2020 Mid-Year Economic Forecast

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Dragas Center for Economic Analysis and Policy
Strome College of Business
Old Dominion University

August 12, 2020
Agenda for Today

I will cover COVID-19’s impact and the prospects for a recovery 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
Our forecasts and commentary do not constitute official viewpoints of Old Dominion University, its President, John R. Broderick, the Board of Visitors, the Strome College of Business, or the generous donors who support the activities of the Dragas Center for Economic Analysis and Policy.
COVID-19
7-Day Moving Average of Daily COVID-19 Infections
United States, January 28, 2020 – August 11, 2020

7-Day Moving Average of COVID-19 Deaths
United States, January 28, 2020 – August 11, 2020

Sources: New York Times and Dragas Center for Economic Analysis and Policy. The increase in late June/early July is due to New Jersey reporting probable deaths.
7-Day Moving Average of Cases Per 1 Million Residents

<table>
<thead>
<tr>
<th>State</th>
<th>1-May</th>
<th>1-Jun</th>
<th>1-Jul</th>
<th>11-Aug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>27.9</td>
<td>65.4</td>
<td>315.6</td>
<td>302.4</td>
</tr>
<tr>
<td>Georgia</td>
<td>162.4</td>
<td>117.8</td>
<td>88.8</td>
<td>133.9</td>
</tr>
<tr>
<td>Maryland</td>
<td>39.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Carolina</td>
<td>125.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>117.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7-Day Moving Average of Daily COVID-19 Infections
Hampton Roads and Virginia, April 1 – August 11, 2020

Sources: Virginia Department of Health and Dragas Center for Economic Analysis and Policy.
7-Day Moving Average of PCR Test Positivity
Hampton Roads and Virginia, April 1 – August 11, 2020

Sources: Virginia Department of Health and Dragas Center for Economic Analysis and Policy.
Collapse, Reopening, Recovery?
Initial Claims for Unemployment Insurance
United States, January 4 – August 1, 2020

Initial State Claims
PUA Claims

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Non-seasonally adjusted initial claims for regular state UI programs and PUA claims. UI claims for the week ending on the horizontal axis.
Continued Claims for Unemployment Insurance
United States, January 4 – July 18, 2020

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Non-seasonally adjusted initial claims for state UI, PUA, and PEUC continued claims which account for approximately 99% of all continuing unemployment claims. UI claims for the week ending on the horizontal axis.
Initial Claims for Regular State Unemployment Insurance
Virginia, January 4 – August 1, 2020

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Non-seasonally adjusted claims. UI claims for the week ending on the horizontal axis.
Continued Claims for Regular State Unemployment Insurance
Virginia, January 4 – July 25, 2020

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Non-seasonally adjusted claims. UI claims for the week ending on the horizontal axis.
Civilian Labor Force and Individual Employment
United States, January 2019 – July 2020

Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data.
Civilian Labor Force and Individual Employment
Virginia, January 2019 – June 2020

Sources: Bureau of Labor Statistics and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data.
Cumulative Growth in Nonfarm Payrolls
United States, March 2010 – July 2020

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data. Trough of US nonfarm payrolls was February 2010.
Cumulative Growth in Nonfarm Payrolls
Virginia, March 2010 – June 2020

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data. Trough of Virginia nonfarm payrolls was February 2010.
Measures of Unemployment
United States, February 2020 – July 2020

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data. U-3 is total unemployed as a percent of the civilian labor force. U-6 is total unemployed, plus all persons marginally attached to the labor force, plus total employed part time for economic reasons, as a percent of the civilian labor force plus all persons marginally attached to the labor force.
Unemployment Rate by Race
United States, February 2020 – July 2020

Sources: Department of Labor and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data.
University of Michigan, Consumer Sentiment
January 2010 – July 2020

Index (1966 = 100)

Advance Retail Sales for Retail and Food Services
United States, January 2018 – June 2020

Millions of Dollars

Source: U.S. Census Bureau and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data.
Industrial Production Index
United States, January 2018 – June 2020

Source: Federal Reserve System and Dragas Center for Economic Analysis and Policy. Seasonally adjusted data.
Department of Defense Discretionary Budget Authority
Fiscal Year 2010 – Fiscal Year 2025

Billions of Nominal Dollars

FY 10
FY 11
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
FY 22
FY 23
FY 24
FY 25

Cumulative U.S. Federal Government Deficit by Month
January 2016 – June 2020

Billions of Nominal Dollars

Growth in Real Gross Domestic Product
United States, 2018 Q1 - 2020 Q4*

Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporate latest BEA revisions in July 2020. 2020 Q3 and Q4 represent our forecasts.
Real Gross Domestic Product
United States, 2018 Q1 - 2020 Q4*

