OFFICE OF THE COMPTROLLER
MARYLAND 2023 | **STATE OF THE ECONOMY**

ON THE COVER

TOP: Port of Baltimore crane

CLOCKWISE L – R: Maryland waterman crabbing on the Chesapeake Bay; Bird's eye view of Cumberland; Corn dryer silos at a farm; Silver Spring shopping center

This document was produced in a font and type to be fully accessible for review by all Marylanders.

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LETTER FROM THE COMPTROLLER

Thank you for taking the time to review the Comptroller of Maryland's inaugural State of the Economy Report. This report is the product of months of work and it incorporates input from hundreds of Maryland business, economic, and community leaders throughout the state.

The State of Maryland has a robust and resilient economy that leads the nation in key economic indicators: the lowest unemployment rate, the highest median household income, and among the highest educational attainment levels. Maryland is home to a diverse base of industries anchored by 55 colleges and universities, including world-class research institutions; leading hospitals and biomedical laboratories; and a significant presence of federal agencies, military installations, and private sector contractors. Maryland is a leader in industries of the future, including vaccine development, medical technologies, quantum computing, and next generation military defense weapons and systems.

The state's geographic assets include the Chesapeake Bay, Port of Baltimore, miles of ocean coastline, the Appalachian Mountains, and proximity to major cities and markets along the Northeast corridor, which support a diverse range of economic activity.

Like the rest of the nation and world, however, Maryland's economy was shocked by the COVID-19 pandemic, beginning in March 2020. By the end of 2020, Maryland and the nation's economy began to recover with the help of significant federal assistance and stimulus. Now, Maryland's economy is growing, but at a slower rate compared to the United States (U.S.) as a whole, and neighboring states.

Recent fluctuations in Maryland's economic environment serve as flashing yellow lights for the state's fiscal health. Labor force participation in Maryland is 65.3%, which is well above the national rate of 62.7%, but has not recovered to Maryland's pre-pandemic levels as has been the case in the rest of the U.S. Maryland added federal jobs throughout and following the pandemic, but private sector job growth has been stagnant. People are moving to Maryland from states with higher costs of living, but more Marylanders are moving away to states where cost of living is even lower. Low

availability of affordable housing for lower- and middle-income households appears to be the primary driver of cost of living and migration trends. This trend is in line with what states are seeing nationally.

The Comptroller's Bureau of Revenue Estimates (BRE) and Policy Division partnered to produce this inaugural report. It aims to examine trends in Maryland relative to the nation and neighboring states to better understand challenges in our economic climate, identify opportunities to leverage the strengths of our state, and capitalize on competitive advantages to grow the economy.

This report is grounded in quantitative analysis of government economic data and enhanced with qualitative and anecdotal evidence from business leaders and economic stakeholders statewide.

The BRE, which serves as economic staff for me and our state's Board of Revenue Estimates, conducted an analysis of factors to diagnose and audit the state's economic performance. In parallel, the Policy Division held a series of roundtable discussions and interviews to gather qualitative research that supplements BRE's quantitative analysis and illustrates the experiences of Marylanders as they navigate an evolving economy. A series of Policy Division-produced case studies are presented throughout the report, highlighting key themes that emerged from the cumulative research.

This report does not offer policy recommendations or economic forecasts. Rather, by analyzing some of our key challenges, as well as highlighting our state's key assets, we seek to offer policymakers and the public the data and research to help inform their ideas to turn these challenges into opportunities. In our quest to provide more transparent and insightful information regarding our state, this report is the first in a series of reports on the State of Maryland's economy. Future products will include shorter briefs providing updates on the data and analysis presented in this initial report, including deeper level analyses by sub-groups, such as race, age, gender, and county.

I'm grateful to everyone who has worked so hard to pull this important report together, and it is my hope that our partners – from policymakers to business leaders – will find it helpful as they set out to further understand and respond to recent changes in our state's economy.

Thank you for taking the time to read this fascinating review of our economy. I look forward to continuing to work together with you to build a better Maryland.

My best,

Brooke E. Lierman

EXECUTIVE SUMMARY

Maryland has a high performing economy and tops the nation in several key economic categories, including the highest median household income ($108,200) and the lowest unemployment rate (1.8%). Maryland also has above average productivity and one of the lowest poverty rates in the U.S. at 8.6% (the U.S. poverty rate is 11.5%).[1]

Maryland's economy is anchored by diverse, world-class employers and institutions that contribute to and support the vibrant communities where they are planted. The federal government plays an outsized role in Maryland's economy compared to other states with a wide array of federal offices, military installations, and federal contractors located in the state. Maryland's diverse industry mix, federal government influence, and highly skilled workforce make it more resilient to economic crises than other states.

The most recent of these economic crises was the COVID-19 pandemic and the resulting recession. Though brief – officially lasting for just the two months of March and April 2020 – this recession caused many shocks to the economy, and various industries were directly impacted by public health precautions and policies, including education, health care, and hospitality. While the pandemic is no longer a direct economic hindrance, economists are still working to understand the new business cycle and economic trends that have emerged in the pandemic recovery, including whether recent changes will fade or last.

Despite the aforementioned advantages, Maryland's economic growth effectively stalled in 2017 and, outside of the pandemic, has been stagnant ever since. Figure 1 presents Maryland's growth compared to the United States (U.S.) and neighboring states of Pennsylvania and Virginia across key economic indicators. From between the fourth quarter of 2016 to the first quarter of 2023, Maryland's Gross Domestic Product (GDP), or the value of goods and services produced in the state, has grown 1.6%, compared with 13.9% for the entire U.S. during the same period. When examining Personal Income (PI), which measures income earned by or spent on behalf of residents of a geographic area, Maryland also lags behind the nation and neighboring states.[2]

Figure 1: Maryland Comparative Economic Growth 2016 – 2023

Geography	GDP Total Growth	Employment Total Growth	Personal Income Per Capita Growth	Real Wages Average Growth
Pennsylvania	6.6%	1.0%	5.6%	5.6%
Virginia	11.2%	5.3%	6.4%	6.5%
United States	13.9%	7.4%	9.5%	7.4%
Maryland	1.6%	1.0%	1.2%	4.3%

Sources: U.S. Bureau of Economic Analysis. U.S. Bureau of Labor Statistics, MD Bureau of Revenue Estimates

Note: Growth is since the fourth quarter of 2016 and where applicable amounts expressed in real dollars/ adjusted for inflation.

In Maryland, population growth began noticeably slowing a few years before economic growth stagnated. Year-over-year population growth fell from 0.8% in 2014 to -0.1% in 2022.[3] Over the same period, U.S. population growth also slowed, but not by as much as in Maryland.

An examination of real GDP per capita (GDP divided by the population) reveals that lower population growth explains little of Maryland's economic slowdown relative to the nation. Maryland's real GDP per capita has grown 2.1% since the fourth quarter of 2016, compared to 11.9% for the U.S.[4]

Like the GDP slowdown, Maryland's employment (measured by the number of jobs in the state) and wage growth also stalled beginning in 2017. Employment then fell dramatically in the early stages of the pandemic, decreasing by 14.1% from February to April 2020, and has been slow to recover. As of the second quarter of 2023, employment in Maryland remains 1.3% below its pre-pandemic peak, and it is only 1.0% higher than it was in the fourth quarter of 2016. This slow employment growth is attributed to a lack of private sector job growth in Maryland. In the post-pandemic recovery, federal employment in Maryland has grown considerably while private sector employment has not recovered to its pre-pandemic peak.[5]

The lack of a full recovery in Maryland's employment to pre-pandemic levels stems from a decline in the labor participation rate (LPR) combined with a historically low unemployment rate, indicating that demand among employers for labor is high, but labor supply is scarce.

In Maryland, there are 3.1 job openings for every 1 job seeker, compared to the U.S. as a whole where there are 1.3 openings for every job seeker.[6] The LPR is the percentage of the population either working (employed) or actively looking for work (unemployed). People choosing not to participate in the labor force are unable or unwilling to work at current wages offered.

