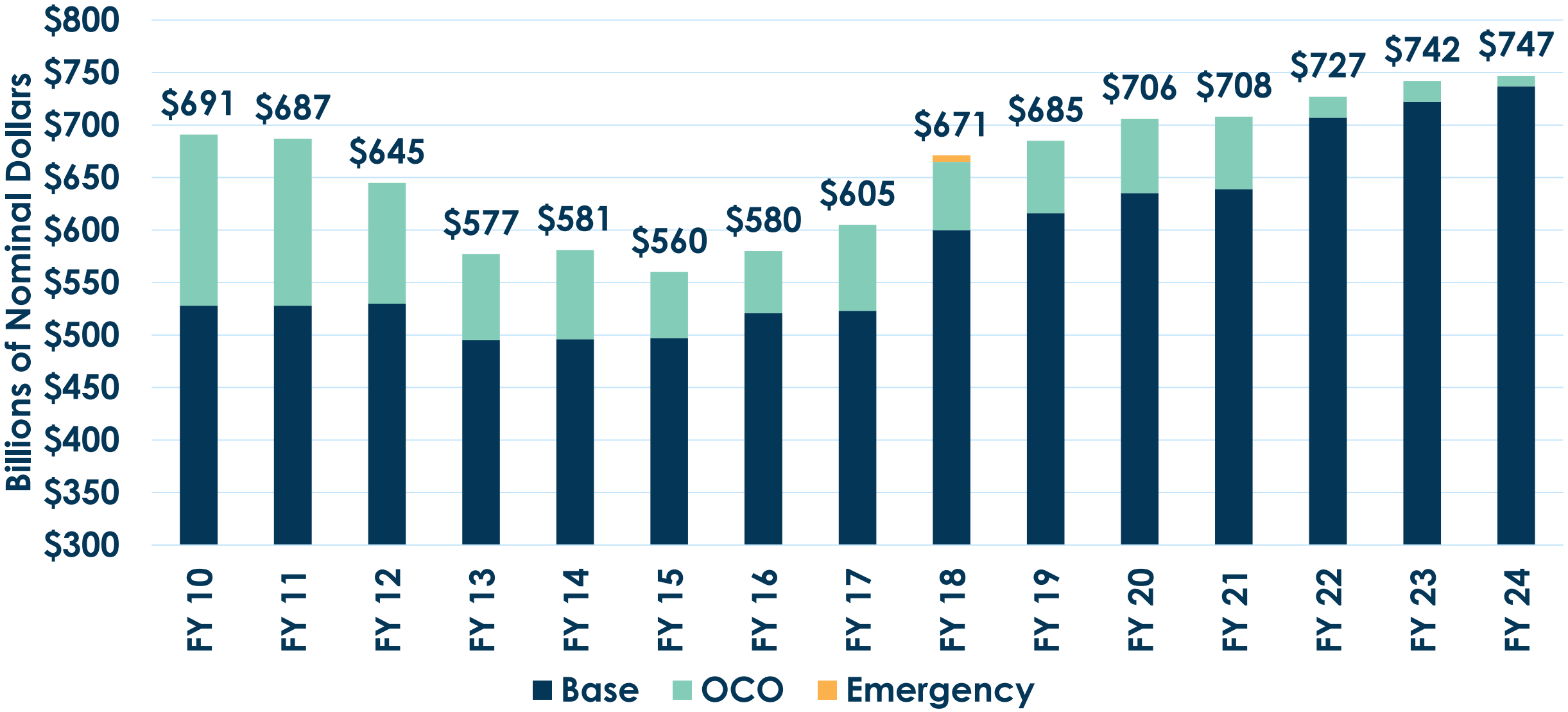
Warning Signs

Federal Outlays as Percent of GDP
1968 – 2030*



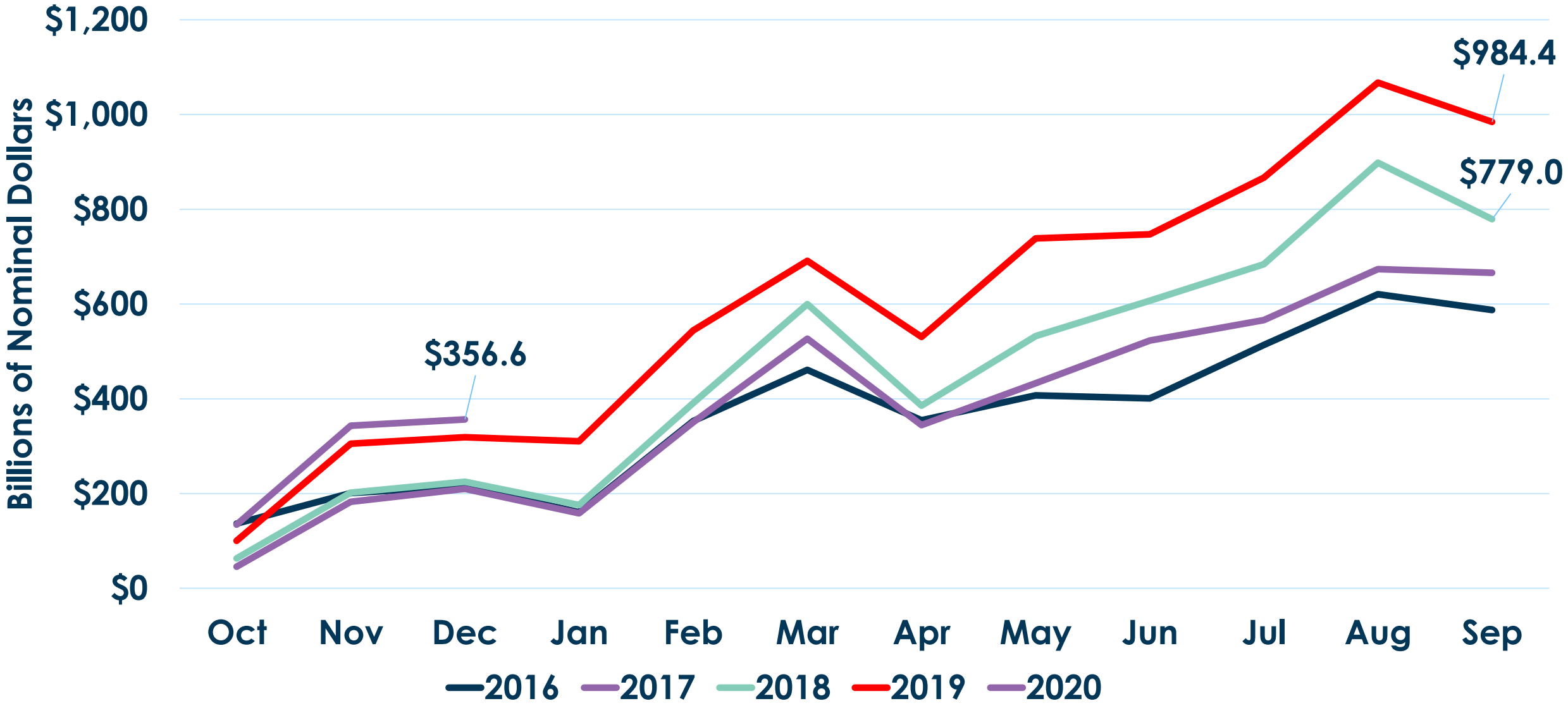
Sources: Congressional Budget Office (2020), The Budget and Economic Output: 2020 to 2030 and Dragas Center for Economic Analysis and Policy. *Actual data through 2019 and forecasts through 2030.

Department of Defense Discretionary Budget Authority
Fiscal Year 2010 – Fiscal Year 2024



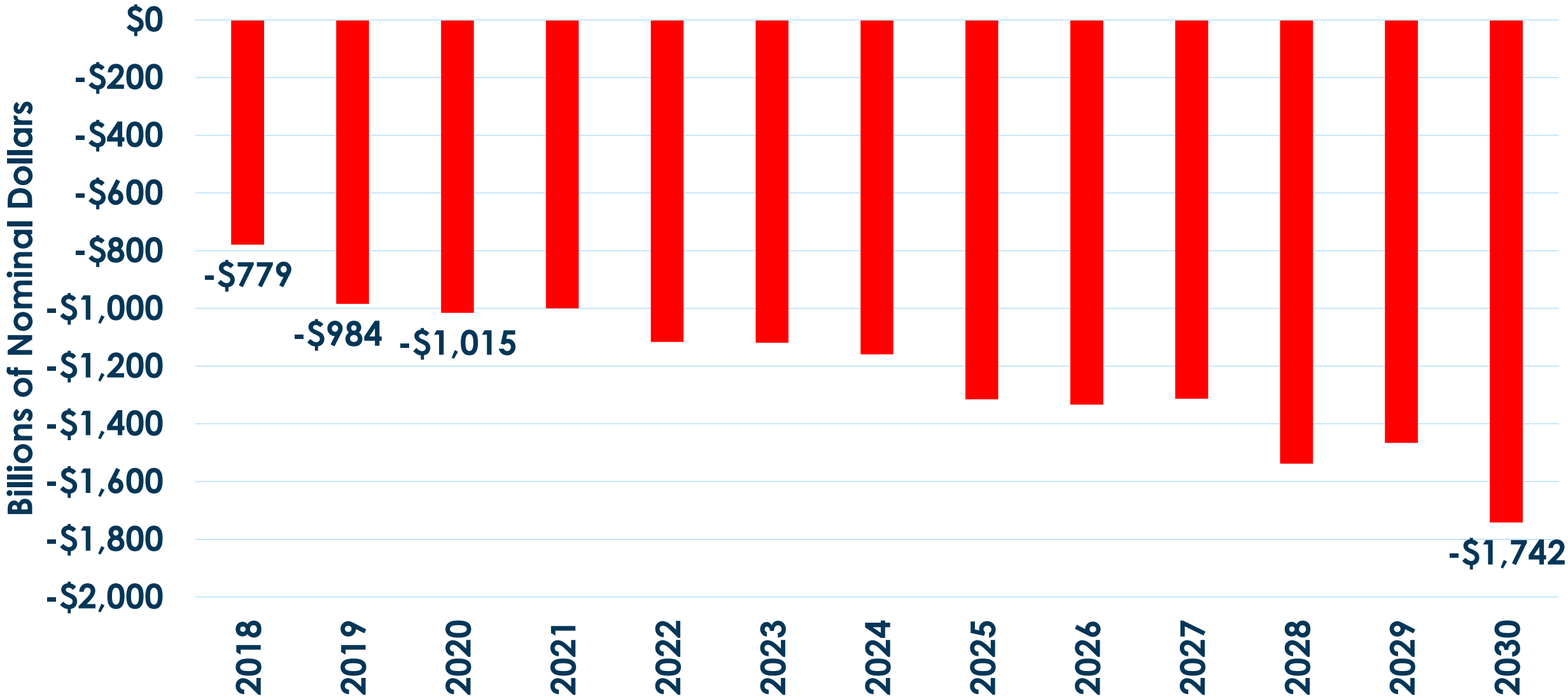
Sources: Dragas Center for Economic Analysis and Policy, OSD (Comptroller), FY 2020 Presidential Budget, and Bipartisan Budget Agreement of 2019. Estimated outyear spending on historical allocations of national defense spending. OCO forecast from DoD budget submittal.

Cumulative U.S. Federal Government Deficit by Month
January 2016 – December 2019



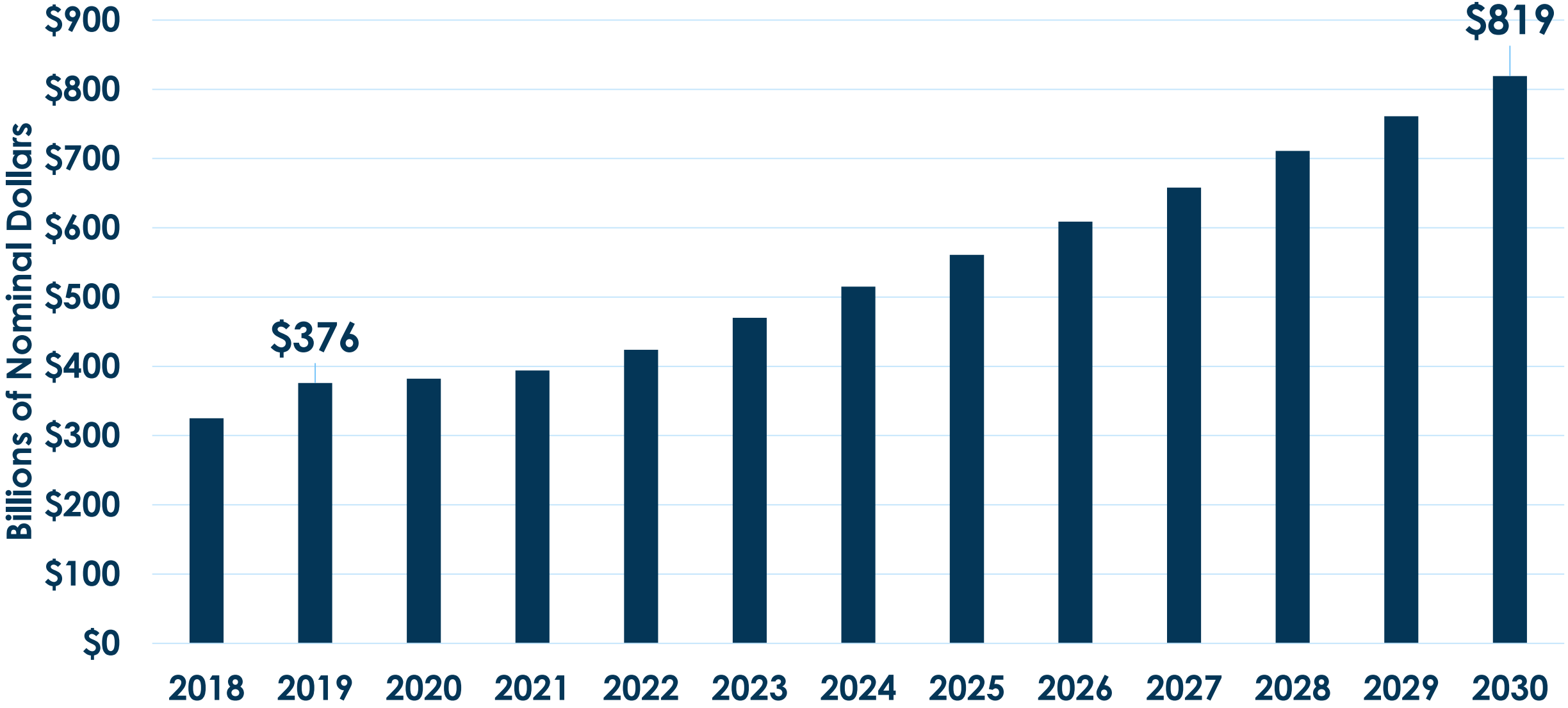
Sources: Congressional Budget Office, U.S. Treasury, and Dragas Center for Economic Analysis and Policy. Billions of nominal dollars.

