Length and Average GDP Growth of the Five Longest Post-WWII Expansions

- **1961Q1-1969Q4**: 106 months, 4.9% growth
- **1982Q4-1990Q3**: 92 months, 4.2% growth
- **1991Q1-2001Q1**: 120 months, 3.5% growth
- **2001Q4-2007Q4**: 73 months, 2.7% growth
- **2009Q2-present**: 100 months, 2.1% growth

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Sources: BEA, National Bureau for Economic Research
Projected US Demographics By Age
Annual Percent Change, 2015-2060

© Towson University, Division of Innovation and Applied Research
Sources: US Census Bureau
## GOP Tax Framework

<table>
<thead>
<tr>
<th><strong>ELIMINATIONS</strong></th>
<th><strong>CHANGES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Personal Exemption</td>
<td>• Three tax brackets</td>
</tr>
<tr>
<td>• Estate Tax</td>
<td>• 12%, 25%, 35%</td>
</tr>
<tr>
<td>• Generation-Skipping Transfer Tax</td>
<td>• Increases Child Tax Credit</td>
</tr>
<tr>
<td>• Alternative Minimum Tax</td>
<td>• Doubles the standard deduction</td>
</tr>
<tr>
<td>• Most itemized deductions</td>
<td>• 25% maximum tax rate on family-owned businesses</td>
</tr>
</tbody>
</table>

- 12%, 25%, 35%
- Doubles the standard deduction
- 25% maximum tax rate on family-owned businesses
- 20% corporate tax rate
- Repatriation of overseas assets

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Source: GOP Tax Framework Plan, Business Insider
Who Will Head the Fed?
The New Brexit: Catalan Secession
Catalonia as a Proportion of Spain, 2015

© Towson University, Division of Innovation and Applied Research
Sources: Catalonia Government, Google, Wikimedia
Top 10 Oil Producing Countries
Barrels Per Day

1. Russia
2. Saudi Arabia
3. United States
4. Iraq
5. China
6. Canada
7. Iran
8. UAE
9. Kuwait
10. Brazil

Source: CIA World Factbook
CONSUMPTION
U.S. Personal Consumption Expenditures
2006Q1-2017Q2, Billions of Chained 2009 Dollars

Personal consumption expenditures
Percent change from preceding period

Source: BEA
U.S. Unemployment and Underemployment
Jan. 2006-Sep. 2017

© Towson University, Division of Innovation and Applied Research
Source: U.S. Bureau of Labor Statistics
Percentage of Homes in Negative Equity
2011Q1-2017Q1

2017 Q1:
- MD: 14.6 percent
- USA: 10.4 percent
Current (Sep 2017) crude oil price: $49.88/barrel

Maximum gas prices (June 2008): $4.05/gal

Current gas prices (Sept 2017): $2.38/gal

Source: AAA, Energy Information Administration, RESI © Towson University, Division of Innovation and Applied Research
Labor Force Participation Rate of Prime-Age Males/Females vs. the U.S. Population

Jan. 1948 - Sep. 2017

- **1948:** Labor Force Participation Rate
  - Total U.S.: 96.6%
  - Males: 34.9%
  - Females: 61.7%

- **August 2017:**
  - Total U.S.: 88.4%
  - Males: 75.2%
  - Females: 66.2%

© Towson University, Division of Innovation and Applied Research
Source: BLS
**U.S. Labor Force Participation Rate**

1997-2017 Annual Averages

**Actual Rate**

- 1997: 67.0%
- 2017: 63.0%

**Pre-recession Rate**

- 2007: 66.0%
- 2017: 64.0%

**Missing workers, 2017: 5.9 million**

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Source: BLS
Internet Access in the U.S.
2000-2016, Percent of Homes with Community Type

© Division of Innovation and Applied Research, Towson University
Source: Pew Research
2017: Retail Apocalypse

Source: Company Websites
All Retail Sales vs Electronic and Mail-Order Sales
Percent Change from Previous Year, 1993-2017

