



# 2023 Annual Economic Forecast

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Dragas Center for Economic Analysis and Policy

Strome College of Business

Old Dominion University

**January 25, 2023**



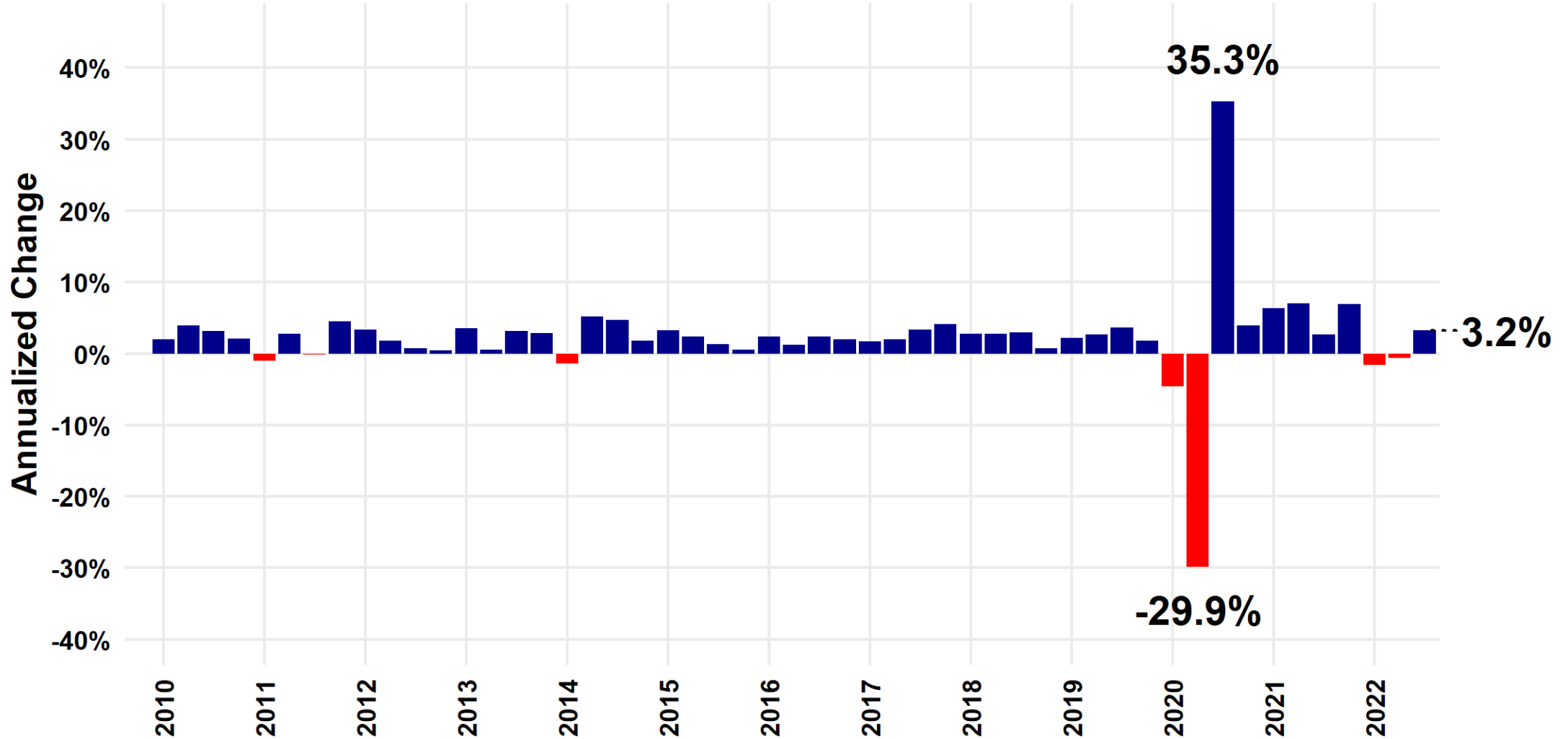


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# GDP and Inflation



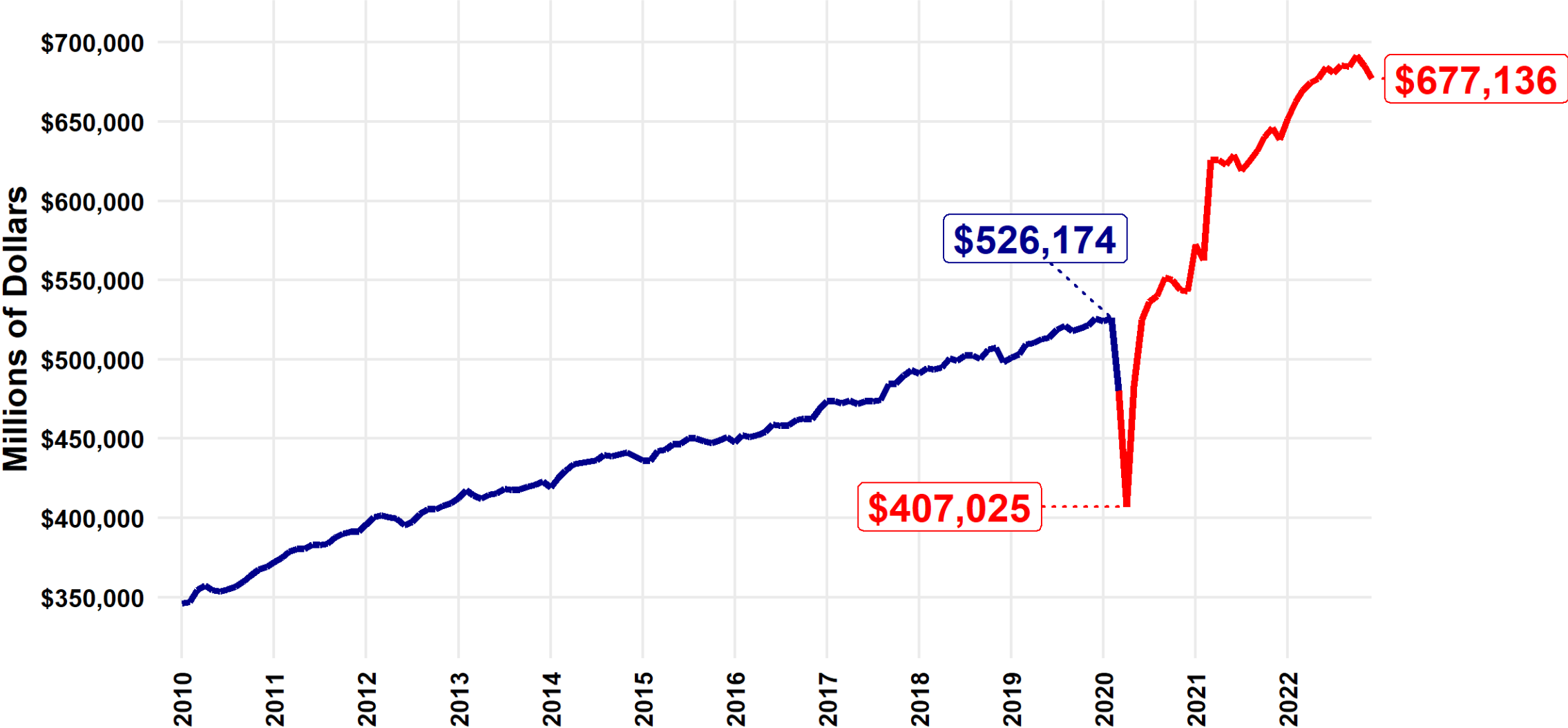
# Real Gross Domestic Product United States, Q1 2010 - Q3 2022



Sources: U.S. Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy.  
Compounded annual rate of change, seasonally adjusted annual rate.

# Advance Retail and Food Services Sales

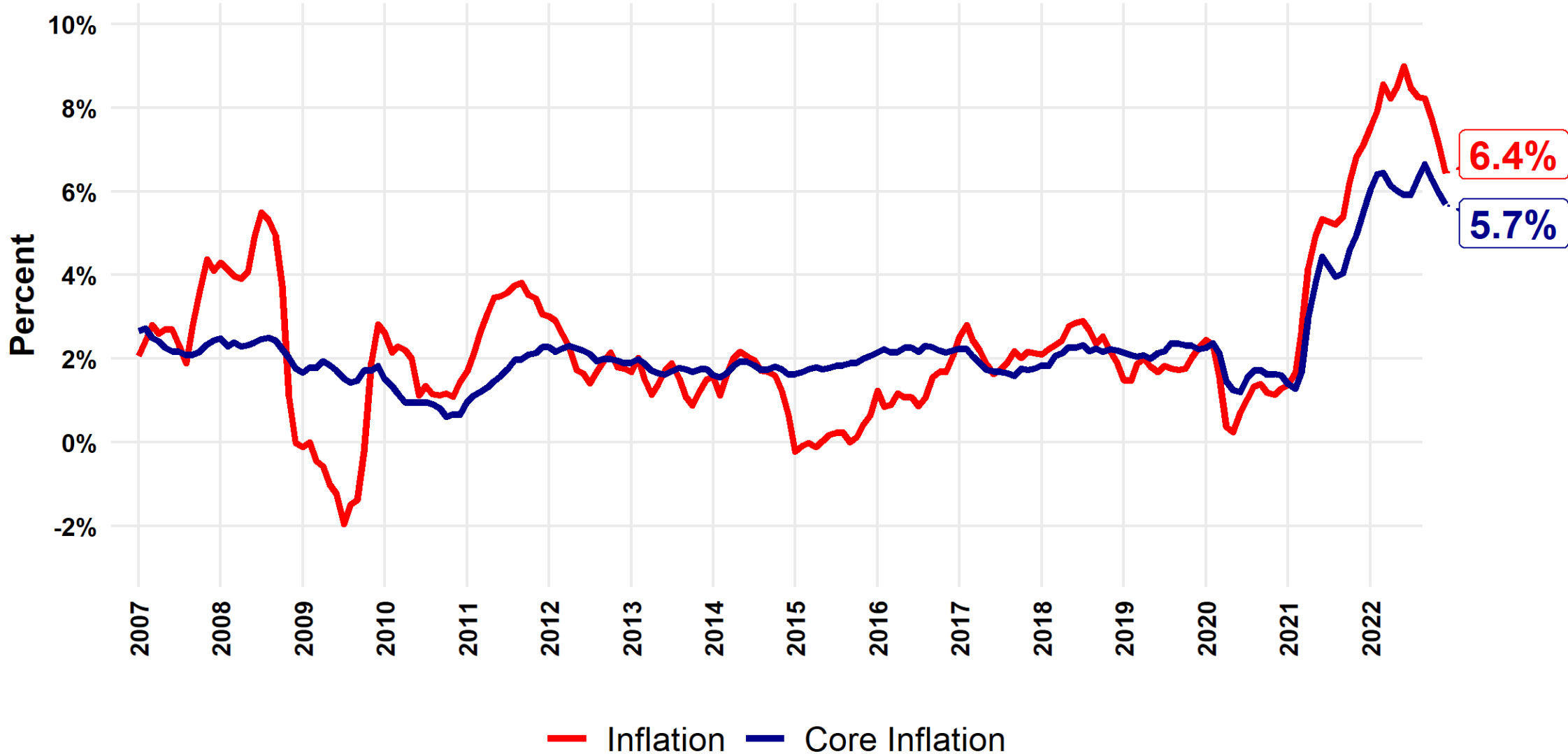
## United States, January 2010 - December 2022



Source: U.S. Census Bureau, seasonally adjusted data.

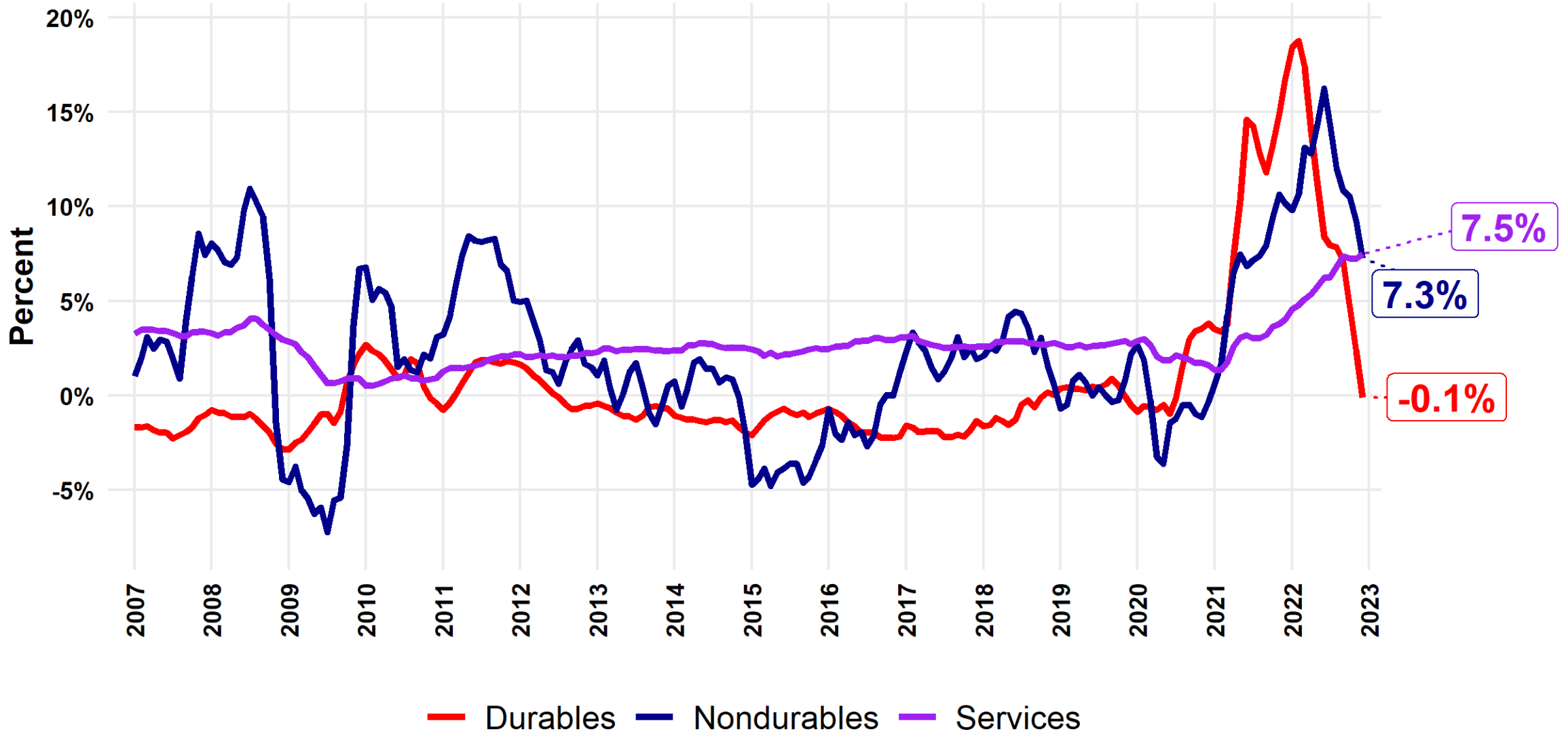
# Monthly Inflation

## United States, January 2007 - December 2022



Source: Bureau of Labor Statistics, seasonally adjusted data. Core inflation does not include the food and energy sectors.

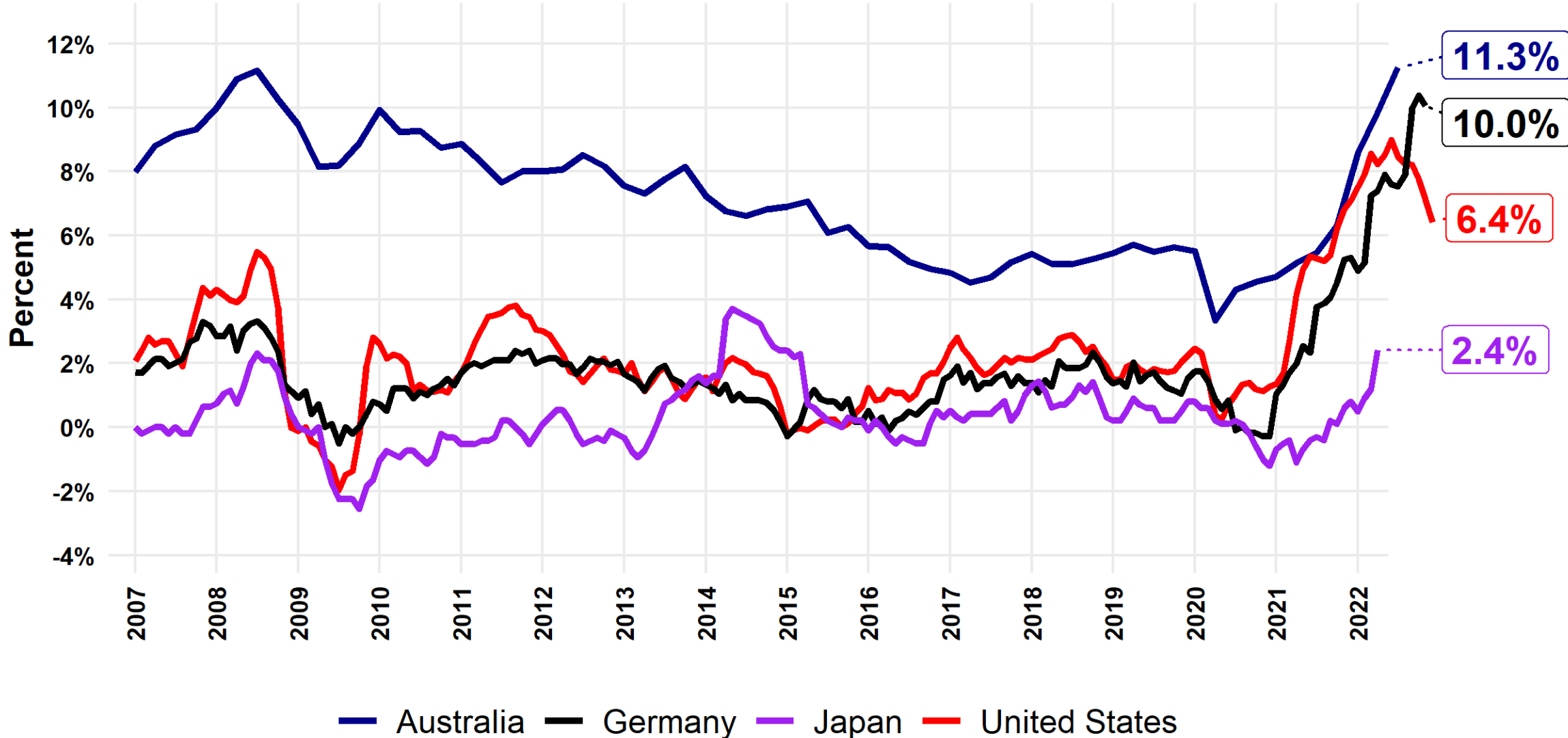
# Monthly Inflation in Durables, Nondurables, and Services United States, January 2007 - December 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.

# Monthly Inflation

## Selected OECD Countries, January 2007 - December 2022

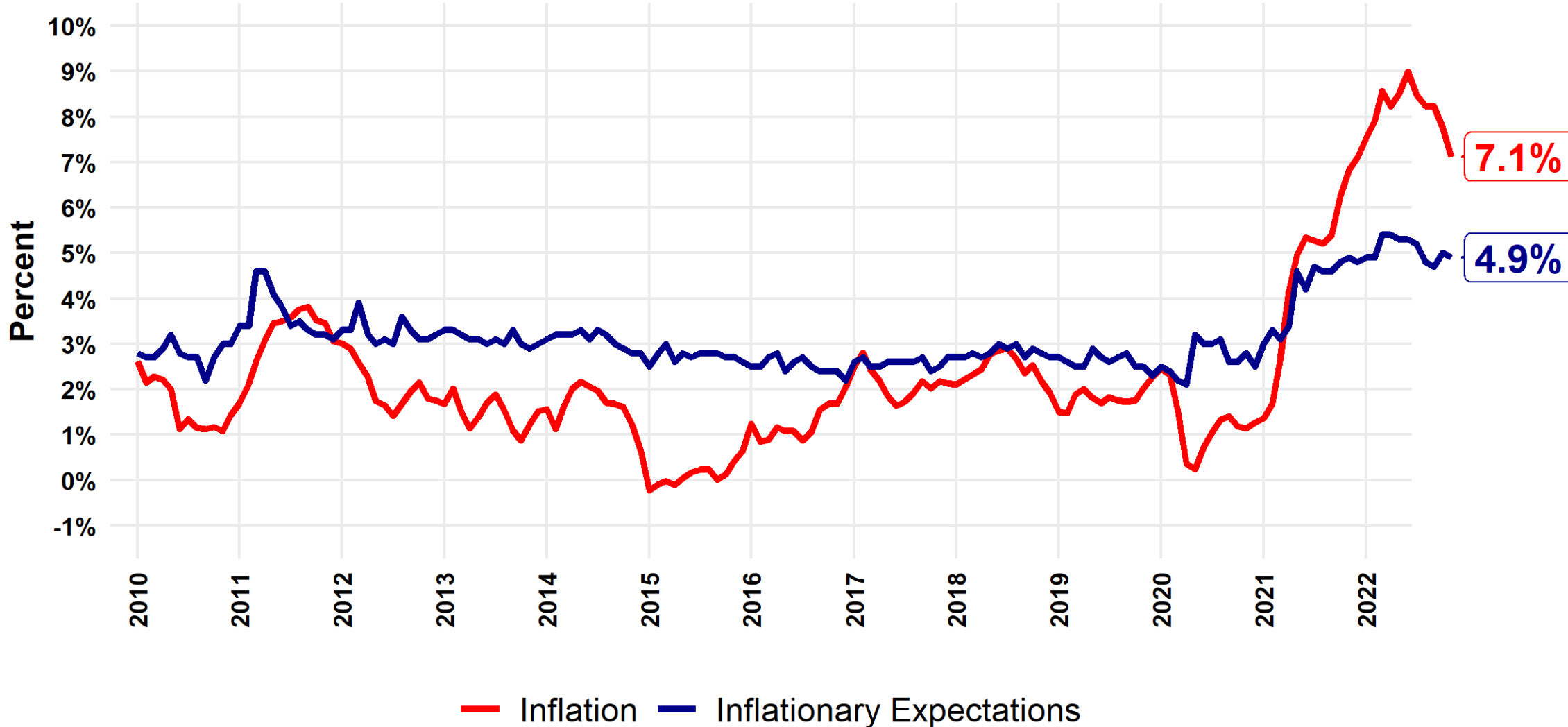


Sources: OECD Main Economic Indicators and Bureau of Labor Statistics, seasonally adjusted data.



# Monthly Inflation and Inflationary Expectations

## United States, January 2010 - November 2022



Sources: Bureau of Labor Statistics, seasonally adjusted data;  
University of Michigan, Inflationary Expectations, not seasonally adjusted data.