Actual and Projected Federal Deficit
United States, FY 2018 – FY 2030*



Source: Congressional Budget Office (2020), The Budget and Economic Output: 2020 to 2030 and Dragas Center for Economic Analysis and Policy. Off-Budget includes the revenue and outlays of the Social Security Trust Funds and the net cash flow of the Postal Service. *Actual data through 2019 and projections from 2020 to 2030.

Net Interest Expenditures on Federal Debt
United States, FY 2018 – FY 2030*



Source: Congressional Budget Office (2020), The Budget and Economic Output: 2020 to 2030 and Dragas Center for Economic Analysis and Policy. *Actual data through 2019, and projections from 2020 to 2030.

No Tree Grows to the Sky

- DoD expects relatively flat budgets over the FYDP.
- SecDec Esper has targeted the "Fourth Estate" to reduce overhead.
- SecDef proposed cutting procurement of 5 Arleigh Burke destroyers and the retirement an additional 4 Ticonderoga-class cruisers by 2025.
- The Army's recently proposed cuts, delays, or cancelations in almost 200 programs to free up resources for new initiatives.
- The upcoming 2021 – 2026 FYDP is likely to follow the Army's lead.

The Outlook

The Good Place

- Trade tensions moderate with the Phase I deal.
- The Boeing 737 – Max reenters production in the 2nd half of 2020.
- The Coronavirus mirrors the SARS outbreak, with limited global mortality.
- Global growth accelerates in the second half of 2020.
- Equity and real estate markets cool, but do not have major corrections.
- The Presidential election does not significantly impact economic activity.

The Not-So-Good Place

- The Phase I deal falls apart before it begins, leading to new tariffs.
- The Boeing 737 – Max remains out of service for 2020.
- Global growth continues to slow as international trade volumes decline.
- Equity and real estate markets pull back after a decade of increases.
- The Coronavirus outbreak trends toward the 1918 influenza pandemic.
- A Presidential nominee emerges and surges to a lead in the polls with promises of a significant expansion of government programs and taxes.

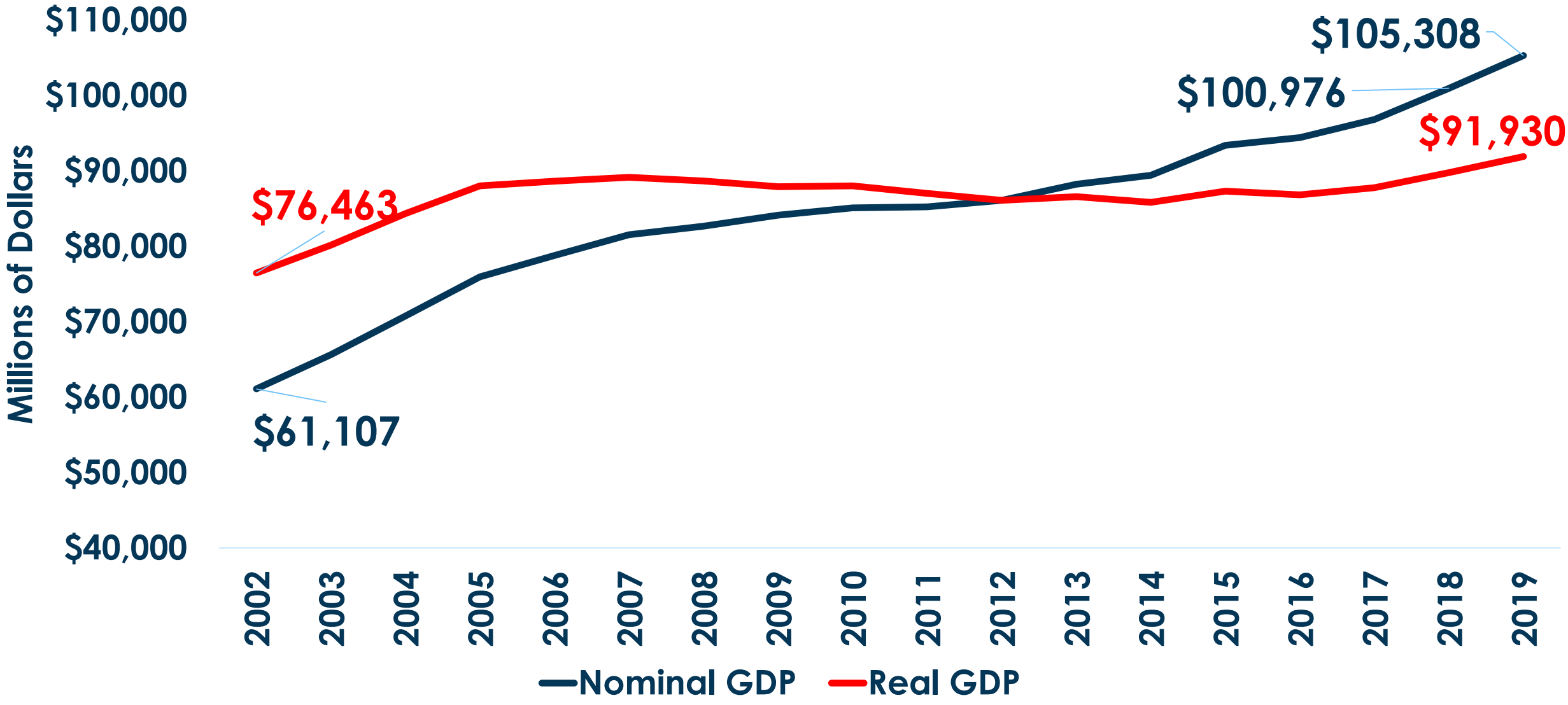
	2018 Actual	2019 Forecast (May)	2019 Actual	2020 Forecast
U.S. Real Gross Domestic Product	3.0%	2.5%	2.3%	2.2%
Civilian Job Growth	1.6%	1.5%	1.4%	1.2%
Unemployment Rate	3.9%	3.7%	3.5%	3.7%
Consumer Price Index	2.4%	2.7%	2.3%	2.4%
Core Consumer Price Index	2.1%	2.3%	2.3%	2.5%
3-month Treasury Bill	2.4%	2.5%	1.6%	1.8%
10-year Treasury Bill	2.9%	2.9%	1.9%	2.1%
30-year Treasury Bill	3.1%	3.3%	2.3%	2.5%
30-year Conventional Mortgage	4.5%	4.6%	3.8%	4.2%
Federal Deficit	-$779 Billion	-$900 Billion	-$984 Billion	-$1.1 Trillion
Virginia Real GDP	2.8%	2.7%	2.2%	2.0%
Virginia Employment Growth	1.1%	1.4%	1.1%	1.1%
Superbowl	Eagles	--	Patriots	49ers

Notes: Data reflects the annual rate of growth, last month, or day business day of the year where appropriate. U.S. Treasuries are constant maturities, annual averages. Every team that has had 50+ sacks in the season and played in the Superbowl has won. The 49ers had 57 sacks (plus each time the Raiders have moved, the 49ers have won the Superbowl).

2020 Hampton Roads Economic Forecast

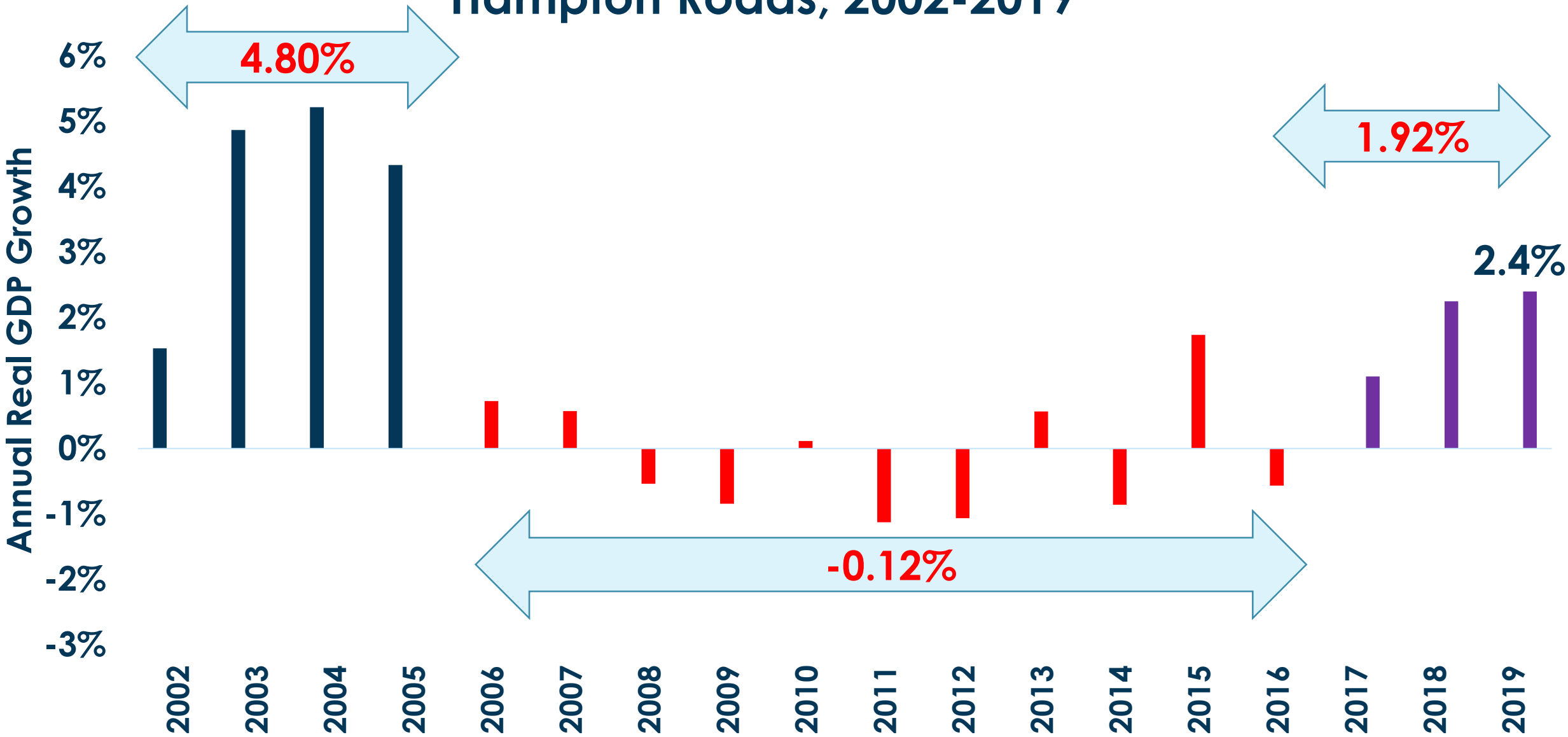
Continuing Improvements But Challenges Remain Ahead

Nominal and Real Gross Domestic Product (GDP): Hampton Roads, 2002 – 2019*



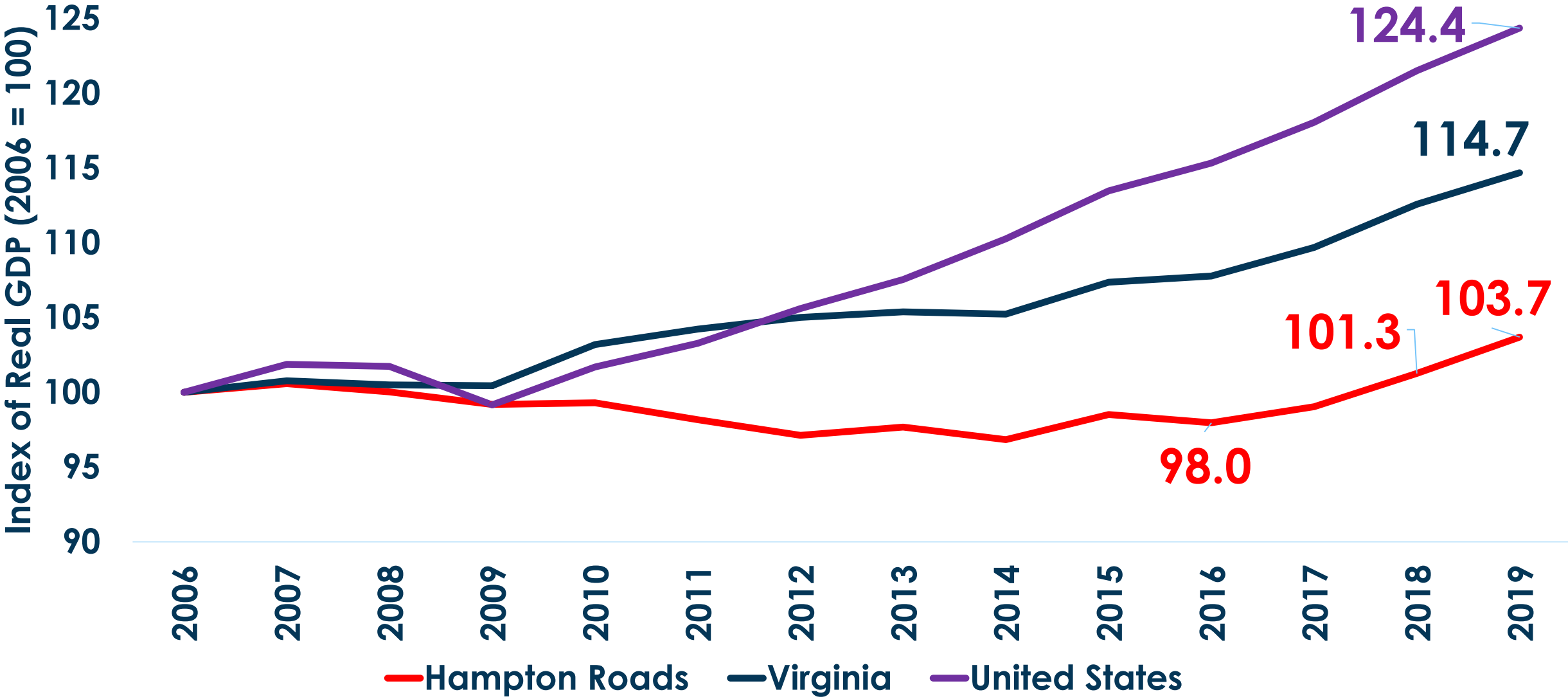
Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporates latest BEA revisions in December 2019. Data for 2018 for Hampton Roads are the advance estimates and for 2019 data represent our estimate. Real GDP in 2012 Chained Dollars.