© Towson University, Division of Innovation and Applied Research
Source: US Census Bureau
US vs MD Retail Establishments
Percent Change from Previous Year

© Towson University, Division of Innovation and Applied Research
Source: BLS
INVESTMENT
U.S. Gross Private Domestic Investment
2006Q1-2017Q2, Billions of Chained 2009 Dollars

Percent Change from Preceding Period

Gross private domestic investment

Source: BEA © Towson University, Division of Innovation and Applied Research

2017Q2: $2.9 trillion; 3.9 percent
Amazon Stock Adjusted Closing Prices vs. S&P 500
May 1997-September 2017, 2017 Dollars

Sources: BLS, Yahoo Finance

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Manufacturers' New Orders of Durable Goods, Seasonally Adjusted

Millions of Dollars, Jan. 2006- Aug. 2017

22.6% increase from June to July 2014 attributed to surge in civilian aircraft purchases

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Sources: FRED, The Wall Street Journal
U.S. Government Spending
2006Q1-2017Q2, Billions of Chained 2009 Dollars

Billions of Chained 2009 Dollars

2017Q2: $2.9 trillion, -0.6 percent

© Towson University, Division of Innovation and Applied Research
Source: BEA
Maryland Economic Outlook
Maryland Real Gross State Product
Millions of Chained 2009 Dollars, 2006Q1-2017Q1

- 2017Q1: $338 billion, 0.5 percent

© Towson University, Division of Innovation and Applied Research
Source: BEA
U.S. vs MD Unemployment
Jan. 2006-Aug. 2017

US Unemployment
MD Unemployment
Government Spending in Maryland: State Budget
Expenditures
FY2005-FY2018, Millions of 2017 Dollars

Revenues
Expenditures

© Towson University, Division of Innovation and Applied Research
Sources: MD Department of Budget and Management, BLS, RESI
### Current Maryland Employment by Sector

**In thousands, August 2017**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Thousands of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>511.7</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>388.1</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>297.2</td>
</tr>
<tr>
<td>Professional, Scientific, and Technical Services</td>
<td>260.4</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>227.6</td>
</tr>
<tr>
<td>Administrative and Support and Waste Management and Remediation...</td>
<td>181.6</td>
</tr>
<tr>
<td>Mining, Logging, and Construction</td>
<td>170.1</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>148.1</td>
</tr>
<tr>
<td>Other Services</td>
<td>116.6</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>101.1</td>
</tr>
<tr>
<td>Transportation and Utilities</td>
<td>91.9</td>
</tr>
<tr>
<td>Educational Services</td>
<td>86.3</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>84.1</td>
</tr>
<tr>
<td>Durable Goods</td>
<td>56.8</td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>47.7</td>
</tr>
<tr>
<td>Real Estate and Rental and Leasing</td>
<td>47.7</td>
</tr>
<tr>
<td>Non-Durable Goods</td>
<td>46.7</td>
</tr>
<tr>
<td>Management of Companies and Enterprises</td>
<td>26.2</td>
</tr>
</tbody>
</table>

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Source: BLS
Current Job Openings by Occupation Group
Maryland, September 2017

- Computer and Mathematical Occupations: 20,061
- Healthcare Practitioners and Technical Occupations: 18,467
- Management Occupations: 13,544
- Office and Administrative Support: 11,622
- Sales and Related Occupations: 9,578
- Architecture and Engineering: 7,690
- Business and Financial Operations: 7,060
- Food Preparation and Serving: 5,435
- Transportation and Material Moving: 5,265
- Installation, Maintenance, and Repair: 3,712
- Healthcare Support: 3,245
- Arts, Design, Entertainment, Sports, and Media: 2,972
- Education, Training, and Library: 2,874
- Production Occupations: 2,822
- Protective Service: 2,128
- Personal Care and Service: 1,855
- Life, Physical, and Social Science: 1,610
- Construction and Extraction: 1,594
- Community and Social Services: 1,555
- Building, Grounds Cleaning & Maintenance: 1,481
- Legal Occupations: 320
- Military: 136
- Farming, Fishing, and Forestry: 125