# Constant U.S. Treasury Yield Curve (10-Year Minus 2-Year)

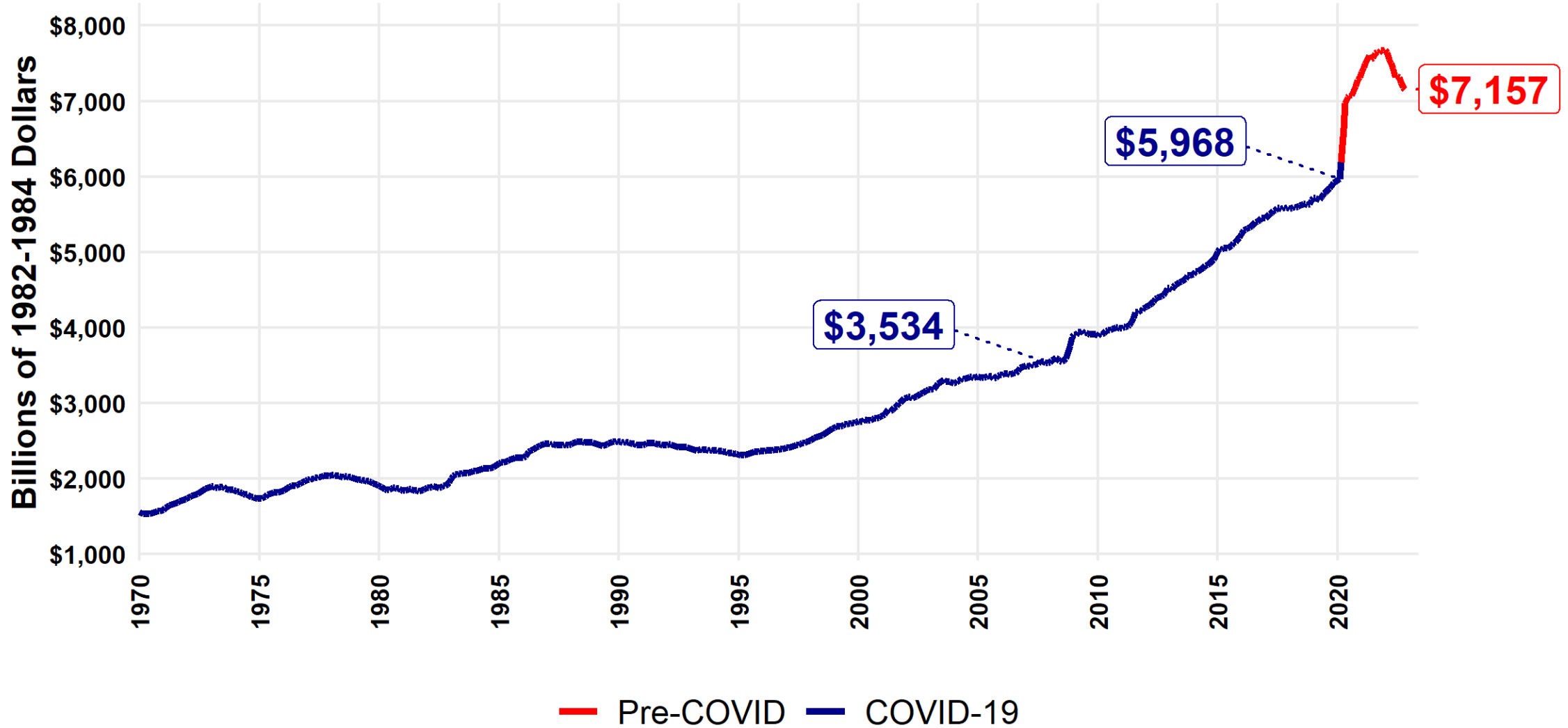
January 2, 2007 - January 20, 2023



Source: Board of Governors of the Federal Reserve System, not seasonally adjusted data.

# Real M2 Money Stock

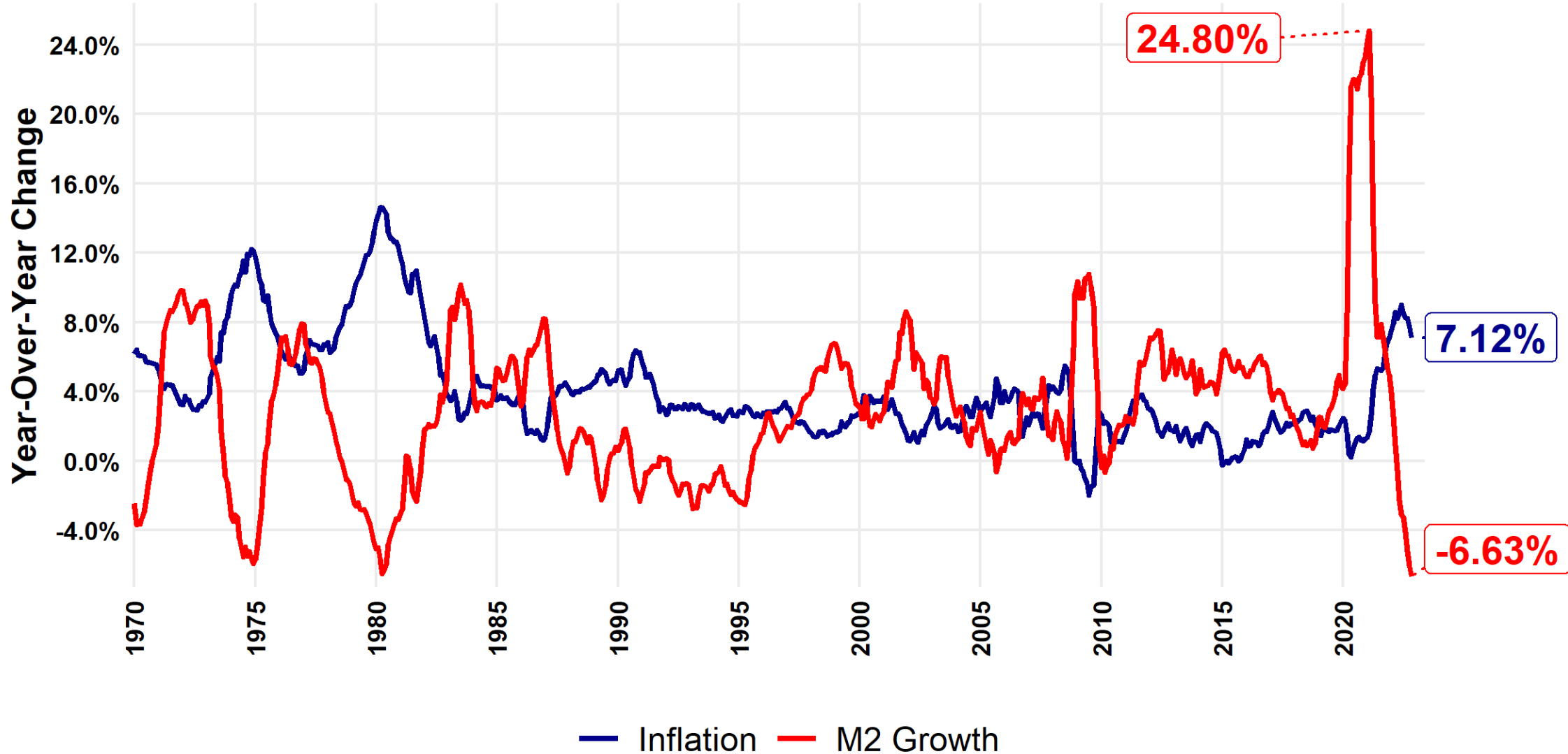
## United States, January 1970 - November 2022



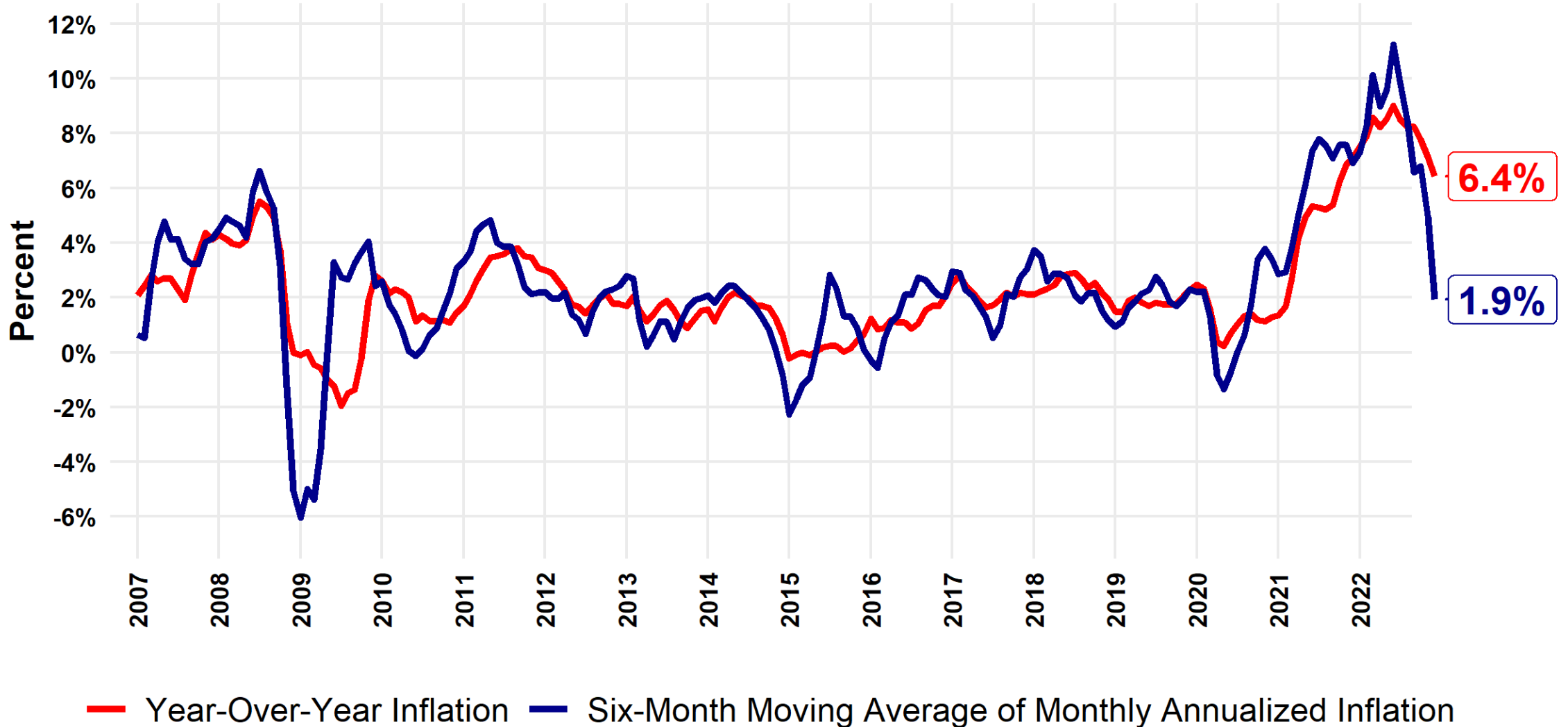
Source: Federal Reserve Bank of St. Louis, Real M2 Money Stock.

M2 is a measure of the money supply that includes cash, checking deposits, and easily-convertible near money.

# Inflation and Growth of M2 Real Money Stock United States, January 1970 - November 2022



# Monthly and Annual Percentage Change in the Consumer Price Index United States, January 2007 - December 2022



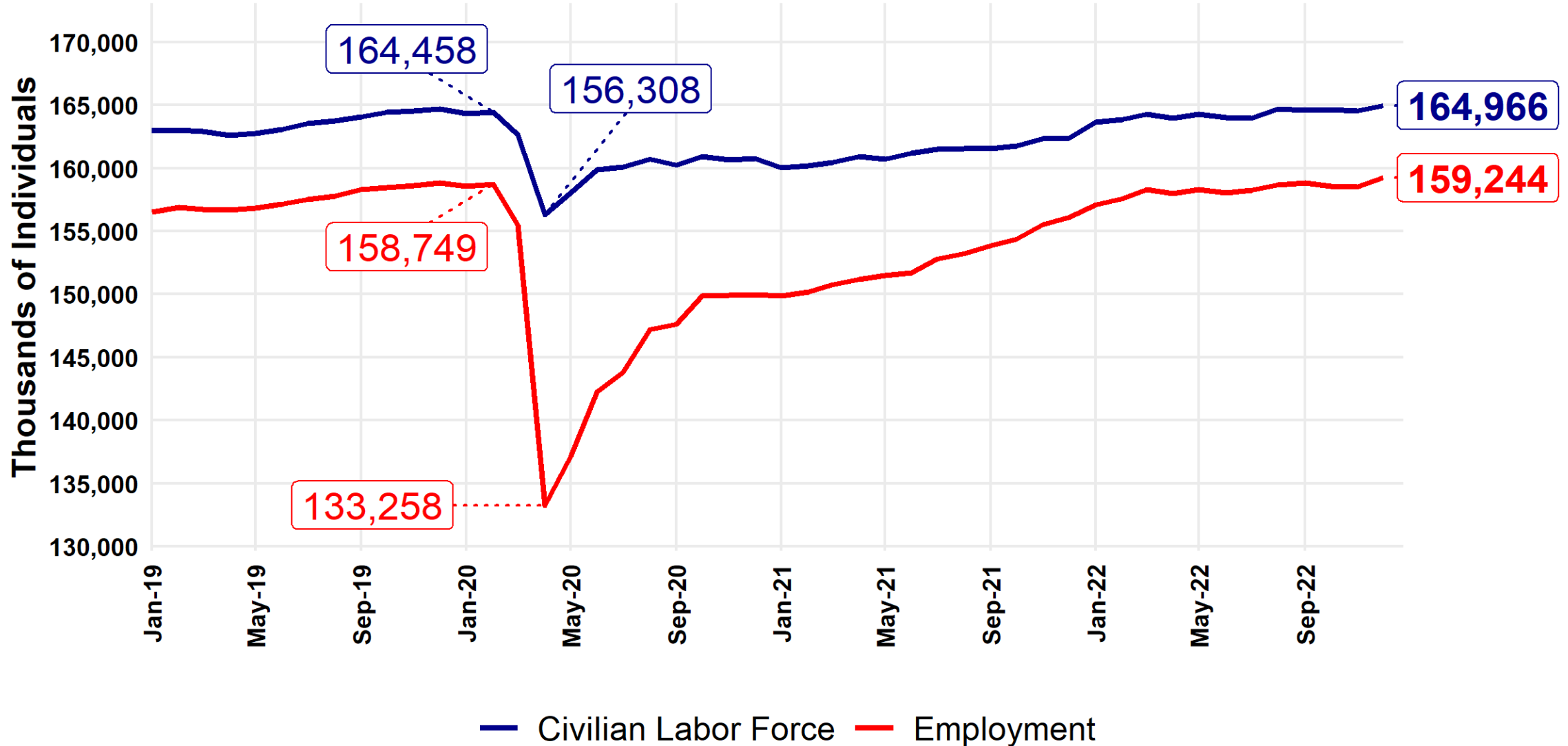
Source: Bureau of Labor Statistics, seasonally adjusted data. Annualized change for monthly data.

Year-over-year percentage change in the Consumer Price Index and month-over-month annualized percentage change in the Consumer Price Index

# Labor Markets Recover

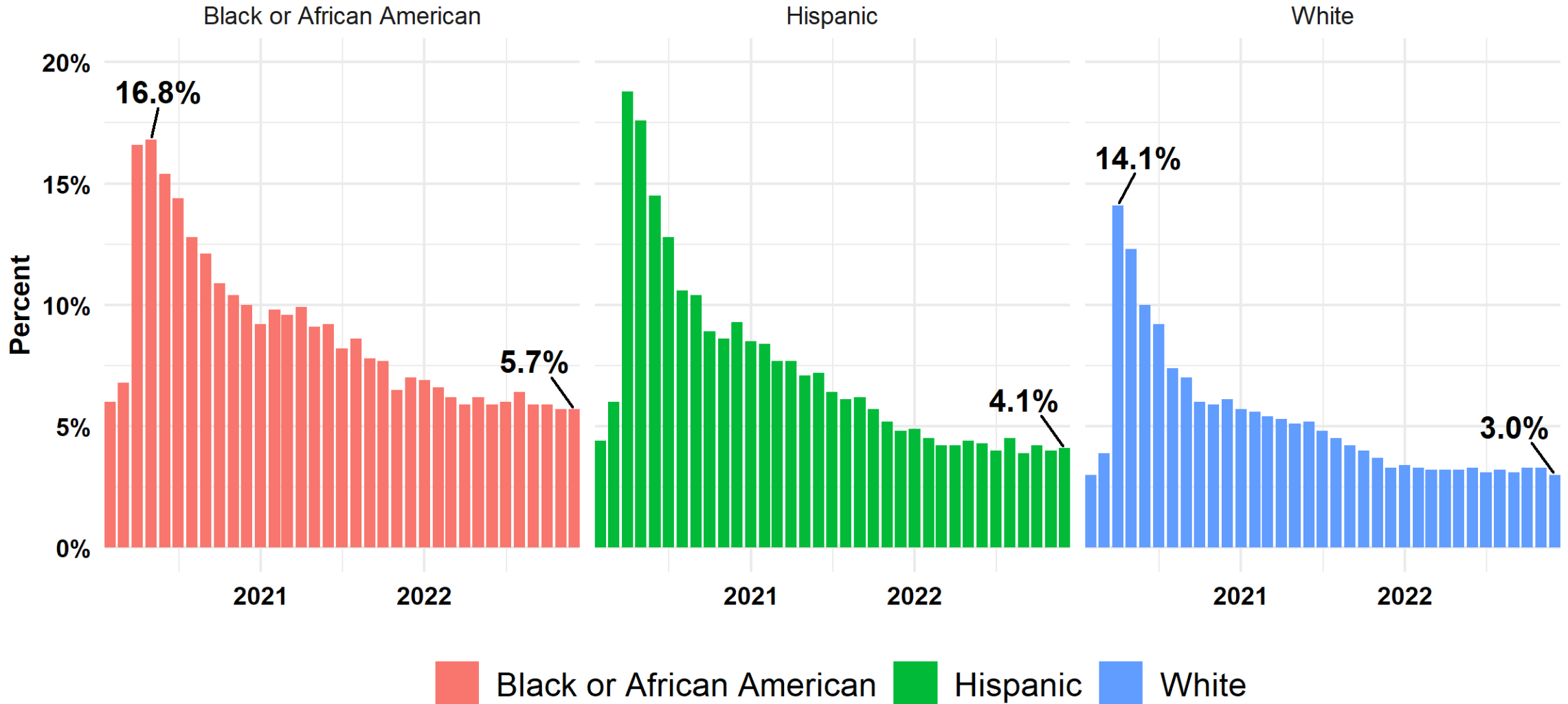


# Civilian Labor Force and Individual Employment United States, January 2019 - December 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.

# Unemployment Rate by Race and Ethnicity United States, February 2020 - December 2022

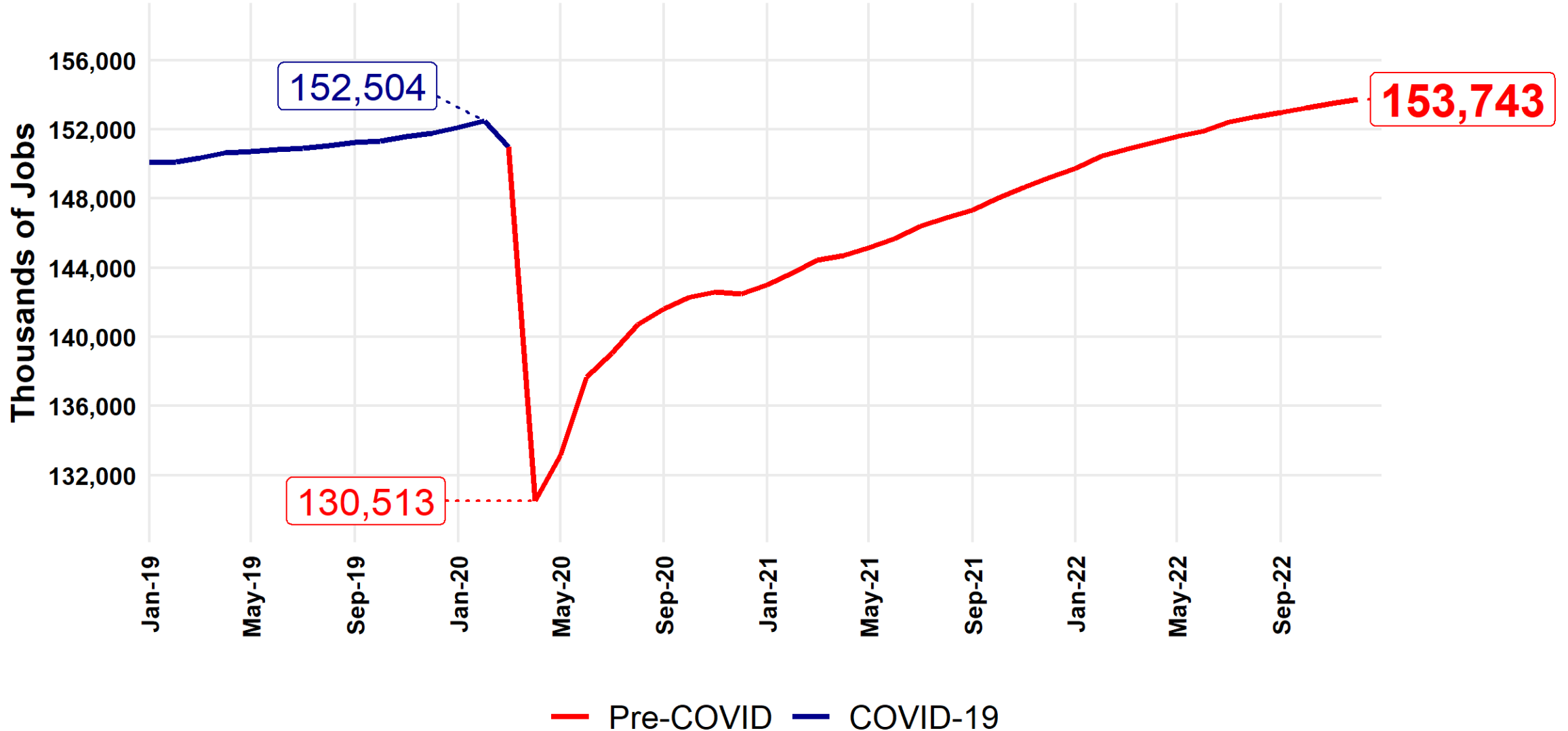


Source: Bureau of Labor Statistics, seasonally adjusted data.