Growth in Real Gross Domestic Product: Hampton Roads, 2002-2019*



Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporates latest BEA revisions in December 2019. Data for 2018 for Hampton Roads are the advance estimates and for 2019 data represent our estimate . CAGR GDP growth in horizontal bars.

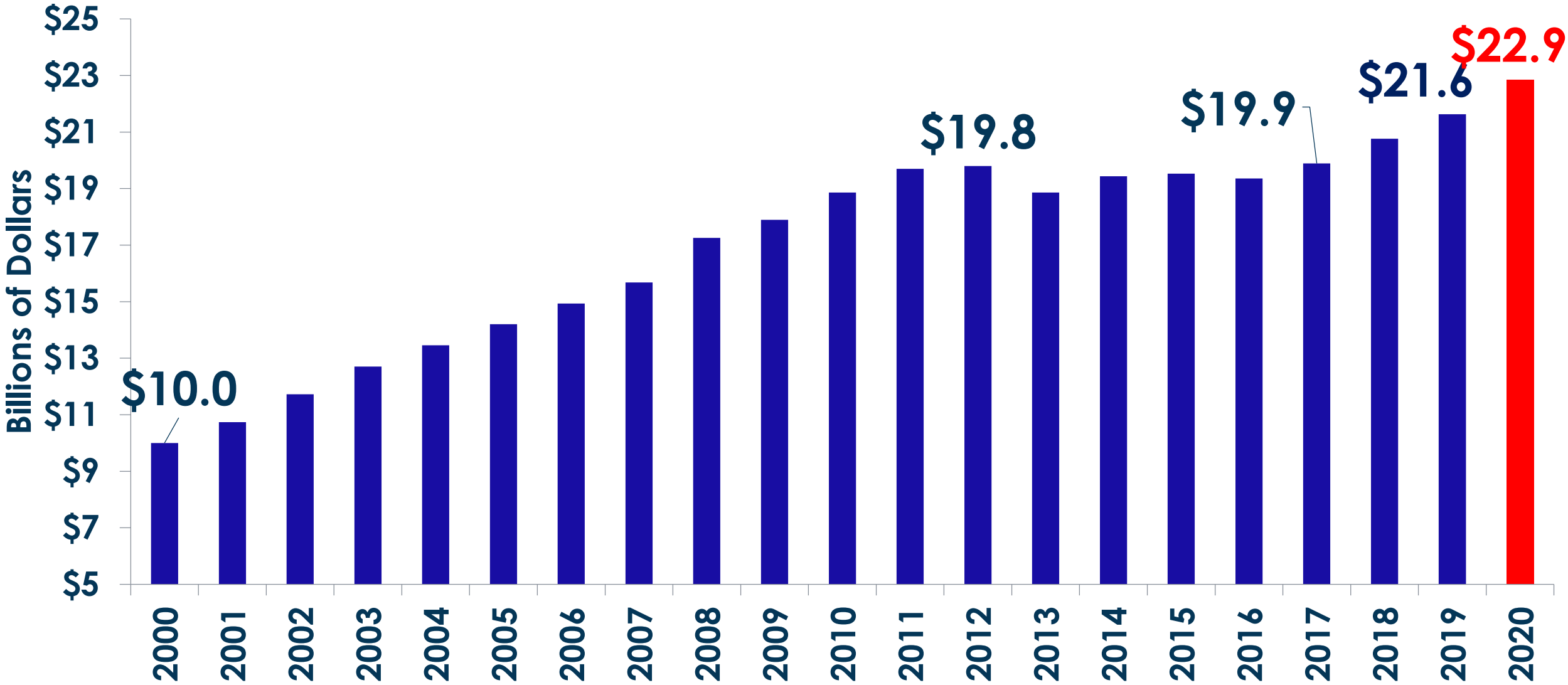
Index of Annual Real GDP, 2006 – 2019*: Hampton Roads, Virginia, and the United States



Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporates latest BEA revisions in December 2019. Data for 2018 for Hampton Roads are the advance estimates and for 2019 data represents our estimate . 2019 data for US and Virginia are our estimates. Index is equal to 100 in 2006.

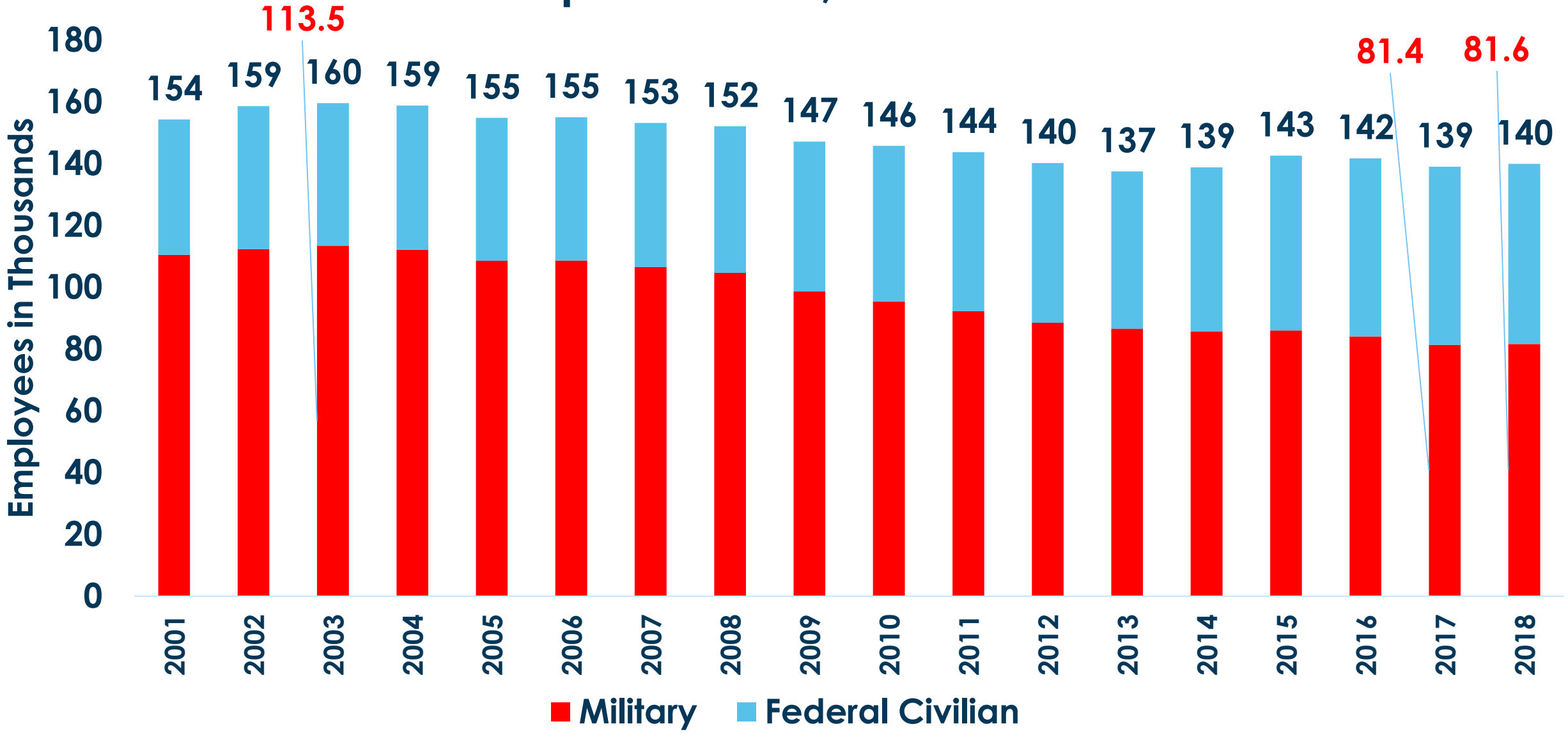
Defense Spending in Hampton Roads

Estimated Direct Department of Defense Spending
Hampton Roads, 2000 to 2020*



Sources: U.S. Department of Defense and Dragas Center for Economic Analysis and Policy. Includes Federal Civilian and Military Personnel and Procurement. *Data for 2019 are estimates while 2020 is our forecast. Last updated on January 2, 2020.

Military and Federal Civilian Employment
Hampton Roads, 2001 - 2018



Sources: U.S. Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Last updated by BEA on November 14, 2019

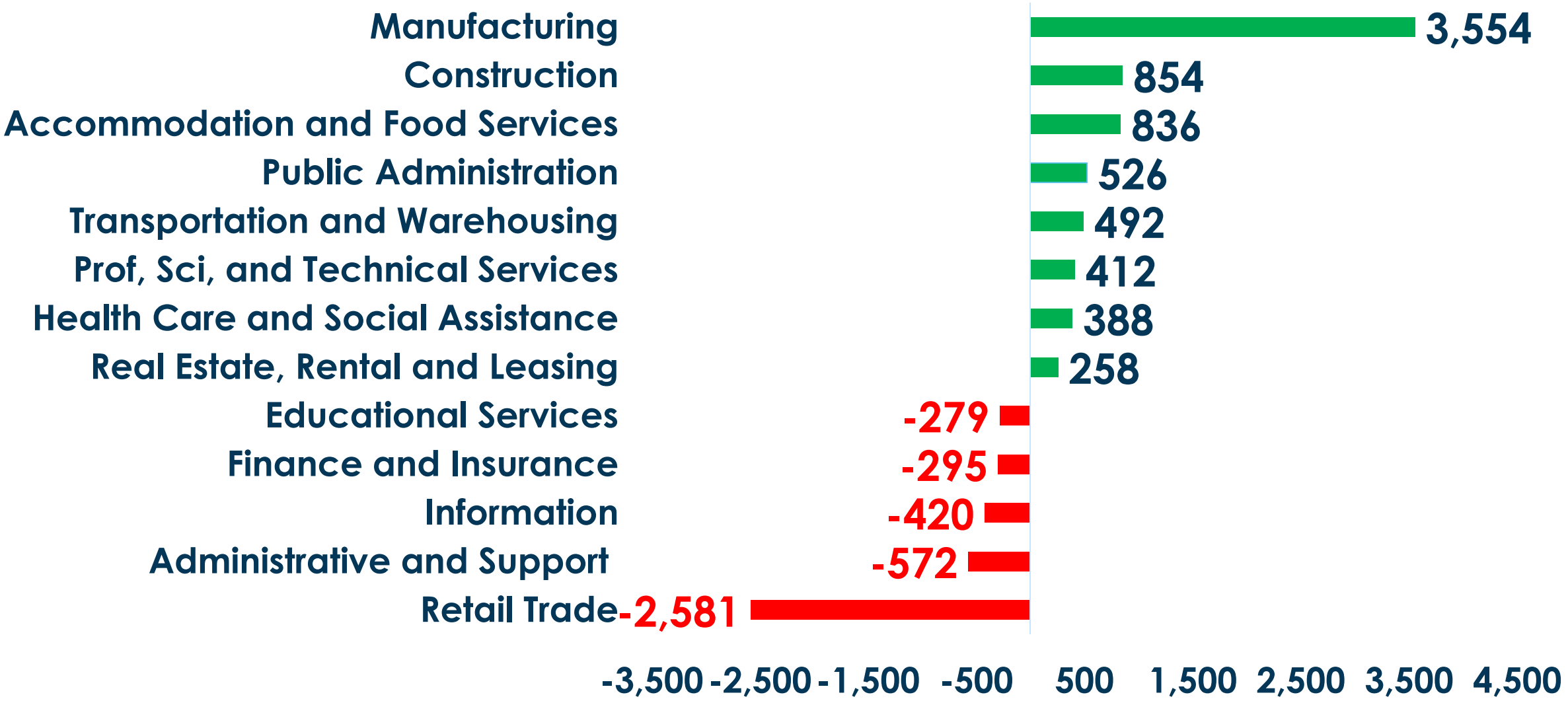
Estimated Average Nominal Compensation
Hampton Roads, Selected Categories