Source: Maryland Workforce Exchange
Forecasted Private Nonfarm Employment
Maryland, 2009-2020

© Towson University, Division of Innovation and Applied Research
Source: REMI PI+, RESI
Forecasted Total New Job Openings in Maryland by Region
Annual Average, 2018-2020

© Towson University, Division of Innovation and Applied Research
Source: RESI
Forecasted Employment Growth by Sector
2018-2020 Annual Average, Maryland

Health Care and Social Assistance: 9,574
Professional, Scientific, and Technical Services: 6,013
Construction: 2,144
Other Services, except Public Administration: 1,857
Accommodation and Food Services: 1,741
Administrative and Waste Management Services: 1,256
Wholesale Trade: 1,135
Retail Trade: 854
Educational Services; Private: 764
Arts, Entertainment, and Recreation: 356
Management of Companies and Enterprises: 205
Finance and Insurance: 155
Forestry, Fishing, and Related Activities: 49
Mining: -32
Transportation and Warehousing: -50
Real Estate and Rental and Leasing: -56
Information: -63
Utilities: -240
Manufacturing: -1,070
Government: -3,691

Average Annual Change in Number of Jobs

© Towson University, Division of Innovation and Applied Research
Source: RESI
Forecasted Employment Growth in Maryland by Region
Healthcare Industry, Average Annual Growth, 2018-2020

- Healthcare Industry, Average Annual Growth, 2018-2020

© Towson University, Division of Innovation and Applied Research
Source: RESI
Forecasted Employment Growth By Occupation Group
2018-2020 Annual Average, Maryland

Healthcare Practitioners and Technical: 3,663
Healthcare Support: 2,275
Personal Care and Service: 2,238
Computer and Mathematical: 2,013
Food Preparation and Serving Related: 1,782
Construction and Extraction: 1,541
Business and Financial Operations: 1,489
Sales and Related: 1,275
Management: 1,163
Education, Training, and Library: 1,122
Installation, Maintenance, and Repair: 686
Community and Social Service: 496
Architecture and Engineering: 461
Arts, Design, Entertainment, Sports, and Media: 443
Installation, Maintenance, and Repair: 322
Legal: 260
Life, Physical, and Social Science: 215
Office and Administrative Support: 79
Protective Service: 62
Building and Grounds Cleaning and Maintenance: 8
Farming, Fishing, and Forestry: -103
Production: -119

Average Annual Change in Number of Jobs

© Towson University, Division of Innovation and Applied Research
Source: RESI
Forecasted Employment Growth in Maryland by Region
Computer and Mathematical Occupations, Average Annual Growth, 2018-2020

© Towson University, Division of Innovation and Applied Research Source: RESI
Top 10 Occupations by Job Openings, Job Zone 5
2018-2020 Annual Average, Maryland

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Year-End Job Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Analysts</td>
<td>974</td>
</tr>
<tr>
<td>Lawyers</td>
<td>597</td>
</tr>
<tr>
<td>Instructional Coordinators</td>
<td>473</td>
</tr>
<tr>
<td>Medical and Health Services Managers</td>
<td>431</td>
</tr>
<tr>
<td>Physicians and Surgeons, All Other</td>
<td>425</td>
</tr>
<tr>
<td>Educational, Guidance, School, and Vocational Counselors</td>
<td>349</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>346</td>
</tr>
<tr>
<td>Health Diagnosing and Treating Practitioners, All Other</td>
<td>332</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>228</td>
</tr>
<tr>
<td>Education Administrators, Elementary and Secondary School</td>
<td>221</td>
</tr>
</tbody>
</table>

Source: RESI
### Bottom 10 Occupations by Job Openings, Job Zone 5
2018-2020 Annual Average, Maryland