Sources: Bureau of Economic Analysis and Dragas Center for Economic Analysis and Policy. Data on GDP incorporate latest BEA revisions in July 2020. 2020 Q3 and Q4 represent our forecasts.
The Outlook
An Optimistic Scenario

- A national mask mandate and federal testing strategy are implemented.
- Emerging vaccines are successful in Phase III trials.
- Therapeutics and promising vaccines build consumer confidence.
- A sharp rebound in employment and production in 2021.
- The 2020 election has a clear winner and counting is not significantly delayed.
- Inflation remains moderate, allowing the Fed to unwind its liabilities.
- Moderate growth resumes with a new expansion underway.
A Pessimistic Scenario

- Infections continue to climb; hospital capacity reached in some states.
- Promising vaccines do not scale, a severe influenza season starts in the fall.
- Legislative delays create havoc as extended unemployment benefits and other stimulus programs expire.
- Evictions and foreclosures spike as consumer finances erode.
- The 2020 election has no clear winner and counting is delayed in many states.
- A long, grinding recession occurs and partisan divides explode.
A “Middle of the Road” Scenario

- Infections ebb and flow, mortality falls as treatments improve.
- Vaccine trials are promising, approvals and supply chains limit impact in 2020.
- Masking becomes the norm in many states and limits influenza’s impact.
- Anti-vaccine resistance threatens a sustained recovery in 2021.
- Double-digit unemployment (U6) through 2021.
- Recovery not complete until 2022 (or later).
<table>
<thead>
<tr>
<th>Category</th>
<th>2018 Actual</th>
<th>2019 Actual</th>
<th>2020 Forecast (Jan)</th>
<th>2020 Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Real Gross Domestic Product</td>
<td>3.0%</td>
<td>2.2%</td>
<td>2.2%</td>
<td>-5.5%</td>
</tr>
<tr>
<td>Civilian Job Growth</td>
<td>1.6%</td>
<td>1.4%</td>
<td>1.2%</td>
<td>-4.0%</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>3.9%</td>
<td>3.5%</td>
<td>3.7%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>2.4%</td>
<td>2.3%</td>
<td>2.4%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Core Consumer Price Index</td>
<td>2.1%</td>
<td>2.3%</td>
<td>2.5%</td>
<td>1.4%</td>
</tr>
<tr>
<td>3-month Treasury Bill</td>
<td>2.4%</td>
<td>1.6%</td>
<td>1.8%</td>
<td>0.4%</td>
</tr>
<tr>
<td>10-year Treasury Bill</td>
<td>2.9%</td>
<td>1.9%</td>
<td>2.1%</td>
<td>0.8%</td>
</tr>
<tr>
<td>30-year Treasury Bill</td>
<td>3.1%</td>
<td>2.3%</td>
<td>2.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>30-year Conventional Mortgage</td>
<td>4.5%</td>
<td>3.8%</td>
<td>4.2%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Federal Deficit</td>
<td>-$779 Billion</td>
<td>-$984 Billion</td>
<td>-$1.1 Trillion</td>
<td>-4.0 Trillion</td>
</tr>
<tr>
<td>Virginia Real GDP</td>
<td>2.8%</td>
<td>2.2%</td>
<td>2.0%</td>
<td>-4.0%</td>
</tr>
<tr>
<td>Virginia Employment Growth</td>
<td>1.1%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>-3.0%</td>
</tr>
<tr>
<td>U.S. COVID-19 Deaths</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>275,000</td>
</tr>
</tbody>
</table>

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.
COVID-19 and Uncertainties about the Regional Economy
Nominal and Real Gross Domestic Product (GDP): Hampton Roads, 2002 to 2019*

Defense Spending in Hampton Roads
Military and Federal Civilian Employment
Hampton Roads, 2001 to 2018

 Thousands of Employees

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

<table>
<thead>
<tr>
<th>Category</th>
<th>2017</th>
<th>2018</th>
<th>Change in Average Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military</td>
<td>$93,992</td>
<td>$96,985</td>
<td>3.18%</td>
</tr>
<tr>
<td>Federal Civilian Govt. Employees</td>
<td>$113,883</td>
<td>$116,544</td>
<td>2.34%</td>
</tr>
<tr>
<td>State and Local Govt. Employees</td>
<td>$64,279</td>
<td>$64,539</td>
<td>0.40%</td>
</tr>
<tr>
<td>Private Nonfarm</td>
<td>$42,001</td>
<td>$43,136</td>
<td>2.70%</td>
</tr>
</tbody>
</table>

COVID-19 and the Hampton Roads Economy

- Historical Perspective
- Impact of COVID-19 on Selected Sectors of the Regional Economy
Jobs and Employment: Steady Growth from 2010 through 2019 But Declining in 2020 Due to COVID-19
Average Civilian Nonfarm Employment (Jobs):
Hampton Roads, 2000 to 2019