	2017	2018	Change in Average Compensation
Military	$93,992	$96,985	3.18%
Federal Civilian Govt. Employees	$113,883	$116,544	2.34%
State and Local Govt. Employees	$64,279	$64,539	0.40%
Private Nonfarm	$42,001	$43,136	2.70%

Source: Bureau of Economic Analysis and the Old Dominion University Economic Forecasting Project. Compensation includes wages, salaries, and benefits. Data updated on November 14, 2019

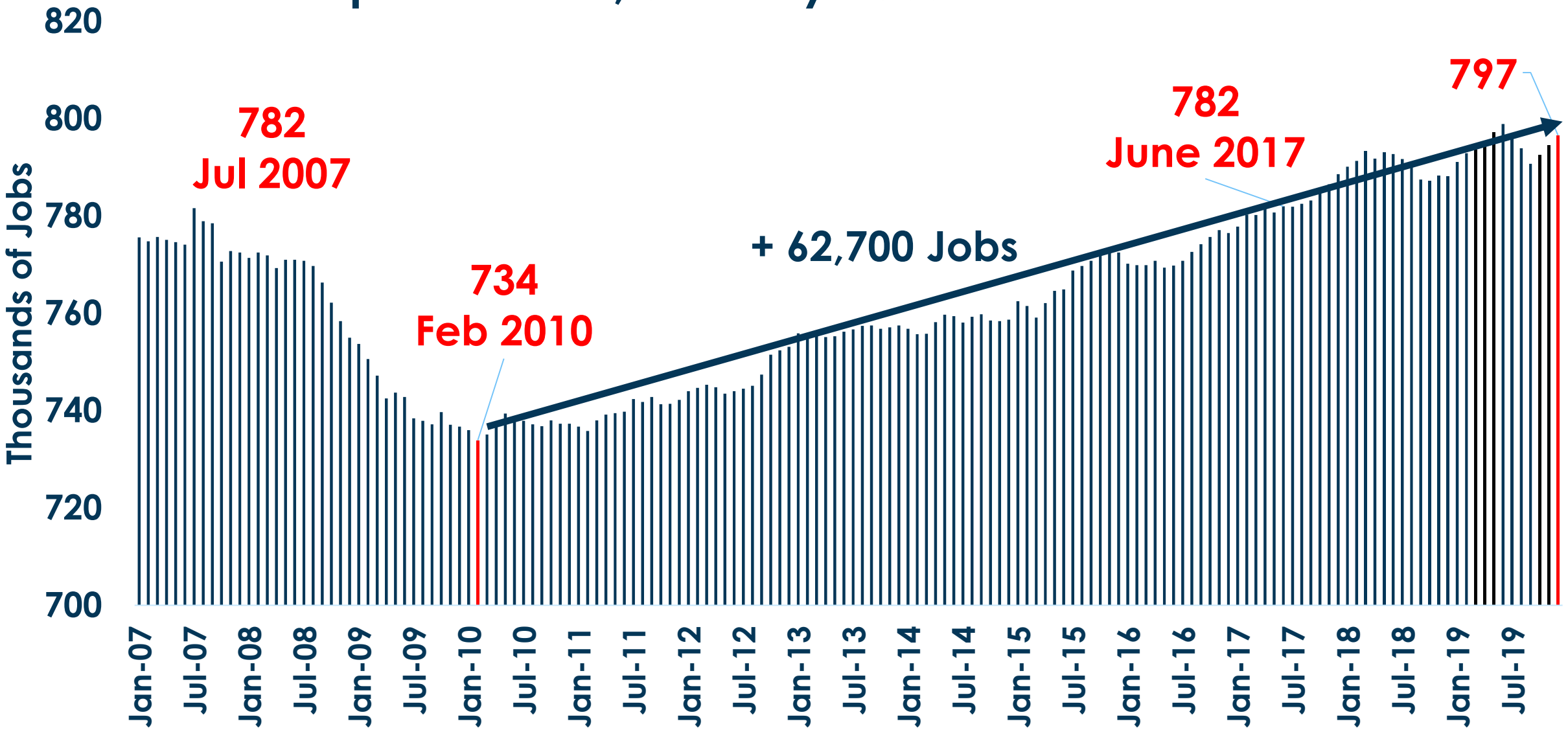
Jobs and Employment: Slowly but Steadily Growing

Change in Employment: Selected Industries in Hampton Roads, 2018 Q1 to 2019 Q1



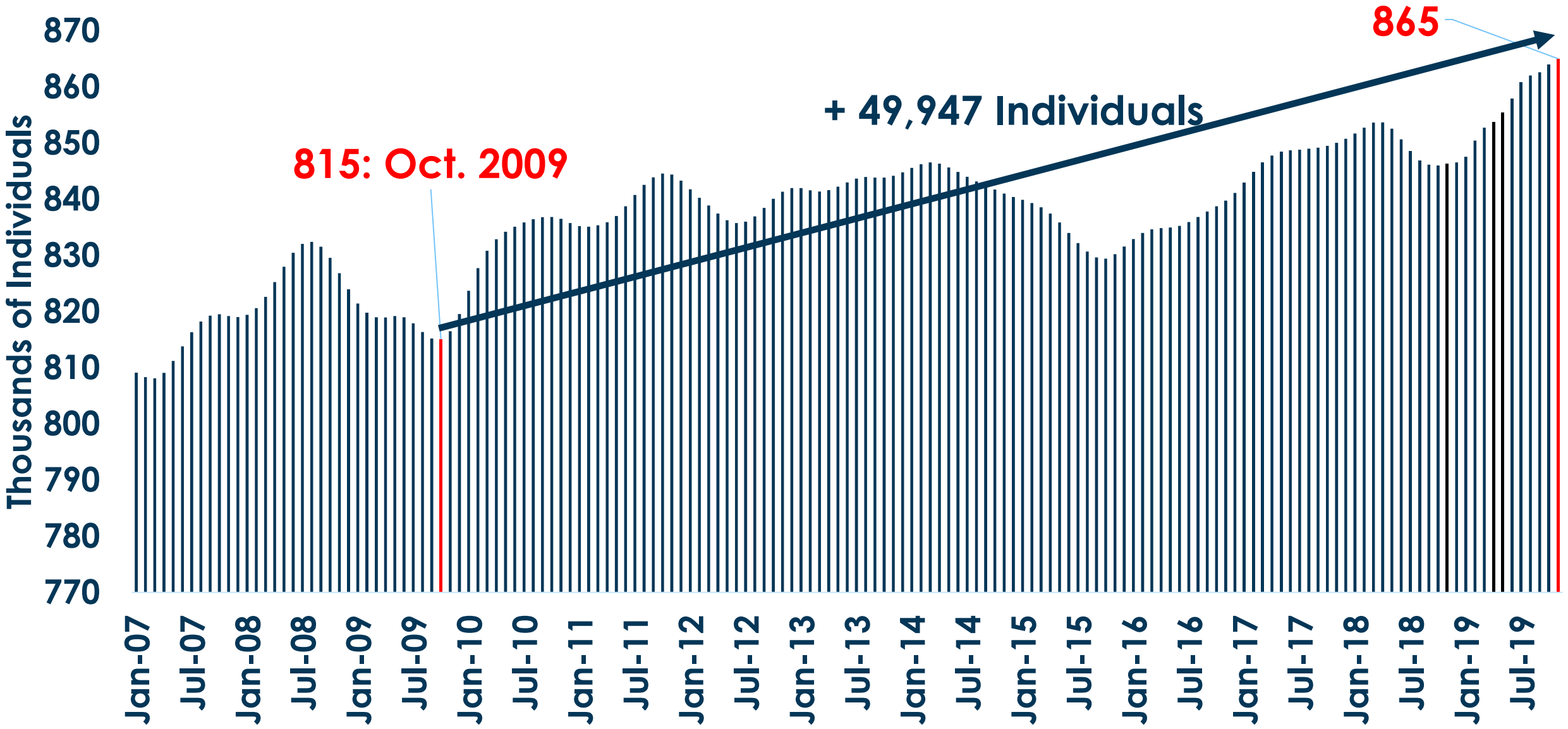
Sources: Virginia Employment Commission: Covered Employment and Wages by all types of Ownership (VA part of MSA) and the Old Dominion University Economic Forecasting Project.

Total Nonfarm Employment (Jobs)
Hampton Roads, January 2007 – December 2019



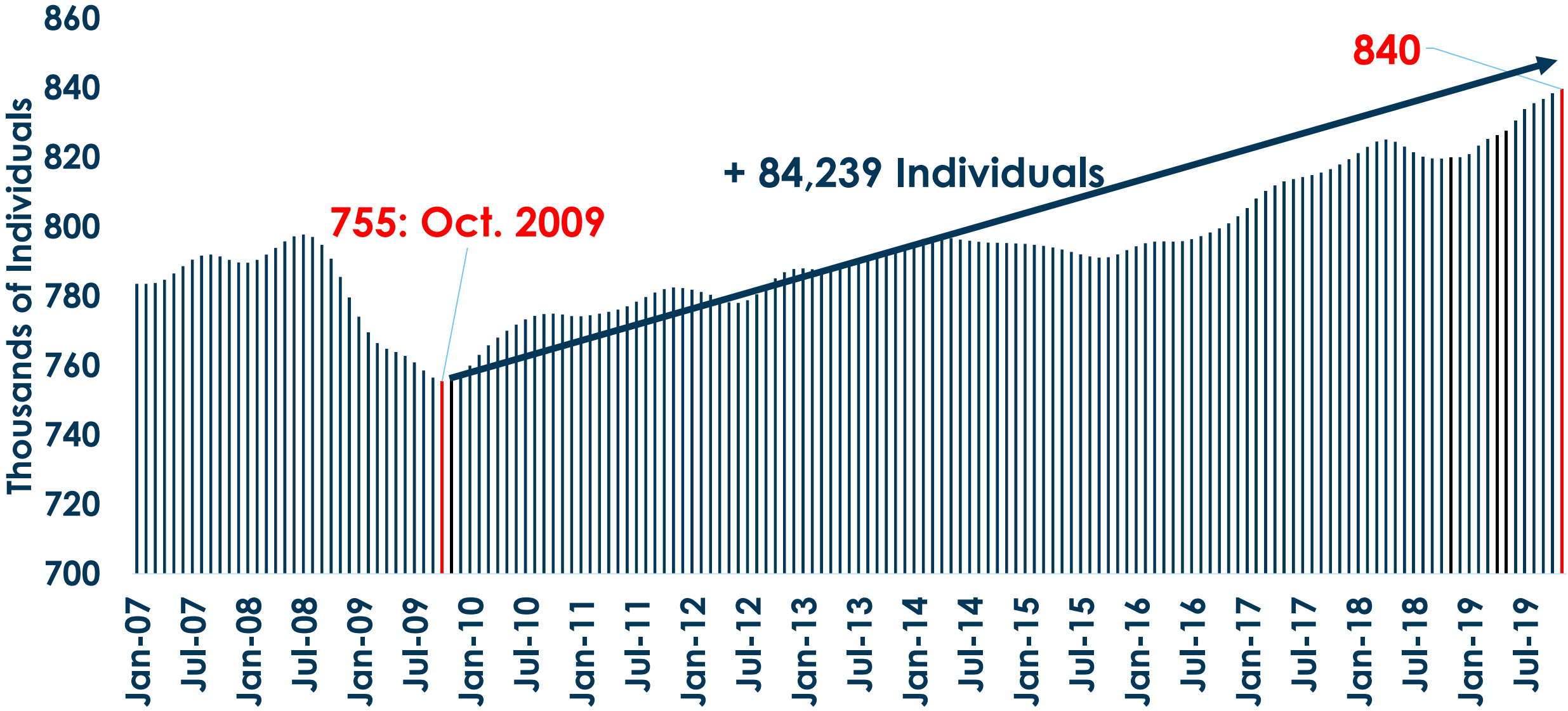
Sources: Bureau of Labor Statistics and Old Dominion University Economic Forecasting Project. Seasonally adjusted data. Data for December 2019 are preliminary.
Trough was February 2010. Next update: March 16, 2020. Data will also be revised in March 2020

Civilian Labor Force
Hampton Roads, January 2007 – November 2019



Sources: Bureau of Labor Statistics and Old Dominion University Economic Forecasting Project. Seasonally adjusted data. Data for November 2019 are preliminary.
Trough was October 2009. Next update: February 5, 2020. Data will be revised in March/April 2020

Employment of Individuals
Hampton Roads, January 2007 – November 2019



Sources: Bureau of Labor Statistics and Old Dominion University Economic Forecasting Project. Seasonally adjusted data. Data for November 2019 are preliminary. Trough was October 2009. Next update: February 5, 2020. Data will be revised in March/April 2020

Average Annual Unemployment Rate: Hampton Roads, 2000 to 2019*

Sources: Bureau of Labor Statistics and the Old Dominion University Economic Forecasting Project. Annual averages based on non-seasonally adjusted data.
* Data for 2019 are through November and include estimated value for December 2019 . Data will be revised in March/April 2020

- Good news: Increases in defense spending in FY 20 will help raise economic growth.