Unlike other economic indicators, LPR in Maryland was rising faster than the national rate before the pandemic. During the pandemic, Maryland's LPR fell from 69.3% in January 2020 to 65.6% by June 2020. As of the second quarter of 2023, Maryland's LPR was 65.2%, more than 4 percentage points below the pre-pandemic level. While Maryland's current LPR remains higher than the national rate of 62.7%, which is the same as the national LPR from early 2020, the gap has shrunk due to the larger decline and slower recovery in the state. At the same time, Maryland's unemployment rate is a historically low 1.7%, after having spiked to 9% in the beginning of the pandemic, in April 2020.[7]

Examining labor participation by demographic groups shows that Maryland's underperformance in LPR recovery relative to the nation and its neighbors is concentrated in the 25 to 44 age cohorts. A decline in labor participation among prime-aged workers is particularly concerning because these workers are typically the most productive compared to other age groups. LPR has fallen for men and women, with women showing a disproportionate absence from the workforce in the wake of the pandemic. While labor participation of both men and women has fallen in Maryland, the decline among women has been relatively larger compared to the nation, most census regions, and most neighboring states. In Maryland, there has been decline in male labor participation in both the 25-34 and 35-44 age groups since the Great Recession. For women, the decline is most pronounced in the 25-34 age group since the Great Recession and also more recently since the pandemic. There has been additional decline in the 16-24 age group since the pandemic.[8]

Survey data indicate that household responsibilities such as childcare and health issues are contributing factors especially for women opting to leave the traditional labor force.[9] Additionally, research by the Brookings Institution and others has found the rise in opioid prescriptions has caused a startling decline in national labor participation for a period of time beginning prior to the pandemic.[10]

There are structural issues (such as rising childcare costs and poor health) causing declines in labor participation and preventing people who are out of the labor force from joining, or rejoining, the labor force. This evidence suggests that a tight labor market may not lead to significant improvements in labor participation.

Maryland's population growth has been disproportionately impacted by two national trends: First, the rate of live births has failed to outpace the rate of deaths in the U.S. as the population has aged.[11] Second, wealthier states located in the Northeast and West Coast with higher costs of living – most notably cost of housing – are generally growing more slowly, while lower cost of living states are experiencing faster growth.[12] Maryland has experienced positive net-migration from more expensive jurisdictions like New York and Washington, D.C. but negative net-migration with lower cost states, like Pennsylvania and the Carolinas. Net migration overall declined during the pandemic, likely another contributor to the decline in the labor force.[13]

The current trend in U.S. domestic migration is a reversal of historical norms. Maryland, as a wealthier state with higher average incomes, has traditionally drawn migrants from regions with lower productivity and incomes. Migration within Maryland shows a similar pattern, with people moving away from the Baltimore and Washington, D.C. metro areas, to counties on the Eastern Shore and in Western Maryland.[14] The cost of housing appears to be the top driver of decisions on where people live, with remote work increasing options available to many members of the workforce. However, based on available data, it is not yet clear whether the remote work mobility trend will last.

This report is organized into four sections. Sections 1-3 were produced by the Comptroller of Maryland's Bureau of Revenue Estimates (BRE) and include the following: Section 1 – Recent Maryland Economic Trends, Section 2 – Labor Force Participation Trends, and Section 3 – Maryland Population and Migration Trends. Two appendices to Section 2 offer additional analysis of labor participation by gender and age (Appendix 1), and the correlation between labor participation and health (Appendix 2).

In producing this report, BRE relied on publicly available economic data to analyze Maryland's economy in comparison with the U.S. and neighboring states. BRE also incorporated research from various government and academic sources. Note that the analysis was primarily conducted during the summer of 2023 and reflects the most recent data at the time of writing. Subsequent data releases may modify some of the analysis presented.

The economic analysis is complemented with qualitative data collected by the Comptroller of Maryland's Policy Division through roundtable discussions and interviews held this past summer and fall with businesses, nonprofit industry groups, chambers of commerce, economic development leaders, labor representatives, and organizations throughout the state. This research, summarized in Section 4 - State of the Economy Regional Roundtable Summaries, illustrates the experiences of Marylanders as they navigate an evolving economy. While there

is a great deal of variation in the different regions across the state, several common themes emerged, such as mixed views of remote work, challenges relating to housing availability and affordability, and opportunities around growth and emergent industries.

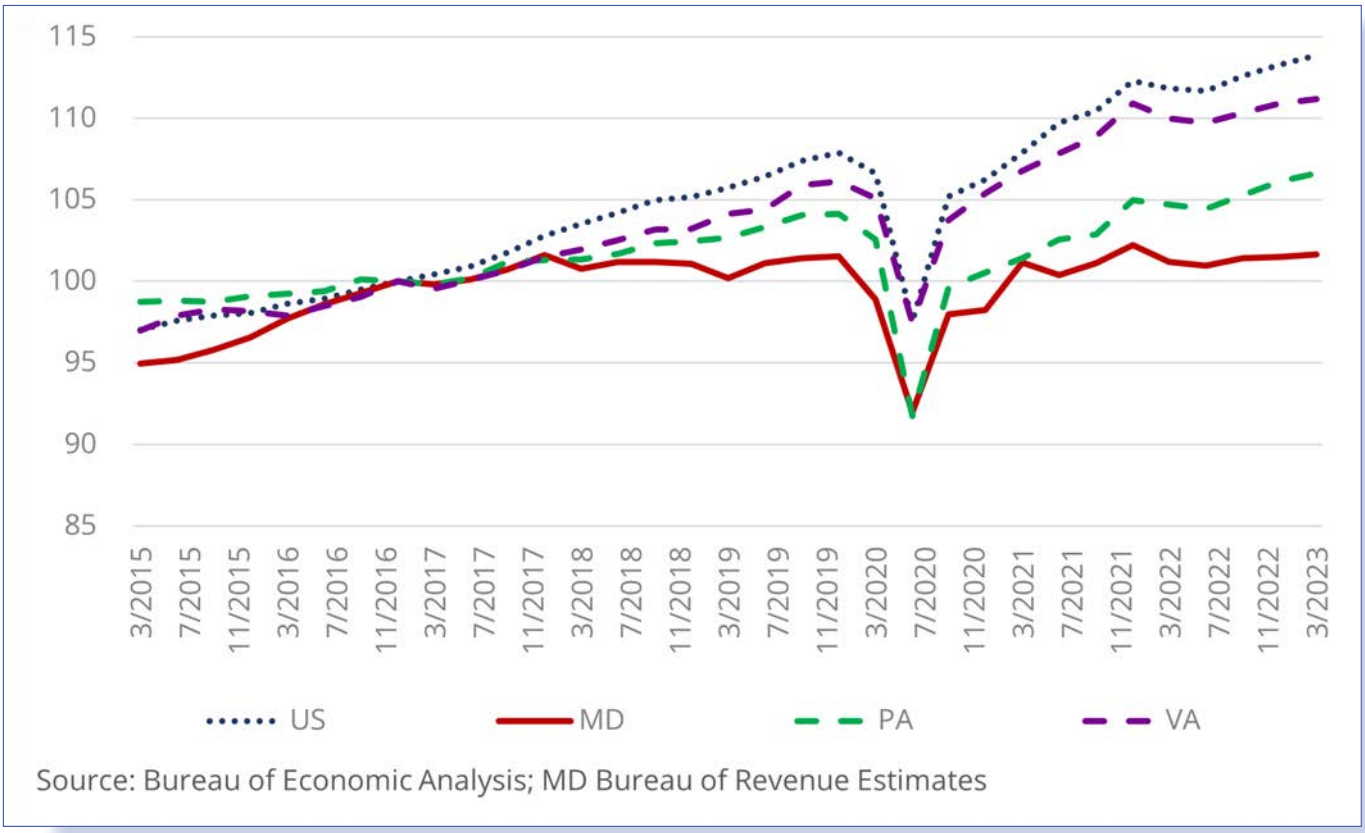
A series of case studies produced by the Policy Division are presented throughout the report, highlighting key themes that emerged from the cumulative quantitative and qualitative research, including: (1) the role of the federal government as an economic stabilizer in Maryland, (2) the changing nature of the healthcare workforce, (3) women and the economy, (4) housing availability and affordability, and (5) a closer look at Baltimore City.

SECTION 1: RECENT MARYLAND ECONOMIC TRENDS

Gross Domestic Product (GDP)

In 2017, Maryland's economic growth stagnated. Adjusting for inflation, Maryland's real Gross Domestic Product (GDP), a common measure of the value of output produced in an area, was just 1.6% higher as of the first quarter of 2023 than it was at the end of 2016. Comparatively, U.S. real GDP grew 13.9% during the same period, as shown in Figure 2. The U.S. GDP data masks regional variations in production and growth. Generally, the trend in Maryland matches national trends: wealthier regions on the West Coast and in the Northeast to mid-Atlantic are growing more slowly, while higher growth is occurring in the Southeast and Southwest. This is true both for population and economic growth. The trend can be summed up as places with a higher cost of living are growing more slowly than places with a lower cost of living. Cost of living, of course, is positively correlated with income and wealth.