Source: U.S. Department of Labor CES data and the Old Dominion University Economic Forecasting Project. Annual averages based on non-seasonally adjusted data.
Average Annual Civilian Labor Force and Individual Employment: Hampton Roads, 2000 to 2019

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.
Non-Farm Jobs in Hampton Roads: 2019 and 2020

<table>
<thead>
<tr>
<th>Month</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>781</td>
<td>783</td>
</tr>
<tr>
<td>February</td>
<td>785</td>
<td>786</td>
</tr>
<tr>
<td>March</td>
<td>791</td>
<td>790</td>
</tr>
<tr>
<td>April</td>
<td>795</td>
<td>711</td>
</tr>
<tr>
<td>May</td>
<td>797</td>
<td>729</td>
</tr>
<tr>
<td>June</td>
<td>806</td>
<td>745</td>
</tr>
</tbody>
</table>

Percent of Net New Civilian Jobs Lost
Selected Metropolitan Areas, Virginia, North Carolina, and USA
February 2020 to June 2020

Jacksonville, FL -6.6%
Hampton Roads -8.1%
North Carolina -8.2%
Virginia -8.5%
Northern Virginia -8.7%
Richmond -9.5%
Charlotte -9.6%
USA -9.6%
Durham-Chapel Hill -10.0%
Raleigh -11.3%

Source: U.S. Department of Labor CES seasonally adjusted data and the Old Dominion University Economic Forecasting Project. Data for June 2020 are preliminary.
Civilian Labor Force and Individual Employment
Hampton Roads, January 2019 to June 2020

Headline Unemployment Rate in Hampton Roads: 2019 and 2020

Sources: Bureau of Labor Statistics and Old Dominion University Economic Forecasting Project. Not-seasonally adjusted data. Data for June 2020 are preliminary. Next update September 2, 2020
Continued Claims for Regular State Unemployment Insurance
Week Ending March 14, 2020 to August 1, 2020
Hampton Roads

- Good news, if any: Increase in defense spending in 2020 will provide a cushion for the regional economy.

- COVID-19 has had a significant negative impact on the regional labor market.

- Every time we have a crisis, it also provides new opportunities and challenges: **Improving collaborative efforts among cities to retain/attract businesses.**
The Port of Virginia: Declining Cargo Primarily Due to COVID-19 in 2020
Total Loaded Twenty Foot Equivalent Container Units (TEUs): Port of Virginia, 2019 and 2020

Sources: Virginia Port Authority and Old Dominion University Economic Forecasting Project.
Shares of Total Loaded TEUs for Selected East Coast Ports, 2010 to 2020*

<table>
<thead>
<tr>
<th>Year</th>
<th>Savannah</th>
<th>Virginia</th>
<th>Charleston</th>
<th>New York/NJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>42.6%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>22.9%</td>
</tr>
<tr>
<td>2011</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.1%</td>
</tr>
<tr>
<td>2012</td>
<td>36.7%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2013</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2014</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2015</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2016</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2017</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2018</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2019</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2020*</td>
<td>37.0%</td>
<td>16.5%</td>
<td>11.5%</td>
<td>26.6%</td>
</tr>
</tbody>
</table>

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. * Data for 2020 are through May 2020
Hotel Industry and COVID-19
Nominal and Real (Inflation-Adjusted) Hotel Revenue
Hampton Roads, 2001 to 2019

Revenue
Real Revenue

$708 $659 $711 $839 $898
$342 $283 $342 $351

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.
Hotel Revenue in Hampton Roads: 2019 and 2020

Millions of Nominal Dollars

<table>
<thead>
<tr>
<th>Month</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>$38</td>
<td>$41</td>
</tr>
<tr>
<td>February</td>
<td>$41</td>
<td>$46</td>
</tr>
<tr>
<td>March</td>
<td>$62</td>
<td>$35</td>
</tr>
<tr>
<td>April</td>
<td>$78</td>
<td>$18</td>
</tr>
<tr>
<td>May</td>
<td>$86</td>
<td>$30</td>
</tr>
<tr>
<td>June</td>
<td>$108</td>
<td>$58</td>
</tr>
<tr>
<td>July</td>
<td>$123</td>
<td>$84</td>
</tr>
</tbody>
</table>

Sources: STR Trend Reports and Old Dominion University Economic Forecasting Project. Data for July 2020 represent our estimate.
Year over Year Percent Decline in Weekly Hotel Revenue and Rooms Sold from March to July 2020: Hampton Roads

Sources: STR Weekly Trend Reports and the Old Dominion University Economic Forecasting Project. Date reflects week ending.
Taxable Sales: Steady Growth from 2010 through 2019 and the Effects of COVID-19
Taxable Sales in Hampton Roads: 2000 to 2019

Source: Virginia Department of Taxation and the Old Dominion University Economic Forecasting Project.
Taxable Sales in Hampton Roads: 2019 and 2020

Billions of Nominal Dollars

January: $1.66 (2019), $1.87 (2020)
February: $1.67 (2019), $1.76 (2020)
March: $2.07 (2019), $2.08 (2020)
April: $2.03 (2019), $1.89 (2020)
June: $2.09 (2019), $2.38 (2020)

Sources: Virginia Department of Taxation and Old Dominion University Economic Forecasting Project.
Residential Housing and COVID-19
Median Sales Price of Existing Homes: Hampton Roads, 2002 to 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.
Market Performance of Existing Homes Since 2011

- Inventories, days on market, and estimated months of supply have declined since 2011.