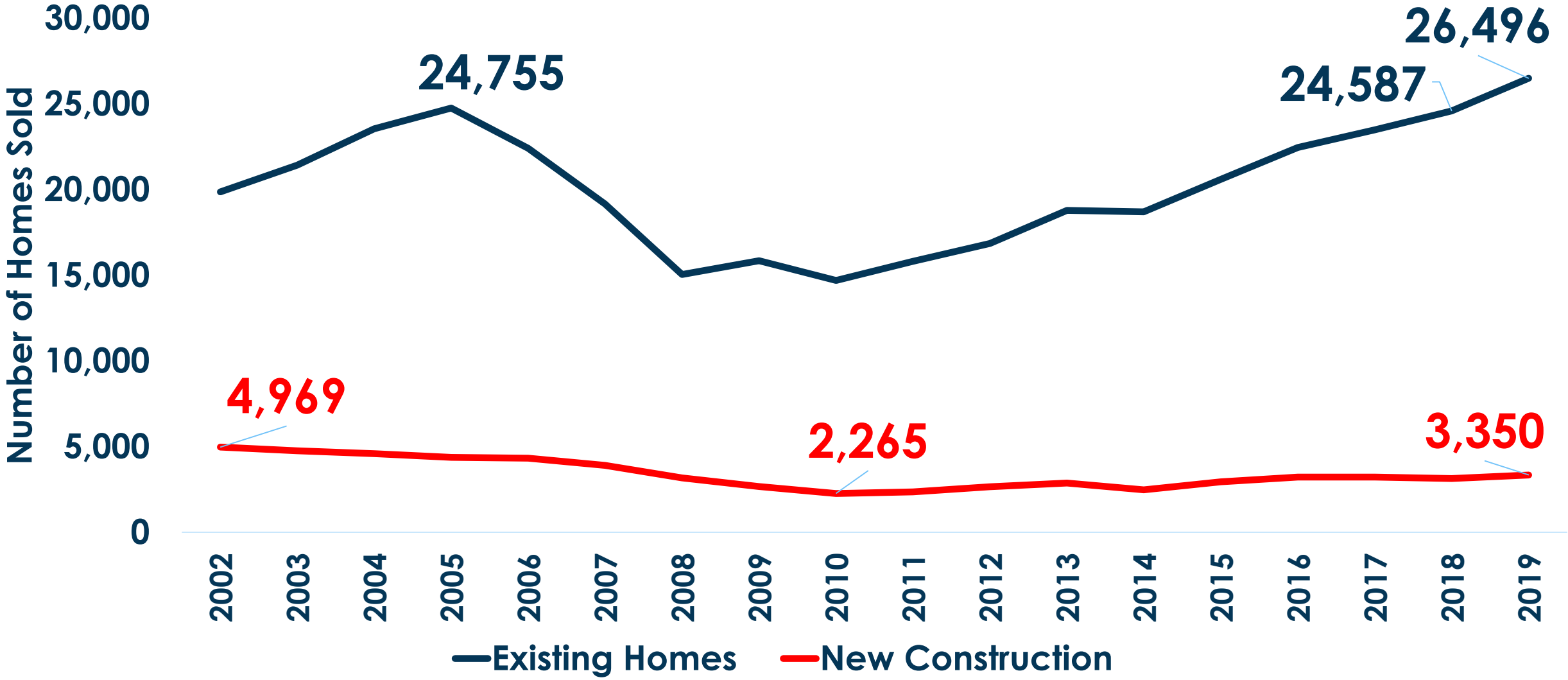
- An immediate challenge: Finding the right labor at the right time for employers. The long-term challenge: Labor force participation rates have not recovered; difficulty moving disaffected back into workforce.

- The opportunity: Improving collaborative efforts among cities to retain/attract businesses while defense spending is increasing.

- Position Hampton Roads now to win in the coming BRAC round.

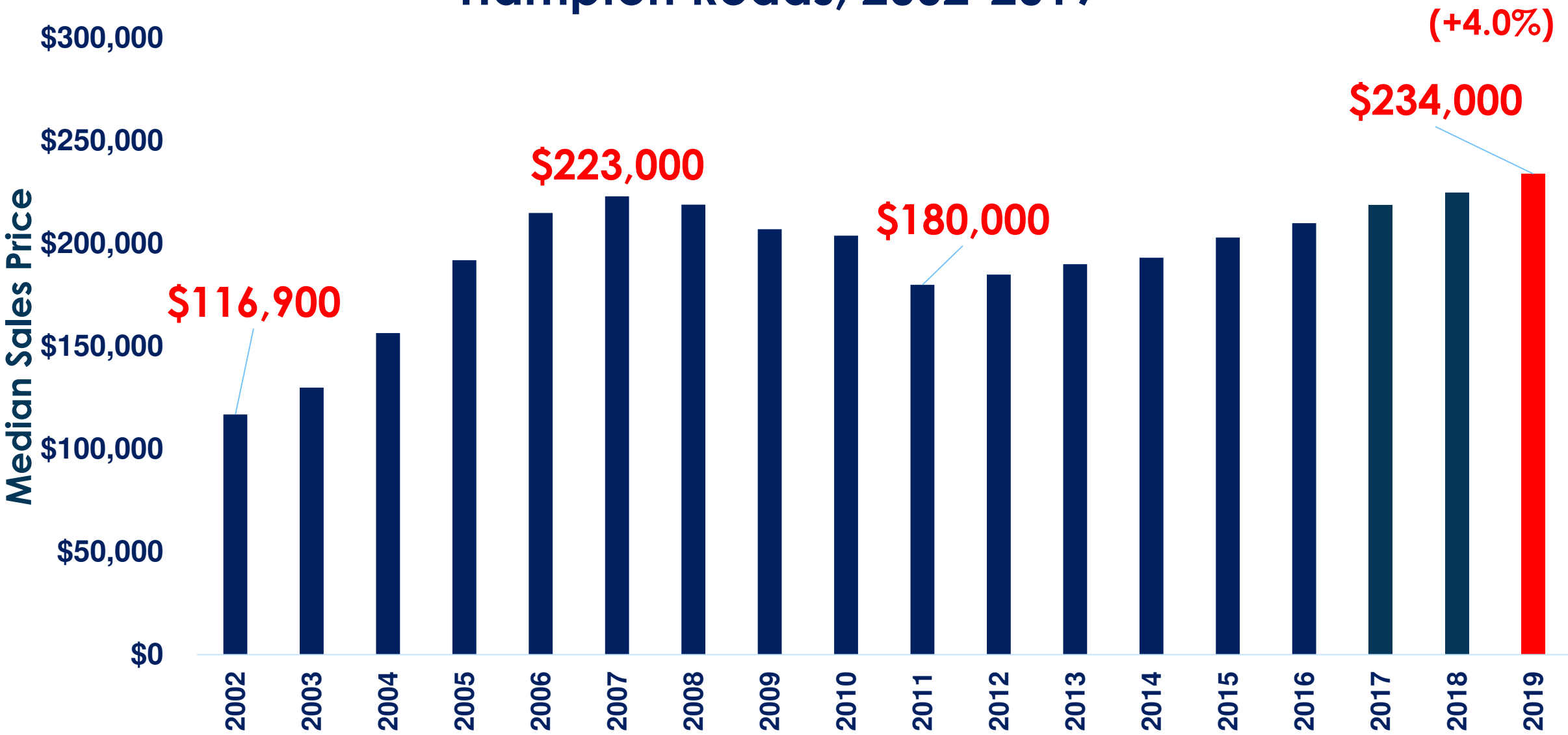
Residential Housing is Looking Up Again

Number of Existing and New Construction Home Sales
Hampton Roads, 2002-2019



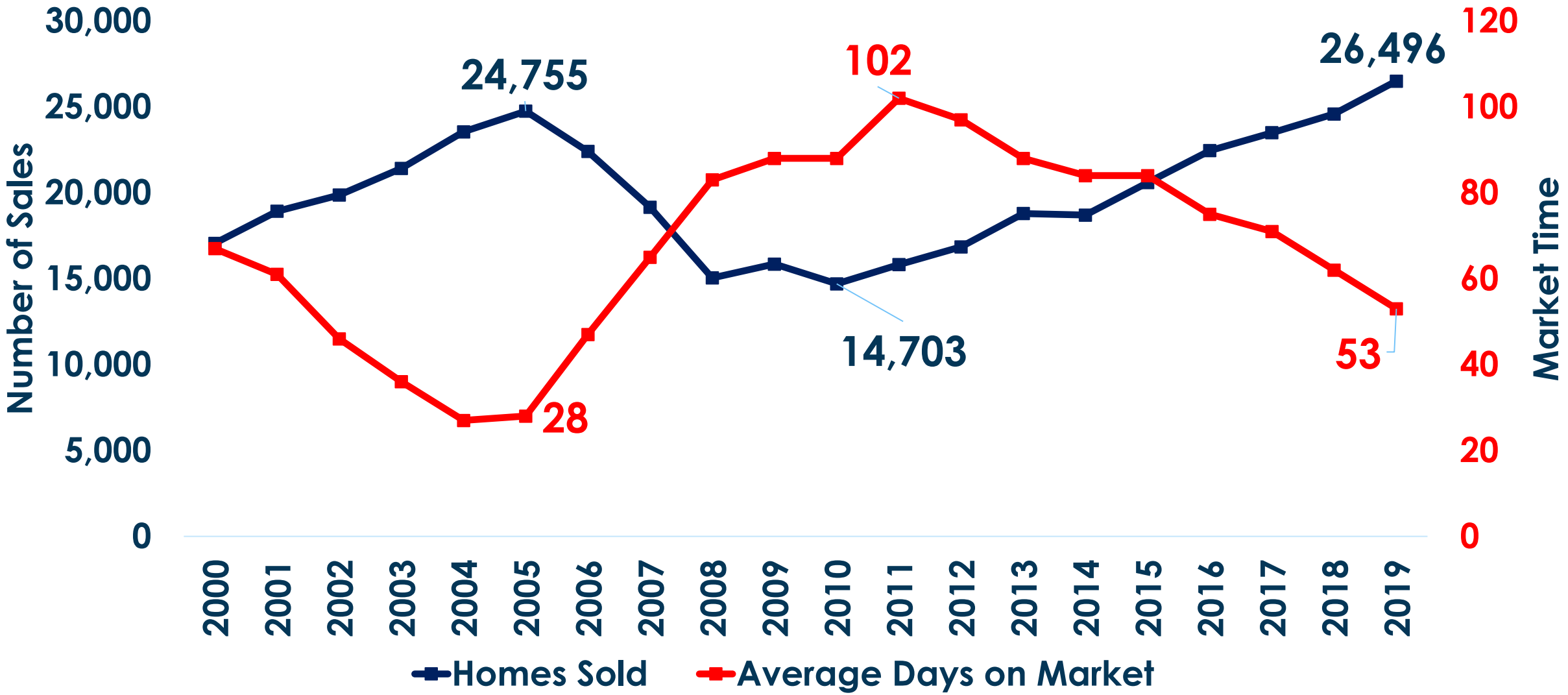
Sources: Real Estate Information Network and Old Dominion University Economic Forecasting Project. Information Deemed Reliable But not Guaranteed. Figures reported here represent only those properties that are listed through REIN by REIN members and may not represent all new construction activity in our region.

Median Sales Price of Existing Homes: Hampton Roads, 2002-2019



Sources: Real Estate Information Network and Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed. 2002-2007 = 91% increase. 2007-2011 a 19% decrease; 2011-2018 is a 30% increase.

Existing Residential Homes Sold and Average Days on the Market, Hampton Roads: 2000-2019



Sources: Real Estate Information Network Inc. and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed.
Days on Market is calculated from the date listed to the date under contract date for existing homes sold.

Distribution of Sales by Selected Categories of Sale Price of Existing Residential Homes for Hampton Roads, 2017, 2018, and 2019

Sale Price Categories	2017	2018	2019
Under $250,000	62.6%	60.3%	57.2%
$250,001 to $350,000	21.0%	22.2%	23.9%
$350,001 to $450,000	9.3%	9.7%	10.7%
$450,001 to $540,000	3.0%	3.4%	3.8%
$540,001 to $1,000,000	3.6%	3.9%	3.9%
Over $1,000,000	0.5%	0.5%	0.5%
All Homes Sold	23,492	24,587	26,496

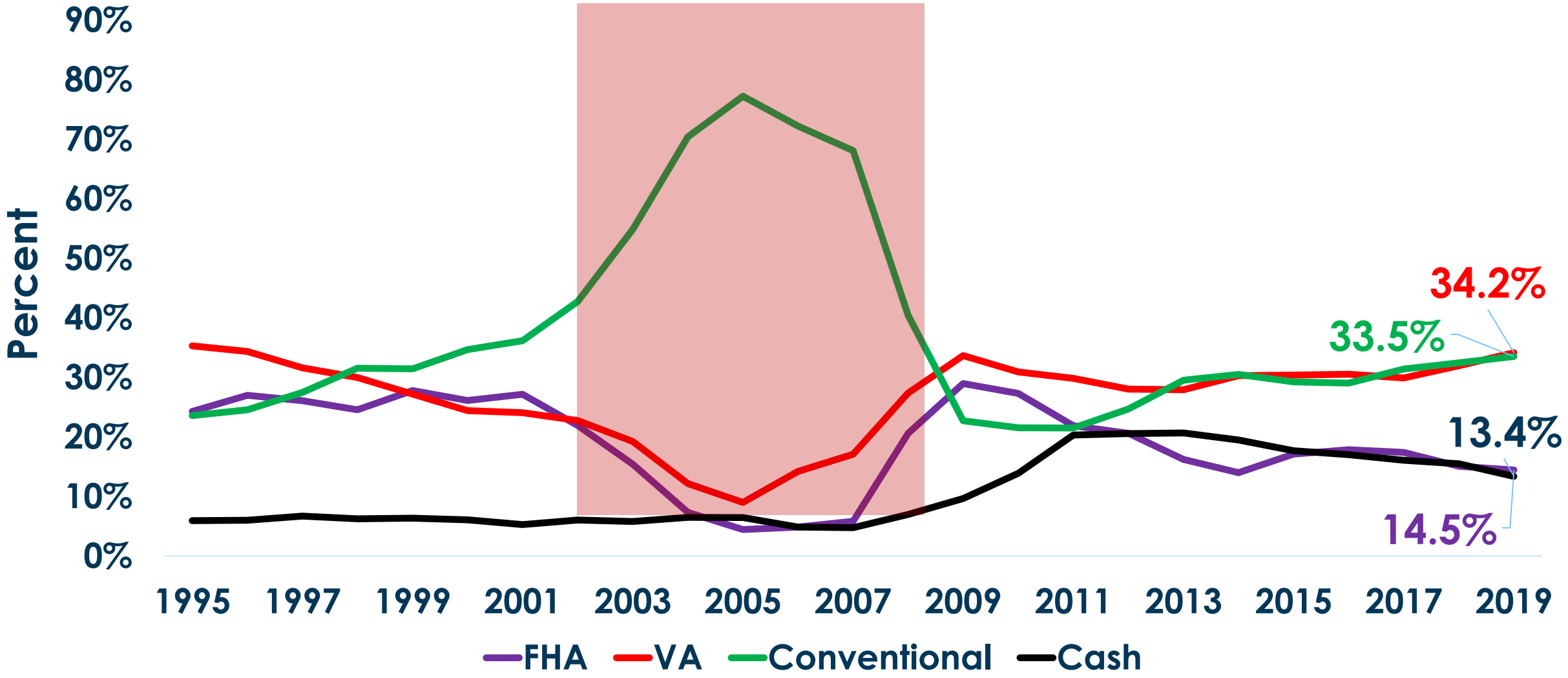
Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed.