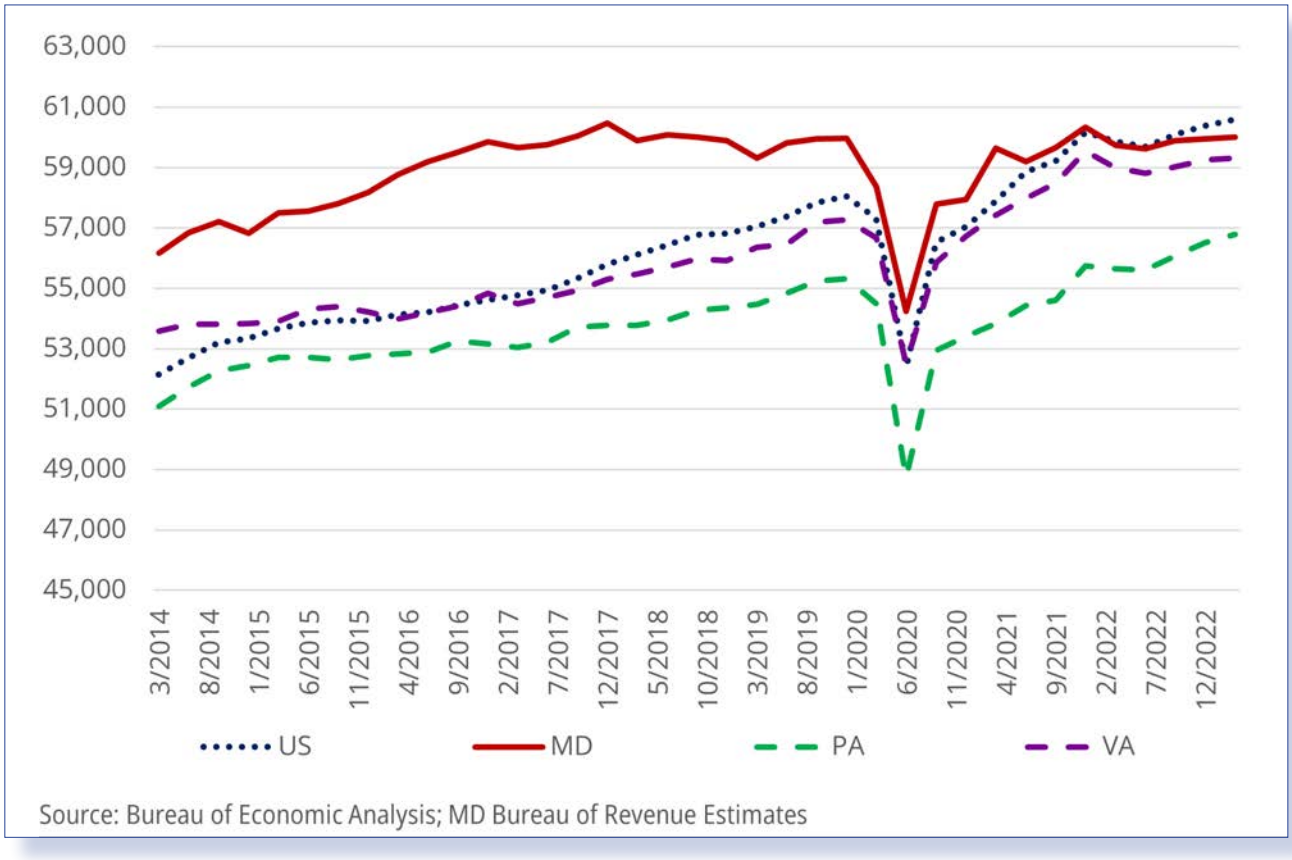
Figure 2: Real GDP Indexed to 2016 Q4 (=100)



Maryland's economic growth, however, is also lagging compared to the Northeast to mid-Atlantic region and wealthy states. Since the end of 2016, Virginia's GDP has increased by 11.2% while Pennsylvania's is 6.6% higher. Maryland, similar to the U.S., had a sharp

contraction in economic activity during the early pandemic and a relatively rapid recovery to pre-pandemic trends. For example, Maryland regained its pre-pandemic trend in GDP growth by the first quarter of 2021, but that trend was stagnant, as illustrated in Figure 2.

Figure 3: Real Gross Domestic Product per Capita (2012 dollars)



Examining per capita GDP allows for comparisons that account for differences in population size and growth and reveals that lower population growth does not sufficiently explain slower economic growth in Maryland. As Figure 3 shows, Maryland's real GDP per capita has grown only 2.1% since the end of 2016, compared to 11.9% for the U.S., 9.9% for Virginia, and 7.5% for Pennsylvania.

Just before the Great Recession of 2008, Maryland and Virginia had a similar per capita GDP, about $55,000 in inflation-adjusted 2012 dollars, compared to about $52,000 nationally.[15] Economic growth slowed in both Maryland and Virginia during federal budget sequestration, which went into effect in 2013, but in Maryland, growth rebounded more quickly. Because Virginia took longer to rebound, U.S. real GDP per capita caught up to Virginia. Maryland's growth then slowed in 2017 while growth in Virginia and the U.S. continued. As a result, Maryland, Virginia, and the U.S. now have similar real GDP per capita – around $60,000 in 2012 dollars (or about $78,000 in 2023 dollars). Maryland and Virginia took somewhat

different paths yet ended up in the same place, with higher U.S. growth over the period closing the gap between both states.

Maryland's real GDP per capita has grown only 2.1% since the end of 2016, compared to 11.9% for the U.S., 9.9% for Virginia, and 7.5% for Pennsylvania.

Personal Income

Calculating GDP can be complex, especially when people live in one state and work in another, as workers often do in Maryland, and to a lesser extent, Virginia. The value-added of Marylanders working in Washington, D.C., and other states is not reflected in Maryland's GDP. The income those employees earn, however, is reflected in Maryland's Personal Income (PI), another broad measure of economic activity and one that is calculated based on place of residence.

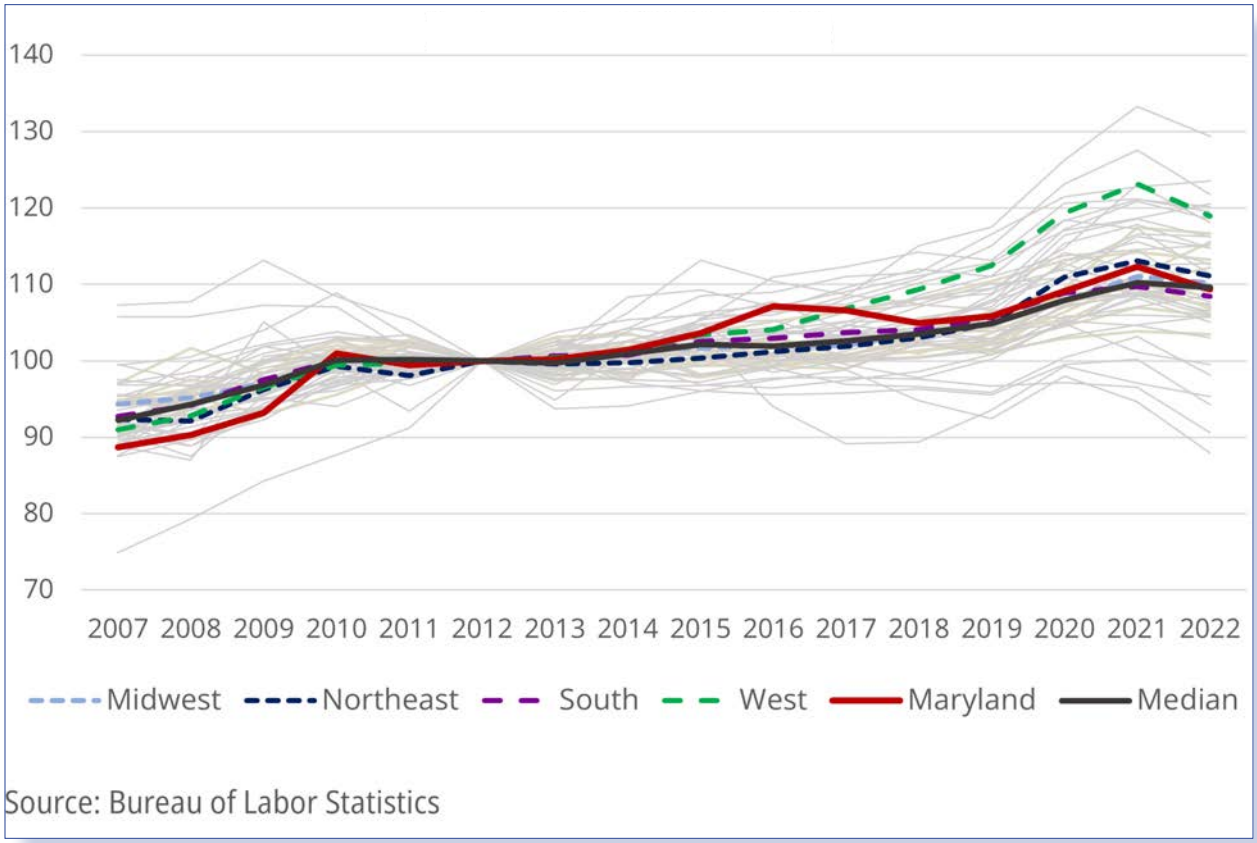
After spiking during the pandemic, largely due to pandemic-related government stimulus efforts that gave money to individuals (such as stimulus checks and more generous unemployment insurance) Maryland's inflation adjusted, or real, PI is 2.6% higher in the first quarter of 2023 than it was in the fourth quarter of 2016. Looking at real PI per capita, the average income earned by Marylanders rose 1.2% during the same time period, compared to 9.5% for the U.S., 6.2% for Pennsylvania, and 6.4% for Virginia. Unlike per capita GDP, however, Maryland's per capita PI remains higher than the U.S., though the gap is narrowing. As of the first quarter of 2023, Maryland's per capita PI is 8.0% higher than the U.S. while in 2016 it was 16.7% higher. Examining PI data largely corroborates the trends in the GDP data but shows somewhat less stagnation, likely due to the inclusion of income of Marylanders' working in other jurisdictions. Notably, PI does not include capital gains income.[16]