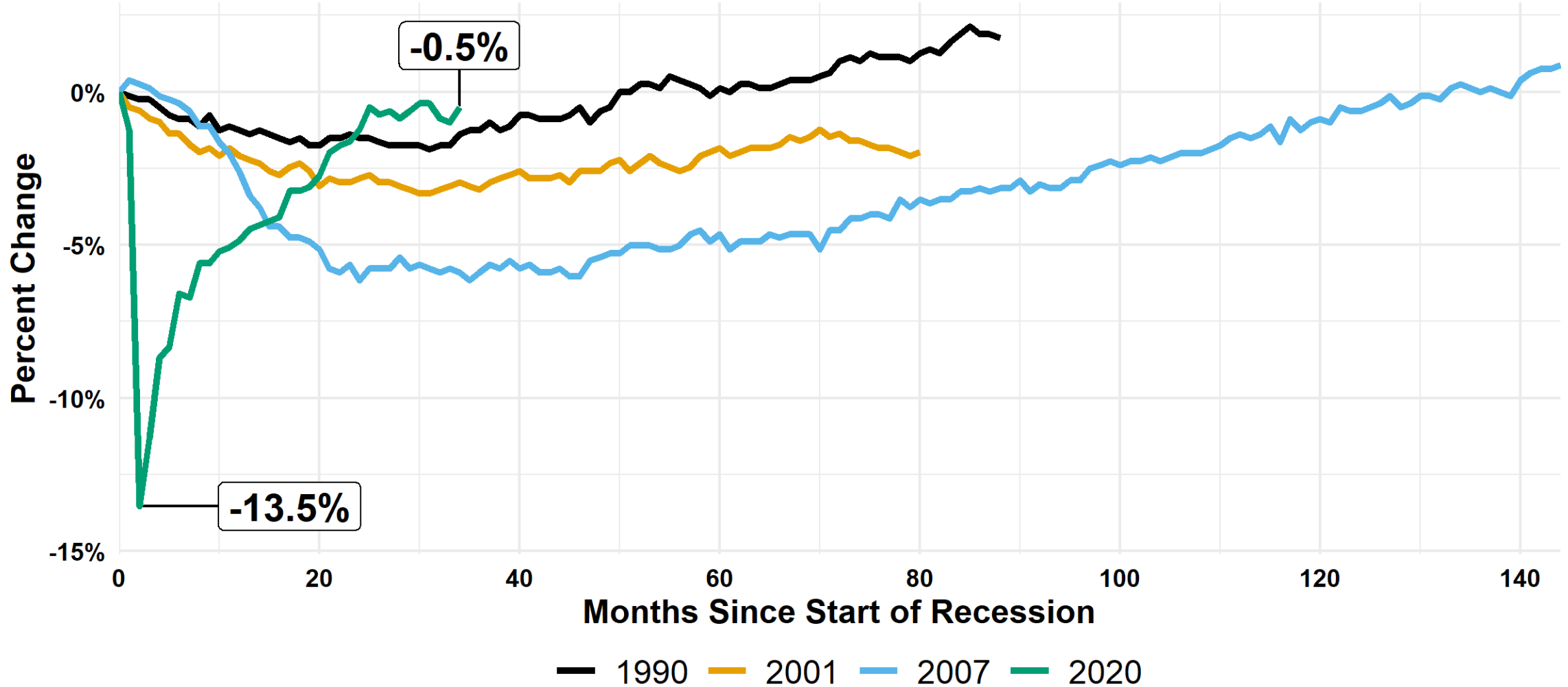
# Nonfarm Payrolls (Jobs)

## United States, January 2019 - December 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.

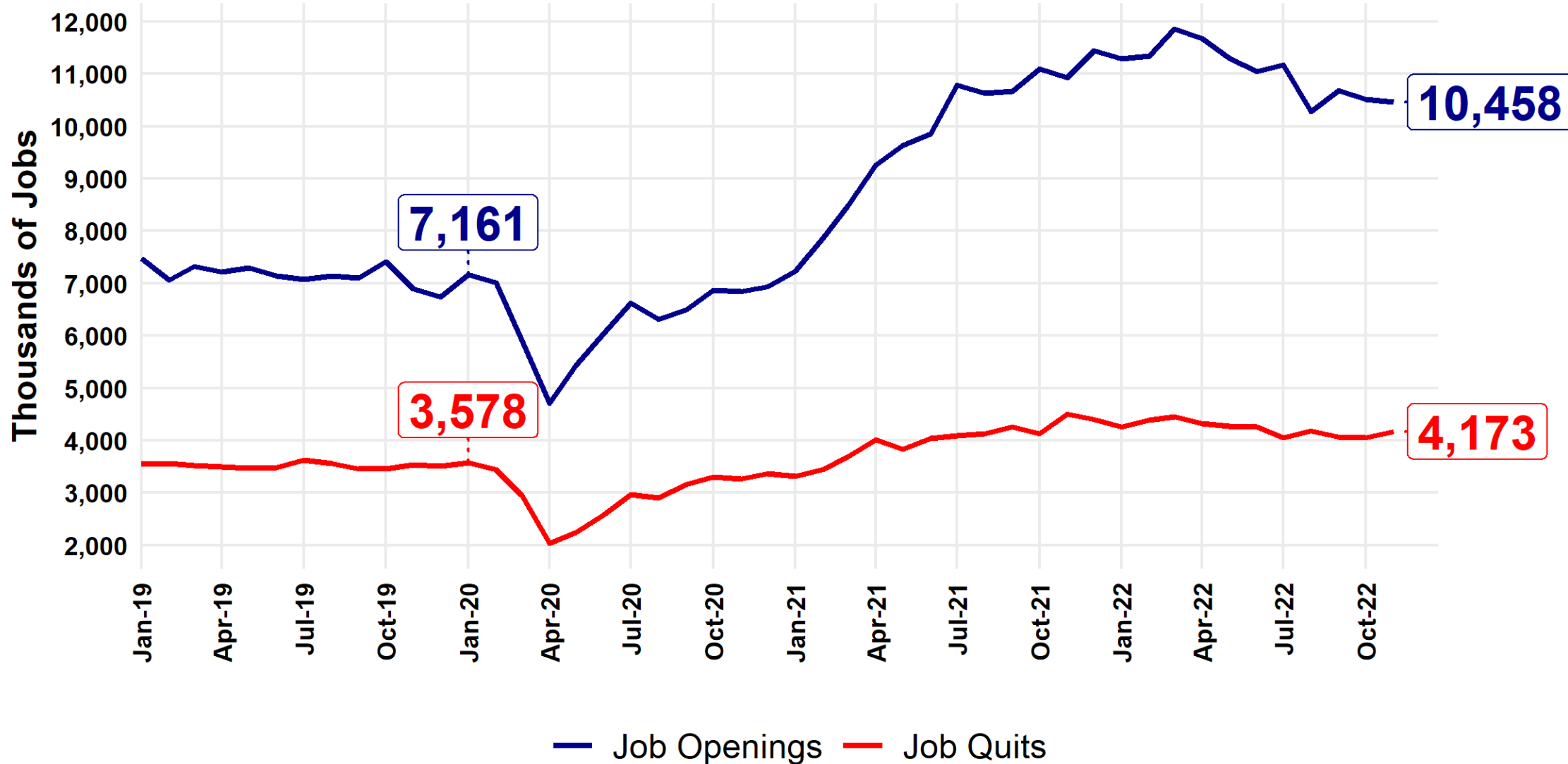
# Employment-Population Ratio for Workers Aged 25 to 54 United States, Recessions of 1990, 2001, 2007, and 2020



Source: Bureau of Labor Statistics, seasonally adjusted data.  
Change in employment-population ratio from the start of each recession.

# Job Openings and Quits

## United States, January 2019 - November 2022

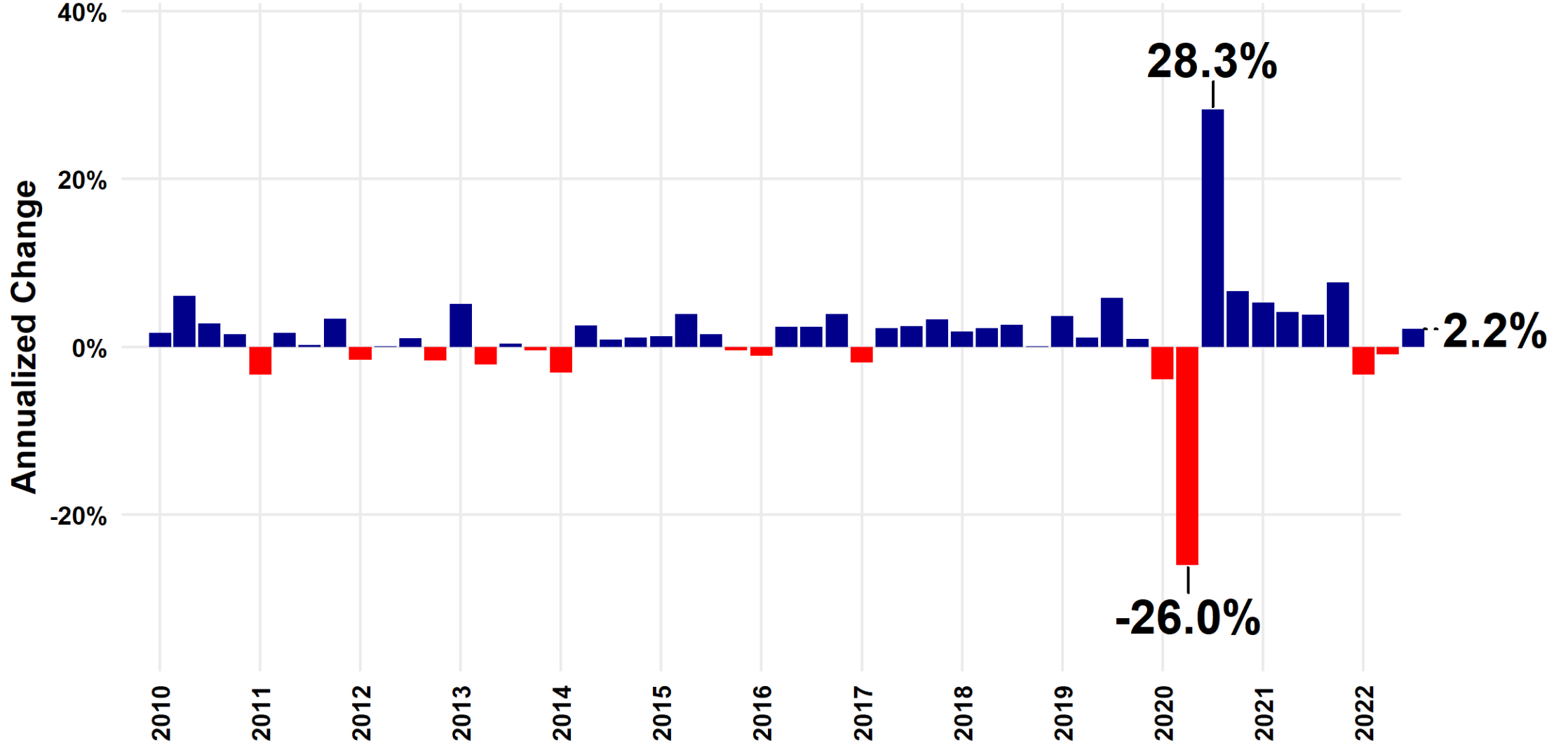


Source: Bureau of Labor Statistics, seasonally adjusted data.

# Virginia Lags the Nation



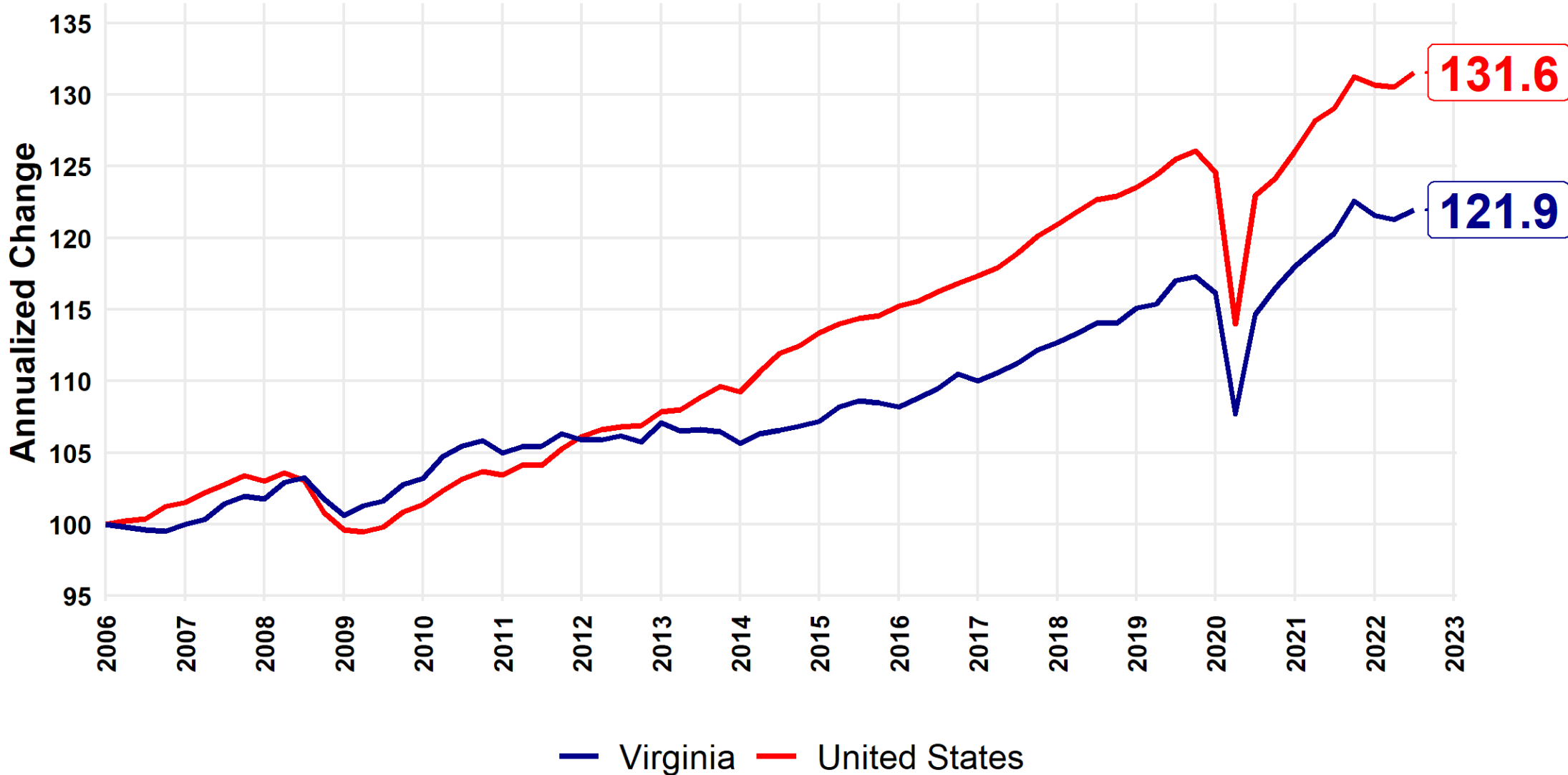
# Real Gross Domestic Product Virginia, Q1 2010 - Q3 2022



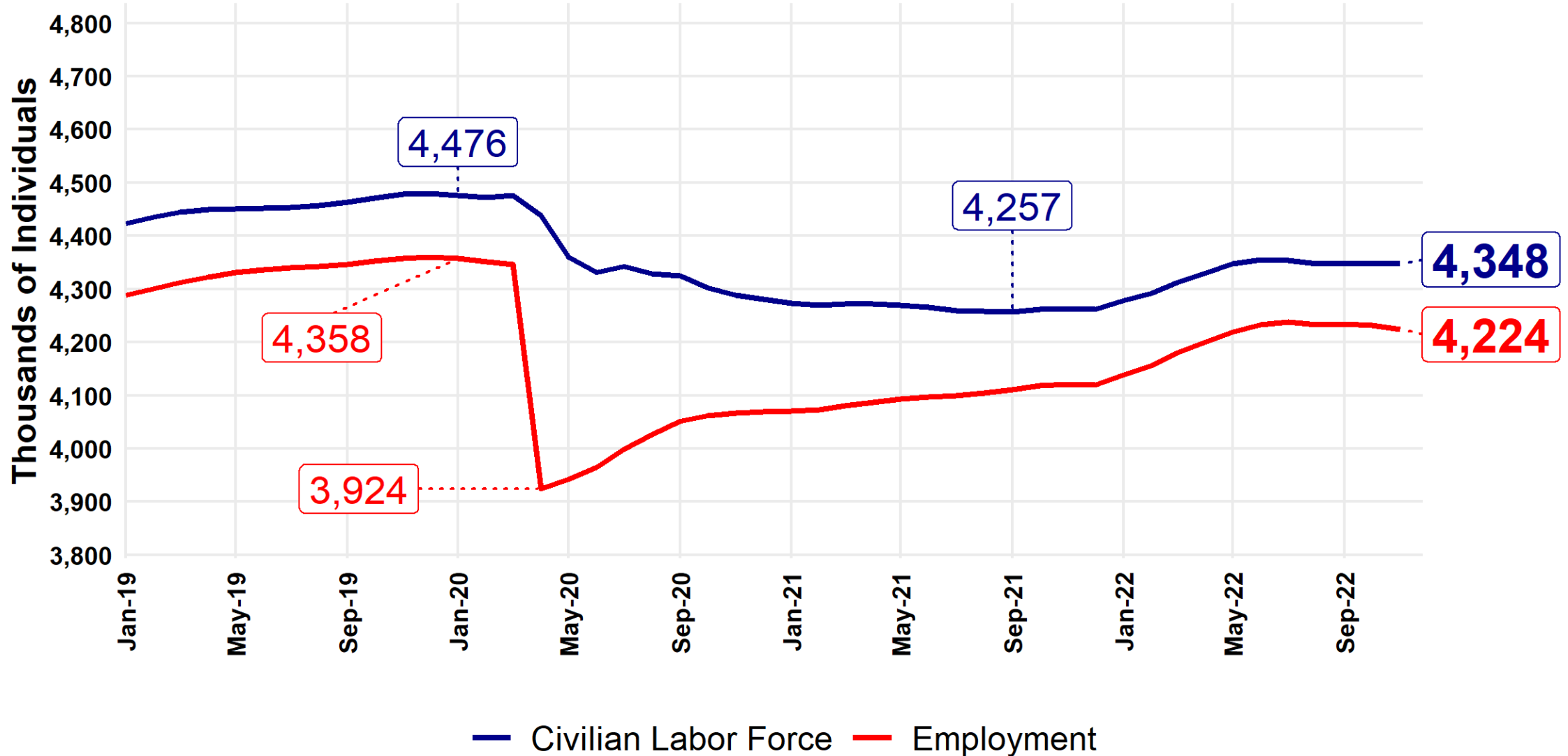
Source: U.S. Bureau of Economic Analysis. Compounded annual rate of change, seasonally adjusted annual rate.

# Growth in Real Gross Domestic Product

## Virginia and the United States, Q1 2006 - Q3 2022

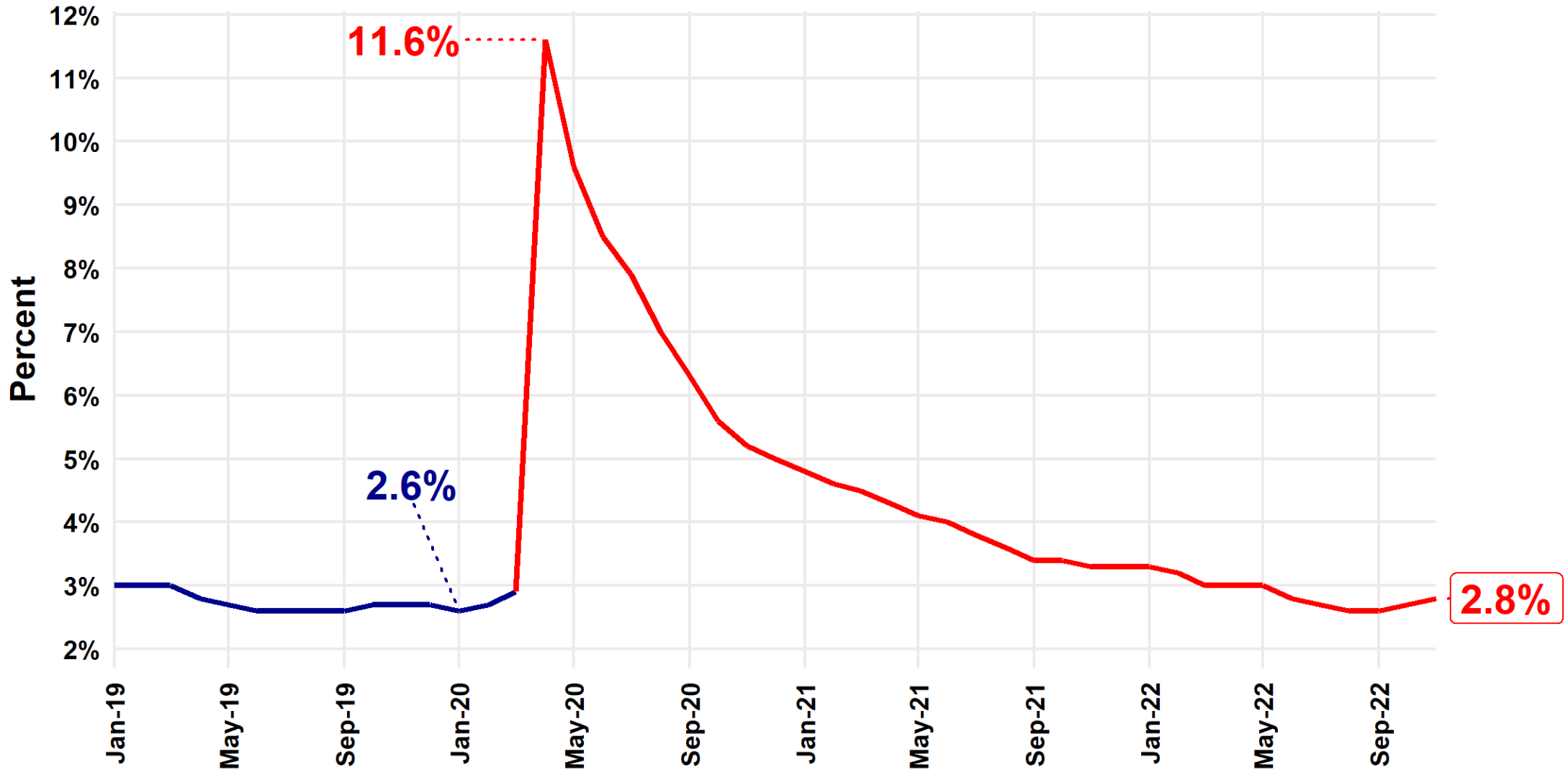


# Civilian Labor Force and Individual Employment Virginia, January 2019 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.

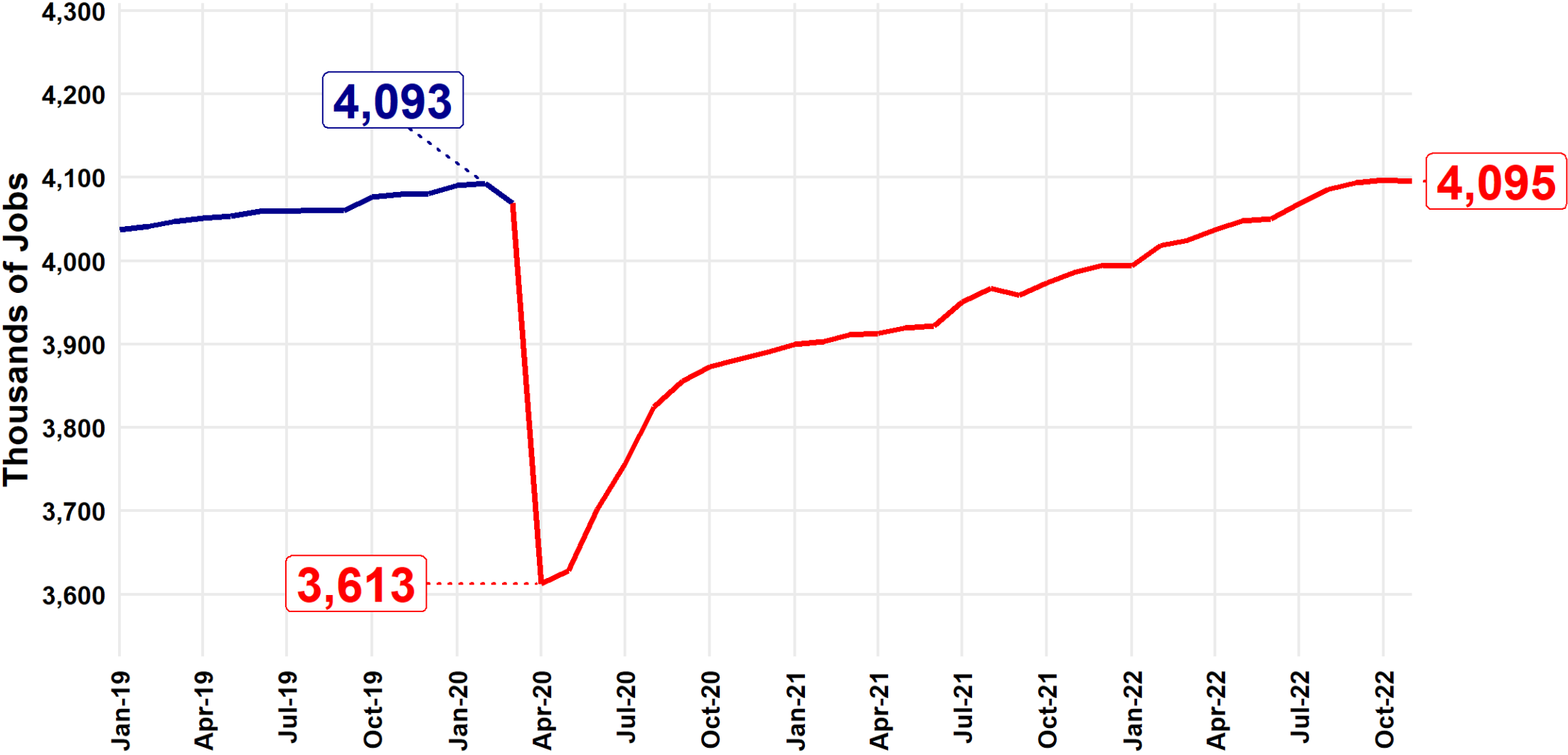
# Unemployment Rate (U3) Virginia, January 2019 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.