Median Sales Price by Selected Categories of Sale Price of Existing Residential Homes for Hampton Roads, 2017, 2018, and 2019

Sale Price Categories	2017	2018	2019
Under $250,000	$168,000	$170,400	$179,000
$250,001 to $350,000	$292,500	$291,850	$292,000
$350,001 to $450,000	$390,250	$390,000	$390,000
$450,001 to $540,000	$487,500	$490,000	$485,000
$540,001 to $1,000,000	$640,000	$637,500	$649,900
Over $1,000,000	$1,333,750	$1,275,000	$1,300,000
All Homes	$219,000	$225,000	$234,000

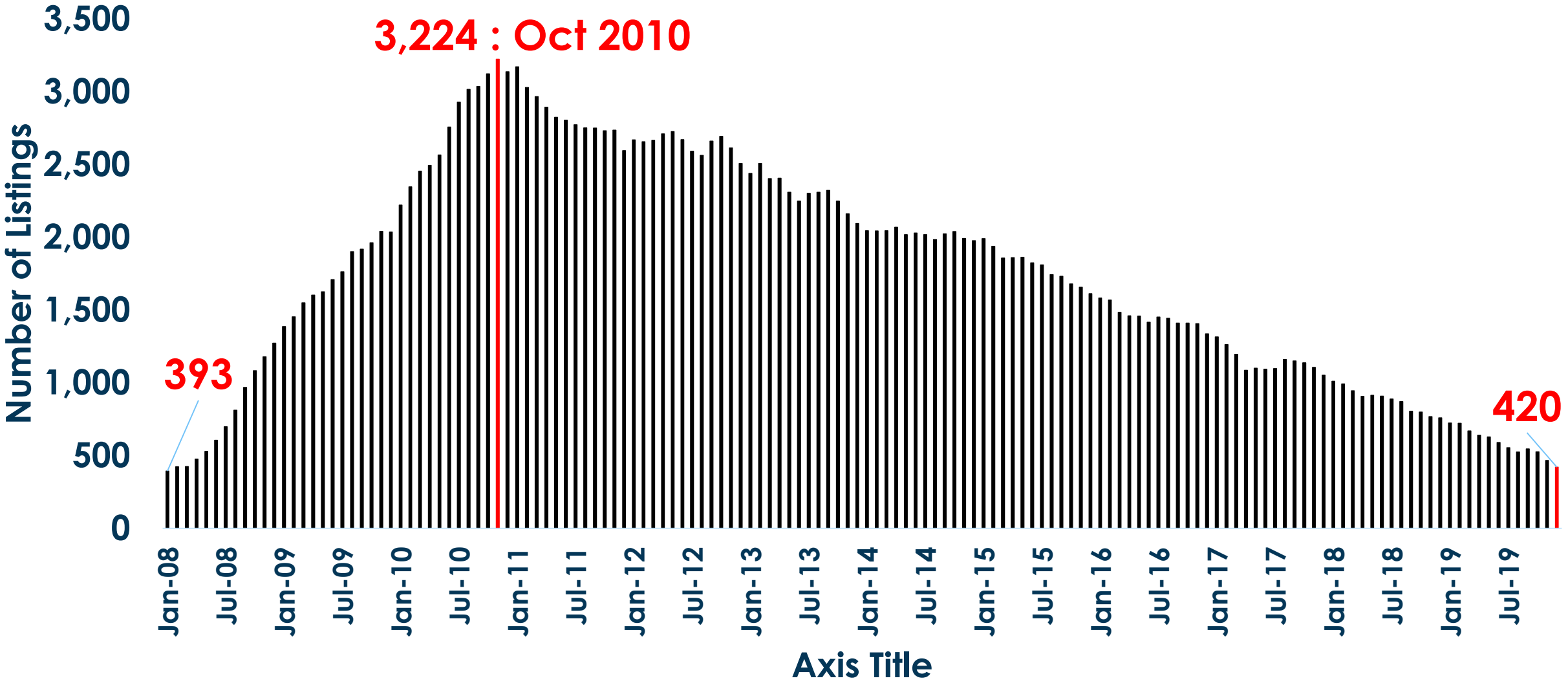
Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed.

Distribution of Existing Home Sales by Type of Financing: Hampton Roads, 1995-2019



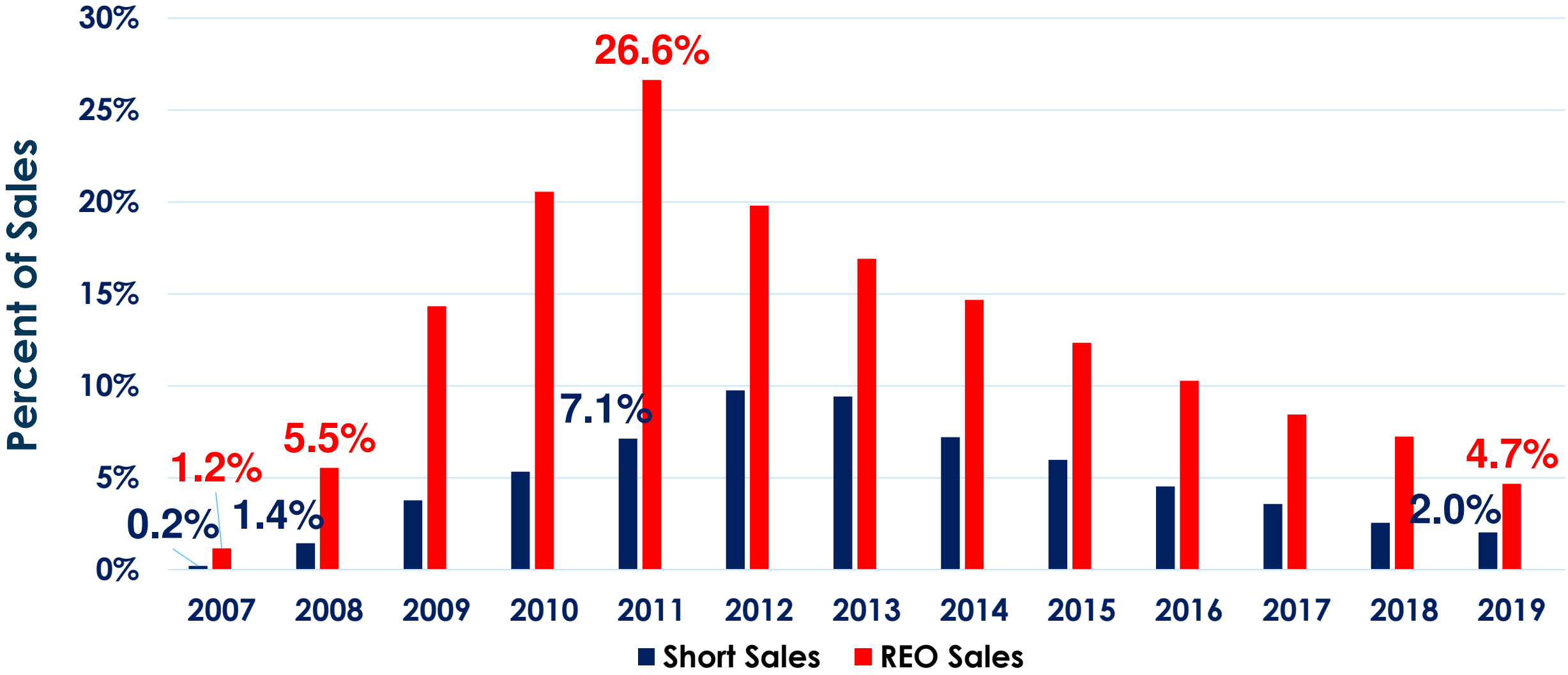
Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed.

Number of Active Listings of Distressed Homes: Hampton Roads, January 2008 to December 2019



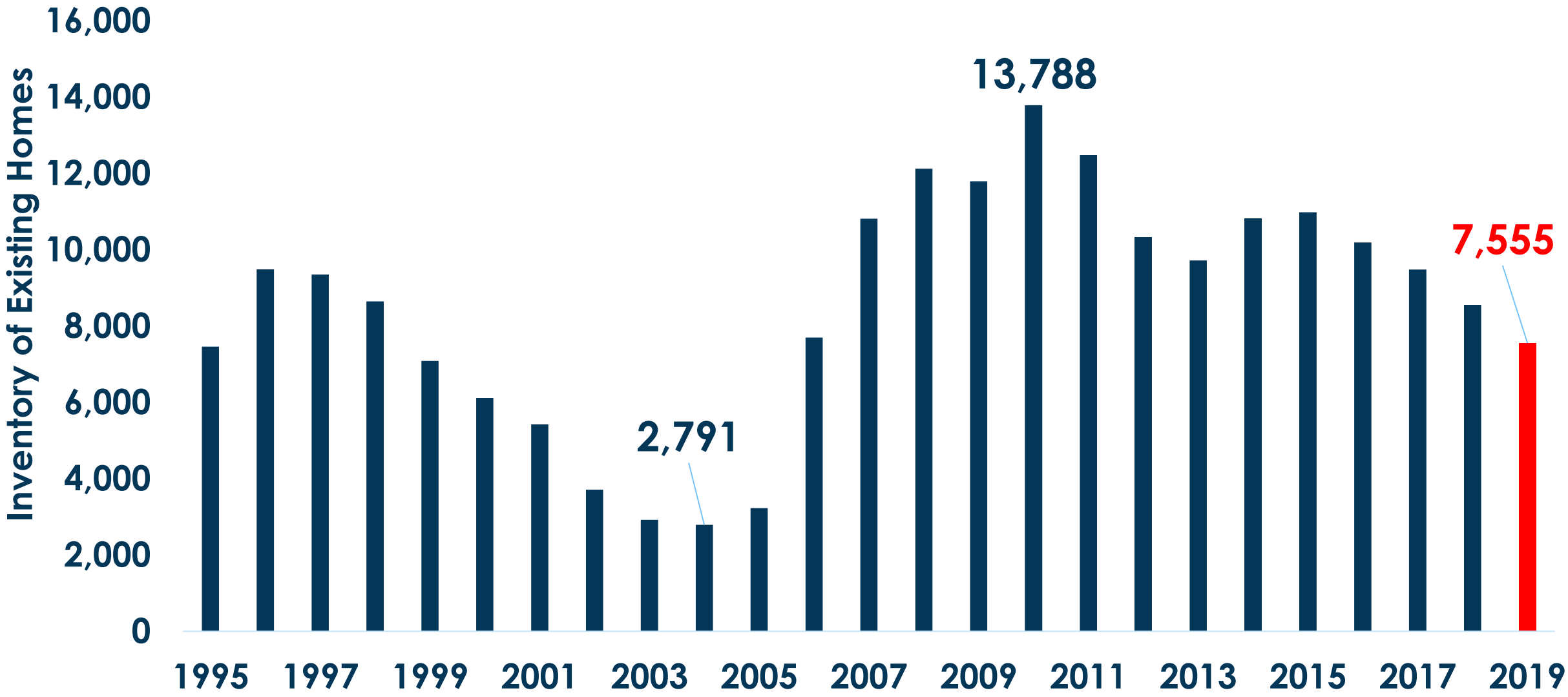
Sources: Real Estate Information Network and the old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed. Distressed properties are short-sales or bank-owned .