Productivity and Wages

Economic production is determined by the quantity of labor and the productivity of that labor. This can be roughly calculated by dividing real GDP by payroll employment. Maryland has a higher output per worker than the U.S. average. Before 2017, Maryland's output per worker was around 6% to 9% higher than the U.S. As of the first quarter of 2023, Maryland's output per worker was $135,603 in 2012 dollars, which is 3.8% higher than the U.S. output per worker of $130,650. Virginia and Pennsylvania have lower output per worker, but Washington, D.C., has a particularly high output per worker of $168,798. Cities tend to have higher output per worker than regions that are more suburban and rural.[17]

The private non-farm Labor Productivity Index (LPI) from the U.S. Bureau of Labor Statistics compares current output per hour to a base period's output per hour. Currently, the index base year is 2012, therefore LPI for all states and regions equals 100 in 2012. As shown in Figure 4, Maryland's LPI in 2016 was 107.1, or 7.1% higher than it was in 2012 – this was above average productivity growth during this period, and the sixth highest LPI in the U.S. Maryland fell to 27th in the rankings in 2022. This was due to a combination of low productivity growth in Maryland and increasing productivity growth elsewhere, particularly in the West.

Figure 4: Private Nonfarm Labor Productivity Indexed to 2012 (=100)



Nationwide productivity growth was highest in the West, with the Northeast a distant second. In general, these are also the regions with the highest productivity levels. Wealthier regions typically have higher labor productivity because they have higher levels of capital per worker. Most states, including Maryland, experienced a spike in productivity, in terms of both output per worker and the LPI, during the pandemic. Productivity typically rises during recessions as firms can lay off workers more quickly than they can adjust the amount of capital, such as machines in factories. As a result, capital per worker rises and so does labor productivity, the average wage typically rises as a result. These trends were exacerbated by the pandemic,

which caused greater job losses in lower-wage service sectors such as hospitality and food service, thus pushing up the average wage of remaining workers.

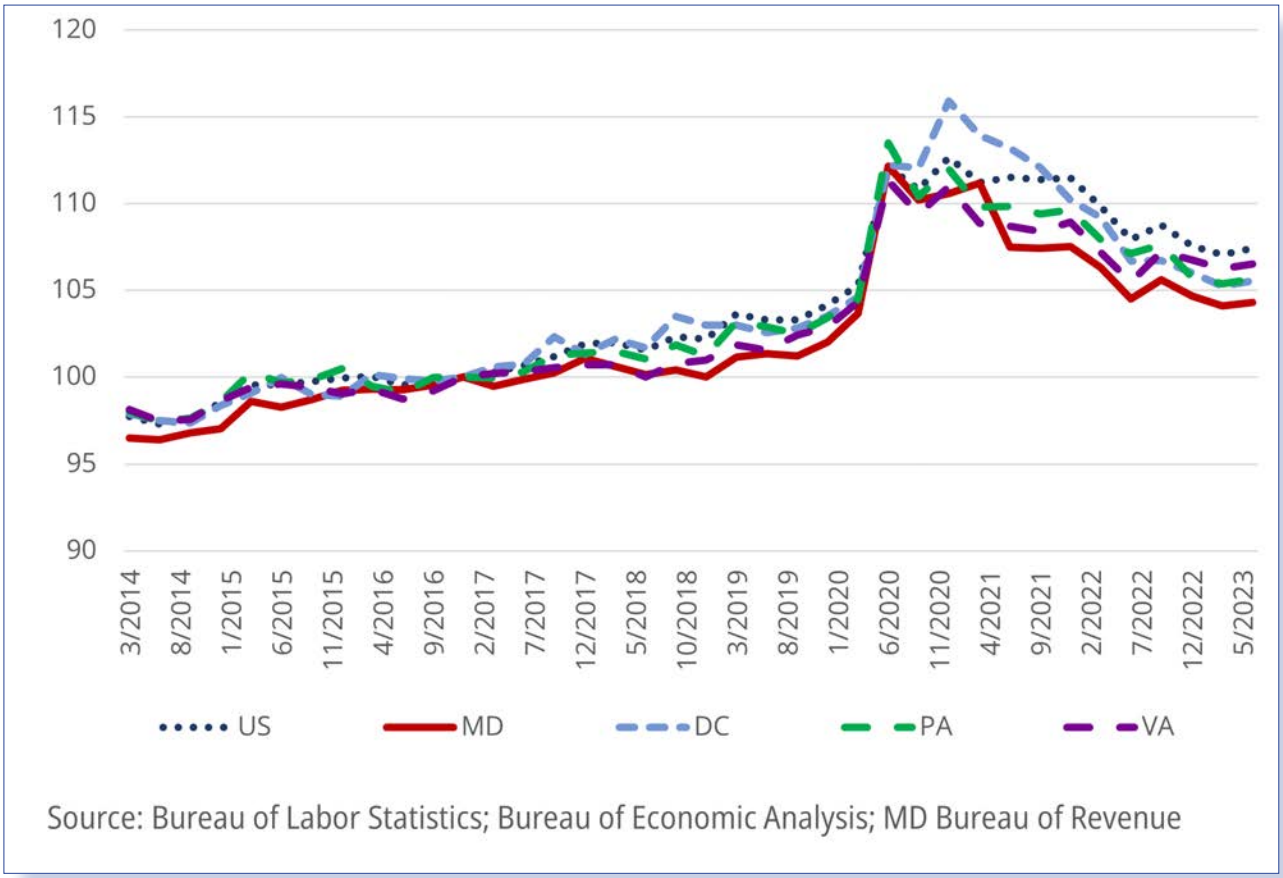
Most of Maryland's neighbors exhibited much of the same trend as the nation. Productivity growth in neighboring states was slow but accelerated right before the pandemic, whereas Maryland's productivity growth was slowing. For Virginia and Washington, D.C., productivity gains in the pandemic persisted into 2022, whereas most states saw a decline in productivity over 2021 and 2022. Pennsylvania's productivity growth followed a similar path as Maryland during this time.[18]

In economic theory, real wages over the long run are determined by labor productivity. This suggests wage growth should track productivity growth, though in reality that isn't always true. Notably, from the late 1980s to the 2000s, real wage growth did not keep up with labor productivity growth. Since 2012, output per hour and real hourly compensation generally rose in line with each other, and real hourly compensation has fallen more than productivity after the spike in 2020.

Prior to 2017, total wages in Maryland were growing in line with the U.S. and most neighboring jurisdictions, as measured by the Bureau of Economic Analysis. In 2017, wage growth began to slow in Maryland relative to the U.S. Until the pandemic, Maryland's total real wages had increased 5.7% since the fourth quarter of 2016, compared to 10% nationally. As of the first quarter of 2023, Maryland's total real wages were 5.3% higher than the fourth quarter of 2016. While nominal wages have grown faster than they did before the pandemic, once inflation is accounted for, total wages in Maryland have not grown since the fourth quarter of 2020. Washington, D.C., has had a similar experience, whereas total wages have grown in the U.S., Virginia, and Pennsylvania.

As shown in the Figure 5, real average wages in Maryland have grown more slowly than in the U.S. and most neighboring jurisdictions. Maryland's real average wage has grown 4.3% since the fourth quarter of 2016 compared to 7.4% in the U.S. As of the first quarter of 2023, the average wage in Maryland was $61,573 in 2012 dollars, above the national average and all neighboring jurisdictions except for Washington, D.C. Maryland's real average wage is 7.9% higher than the U.S. ($57,056), which is down a bit from around 10% higher towards the end of the last decade.