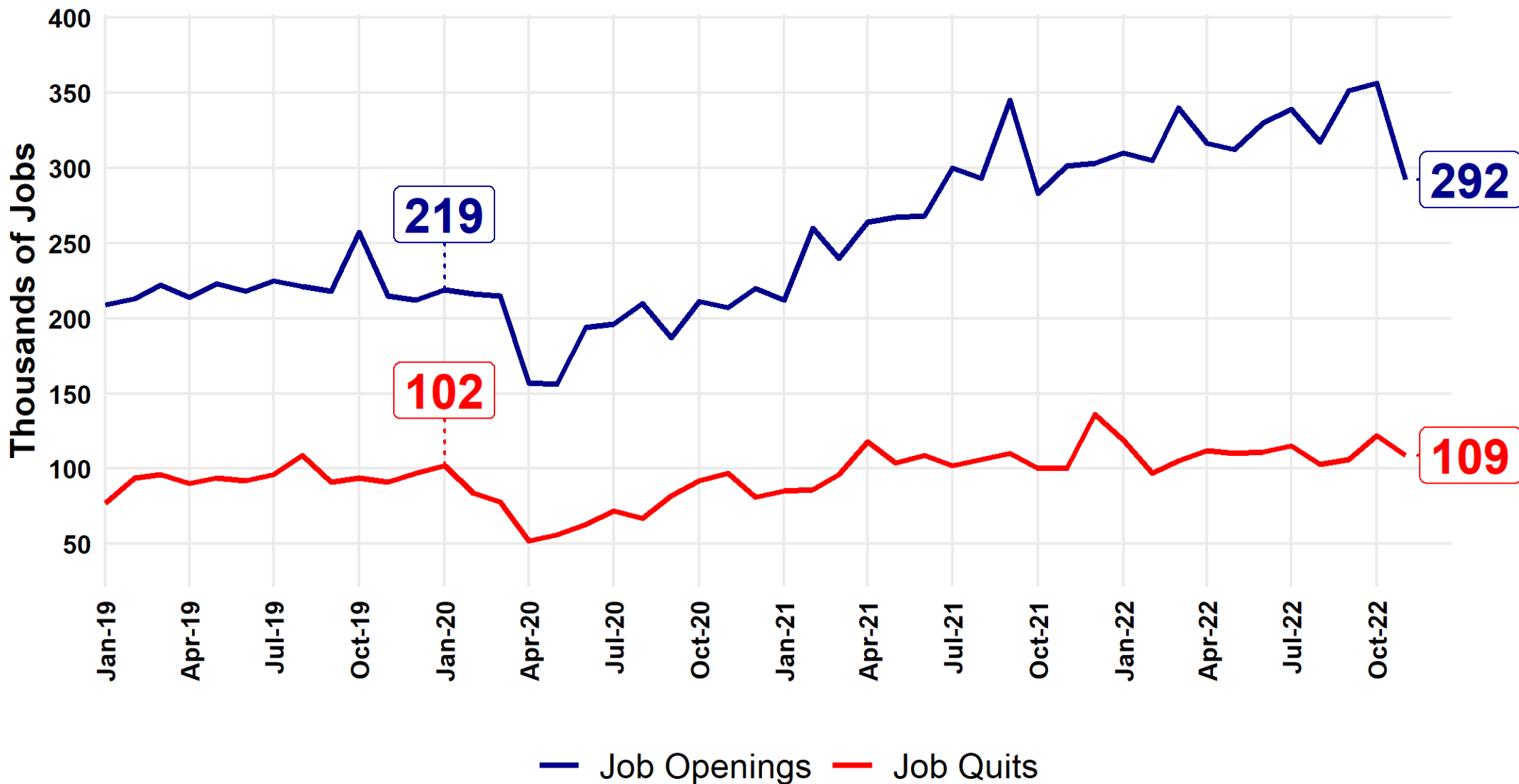
# Nonfarm Payrolls (Jobs) Virginia, January 2019 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.

# Job Openings and Quits

## Virginia, January 2019 - November 2022

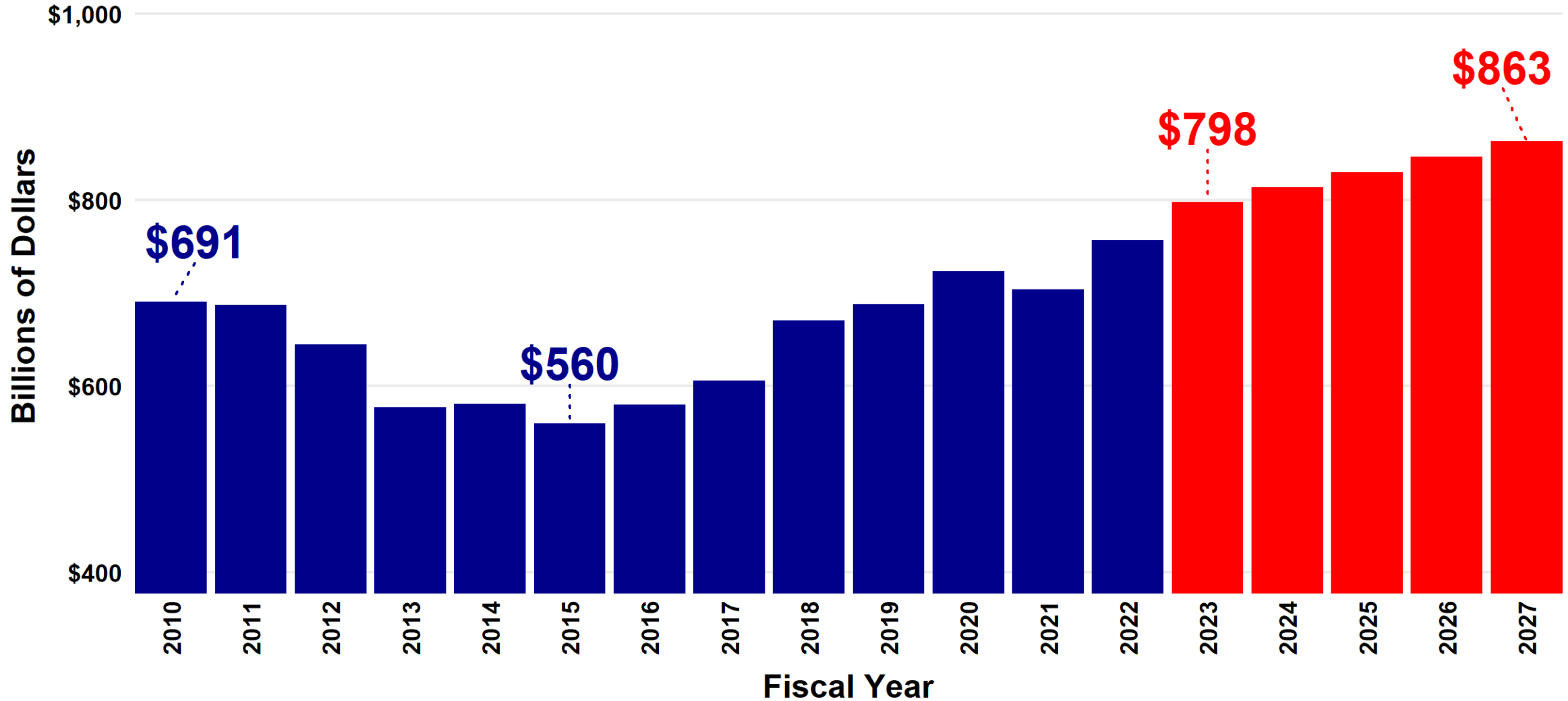


Source: Bureau of Labor Statistics, seasonally adjusted data.

# Defense

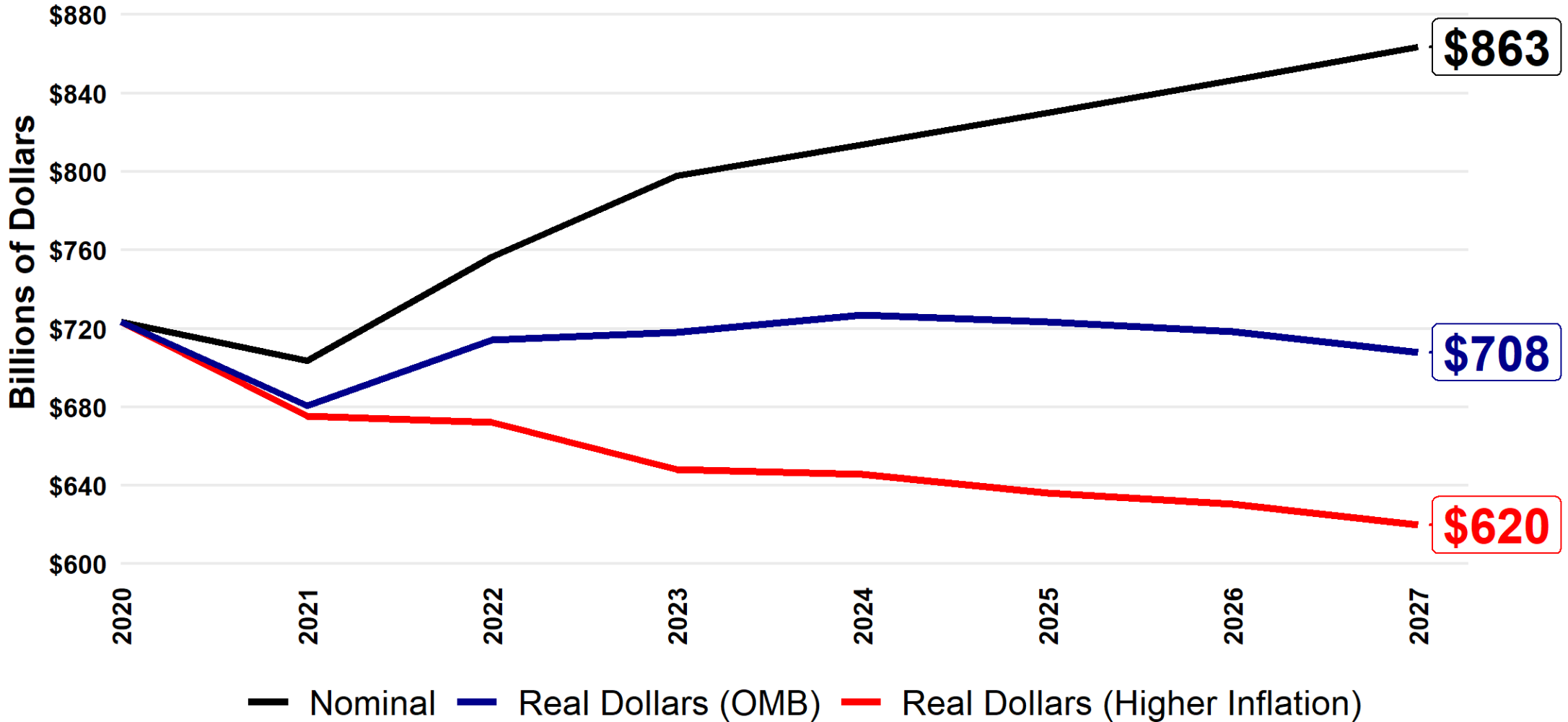


# Department of Defense Base Budget Fiscal Year 2010 - 2027\*



Sources: Office of Management and Budget, FY 2023 Omnibus, and Dragas Center for Economic Analysis and Policy.  
\*FY 2023 is an estimate. FY 2024 - FY 2027 are forecasts.

# Department of Defense Base Budget Fiscal Years 2020 - 2027\*



Sources: Office of Management, FY 2023 Omnibus, and Dragas Center for Economic Analysis and Policy.  
\*FY 2023 is an estimate. FY 2024 - FY 2027 are forecasts. 2020 is the base year for real dollars.

# Looking Ahead

- China's recovery in the 2nd half of 2023 will ease supply chain constraints globally.
- The Federal Reserve's effort to break inflationary expectations leads to a mild recession in the second half of 2023.
- Even with higher unemployment in the latter half of 2023, employers will find it difficult to fill some positions as long COVID, retirements, and the opioid epidemic limit labor force participation.
- Congress is a major source of downside risk. A failure to extend the debt ceiling would spark a global financial crisis much worse than the Great Recession of 2007 - 2009.
- In the best case, the U.S. 'muddles through' through 2023.

# National and Virginia Forecast

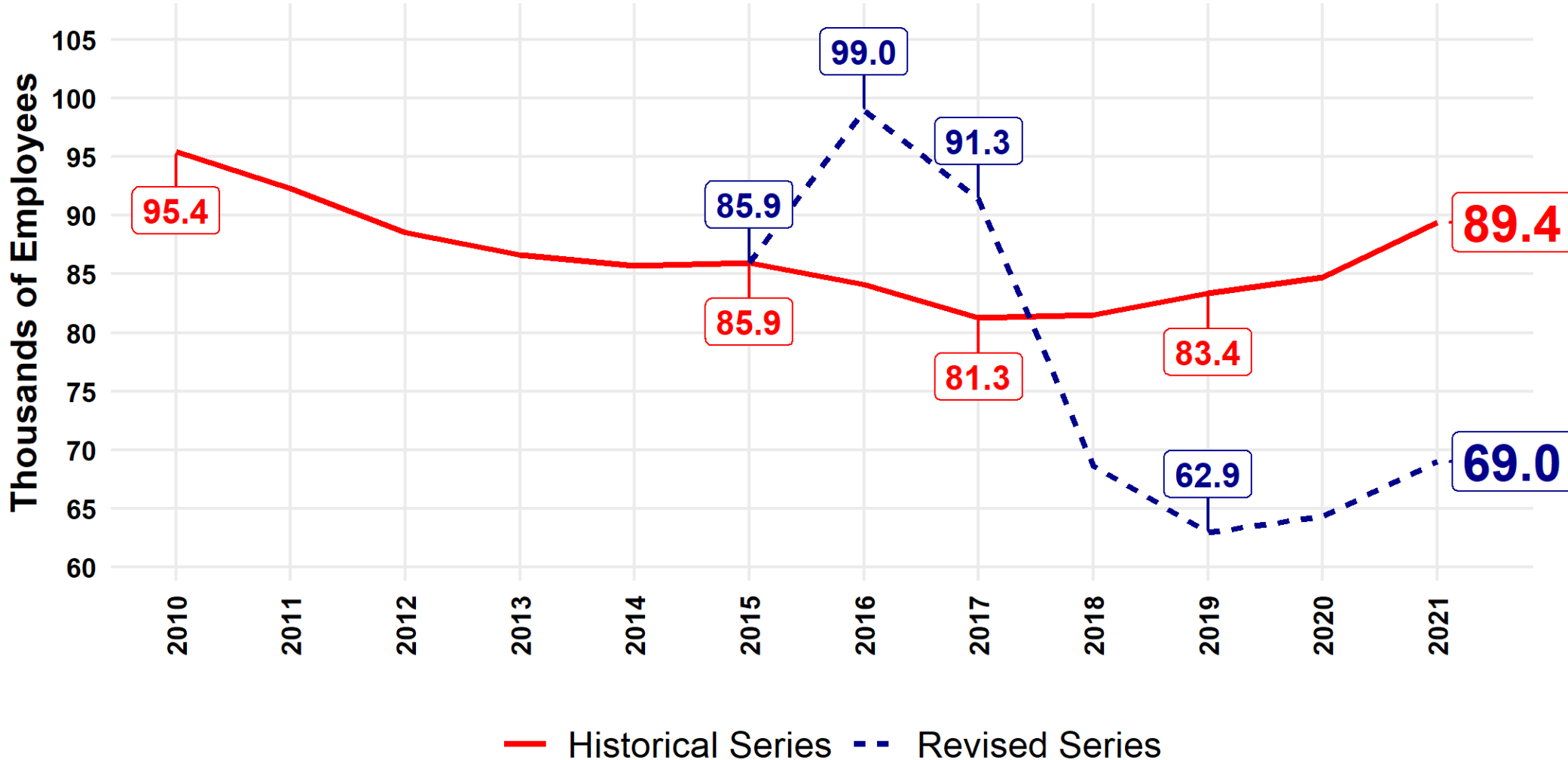
	2020	2021	2022	2023
U.S. Real GDP Growth	-2.8%	5.9%	2.2%	0.9%
Civilian Job Growth	-5.8%	2.8%	4.1%	0.2%
Unemployment Rate	8.1%	5.4%	3.7%	4.1%
Inflation Rate	1.2%	6.7%	8.0%	4.8%
Core Inflation Rate	1.6%	5.0%	6.2%	4.0%
Federal Funds Rate	0.2%	0.2%	4.5%	5.0%
10-year Treasury Bill	0.9%	1.4%	2.9%	3.5%
30-year Conventional Mortgage	3.1%	3.0%	5.3%	5.5%
<b>Federal Deficit (Fiscal Year, Billions)</b>	<b>-\$3,132</b>	<b>-\$2,772</b>	<b>-\$1,375</b>	<b>-\$1,200</b>
Virginia Real GDP Growth	-2.1%	5.5%	2.4%	1.5%
Virginia Civilian Job Growth	-5.0%	2.2%	3.2%	0.9%

# 2023 Hampton Roads Economic Forecast



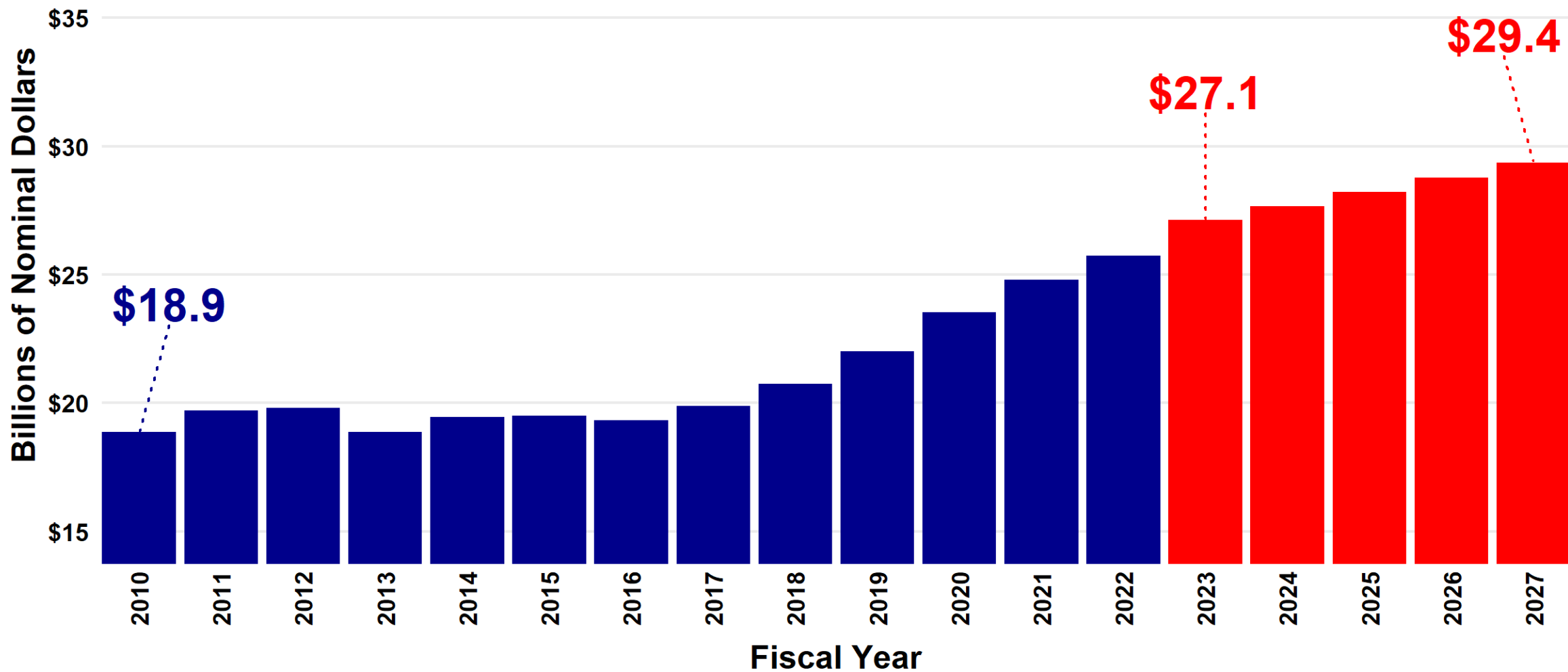


# Military Employment Hampton Roads, 2010 - 2021



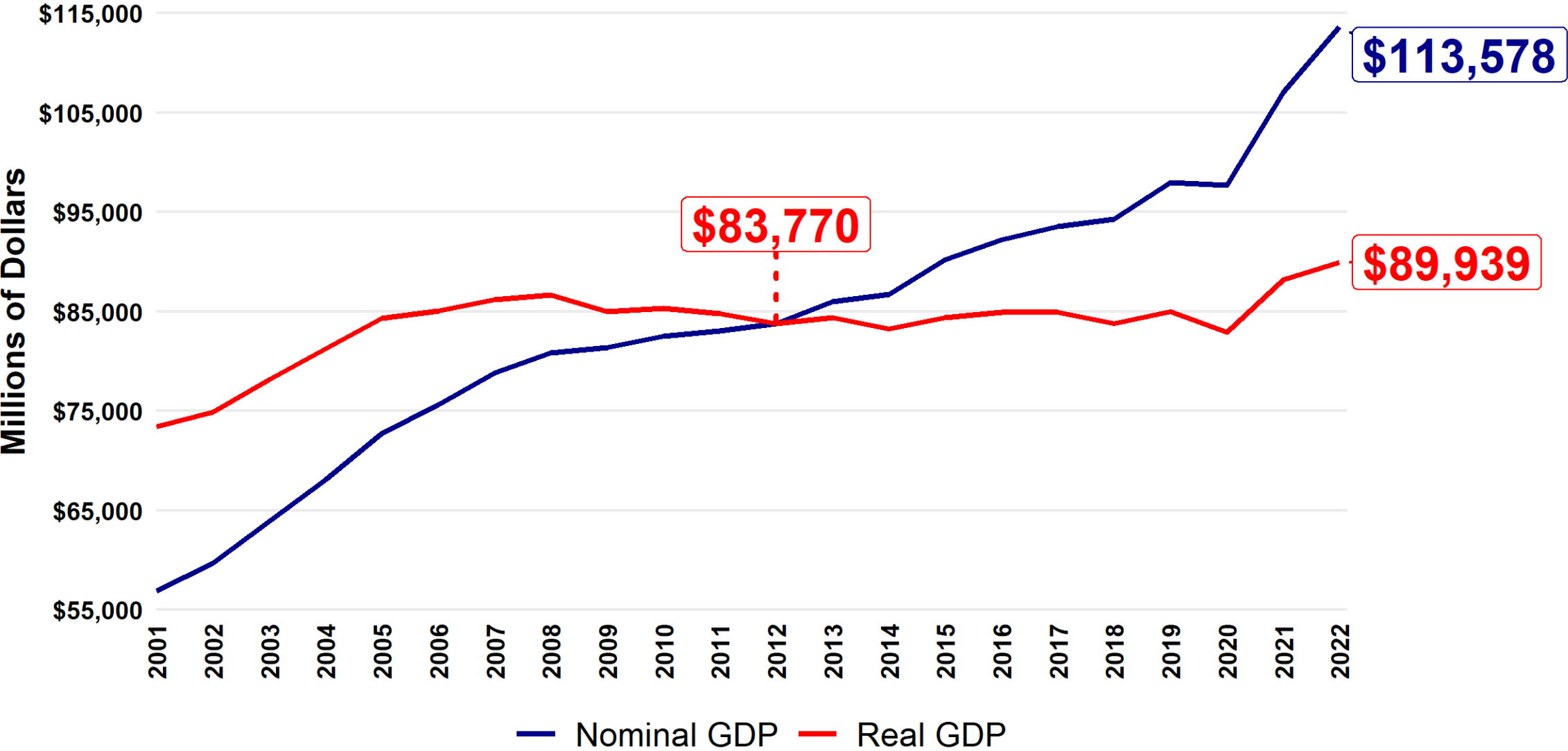
Sources: U.S. Bureau of Economic Analysis and the Dragas Center for Economic Analysis and Policy.  
Previous series updated on November 17, 2020; revised series released on November 16, 2022.  
Historical series includes our estimates for 2020 and 2021.