Short Sales and Bank-Owned Sales as Percent of Existing Home Sales: Hampton Roads, 2007-2019



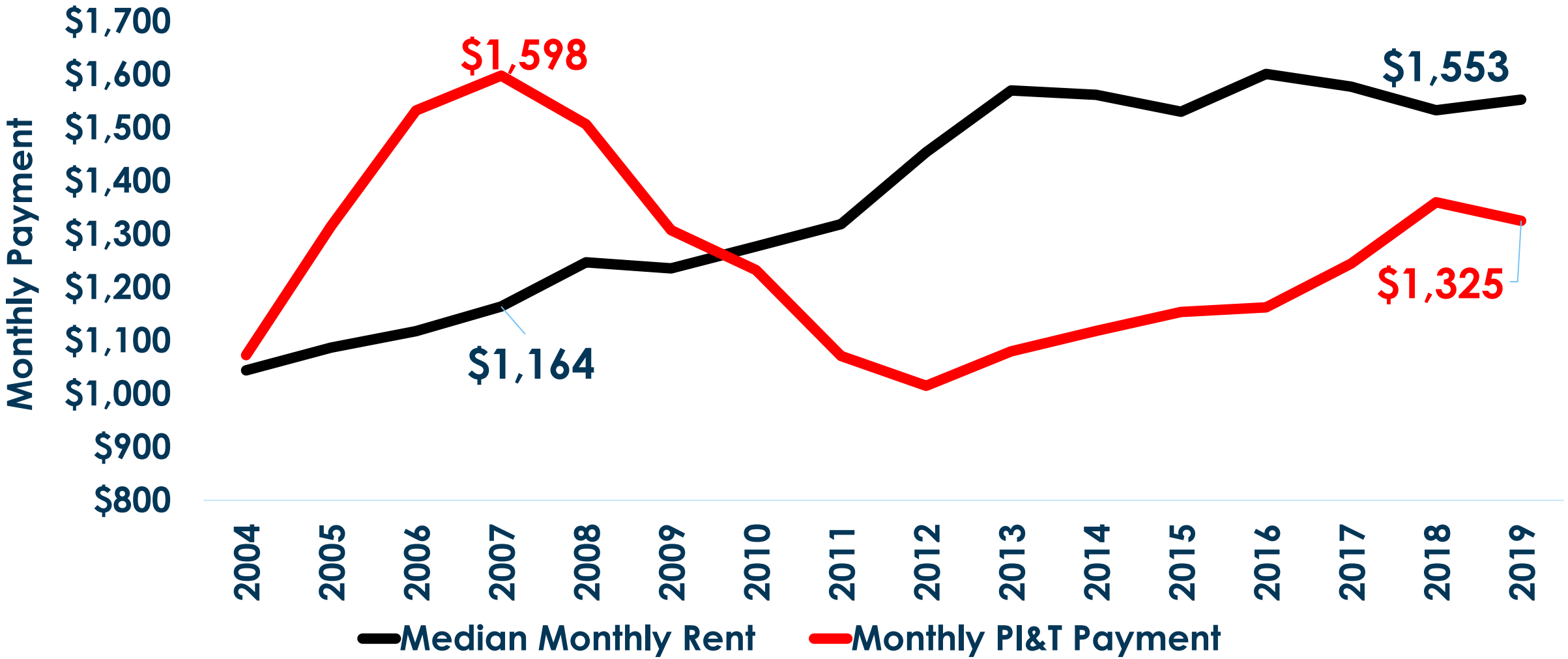
Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed.

Inventory of Existing Residential Homes on June 30 of Each Year: Hampton Roads, 1995 – 2019



Source: Real Estate Information Network Inc. and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed. Inventory represents active listings.

Estimated House Rental and Principal, Interest, and Taxes for a House Payment, Hampton Roads: 2004-2019



Sources: H.U.D. and the Old Dominion University Economic Forecasting Project. It is assumed that real estate tax rate is 1% and the tax reduction received by home owners would compensate for home owners insurance and maintenance expenditures. Prevailing 30 year average mortgage rate is used for each year. For example rate used for 2015 is 3.85 percent; for 2016 it is 3.65 percent; for 2017 it is 4.00 percent; for 2018 it is 4.54 percent and for 2019 it is 3.93 percent

Observations on the Existing Homes Market since 2011

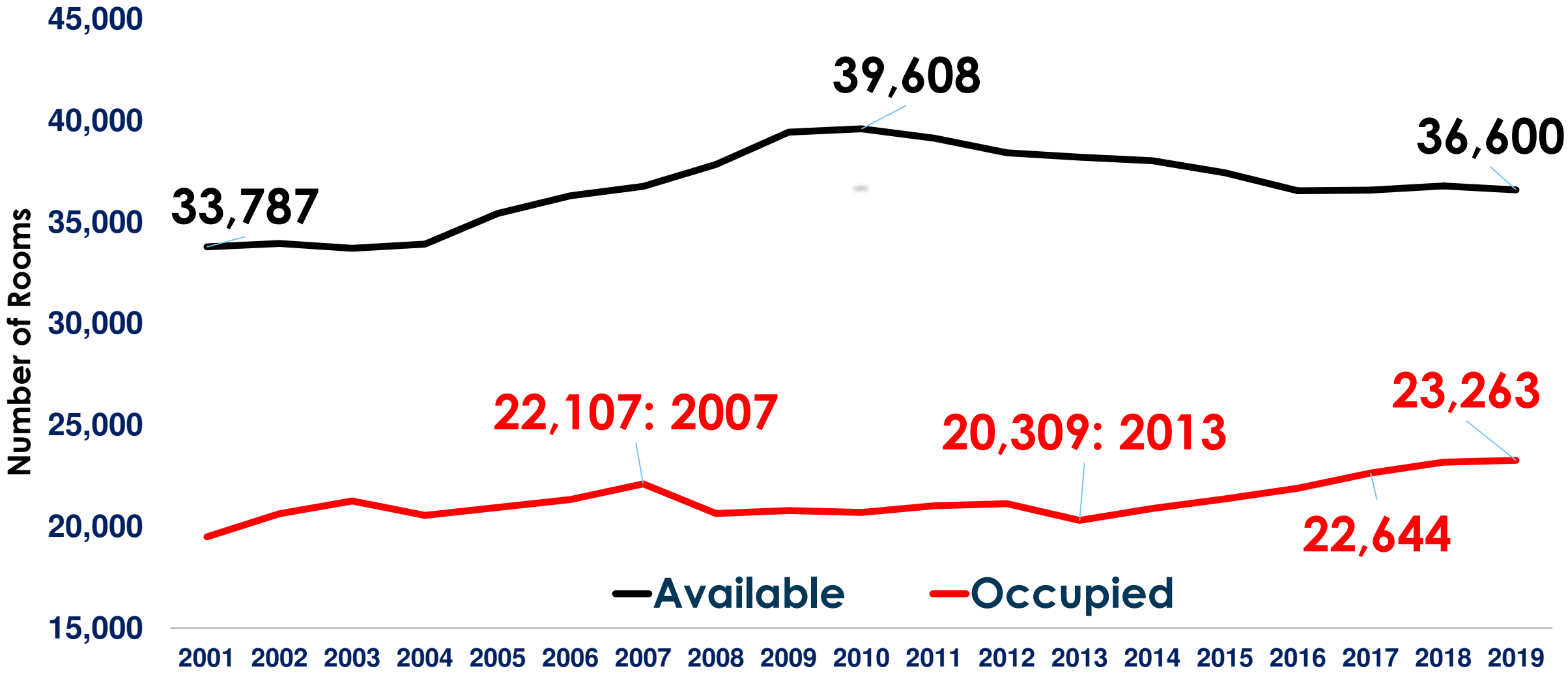
- Inventories continue to decrease.
- Days on market have also decreased.
- Number of homes sold has steadily increased.
- Estimated months of supply have declined substantially.
- Mortgage rates continue to be at historically low levels.
- Distressed Sales Market appears to be clearing.
- As a result expect median home prices to increase at a faster pace in 2020.

Hotel Industry Growth Continues

Nominal and Real (Inflation-Adjusted) Hotel Revenue
Hampton Roads, 2001-2019

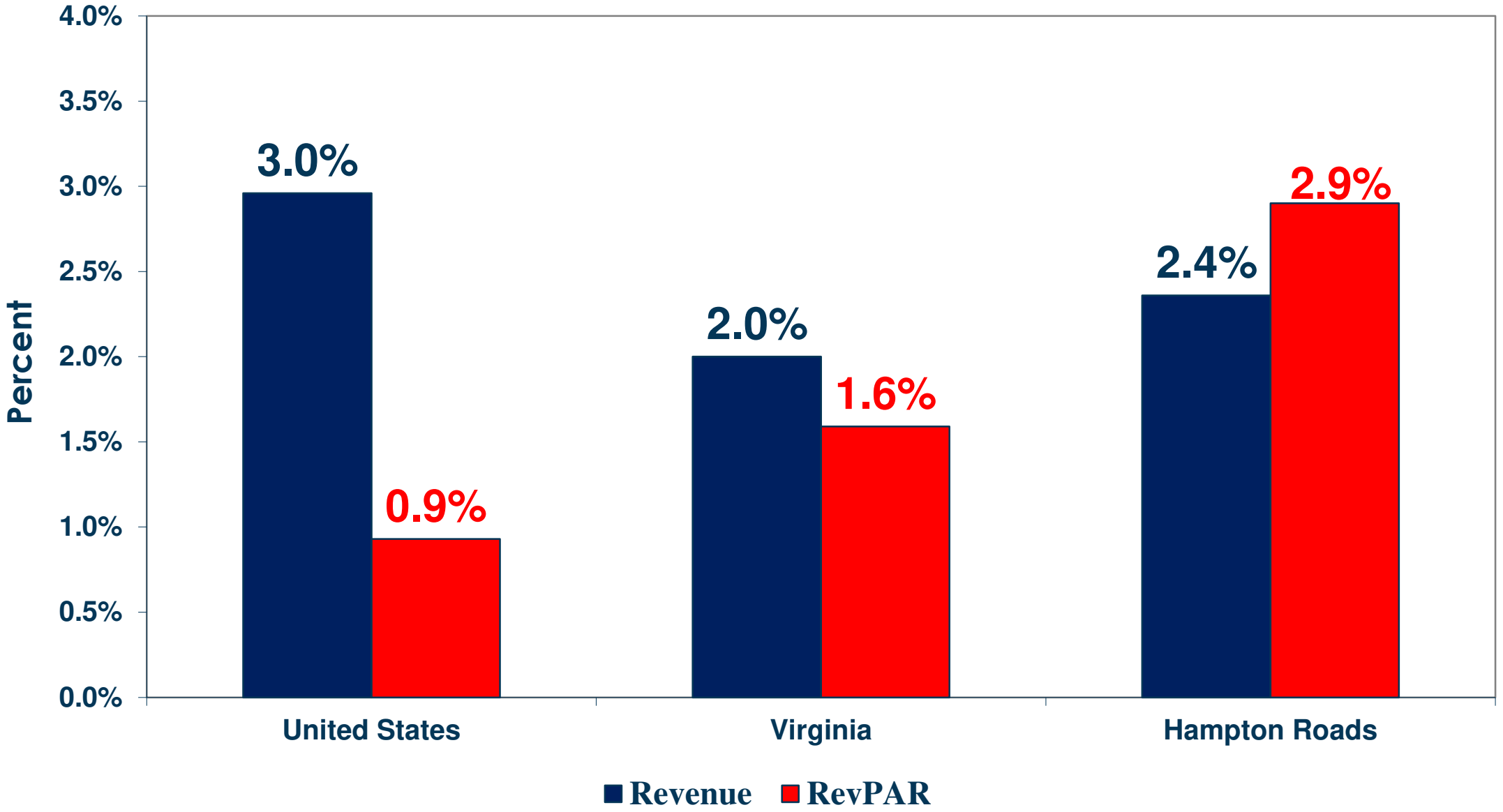
Sources: STR Trend Reports January 2017 and January 2020, Bureau of Labor Statistics (base year is chained; 1982-84=100), and the Old Dominion University Economic Forecasting Project.

Number of Available and Occupied Hotel Rooms in Hampton Roads: 2001-2019



Sources: STR Trend Reports January 24, 2017 and January 23, 2020, and the Old Dominion University Economic Forecasting Project.

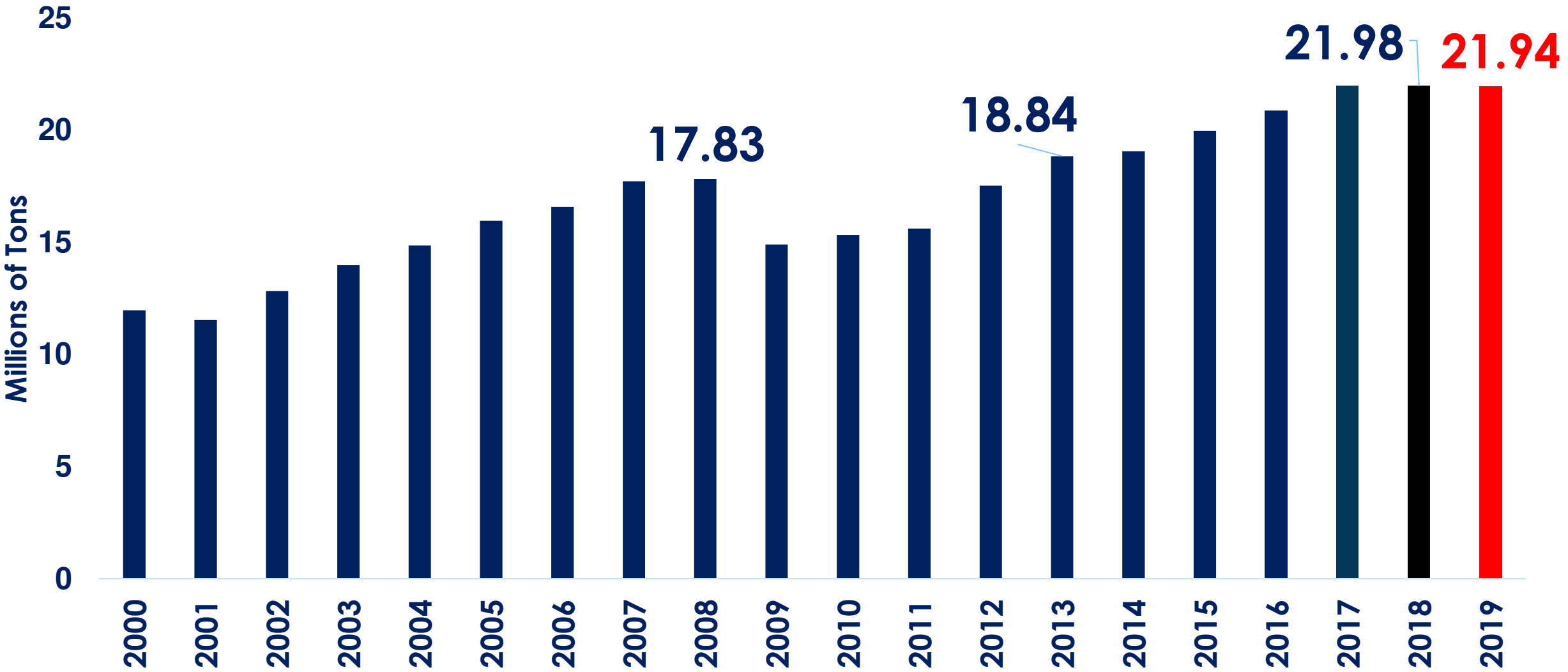
Growth in Hotel Revenue and Revenue Per Available Room: United States, Virginia, and Hampton Roads, 2018-2019



Sources: STR Trend January 23, 2020 and the Old Dominion University Economic Forecasting Project.