Figure 5: Real Average Wage Indexed to Q4 2016 (=100)



Employment

The Current Employment Statistics (CES) survey is the source for the national monthly job growth figures released by the U.S. Bureau of Labor Statistics on the first Friday of each month. The survey measures the number of non-farm payroll jobs. For Maryland, payroll employment measures the number of jobs in the state, rather than the number of jobs held by Marylanders. According to a 2018 publication from the Maryland Department of Labor, 88.1% of the jobs located in the state are filled by Maryland residents, and 81.7% of Maryland residents worked in Maryland.[19] Washington, D.C., is the largest labor market for Maryland residents who work outside the state, as one out of every ten residents worked in the District.[20]

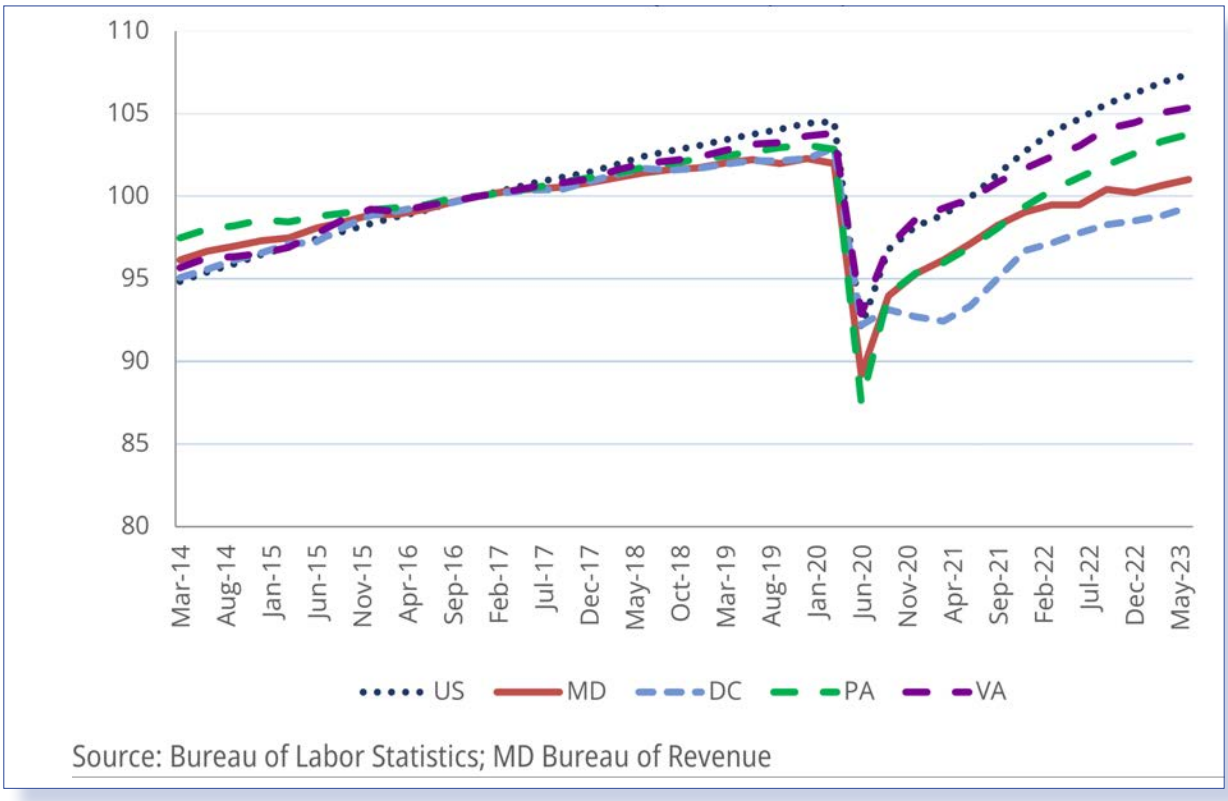
Heading into 2016, Maryland's payroll employment growth was just below the U.S., level with Virginia, and was a bit faster than Pennsylvania and Washington, D.C. Beginning around 2017, employment growth slowed in Maryland and Washington, D.C. By the fourth quarter of 2019, employment was 1.9% higher in Maryland than it was in fourth quarter of 2016. Meanwhile,

the U.S. saw a 4.5% increase in employment. During the pandemic, employment fell by more than 10% across the U.S. and the region and Maryland employment fell by a similar magnitude. This was unusual, as employment in previous recessions typically did not fall as much in Maryland compared to the rest of the nation. As of the second quarter of 2023, payroll employment in Maryland has not recovered to its pre-pandemic peak, whereas the U.S. and Virginia have exceeded their pre-pandemic peaks.

Employment in Maryland is only 1.0% higher than it was in the fourth quarter of 2016, compared to 7.4% higher in the U.S., 5.3% higher in Virginia, and 3.8% higher in Pennsylvania. In Washington, D.C., payroll employment is 0.7% lower during this time period. See Figure 6.

As of the second quarter of 2023, payroll employment in Maryland has not recovered to its pre-pandemic peak, whereas the U.S. and Virginia have exceeded their pre-pandemic peaks.

Figure 6: Payroll Employment Indexed to Q4 2016 (=100)



The Current Population Survey (CPS) also collects employment data and is the source for unemployment and labor participation rates. The CPS is a survey of households which is based on the place of residence. However, it relies on self-reported labor force status and has a smaller sample size than the CES. According to the CPS, household employment is 2.7% higher in the second quarter of 2023 in Maryland than it was in the fourth quarter of 2016. However, much like payroll employment, this growth lags behind the 5.9% growth nationally over the same time.

Industry Composition

Differences in the share of employment by industry composition can help explain lagging employment growth in Maryland. High-wage industries typically account for a larger share of total employment in Maryland. These industries generally contracted less during the pandemic than lower-wage industries such as accommodation and food services.[21] Coming out of the pandemic, lower-wage industries tended to experience more growth because they had contracted more during the pandemic. Therefore, slower employment growth in Maryland could reflect Maryland's greater share of employment in slower-growing, higher-wage industries.

As shown in Figure 7, Maryland has a greater share of workers employed by federal government and professional services and a lower share of workers in manufacturing. The federal government and professional services sectors are high-wage industries and therefore contribute to Maryland's high average wage.

Figure 7: 2022 Employment Distribution – Maryland and United States (Right)

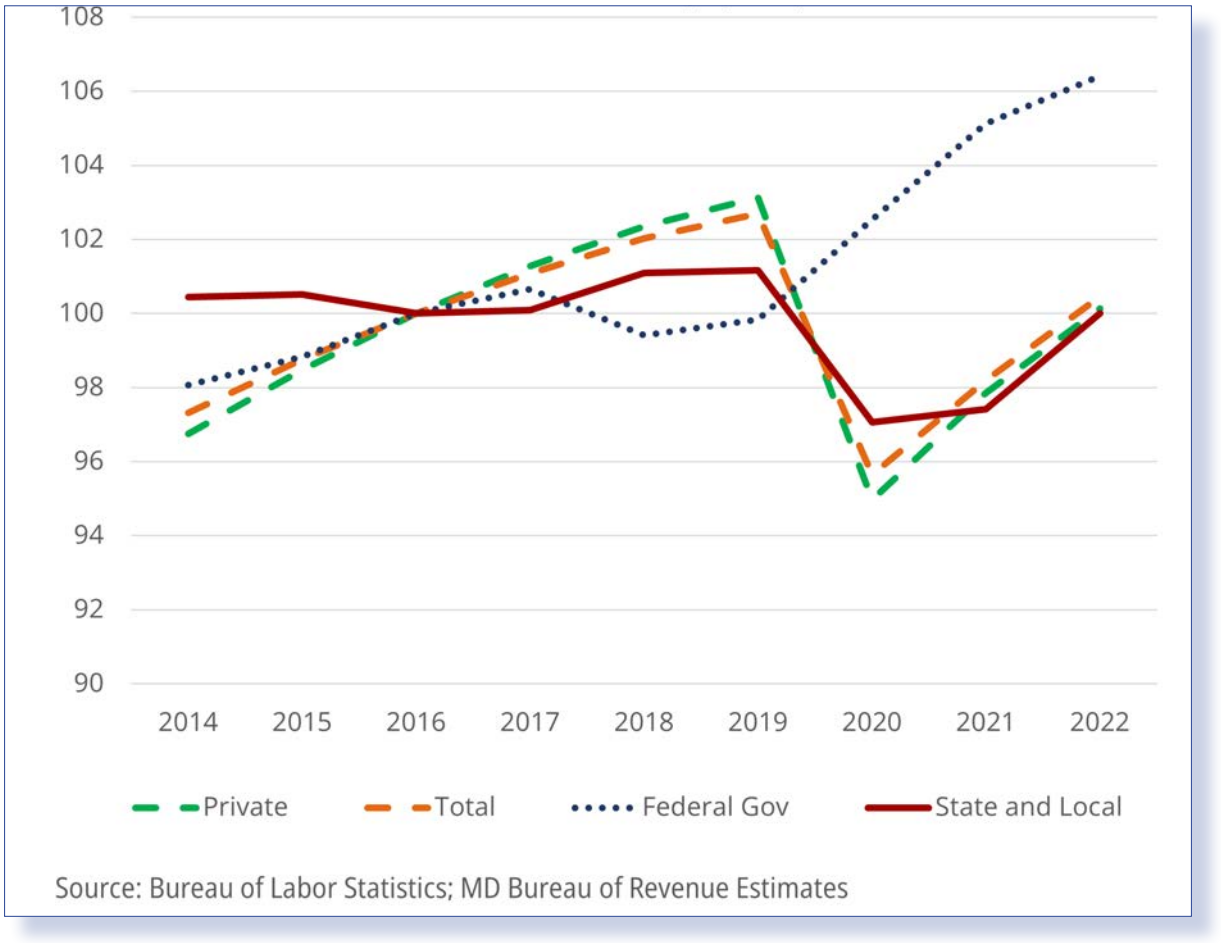
INDUSTRY	MARYLAND Share of Total	Rank	UNITED STATES Share of Total	Rank
Health Care & Social Assistance	13.3%	1	13.5%	1
Professional Services	10.1%	2	6.9%	6
Retail Trade	9.9%	3	10.1%	2
Local Government	9.1%	4	9.3%	3
Accommodations & Food Services	7.8%	5	8.9%	4
Administrative & Waste Management Services	6.4%	6	6.3%	7
Construction & Mining	6.0%	7	5.5%	8
Federal Government	5.7%	8	1.9%	16
Transportation & Utilities	4.5%	9	4.7%	9
State Government	4.1%	10	3.3%	13
Manufacturing	*4.1%*	*11*	*8.4%*	*5*
Other Services	3.9%	12	3.7%	12
Finance & Insurance	3.4%	13	4.4%	10
Wholesale Trade	3.2%	14	3.9%	11
Educational Services	3.2%	15	2.5%	14
Real Estate, Rental & Leasing	1.6%	16	1.6%	18
Arts, Entertainment & Recreation	5%	17	1.5%	19
Information	1.3%	18	2.0%	15
Management of Companies	1.0%	19	1.6%	17