# Estimated Direct Department of Defense Spending Hampton Roads, 2010 - 2027



Sources: Office of Management and Budget, FY 2023 Omnibus, and Dragas Center for Economic Analysis and Policy.  
\*FY 2023 is an estimate. FY 2024 - FY 2027 are forecasts.

# Nominal and Real Gross Domestic Product Hampton Roads, 2001 - 2022\*



Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy.  
Data for 2021 is the advanced estimate and 2022 is our forecast. 2012 dollars for real GDP.



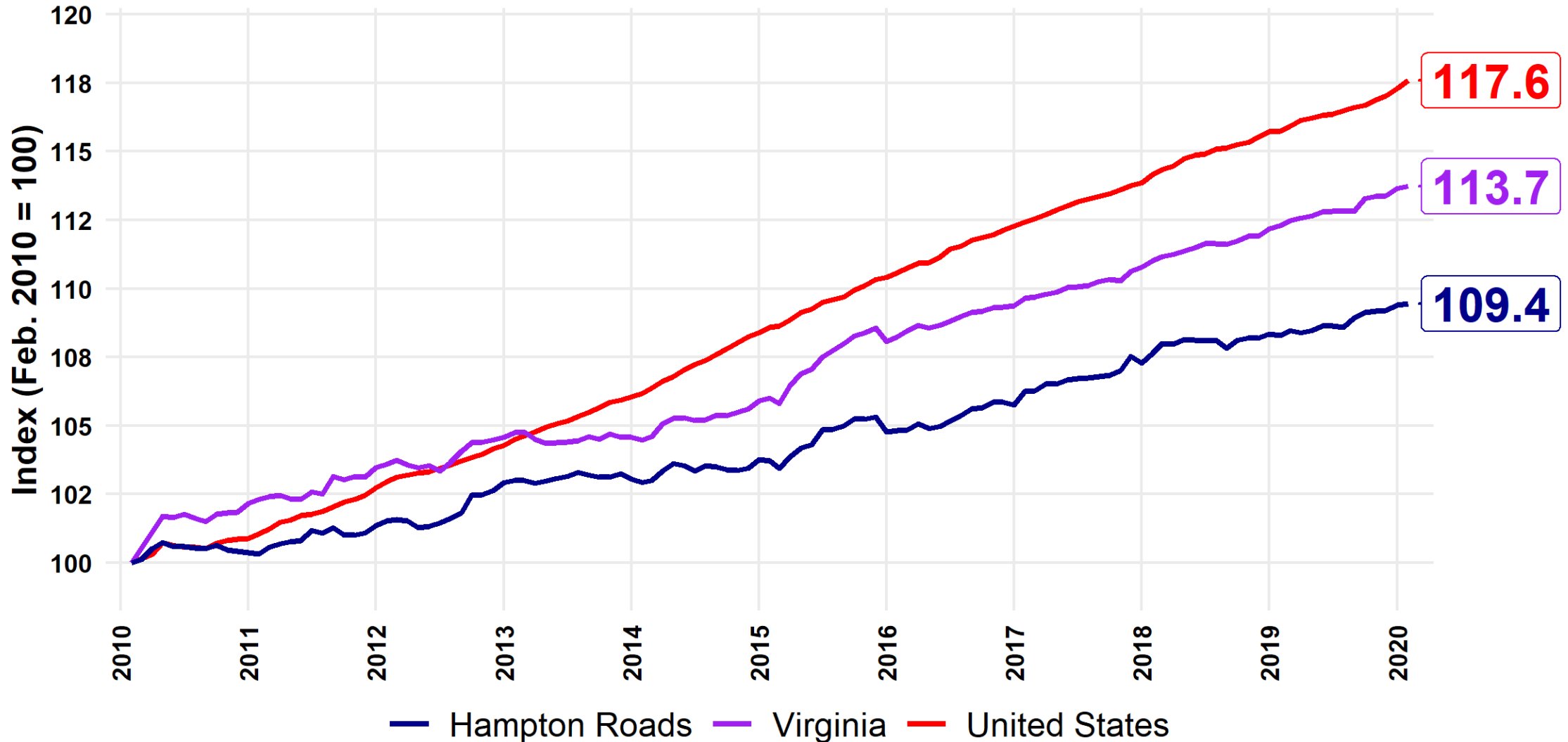
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# Jobs and Employment



# Index of Nonfarm Payrolls

## Hampton Roads, Virginia, and the United States, February 2010 - February 2020

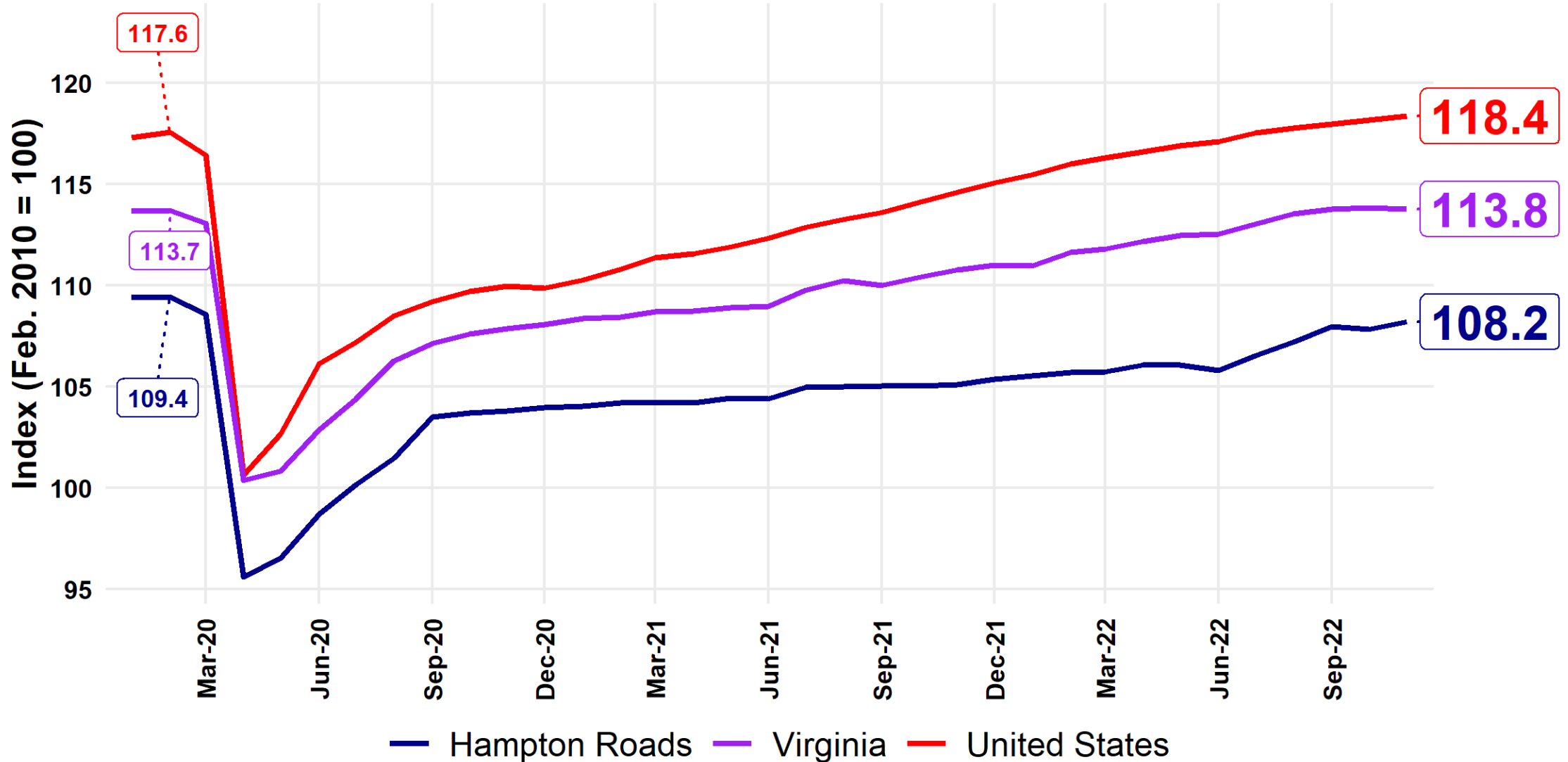


Source: Bureau of Labor Statistics, seasonally adjusted data.

February 2010 was the trough of nonfarm payrolls for the United States, Virginia, and Hampton Roads.

# Index of Nonfarm Payrolls

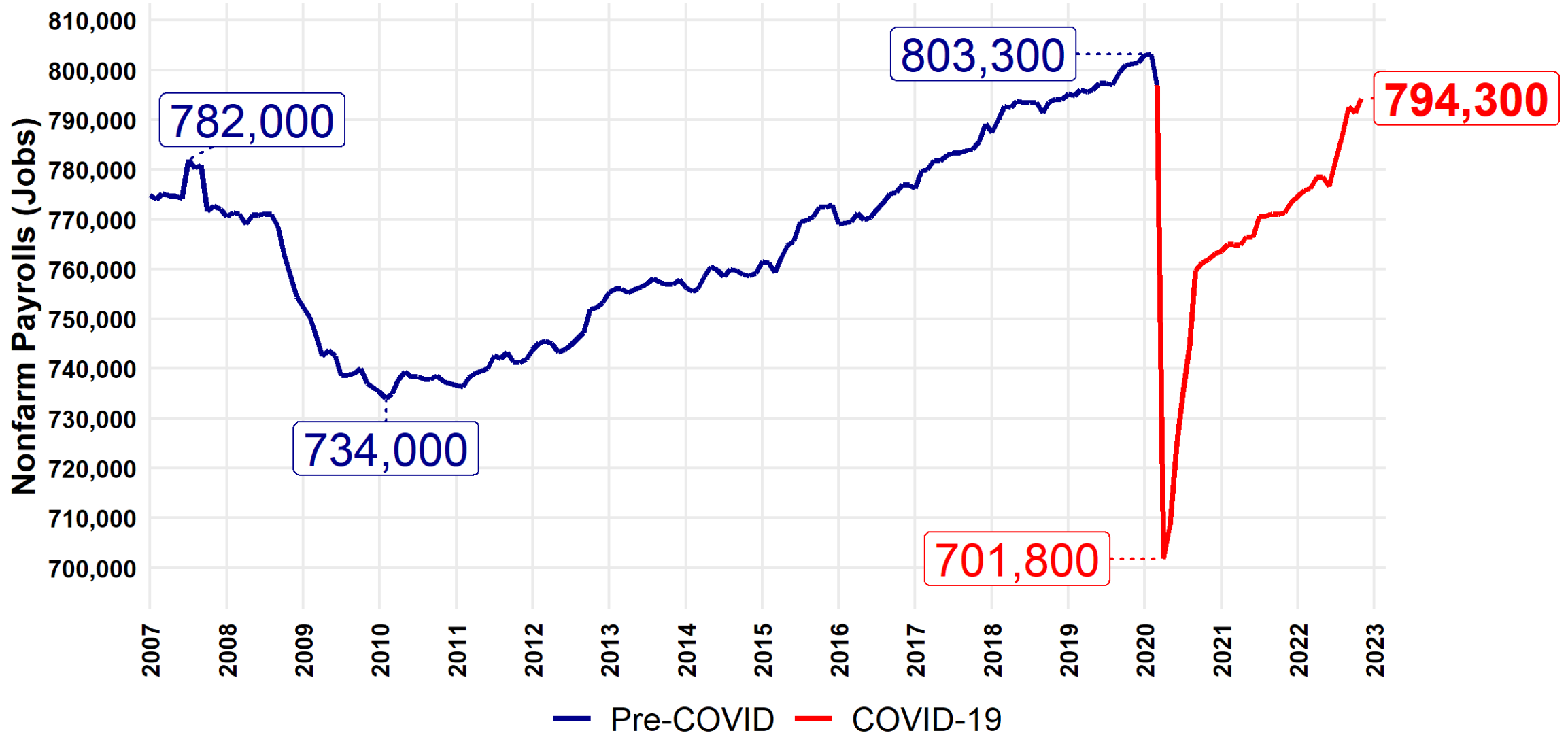
## Hampton Roads, Virginia, and the United States, January 2020 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.

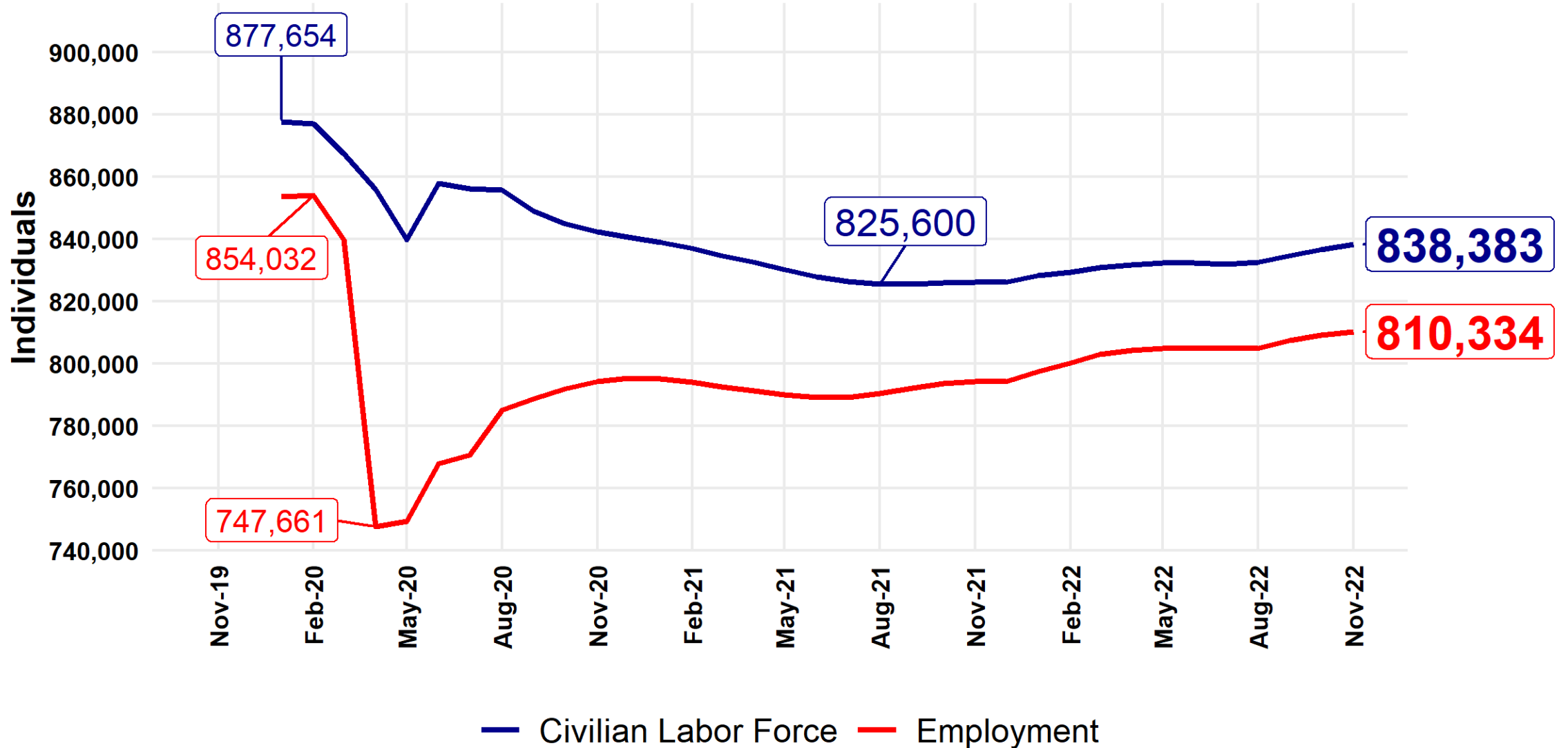
# Nonfarm Payrolls

## Hampton Roads, January 2007 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.

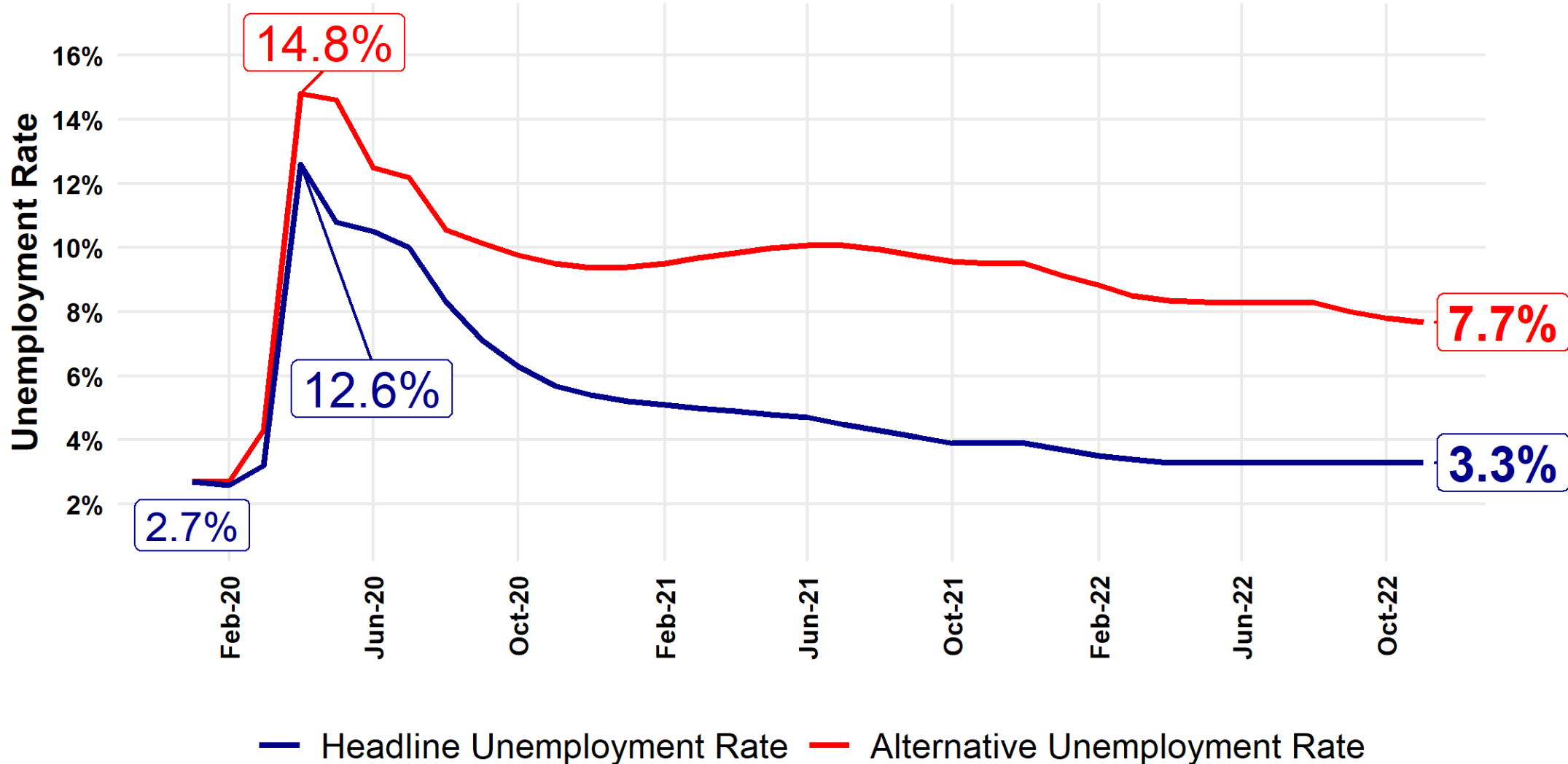
# Civilian Labor Force and Employment Hampton Roads, January 2020 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.