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Job Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematicians</td>
<td>4</td>
</tr>
<tr>
<td>Orthotists and Prosthetists</td>
<td>4</td>
</tr>
<tr>
<td>Soil and Plant Scientists</td>
<td>4</td>
</tr>
<tr>
<td>Materials Scientists</td>
<td>4</td>
</tr>
<tr>
<td>Political Scientists</td>
<td>4</td>
</tr>
<tr>
<td>Arbitrators, Mediators, and Conciliators</td>
<td>4</td>
</tr>
<tr>
<td>Home Economics Teachers, Postsecondary</td>
<td>4</td>
</tr>
<tr>
<td>Historians</td>
<td>3</td>
</tr>
<tr>
<td>Animal Scientists</td>
<td>2</td>
</tr>
<tr>
<td>Sociologists</td>
<td>1</td>
</tr>
</tbody>
</table>
Top 10 Occupations by Job Openings, Job Zone 4
2018-2020 Annual Average, Maryland

- General and Operations Managers: 1,887
- Accountants and Auditors: 1,721
- Sales Representatives, Services, All Other: 1,467
- Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products: 1,227
- Elementary School Teachers, Except Special Education: 1,053
- Recreation Workers: 886
- Secondary School Teachers, Except Special and Career/Technical Education: 784
- Social and Human Service Assistants: 591
- Computer Systems Analysts: 564
- Human Resources Specialists: 543

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Source: RESI
<table>
<thead>
<tr>
<th>Occupation</th>
<th>Job Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agents and Business Managers of Artists, Performers, and Athletes</td>
<td>12</td>
</tr>
<tr>
<td>Marine Engineers and Naval Architects</td>
<td>12</td>
</tr>
<tr>
<td>Actuaries</td>
<td>11</td>
</tr>
<tr>
<td>Buyers and Purchasing Agents, Farm Products</td>
<td>9</td>
</tr>
<tr>
<td>Fish and Game Wardens</td>
<td>6</td>
</tr>
<tr>
<td>Food Scientists and Technologists</td>
<td>6</td>
</tr>
<tr>
<td>Emergency Management Directors</td>
<td>5</td>
</tr>
<tr>
<td>Foresters</td>
<td>2</td>
</tr>
<tr>
<td>Hydrologists</td>
<td>2</td>
</tr>
<tr>
<td>Geological and Petroleum Technicians</td>
<td>1</td>
</tr>
</tbody>
</table>

Bottom 10 Occupations by Job Openings, Job Zone 4
2018-2020 Annual Average, Maryland

Source: RESI
Top 10 Occupations by Job Openings, Job Zone 3
2018-2020 Annual Average, Maryland

- Secretaries and Administrative Assistants, Except Legal, Medical, and Executive: 4,882
- Registered Nurses: 3,112
- Hairdressers, Hairstylists, and Cosmetologists: 2,869
- Bookkeeping, Accounting, and Auditing Clerks: 2,401
- First-Line Supervisors of Office and Administrative Support Workers: 1,886
- Maintenance and Repair Workers, General: 1,784
- Teacher Assistants: 1,424
- Medical Assistants: 1,346
- Fitness Trainers and Aerobics Instructors: 1,054
- Business Operations Specialists, All Other: 943

Source: RESI
Bottom 10 Occupations by Job Openings, Job Zone 3
2018-2020 Annual Average, Maryland

- Camera and Photographic Equipment Repairers: 8
- Occupational Health and Safety Technicians: 7
- Forest and Conservation Technicians: 6
- Electronic Home Entertainment Equipment Installers and Repairers: 6
- Motorcycle Mechanics: 6
- Fabric and Apparel Patternmakers: 5
- Power Distributors and Dispatchers: 4
- Hearing Aid Specialists: 4
- Boilermakers: 4
- Electronic Equipment Installers and Repairers, Motor Vehicles: 2
THANK YOU

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