Source: U.S. Bureau of Labor Statistics; MD Bureau of Revenue Estimates

Figure 8 shows employment in Maryland indexed to its 2016 level. Before the pandemic, Maryland's private sector employment was growing while federal employment gradually fell. As a result, growth of private employment outpaced total employment.

Since the pandemic, federal employment in Maryland has grown considerably, though Maryland has not returned to its pre-pandemic employment level due to the slow recovery in private sector employment.

Figure 8: Maryland Employment Indexed to 2016 (=100)

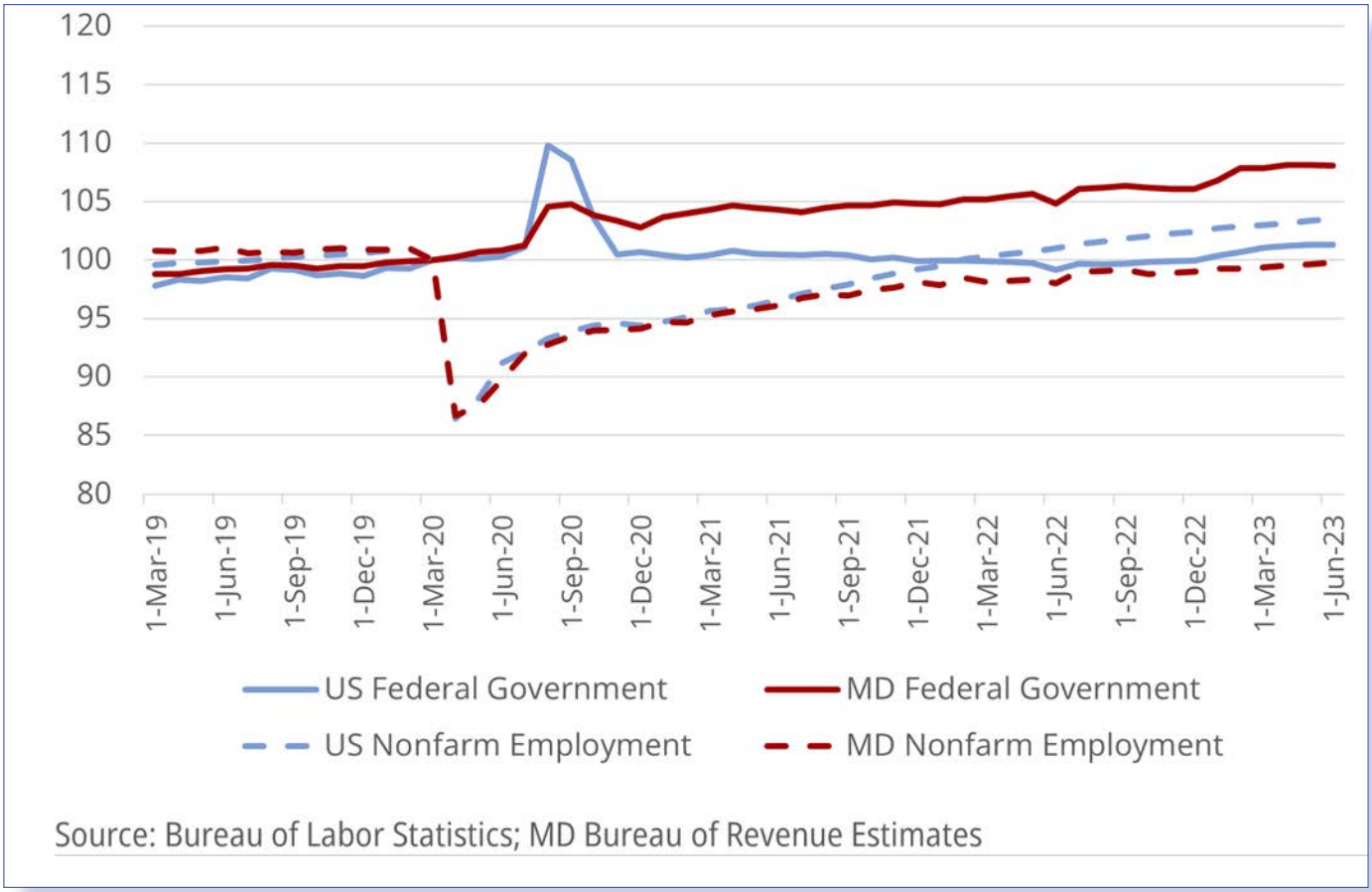


Since the pandemic, federal employment in Maryland has grown considerably, though Maryland has not returned to its pre-pandemic employment level due to the slow recovery in private sector employment.

Federal Government Employment

Federal government employment comprises 5.7% of total Maryland employment. In contrast, the federal government is one of the smallest industries in the U.S. at 1.9% of total employment. As Figure 9 shows, federal government employment in Maryland has grown faster than it has in other parts of the country. However, these gains are offset by a lagging private sector, and as a result, by mid-2021, total employment growth in Maryland fell below that of the U.S.

Figure 9: Employment Indexed to March 2020 (=100)



Impact of the District of Columbia's Federal Employment on Maryland

By nature of the indicators, Maryland employment numbers include some non-Maryland residents and does not include the jobs of Marylanders who work in other states. As mentioned above, 18.3% of Maryland residents worked outside of the state during the 2018 calendar year, with 10.2% reportedly working in the nation's capital. Workers residing in counties bordering Washington, D.C. had greatest representation: 30.8% of Prince George's County residents and 19.7% of Montgomery County residents worked in the District as of 2018. In 2021, 41.6% of all Maryland residents receiving wage and salary income from the federal government lived in Prince George's and Montgomery counties.[22]

The relatively high share of Marylanders working in Washington, D.C., combined with direct federal employment accounting for more than a quarter of all jobs in Washington, D.C., suggests employment trends there, as well as in Northern Virginia, will influence the employment and wages of Marylanders. As illustrated in figure 10, as a share of the total employment, federal employment in Washington, D.C., has been trending downward since the early 2000s. As of June 2023, federal employment in Maryland was 8.0% higher than it was in December 2016, while in Washington, D.C., it is 5.2% lower. When looking at Maryland and Washington, D.C., combined, federal employment is 2.1% higher than at the end of 2016. Adding Virginia's federal employment brings growth down to 1.6%.

Turning to the private sector, Figure 11 illustrates total employment as well as employment growth in the professional services and manufacturing sectors in Maryland, and nationally. Early in the pandemic, employment in the professional services industry did not fall as much in Maryland as it did nationally. As time went on, employment growth slowed in Maryland, and by mid-2021, recovery in professional services employment nationally surpassed the recovery in Maryland. This gap has continued to grow. The timing of the slowdown in professional services employment matches the trend in overall employment growth between Maryland and the rest of the U.S. Maryland also did not see as steep a drop in manufacturing employment when compared to the rest of the U.S. In early 2021, manufacturing employment growth stagnated in Maryland while continuing to grow nationally.