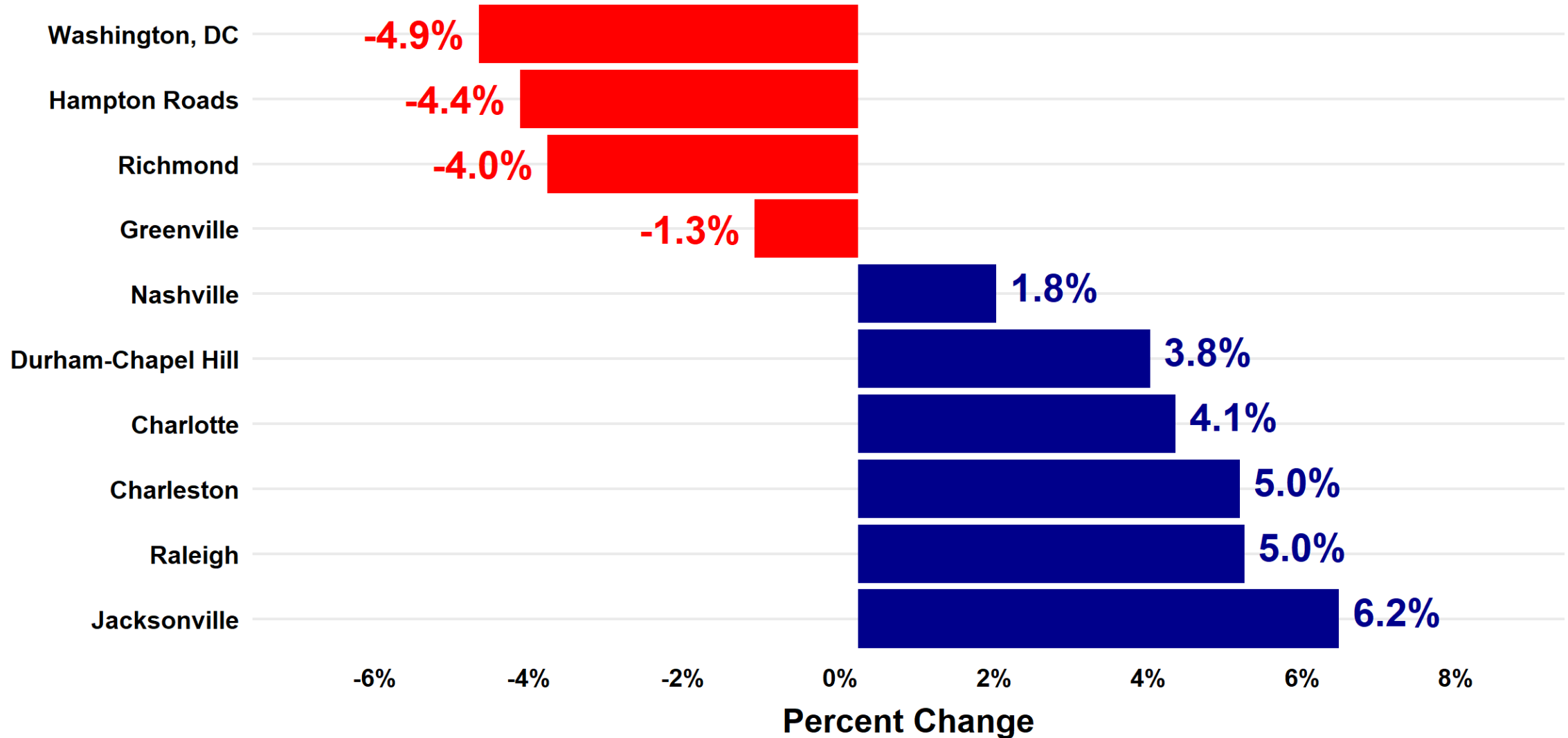
# Headline and Alternative Unemployment Rate Hampton Roads, January 2020 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data.  
Alternative unemployment rate includes departures from the labor force and counted as unemployed.

# Change in Civilian Labor Force

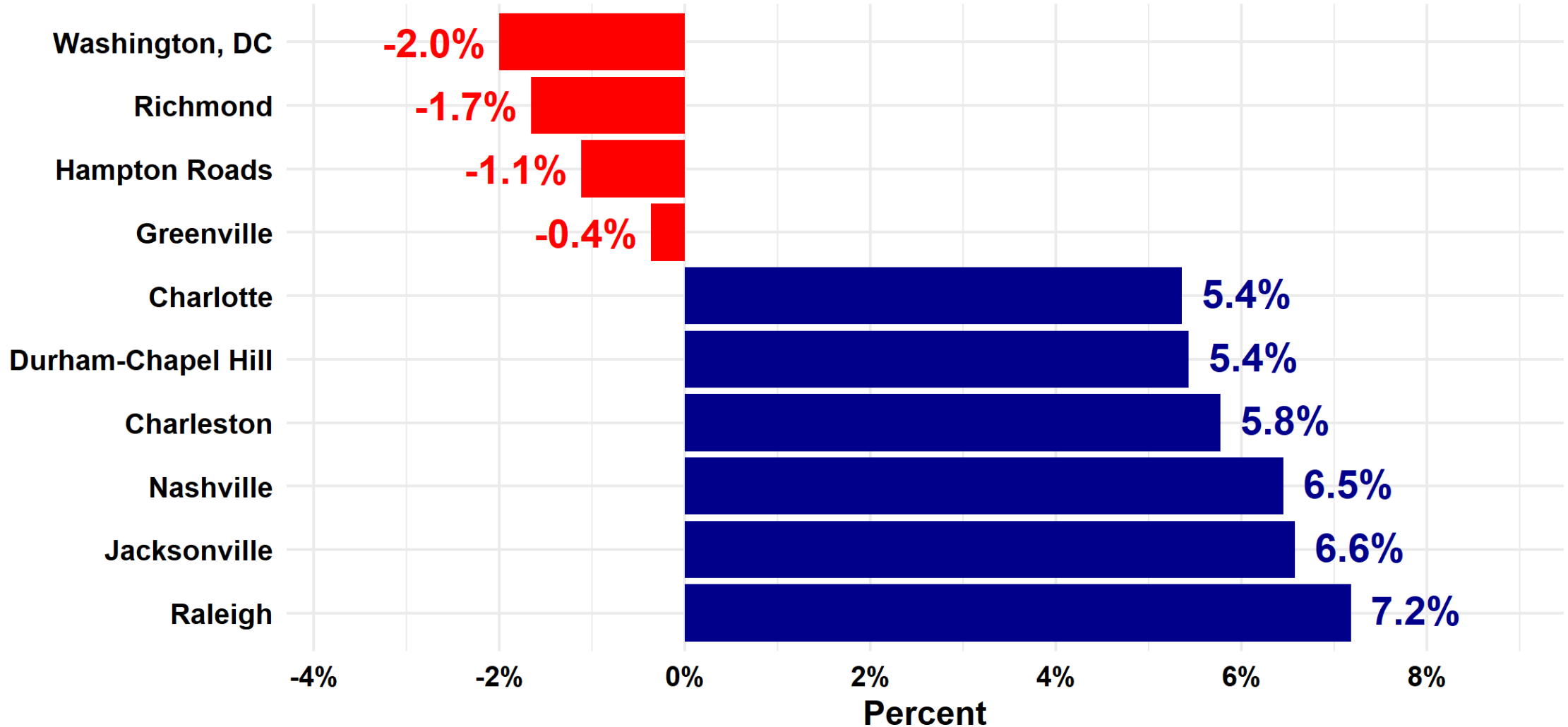
## Selected Metro Areas, February 2020 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data. Hampton Roads is the Virginia Beach-Newport News MSA and Washington, DC is the Washington-Arlington-Alexandria MSA.

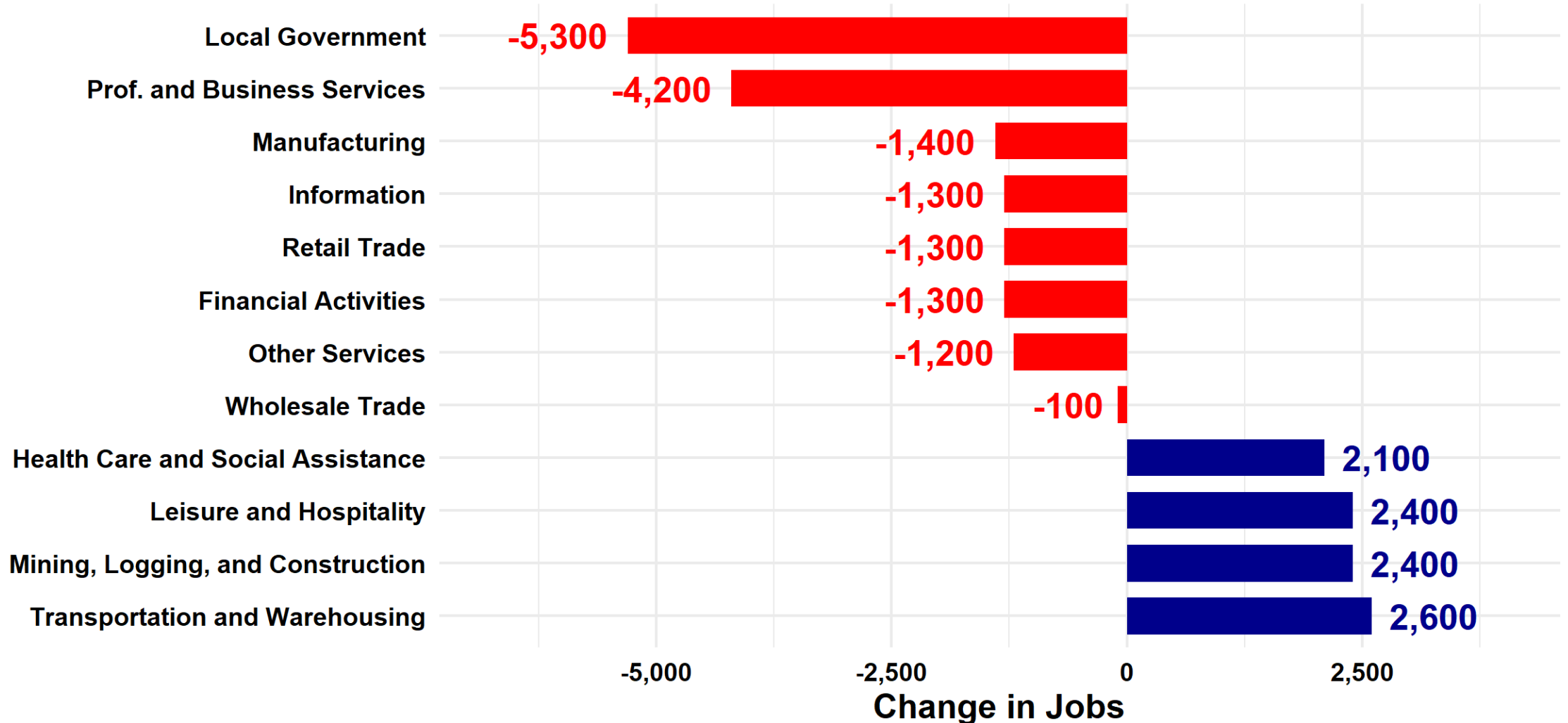
## Growth in Nonfarm Payrolls

### Selected Metropolitan Areas, February 2020 - November 2022



Source: Bureau of Labor Statistics, seasonally adjusted data. Hampton Roads is the Virginia Beach-Newport News MSA and Washington, DC is the Washington-Arlington-Alexandria MSA.

## Civilian Jobs Gained/Lost in Selected Sectors Hampton Roads, November 2019 - November 2022

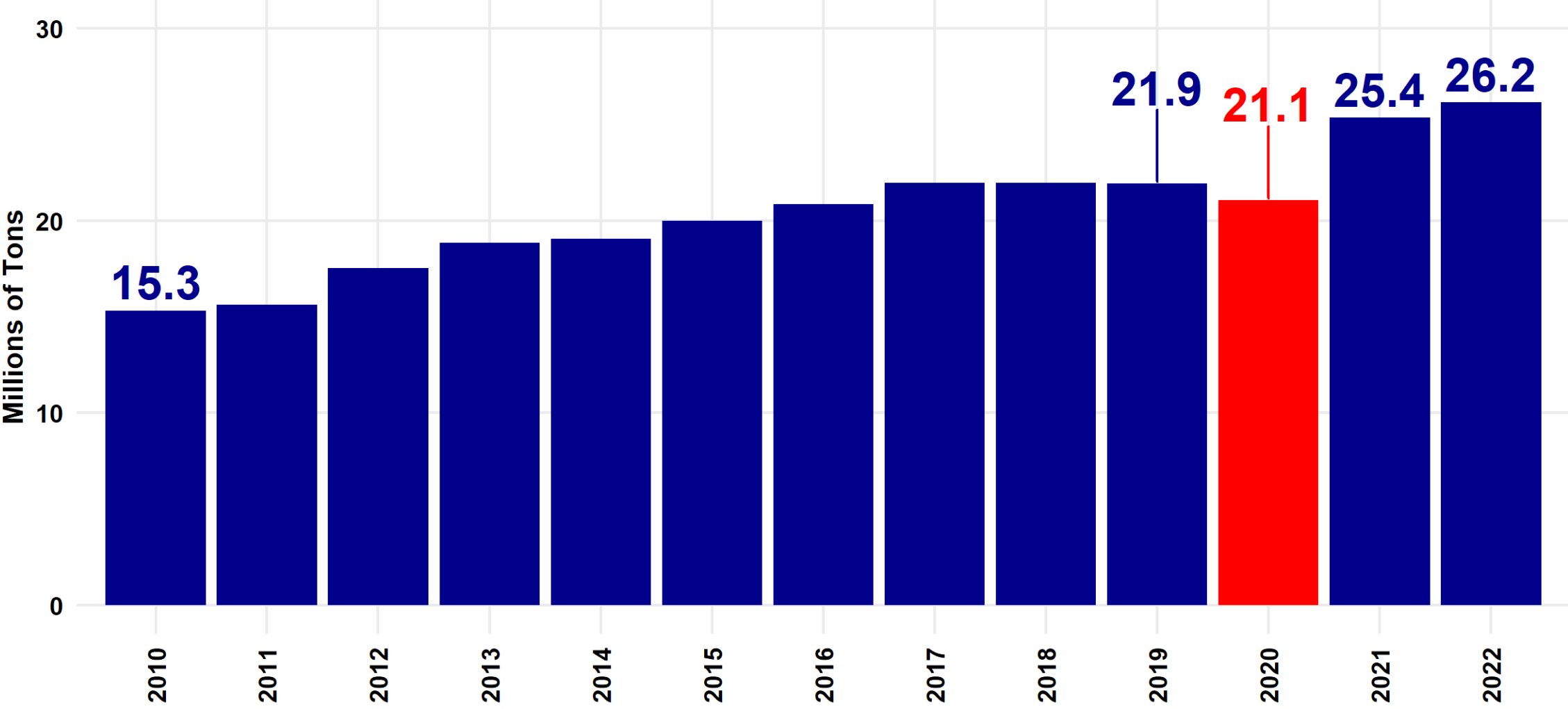


Sources: Bureau of Labor Statistics, non-seasonally adjusted data, and the Dragas Center for Economic Analysis and Policy.

# The Port of Virginia

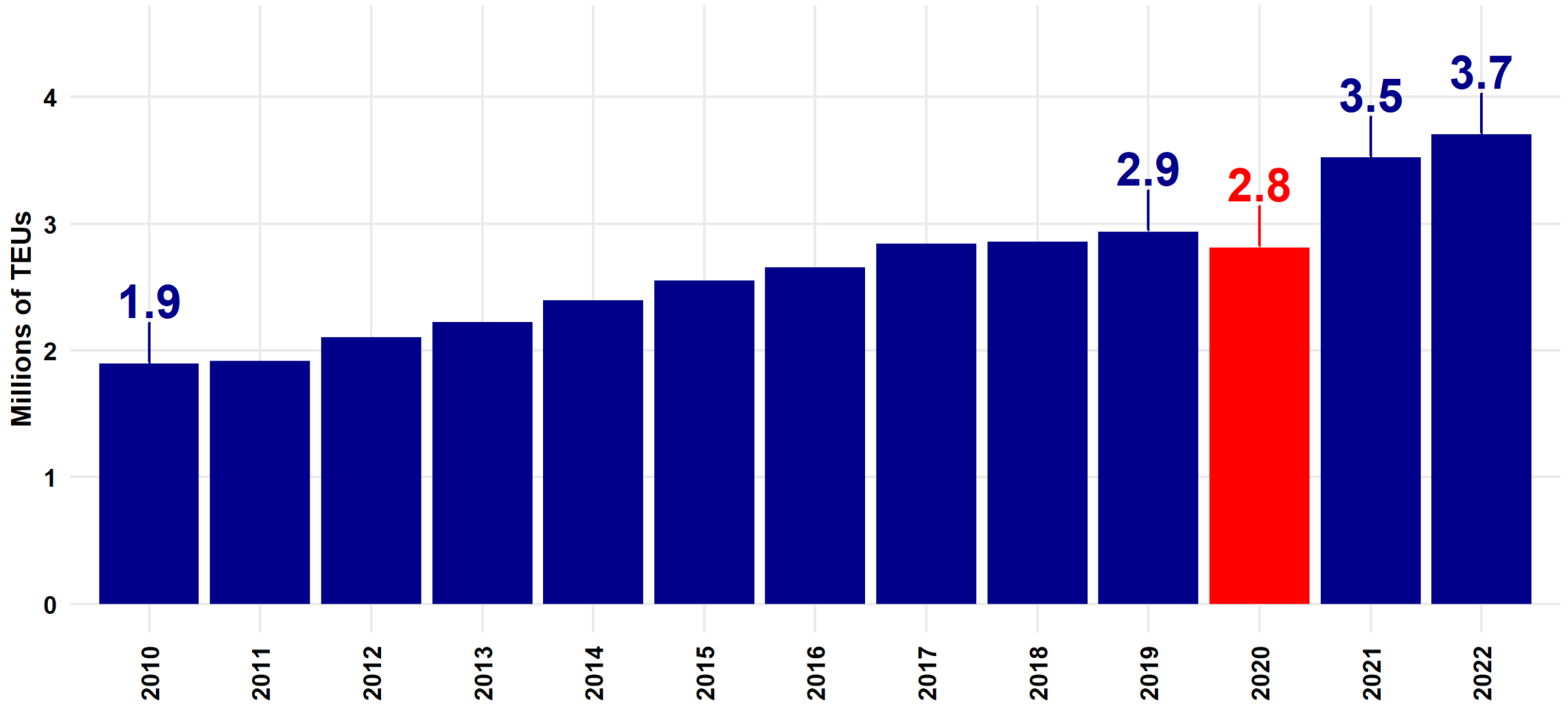


# General Cargo Tonnage Port of Virginia, 2010 - 2022



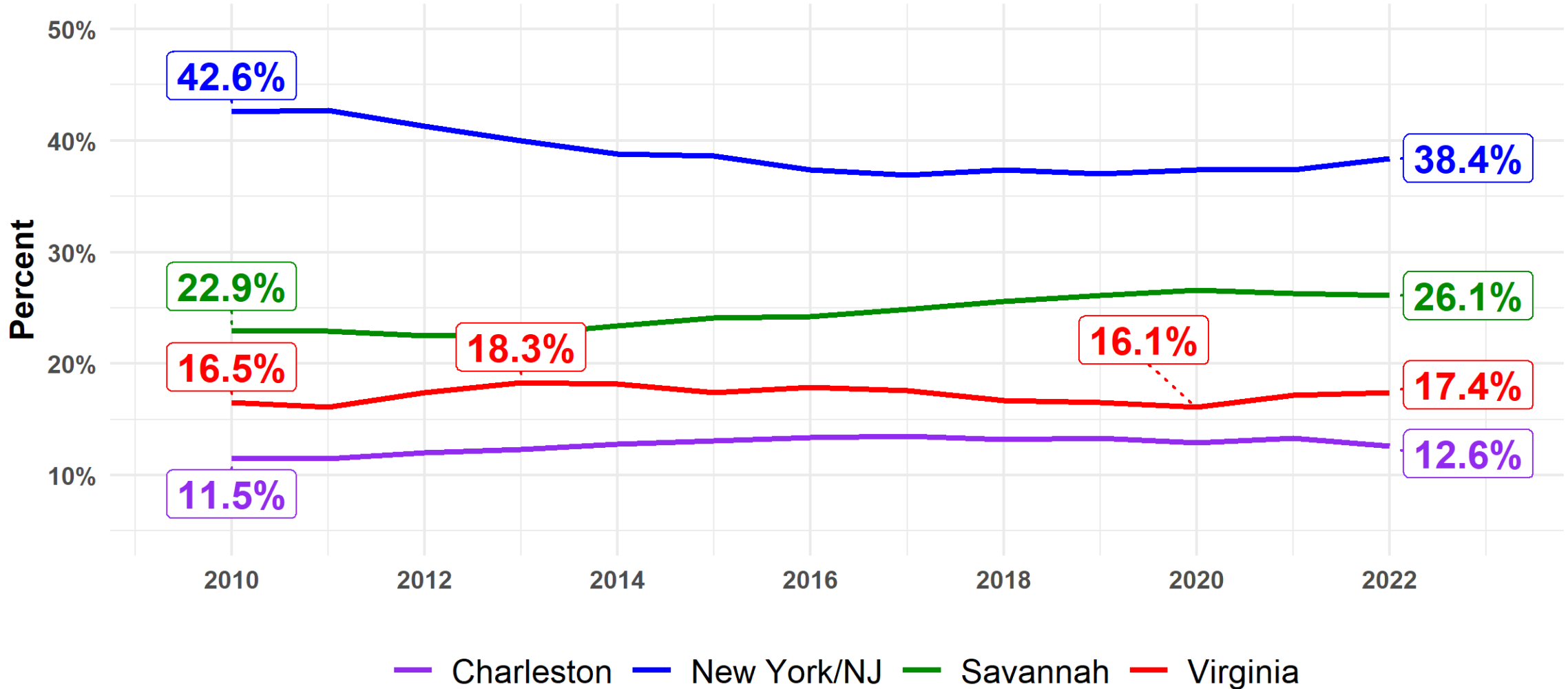
Sources: Virginia Port Authority and the Dragas Center for Economic Analysis and Policy.

## Twenty-Foot Equivalent Container Units (TEUs) Port of Virginia, 2010 - 2022



Sources: Virginia Port Authority and the Dragas Center for Economic Analysis and Policy.

## Shares of Total Loaded TEUs Selected East Coast Ports, 2010 - 2022\*



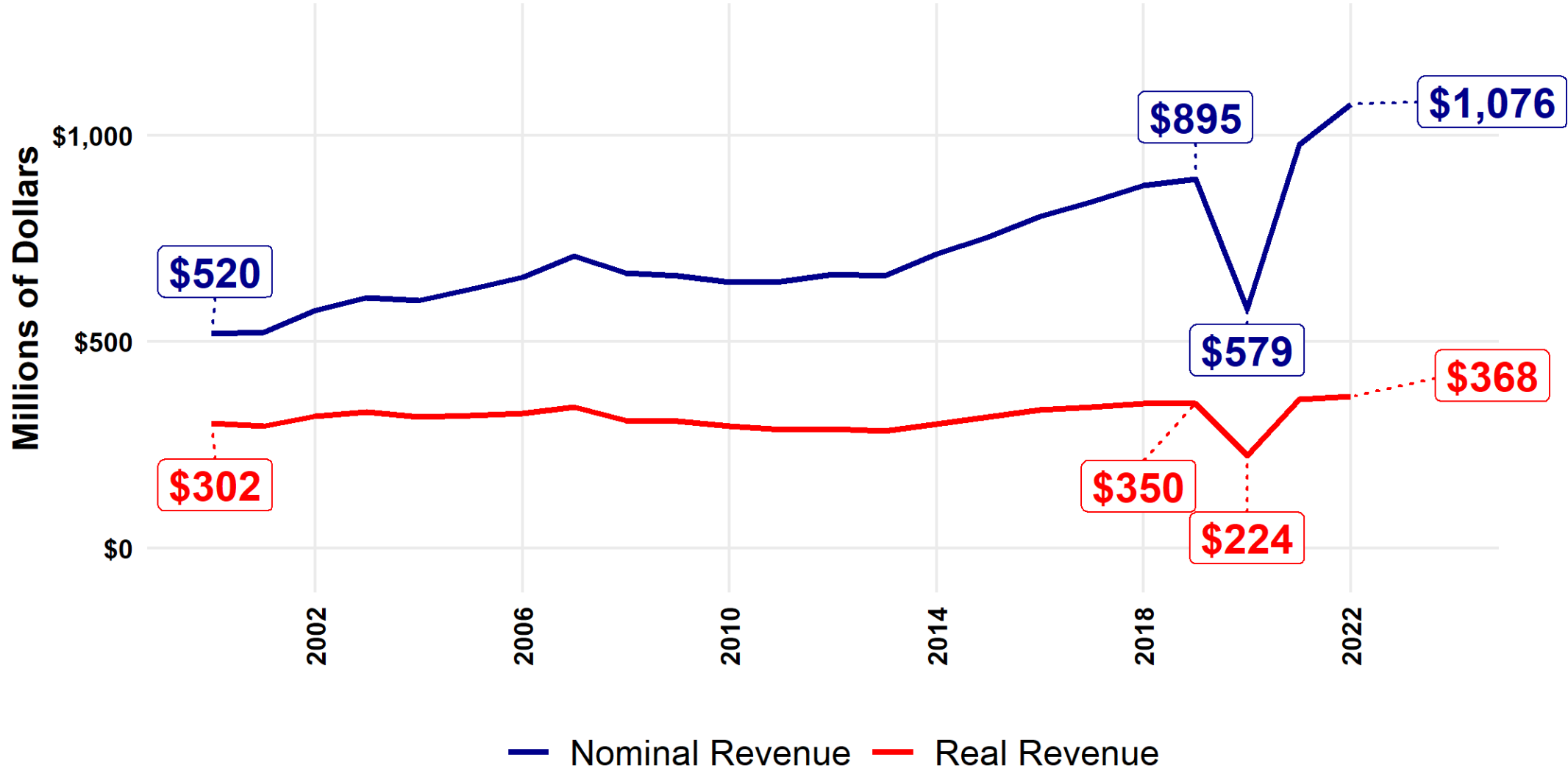
Sources: American Association of Port Authorities, websites of ports, and the Dragas Center for Economic Analysis and Policy.  
\*Data for 2022 are through October 2022.