- Number of existing homes sold has steadily increased over time.

- Mortgage rates in 2020 are likely to be at their lowest levels since 1971.

- Distressed Sales Market appears to be clearing.

- All indicators point to moderate increases in median price of existing homes despite COVID-19.
Value of 1-Unit Building Permits in Hampton Roads:
2019 and 2020

Source: U.S. Bureau of the Census and the Old Dominion University Economic Forecasting Project.
Median Price of Existing Homes Sold in Hampton Roads: 2019 and 2020

Source: Real Estate Information Network and Dragas Center Economic Forecasting Project. Information deemed reliable but not guaranteed.
## Median Sales Price of Existing Residential Homes for Selected Cities
### Hampton Roads, YTD June 2019 and YTD June 2020

<table>
<thead>
<tr>
<th>City</th>
<th>2019</th>
<th>2020</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chesapeake</td>
<td>$264,900</td>
<td>$270,000</td>
<td>1.93%</td>
</tr>
<tr>
<td>Hampton</td>
<td>$172,250</td>
<td>$185,000</td>
<td>7.40%</td>
</tr>
<tr>
<td>Newport News</td>
<td>$180,000</td>
<td>$195,000</td>
<td>8.33%</td>
</tr>
<tr>
<td>Norfolk</td>
<td>$204,900</td>
<td>$217,750</td>
<td>6.27%</td>
</tr>
<tr>
<td>Portsmouth</td>
<td>$164,900</td>
<td>$169,825</td>
<td>2.99%</td>
</tr>
<tr>
<td>Suffolk</td>
<td>$247,500</td>
<td>$268,000</td>
<td>8.28%</td>
</tr>
<tr>
<td>Virginia Beach</td>
<td>$259,900</td>
<td>$272,950</td>
<td>5.02%</td>
</tr>
<tr>
<td>Williamsburg*</td>
<td>$292,700</td>
<td>$305,000</td>
<td>4.20%</td>
</tr>
<tr>
<td>Hampton Roads</td>
<td>$229,000</td>
<td>$240,000</td>
<td>4.80%</td>
</tr>
</tbody>
</table>

Source: Real Estate Information Network and Dragas Center Economic Forecasting Project. Information deemed reliable but not guaranteed.
* Williamsburg represents Poquoson, Williamsburg, James City County, York County and Gloucester County.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampton Roads Real Gross Domestic Product</td>
<td>2.4%</td>
<td>--</td>
<td>2.6%</td>
<td>-3.0% to -6.5%</td>
</tr>
<tr>
<td>Civilian Job Growth</td>
<td>0.8%</td>
<td>0.4%</td>
<td>0.7%</td>
<td>-3.5% to -6.5%</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>3.1%</td>
<td>3.1%</td>
<td>3.0%</td>
<td>6.8% to 8.5%</td>
</tr>
<tr>
<td>Taxable Sales</td>
<td>3.3%</td>
<td>4.9%</td>
<td>4.2%</td>
<td>+0.8% to -1.4%</td>
</tr>
<tr>
<td>Hotel Revenue</td>
<td>3.8%</td>
<td>2.4%</td>
<td>2.7%</td>
<td>-36.2% to -45.3%</td>
</tr>
<tr>
<td>General Cargo Tonnage</td>
<td>2.0%</td>
<td>-0.2%</td>
<td>1.0%</td>
<td>-7.2% to -11.5%</td>
</tr>
<tr>
<td>General Cargo TEUs</td>
<td>3.6%</td>
<td>2.9%</td>
<td>3.9%</td>
<td>-8.5% to -13.8%</td>
</tr>
<tr>
<td>One Unit Housing Permit Value</td>
<td>2.0%</td>
<td>3.5%</td>
<td>2.0%</td>
<td>2.5% to 6.6%</td>
</tr>
</tbody>
</table>

Source: 2019 data reflects the annual rate of growth. Dragas Center forecast current as of August 2020.
2020: COVID-19 and Uncertainties

- Regional GDP growth in 2020 is forecasted to be greater than the growth in national GDP.

- Defense spending will provide a cushion for the Hampton Roads economy.

- Single-family home prices in 2020 are likely to increase at a moderate pace. The distressed housing market segment appears to be clearing.
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