Figure 10: Federal Government Employment, Year-Over-Year Growth

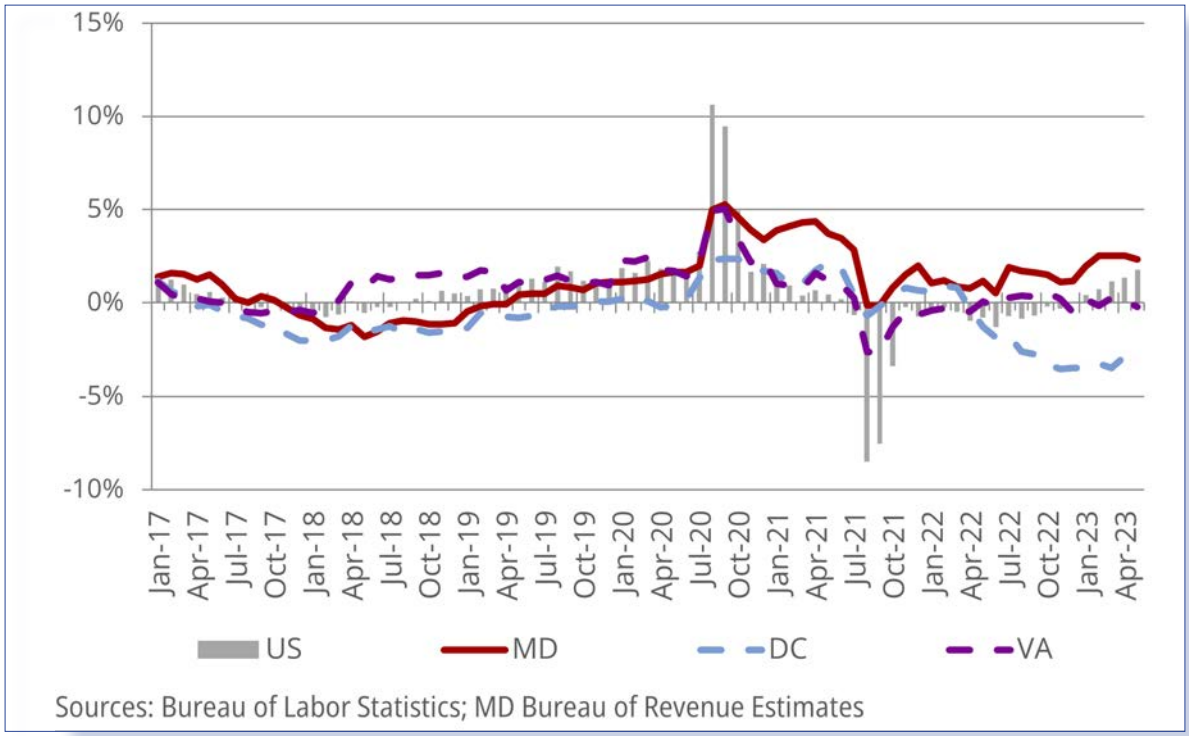
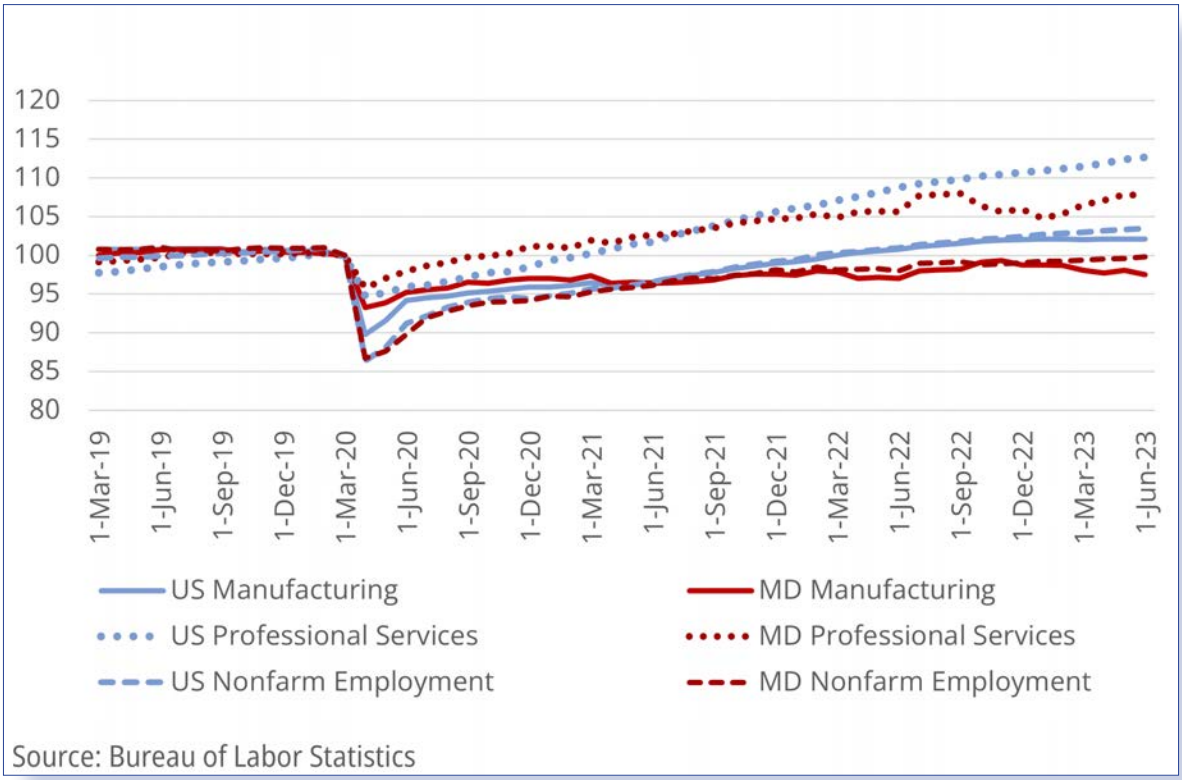


Figure 11: Employment Indexed to March 2020 (=100)



Employment trends have diverged as employment in these industries lags in Maryland in comparison with the U.S. This suggests that Maryland's employment is not growing slower because it has a greater share of employment in slower-growing industries, but rather because job growth in private sector industries is slower in Maryland. Considering Maryland's low unemployment rate, there appears to be an issue of labor supply instead of a lack of labor demand. In other words, if Maryland had higher labor participation, employment would likely expand.

A 2021 report from the Maryland Chamber of Commerce indicated that during the period between March 2020 and March 2021, as many as 14 major industries had lower employment rates in Maryland compared to the rest of the nation, with the leisure and hospitality and education and health services industries faring particularly poorly.[23] Research from the University of New Hampshire found that from February 2020 to September 2021, the accommodation and food services industry was the largest contributor to job losses in Maryland, Virginia, and the nation, comprising 32%, 31%, and 24% of total job losses respectively. In Maryland, the healthcare and social assistance industry saw the second highest total job losses – about 15% of job losses. This sector made up 9% and about 14% of job losses for Virginia and the nation, respectively.[24]

Case Study: Federal Government as an Economic Stabilizer

Why it matters

The federal government has historically been a steadying force for Maryland's economy by creating a large share of well-compensated jobs in terms of pay and benefits, income from salaries and retirement, and business opportunities for Marylanders and Maryland firms.

Jobs: There are 14 military installations[25] and more than 60 federal agencies located[26] in Maryland. Many Marylanders also have access to federal government jobs in nearby Washington, D.C. In Montgomery and Prince George's counties, 20% and 30% of residents work in Washington, D.C., respectively. Federal government employment makes up 5.7% of total Maryland employment, compared to 1.9% of total employment nationally.

Income: One in nine Maryland households receive wages or retirement income from the federal government.[27] The federal government is a relatively high-wage employer, which contributes to Maryland having the highest median income in the nation at $108,200. Access to high-paying federal jobs supports the quality of life of workers, the state economy via income tax revenue, and the economic activity generated from disposable income.

Business revenues: The federal government supports a robust ecosystem of private sector suppliers, contractors, and sub-contractors in Maryland. Private businesses often strategically locate themselves near federal agencies or military bases to optimize opportunities to collaborate with the government through government contracting and sub-contracting. In 2022, the federal government spent $42 billion in Maryland through contracting, representing 10% of the state's GDP.[28]

Through direct contracting and the multiplier effect supporting restaurants, retail, hospitality, and other businesses, the federal government drives private business development and jobs in the State of Maryland, especially in Central Maryland, the National Capital Region, and Southern Maryland.

What happened during the pandemic?

Particularly in turbulent times, federal employment, income, and revenue insulate Maryland's economy from economic shocks. Through the highs and lows of the pandemic, Marylanders working for the federal government experienced relative job security and wage stability. Total private employment in Maryland contracted by 15% between March and April 2020

and has yet to return to pre-pandemic levels. There were 40,000 fewer private sector jobs in Maryland in August 2023 compared to January 2020. Meanwhile, federal jobs expanded during the pandemic, including a 2.5% increase during the peak of the pandemic from March to December 2020.[29]

During roundtable discussions for this report, stakeholders throughout the state shared their perspectives on the role of the federal government as an employer, investor, or client in their regions – particularly during the pandemic.