# Hotels Rebound but Challenges Remain



# Nominal and Real (Inflation-Adjusted) Hotel Revenue Hampton Roads, 2000 - 2022

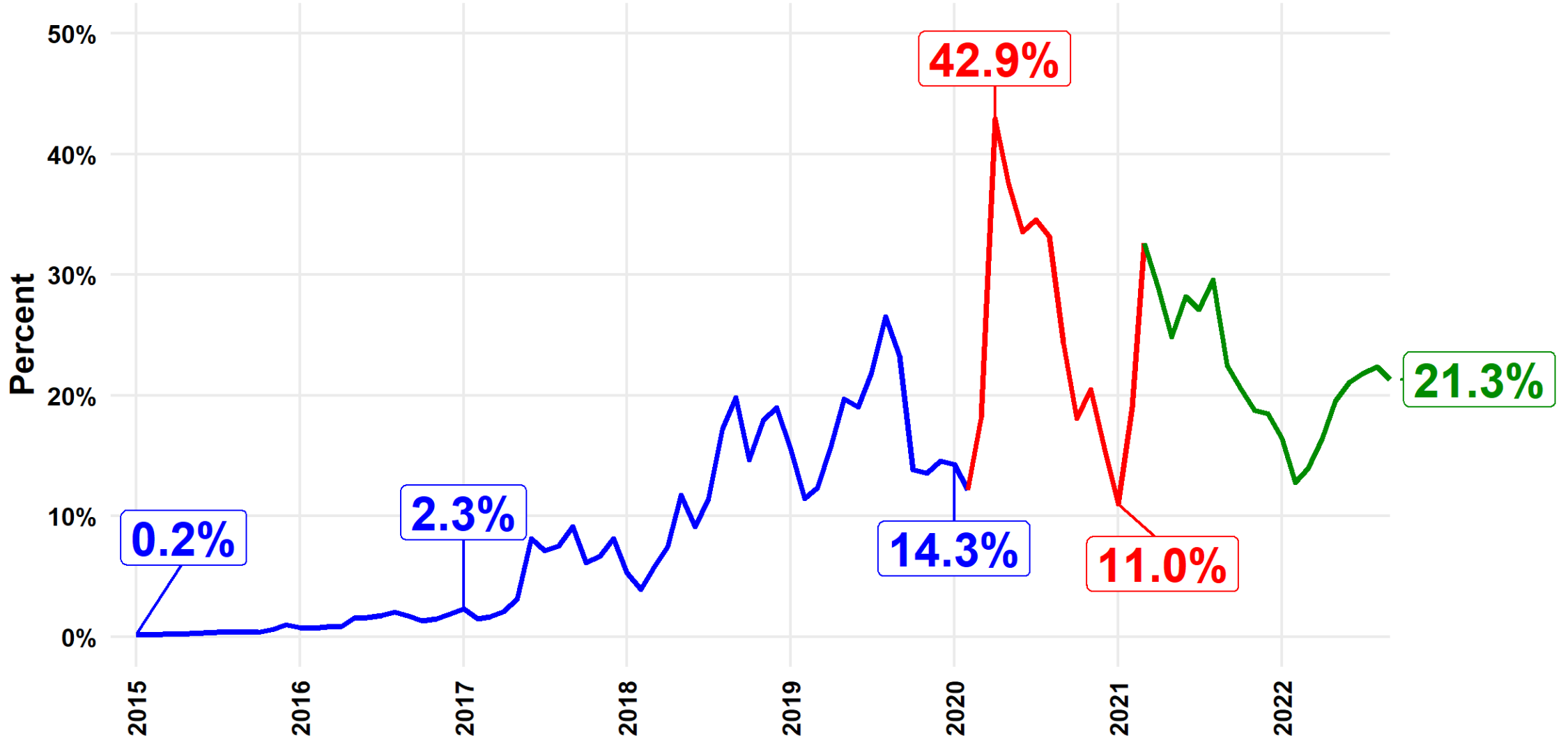


Sources: STR Trend Reports (January 2018, 2022) and STR Monthly Report (January 2023).  
Bureau of Labor Statistics (base year is chained; 1982-84=100), and the Dragas Center for Economic Analysis and Policy.

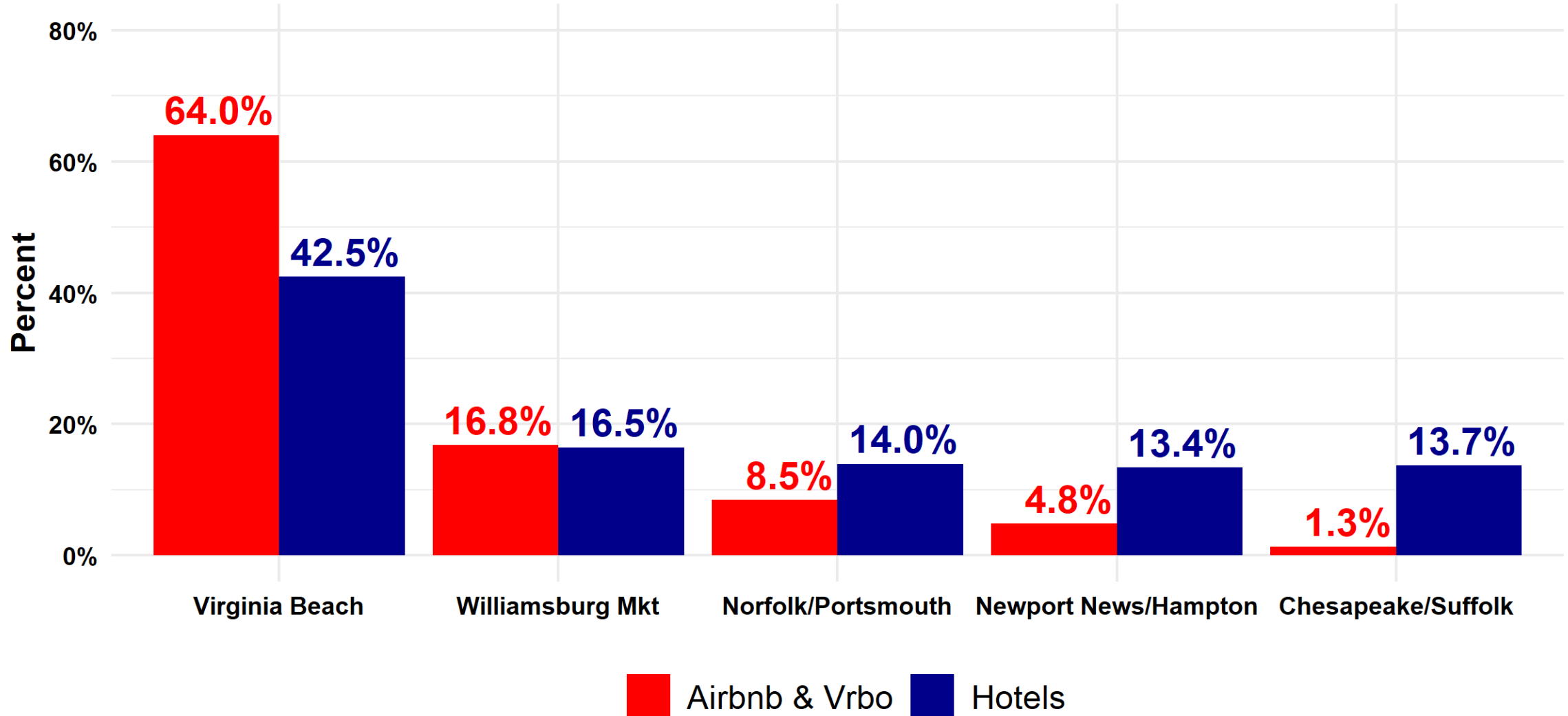
**Percent Change in Revenue, RevPAR, and Rooms Sold  
United States, Virginia, Northern Virginia, and Hampton Roads  
2019 - 2022**

	<u>Hotel Revenue</u>	<u>RevPAR</u>	<u>Hotel Rooms Sold</u>
<b>USA</b>	<b>11.0%</b>	<b>8.1%</b>	<b>-2.3%</b>
<b>Virginia</b>	<b>4.2%</b>	<b>3.4%</b>	<b>-3.2%</b>
<b>Northern Virginia</b>	<b>-17.0%</b>	<b>-10.7%</b>	<b>-15.6%</b>
<b>Hampton Roads</b>	<b>20.8%</b>	<b>17.7%</b>	<b>1.4%</b>
<b>Chesapeake/Suffolk</b>	<b>23.8%</b>	<b>23.8%</b>	<b>5.0%</b>
<b>Newport News/Hampton</b>	<b>15.7%</b>	<b>17.0%</b>	<b>-1.9%</b>
<b>Norfolk/Portsmouth</b>	<b>19.8%</b>	<b>12.9%</b>	<b>6.3%</b>
<b>Virginia Beach</b>	<b>24.7%</b>	<b>15.8%</b>	<b>0.9%</b>
<b>Williamsburg*</b>	<b>15.5%</b>	<b>17.8%</b>	<b>-1.8%</b>

# Airbnb & Vrbo Revenue as a Percent of Hotel Revenue Hampton Roads, January 2015 - September 2022

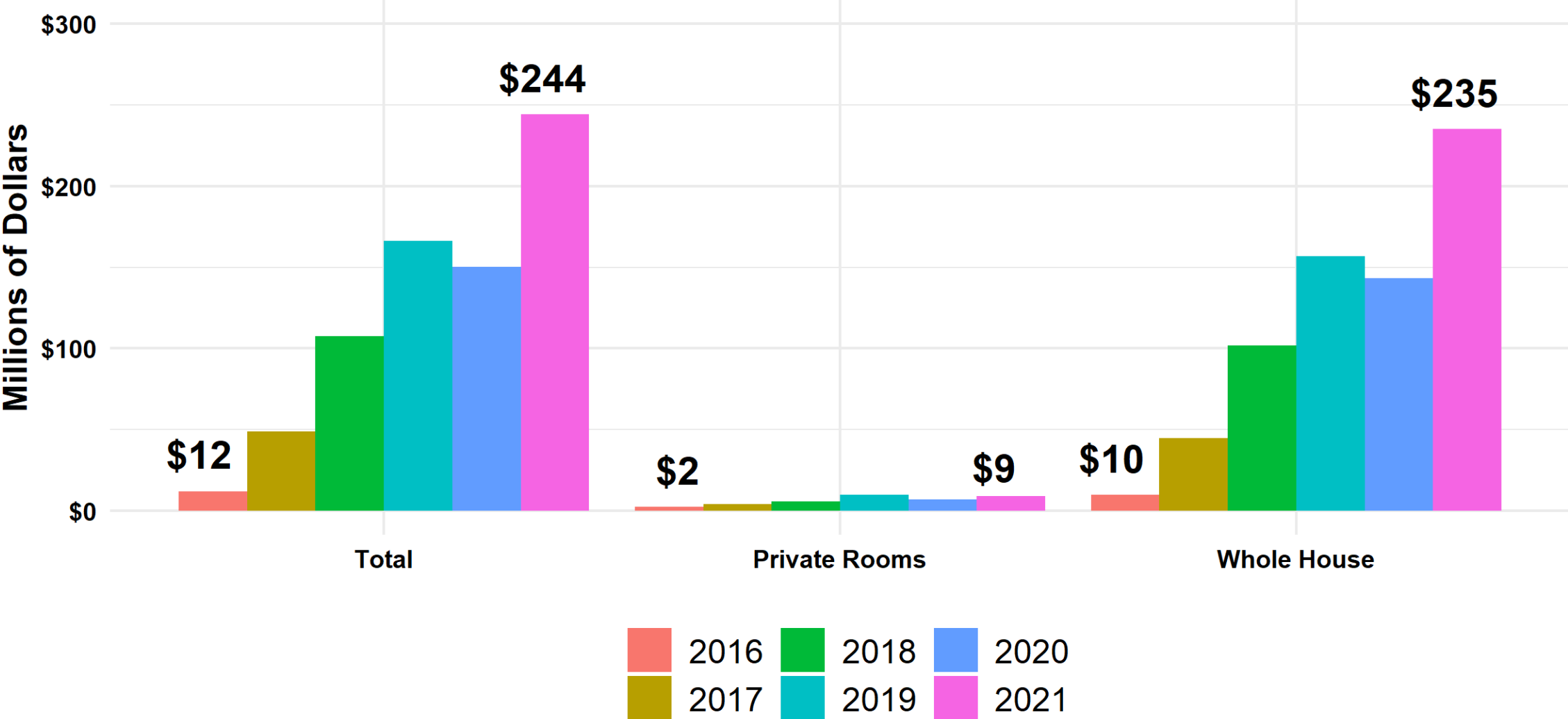


# Shares of Hotel and Airbnb & Vrbo Revenue Hampton Roads Sub-Markets, 2021



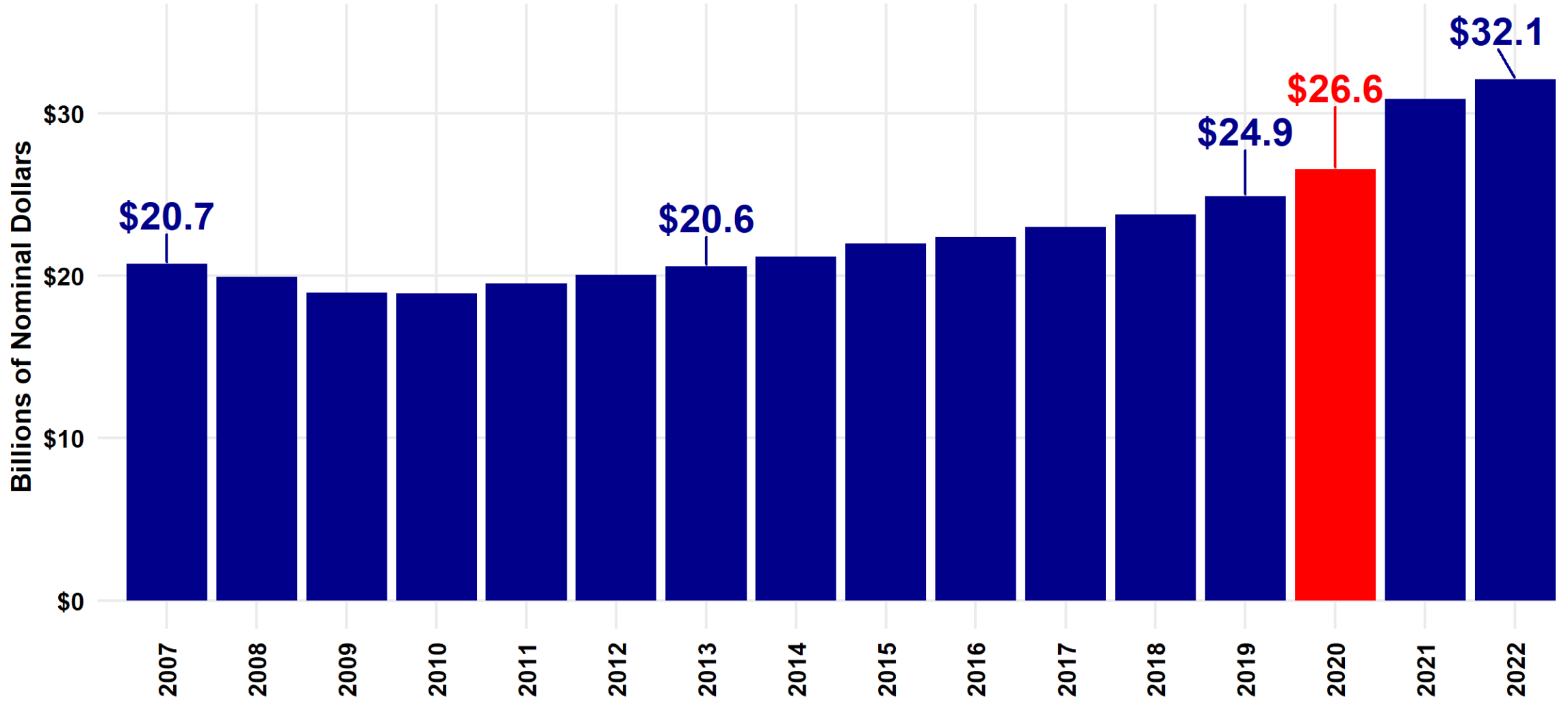
Sources: STR Trend Report January 2022, AirDNA October 2022, and the Dragas Center for Economic Analysis and Policy.

# Annual Revenue of Airbnb & Vrbo Private Rooms and Whole House Rentals Hampton Roads, 2016 - 2021



Source: AirDNA data received in October 2022; excludes shared rooms.

# Taxable Sales Hampton Roads, 2007 - 2022



Sources: Virginia Department of Taxation and the Dragas Center for Economic Analysis and Policy.



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# Housing Values and Rents Continue to Rise



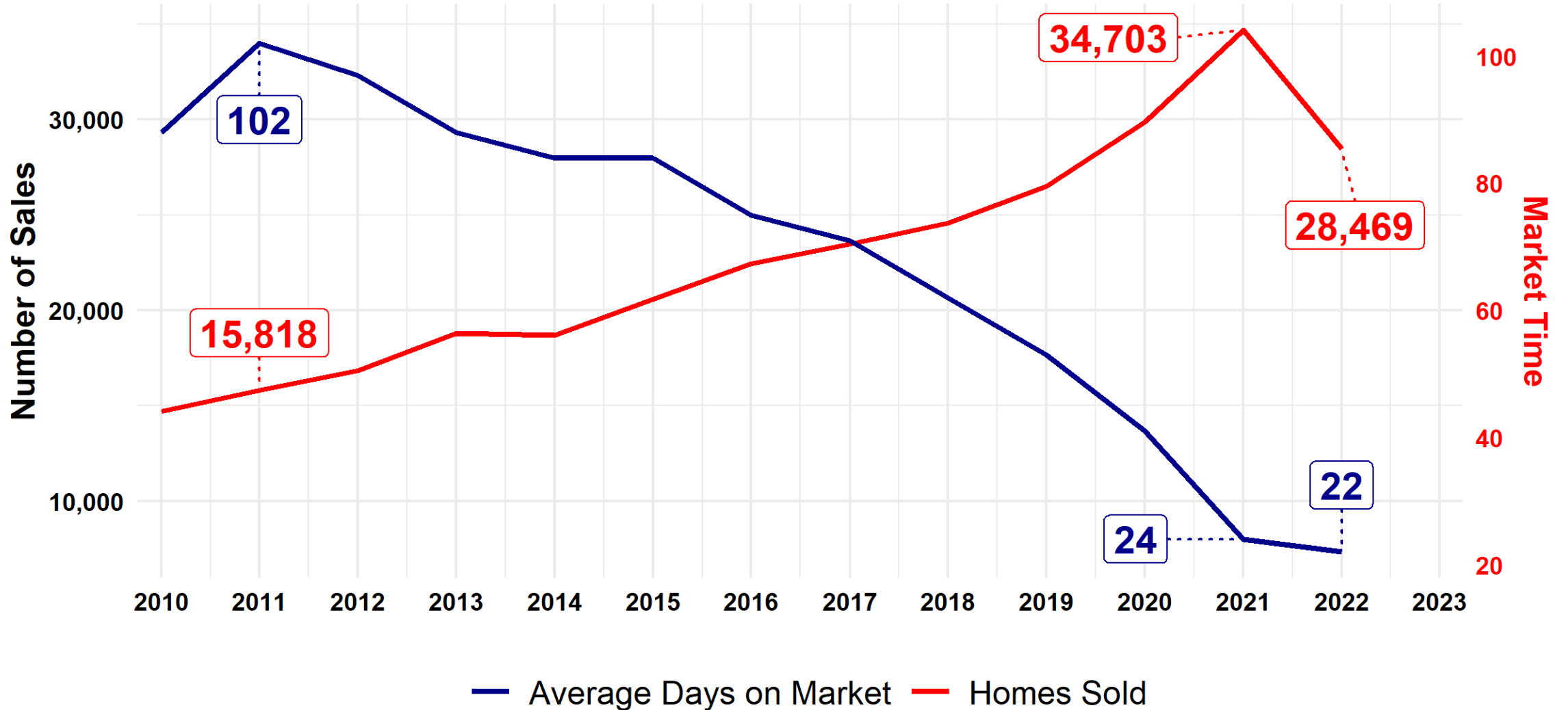


# Percent Change in Median Sale Price of Existing Residential Homes Selected Cities in Hampton Roads, 2020, 2021, and 2022

<u>City</u>	<u>2019 to 2020</u>	<u>2020 to 2021</u>	<u>2021 to 2022</u>
<b>Chesapeake</b>	<b>6.4%</b>	<b>11.7%</b>	<b>7.9%</b>
<b>Norfolk</b>	<b>11.4%</b>	<b>12.7%</b>	<b>6.6%</b>
<b>Portsmouth</b>	<b>13.0%</b>	<b>15.2%</b>	<b>9.5%</b>
<b>Suffolk</b>	<b>10.1%</b>	<b>13.6%</b>	<b>9.9%</b>
<b>Virginia Beach</b>	<b>9.8%</b>	<b>8.8%</b>	<b>8.1%</b>
<b>Hampton</b>	<b>8.8%</b>	<b>16.6%</b>	<b>6.7%</b>
<b>Newport News</b>	<b>8.4%</b>	<b>10.0%</b>	<b>8.7%</b>
<b>Williamsburg*</b>	<b>9.5%</b>	<b>8.4%</b>	<b>10.3%</b>
<b>Hampton Roads</b>	<b>9.0%</b>	<b>9.4%</b>	<b>7.5%</b>

\* Represents Poquoson, Williamsburg, James City County, York County and Gloucester County.  
Sources: Real Estate Information Network and the Dragas Center for Economic Analysis and Policy.