The Port of Virginia: Moderate Growth Amid Capacity Expansion, Tariffs

General Cargo Tonnage
Port of Virginia, 2000-2019

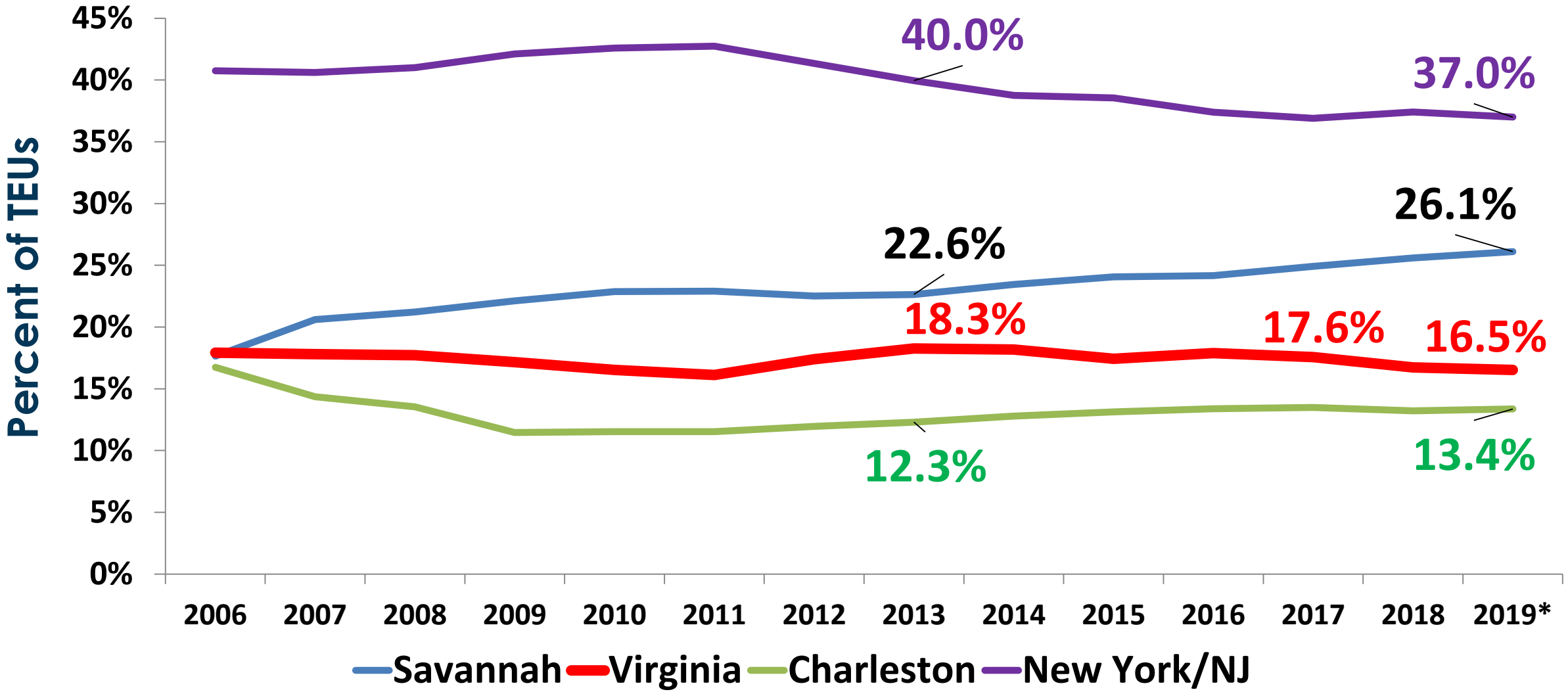


Sources: Virginia Port Authority and Old Dominion University Economic Forecasting Project. Cargo Tonnage growth in 2019 declined by 0.16% from 2018. In 2018, tonnage increased by 0.1% from 2017.

Twenty Foot Equivalent Container Units (TEUs)
Port of Virginia, 2000-2019

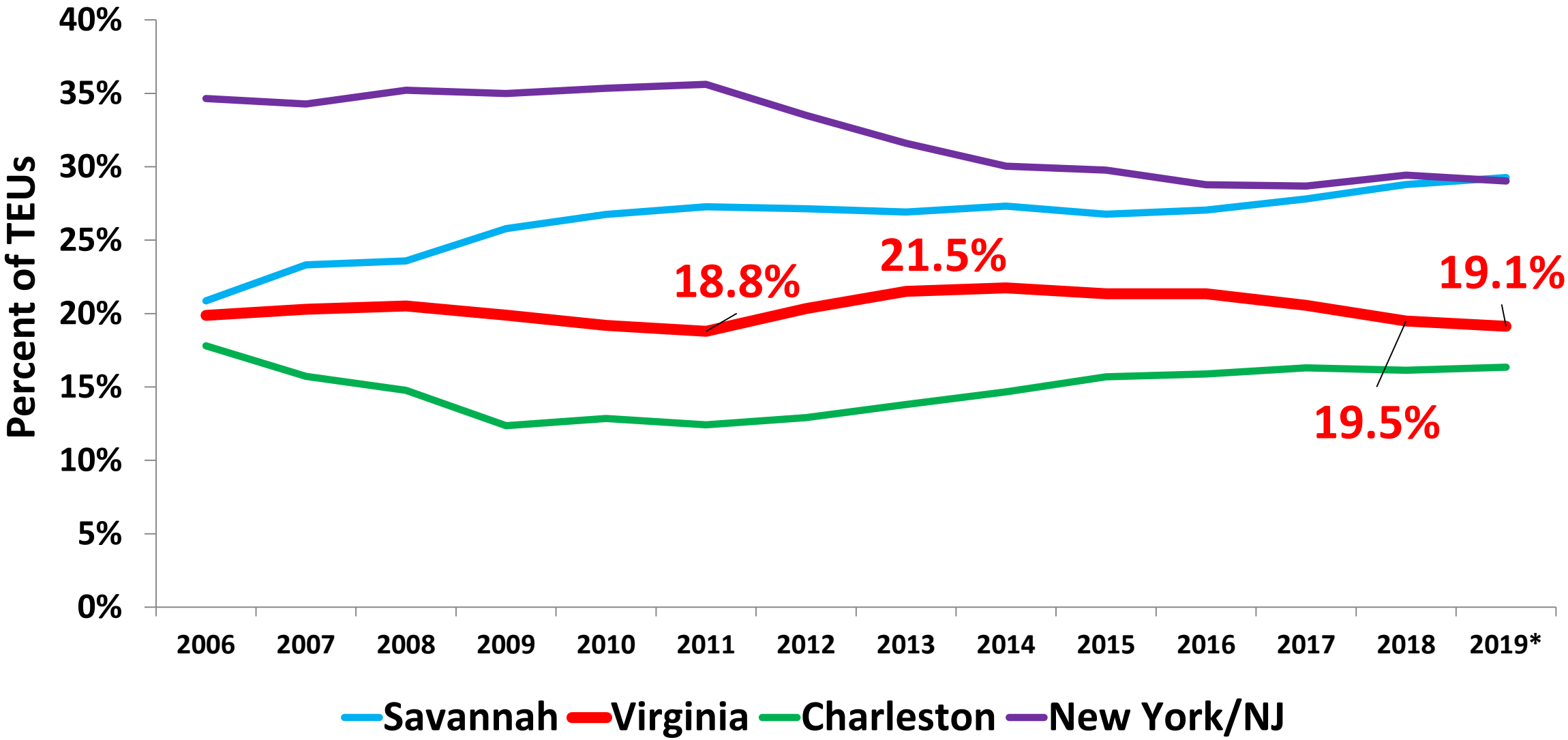
Sources: Virginia Port Authority and Old Dominion University Economic Forecasting Project. TEUs increased by 2.9% in 2019. In 2018, TEUs had increased by 0.5%.

Shares of Total Loaded TEUs for Selected East Coast Ports, 2006-2019*



Sources: American Association of Port Authorities, websites of ports and the Old Dominion University Economic Forecasting Project. Market shares are based on TEUs for Baltimore, Boston, Charleston, Virginia, New York/New Jersey, and Savannah. * 2019 data are through October 2019

Shares of Outbound Loaded TEUs for Selected East Coast Ports, 2006-2019*



Sources: American Association of Port Authorities, websites of ports and the Old Dominion University Economic Forecasting Project. Market shares are based on TEUs for Baltimore, Boston, Charleston, Virginia, New York/New Jersey, and Savannah. * 2019 data are through October 2019

2020: Accelerating Growth in Hampton Roads

- Regional GDP growth in 2020 is forecasted to be greater than the growth observed in 2019 and 2018.

- Defense, port, health-care industries, and tourism are likely to help the region's moderate economic expansion in 2020.

- Single-family home prices in 2020 are likely to increase at a moderate pace. Months of supply of existing homes are lower than their historic average and the distressed housing market segment appears to be clearing.

- Going forward, uncertainty in Washington will continue to be a major concern.

	2019 Forecast	2019 Actual	2020 Forecast
Hampton Roads Real Gross Domestic Product	2.4%	--	2.6%
Civilian Job Growth	0.8%	0.5%	0.7%
Unemployment Rate	3.1%	3.1%	3.0%
Taxable Sales	3.3%	4.8%	4.2%
Hotel Revenue	3.8%	2.4%	2.7%
General Cargo Tonnage	2.0%	-0.2%	1.0%
General Cargo TEUs	3.6%	2.9%	3.9%
One Unit Housing Permit Value	2.0%	2.7%	2.0%

Source: 2019 data reflects the annual rate of growth. Data for December 2019 include our forecast.

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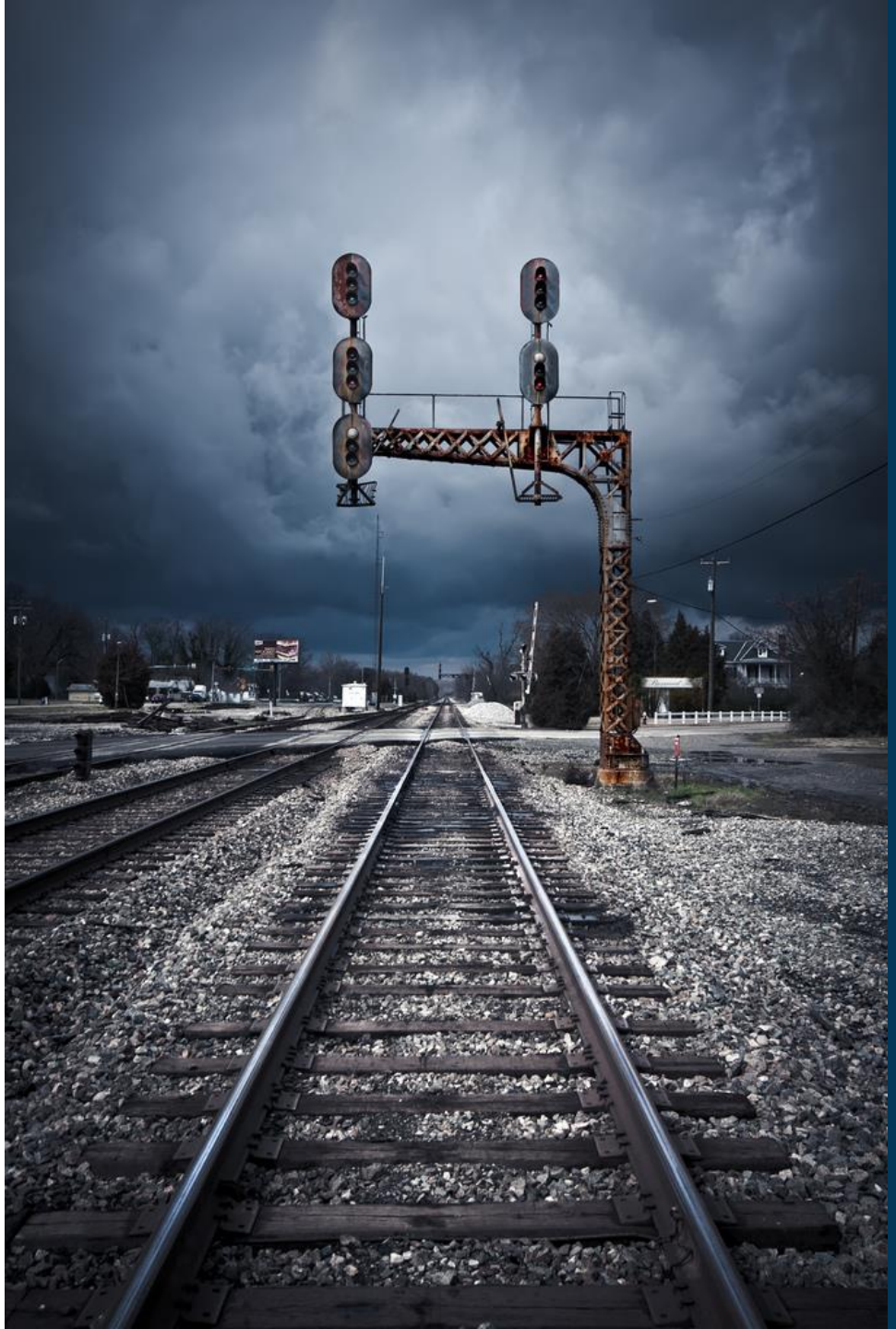

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