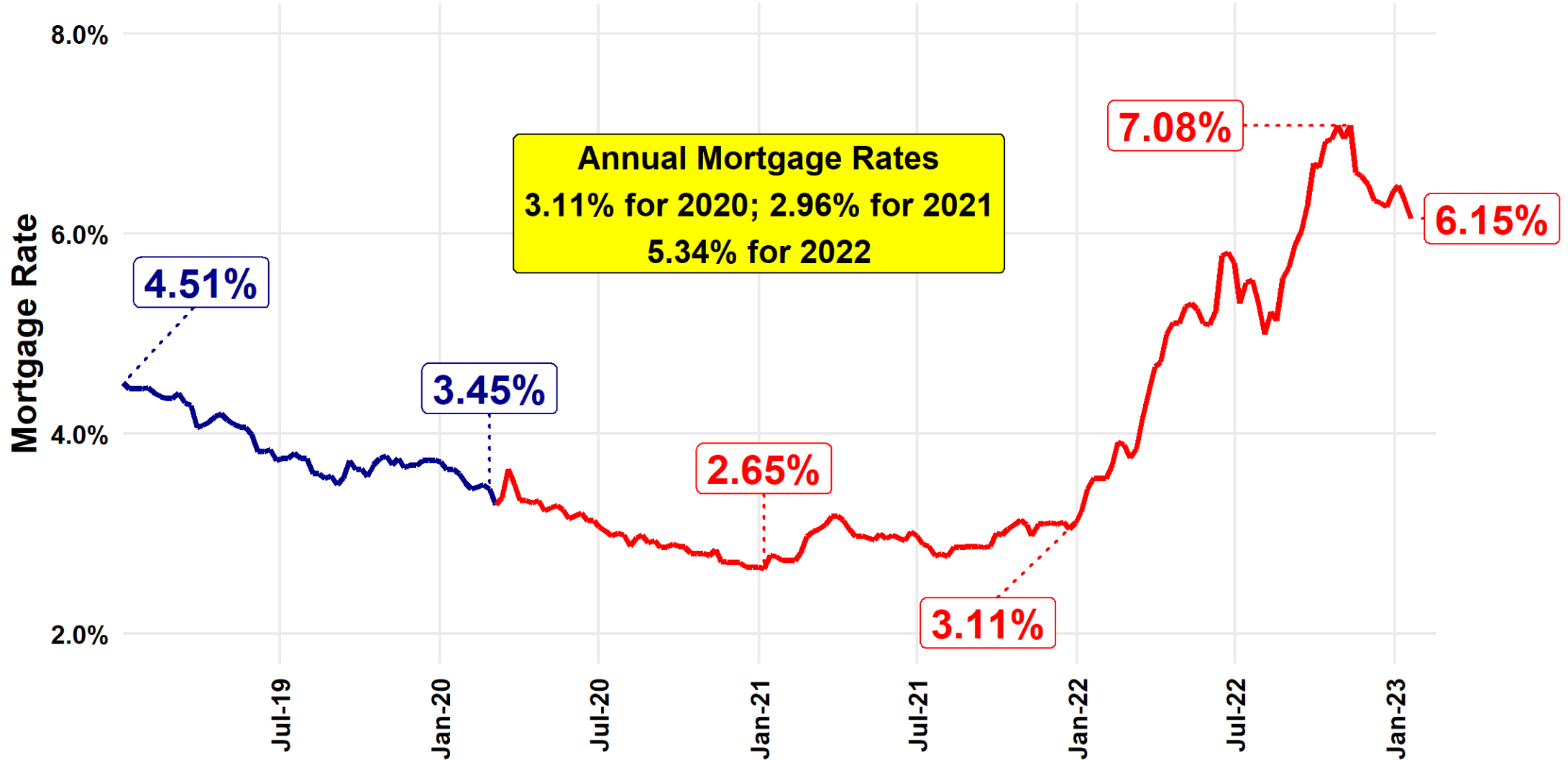
# Existing Residential Homes Sold and Average Days on the Market Hampton Roads, 2010 - 2022



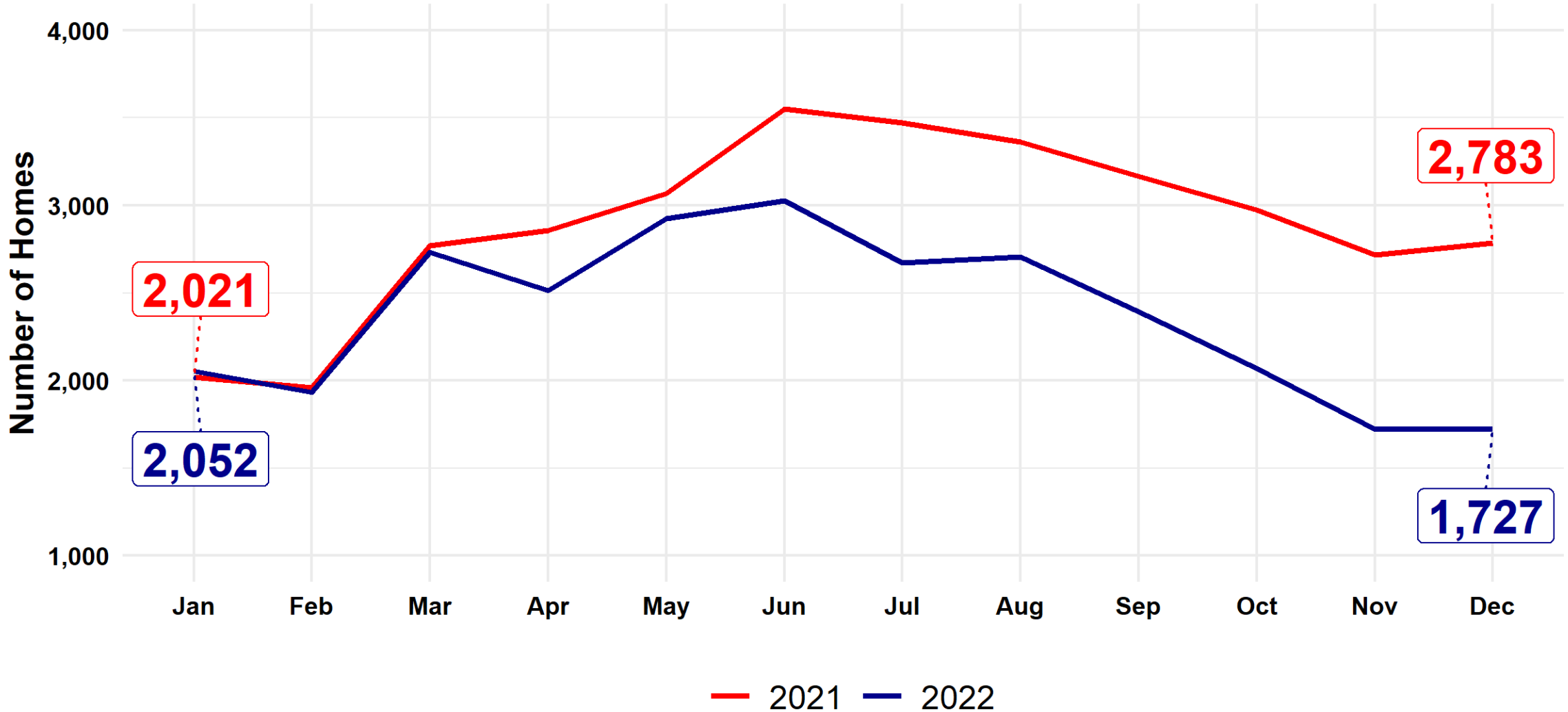
Sources: Real Estate Information Network Inc. and the Dragas Center for Economic Analysis and Policy.

# Weekly 30-Year Fixed Mortgage Rate

## United States, January 3, 2019 - January 19, 2023

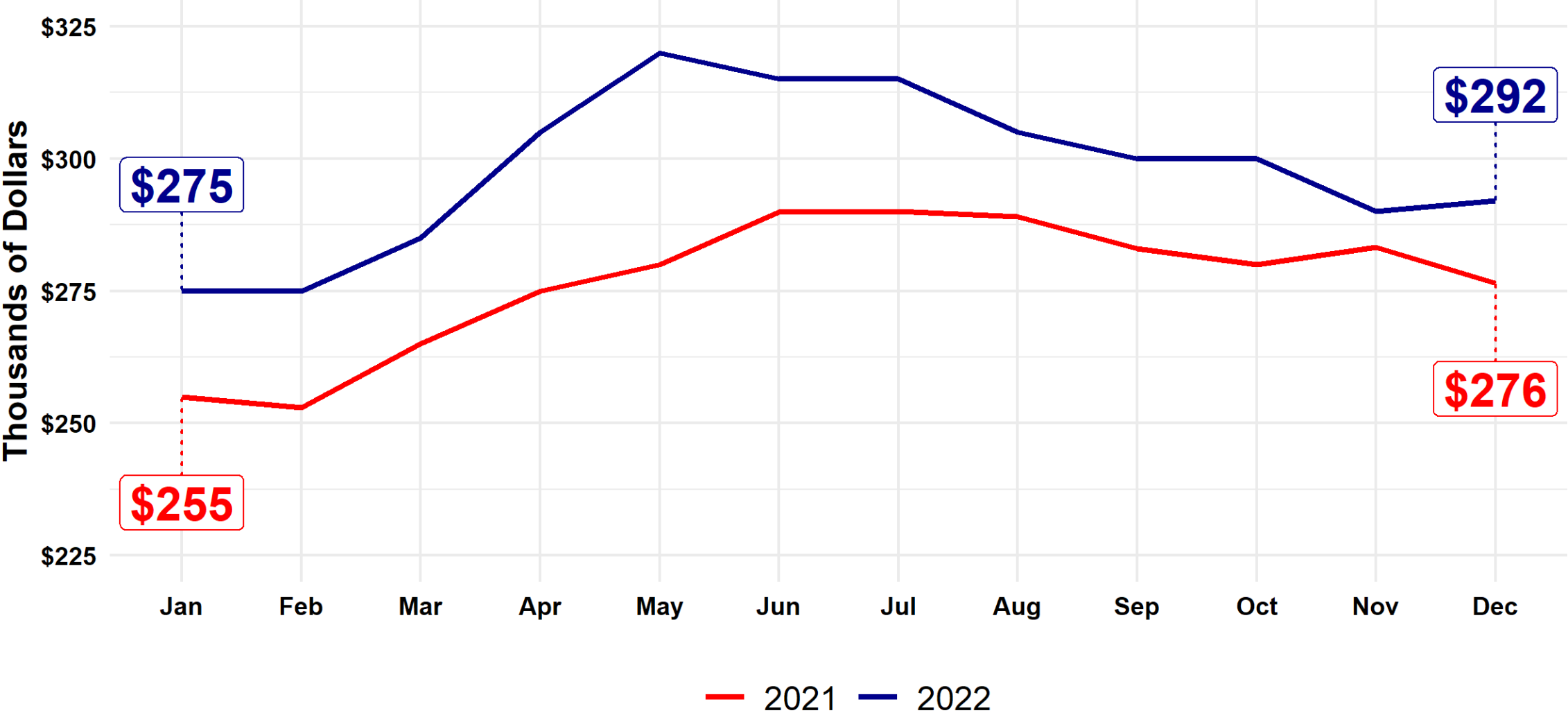


# Sales of Existing Single-Family Homes Hampton Roads, January 2021 - December 2022



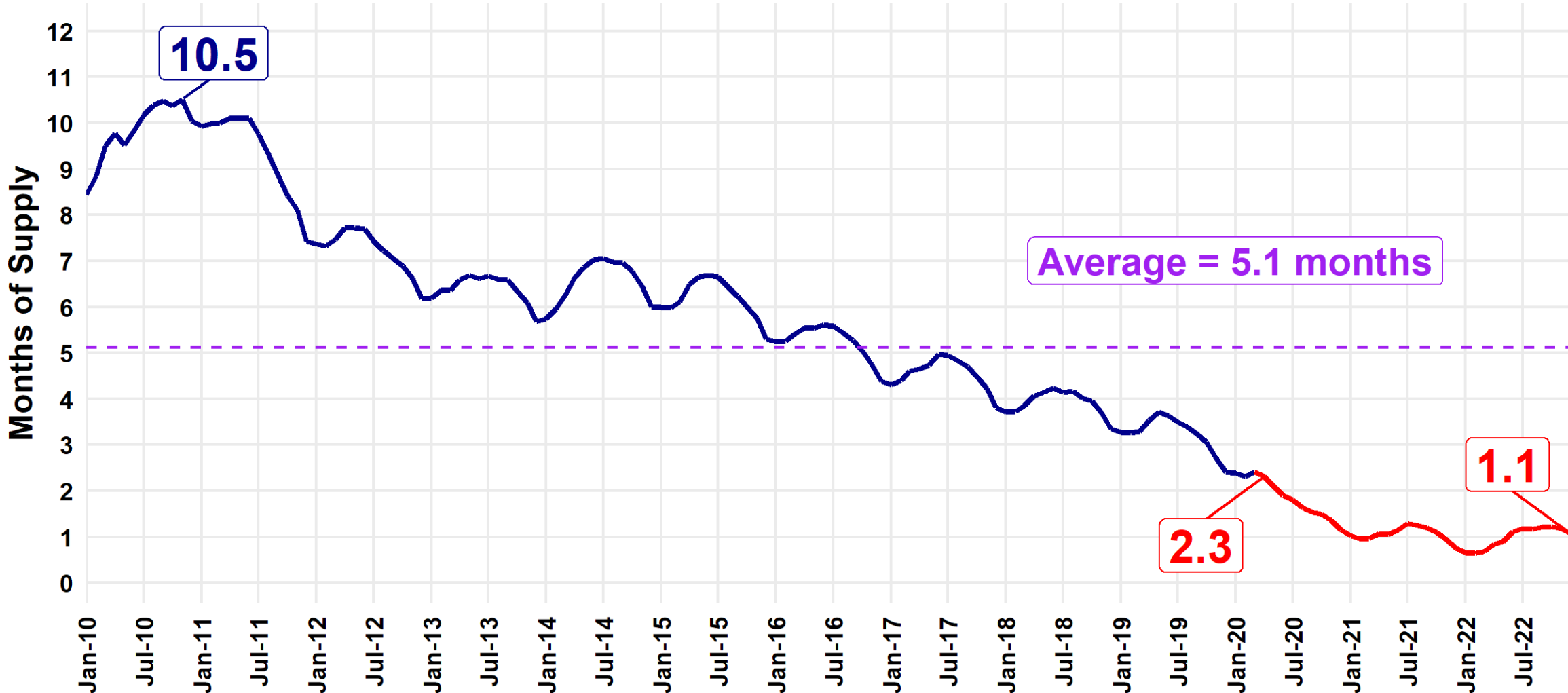
Sources: Real Estate Information Network Inc. and Dragas Center for Economic Analysis and Policy.

# Median Price of Existing Residential Homes Hampton Roads, 2021 - 2022



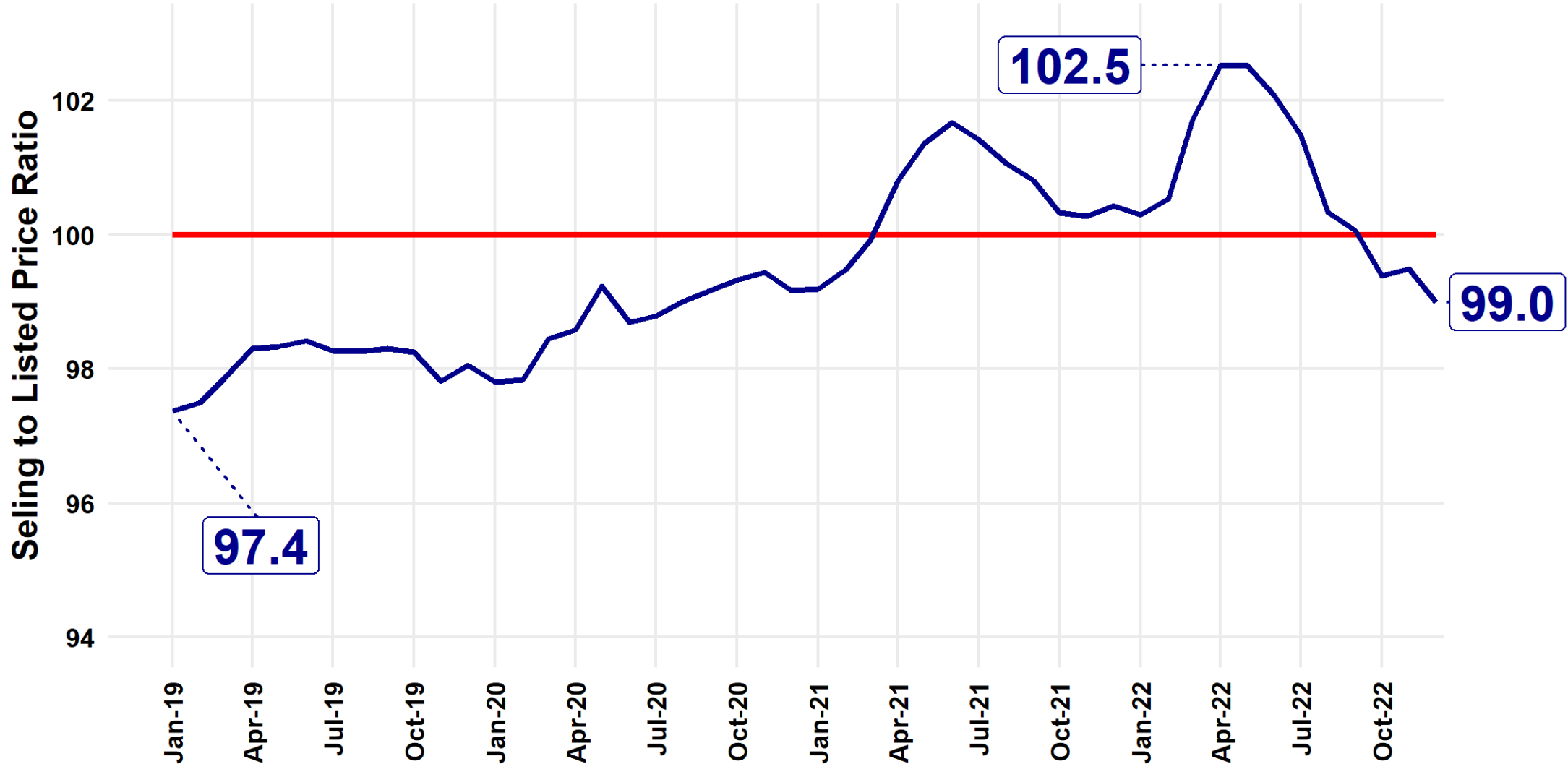
Sources: Real Estate Information Network Inc. and Dragas Center for Economic Analysis and Policy.

# Estimated Months of Supply of Existing Homes Hampton Roads, January 2010 - December 2022

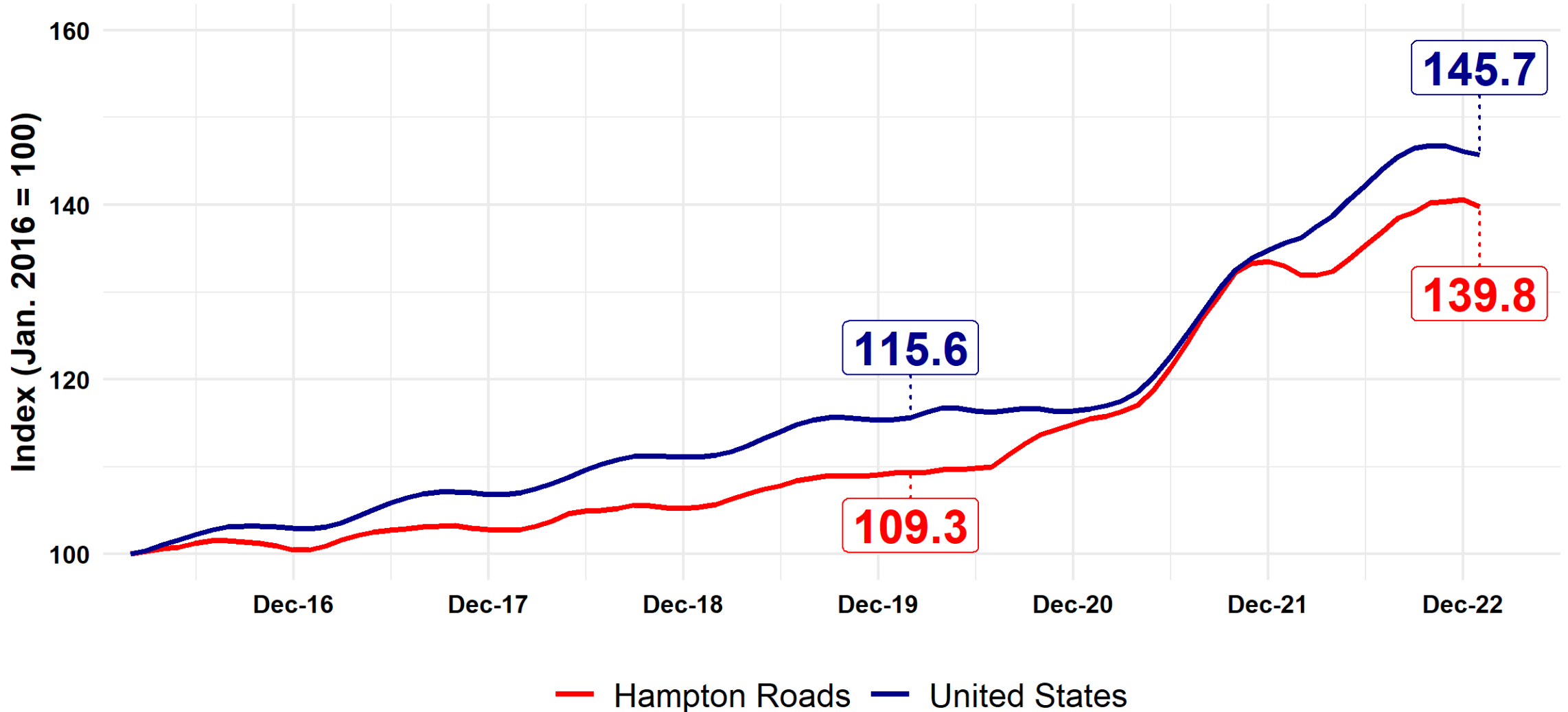


Sources: Real Estate Information Network Inc. and the Dragas Center for Economic Analysis and Policy.  
Months of supply are based on average sales in the last 12 months.

# Ratio of Selling Price to Listed Price of Existing Homes Hampton Roads, January 2019 - December 2022



# Zillow Observed Rent Index (ZORI) Hampton Roads and the United States, January 2016 - December 2022



Source: Zillow Research Data All Homes Plus Multifamily Time Series, smoothed seasonally adjusted data.



<b>Regional Forecast</b>				
	<b>2020 Actual</b>	<b>2021 Actual</b>	<b>2022 Estimated/Actual</b>	<b>2023 Forecast</b>
<b>Hampton Roads Real GDP</b>	<b>-2.5%</b>	<b>6.3%</b>	<b>2.4%</b>	<b>1.7%</b>
<b>Civilian Job Growth</b>	<b>-5.3%</b>	<b>1.7%</b>	<b>2.0%</b>	<b>1.2%</b>
<b>Unemployment Rate</b>	<b>7.1%</b>	<b>4.5%</b>	<b>3.3%</b>	<b>3.3%</b>
<b>Taxable Sales</b>	<b>6.7%</b>	<b>16.2%</b>	<b>4.0%</b>	<b>3.8%</b>
<b>Hotel Revenue</b>	<b>-35.2%</b>	<b>68.8%</b>	<b>10.0%</b>	<b>6.5%</b>
<b>General Cargo Tonnage</b>	<b>-3.9%</b>	<b>20.3%</b>	<b>3.1%</b>	<b>3.6%</b>
<b>General Cargo TEUs</b>	<b>-4.2%</b>	<b>25.2%</b>	<b>5.1%</b>	<b>5.4%</b>
<b>One-Unit Housing Permit Value</b>	<b>10.9%</b>	<b>6.7%</b>	<b>-13.0%</b>	<b>2.4%</b>

# 2023: Hampton Roads May Outperform the Nation

- Defense spending will continue to provide a boost for the Hampton Roads economy.
- Hampton Roads is likely to grow faster than the United States.
- Port of Virginia is expected to hit new cargo records in 2023.
- While mortgage rates will be higher for most of 2023, median home values will not decline significantly.
- Going forward, political uncertainty in Washington, D.C. will continue to be a major concern for the health of the regional economy.

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