- In Southern Maryland, the Naval Air Station Patuxent River (Pax River) in St. Mary's County is a steady employer and provides a strong foundation for the local economy. Pax River and affiliated contracting opportunities create high-paying jobs in the area, niche manufacturing, and a strong knowledge economy.[30] The region had the lowest unemployment rate in the state in 2020.[31] To the west in Charles County, economic development activity is centered around the Naval Support Facility at Indian Head. The presence of the United States Bomb Technician Association and emerging energetics companies can be attributed to the nearby military installation.

- Aberdeen Proving Grounds (APG) is central to Harford County's local economy as the county's largest employer, and one of the largest employers in the state. Of note: 60% of APG's workforce are Harford County residents. APG supports a wide range of contractors and subcontractors in the area. While many APG staff now have the ability to work remotely, the low cost-of-living in the county is a deterrent to leaving the area.[32]

- In Frederick County, Fort Detrick supports a multi-governmental community whose activities include medical research. Fort Detrick is home to the National Cancer Institute and the U.S. Army Medical Research Institute of Infectious Diseases. Frederick County also houses offices of the Department of Homeland Security, National Institute of Allergy and Infectious Diseases, the Department of Agriculture, and the Centers for Disease Control and Prevention.[33] According to local officials, these federal agencies offer robust job opportunities for the region and contributed to the county's steady growth and low unemployment rate during the pandemic. This is partially due to federal investment in vaccine development, with an estimated $141 million invested into construction upgrades and operational support for Fort Detrick in 2023.[34]

- Fort Meade, located in Anne Arundel County, is Maryland's largest employer, with an estimated workforce of 63,000 individuals, including military, intelligence personnel, civilian, and contract workers.[35] Economic development professionals in Anne Arundel

County cite a direct link between Fort Meade and growth in the nearby National Business Park. Fort Meade is home to 120 resident organizations including National Security Agency (NSA), U.S. Cyber Command, and Defense Information Systems Agency. Additional development is underway. Over the next five years, officials expect Fort Meade to add 2,260 new jobs,[36] which should help sustain low unemployment and plentiful job opportunities in Anne Arundel County.

Post-pandemic outlook

The federal government is primed to remain a driving force of Maryland's economy. Notably, the Federal Bureau of Investigation (FBI) recently announced Greenbelt in Prince George's County as the site for its new headquarters. Additional investment in Maryland's federal contracting community is anticipated, considering historic levels of federal spending on climate, defense, and manufacturing associated with the Inflation Reduction Act, the CHIPS (Creating Helpful Incentives to Produce Semiconductors) Act, the Bipartisan Infrastructure Act, as well as foreign aid, and defense appropriations.

For Maryland to surpass its pre-pandemic employment levels, private sector growth must improve. The federal procurement economy provides a prime opportunity for greater private sector growth via contracting opportunities through the new investments mentioned above, as well as additional opportunities on the horizon. For example, Baltimore was designated as a Federal Tech Hub for biotechnology and artificial intelligence by the U.S. Department of Commerce in 2023. This designation is expected to spur a $4 billion market for predictive technologies.[37]

Other near-term factors likely to affect Maryland's economy include federal workplace policies and political gamesmanship in Washington, D.C. As the federal government grapples with the future of remote and hybrid work, Maryland will be uniquely impacted. A hybrid federal workforce where workers come into the office one to three days per week presents some opportunities for Maryland by allowing the labor and commuter shed to shift outwards from the Washington, D.C. suburbs and other densely populated areas surrounding Maryland's military installations into less populated, more affordable parts of the state.

Officials in Frederick County have observed an influx of federal employees from the immediate Washington, D.C. suburbs, above and beyond existing employees at the federal facilities and agencies located in the county. Such migration could also benefit Western Maryland and the Eastern Shore, where the federal government has a relatively smaller footprint (compared to Central and Southern Maryland), and there are relatively fewer high-paying jobs.

On the other hand, a permanent shift to remote work could motivate some Marylanders working locally for the federal government to leave the state entirely, which would hurt the state's economy. At this point in time, based on federal guidance and policy, it appears that the federal workplace is moving to a permanent hybrid model, which will likely keep Marylanders within commuting distance of federal agencies.

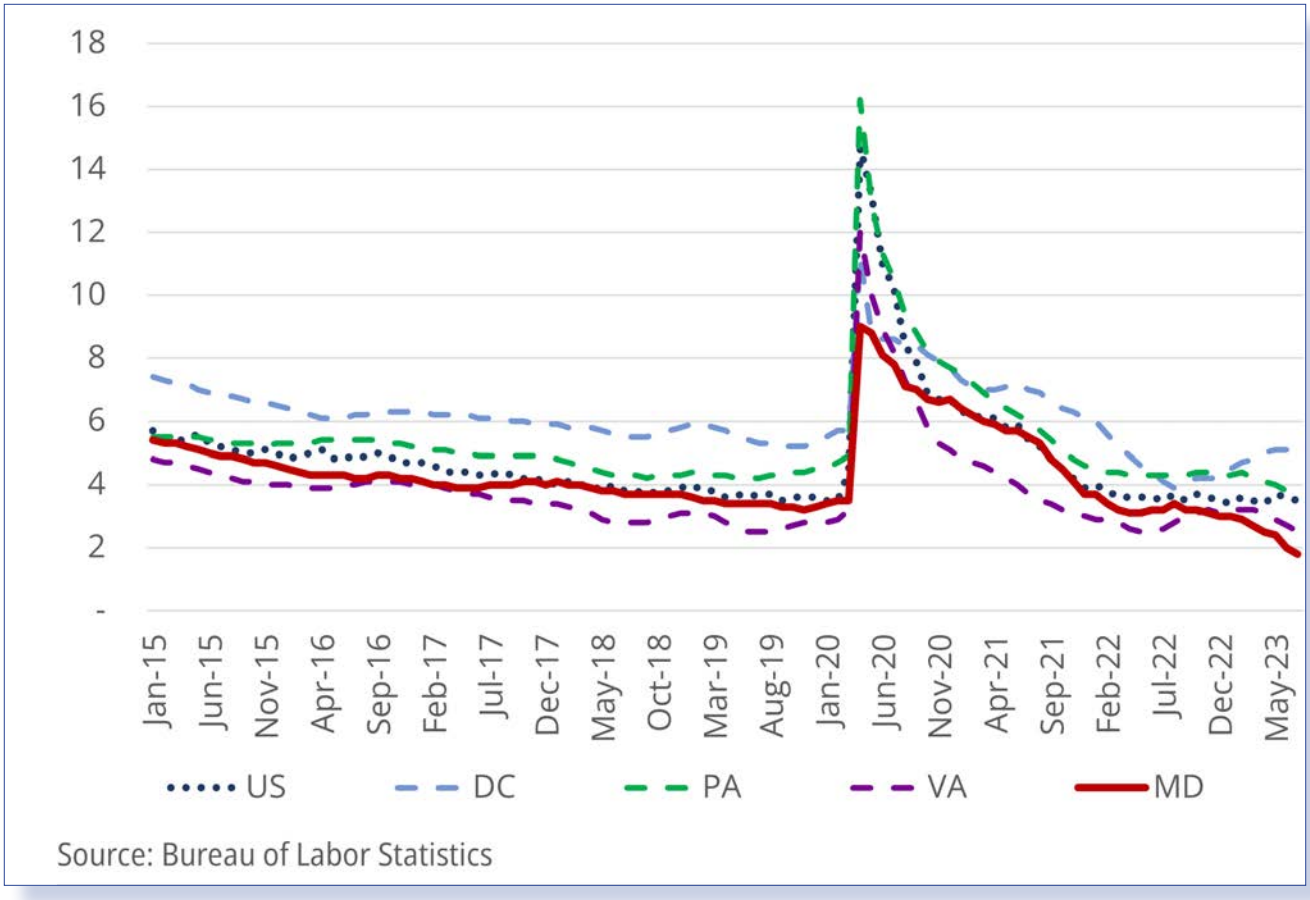
Finally, Maryland's reliance on the federal government means increased exposure to budget battles and other politics in nation's capital. A federal government shutdown would have outsized effects in Maryland. A decade ago, the budget and shutdown battles over sequestration and the debt ceiling had significant negative impacts on Maryland's economy. Withholding taxes and economic output slowed for years following the sequestration's enactment in 2013. Any further shutdowns or sequestrations could have long-term economic impact in Maryland.[38]

SECTION 2: MARYLAND LABOR FORCE PARTICIPATION TRENDS

Labor Force Overview

An important indicator of cyclical labor market trends is the unemployment rate or the number of people who are not employed and are currently looking for jobs, expressed as a percent of the total labor force (which includes the employed and unemployed). The unemployment rate is generated by the CPS and therefore reflects place of residence. As shown in Figure 12, Maryland and Virginia typically have a lower unemployment rate than the U.S., likely due to highly educated populations and consistent labor demand from the federal government. Washington, D.C., like most cities, typically has a higher unemployment rate.

Figure 12: Unemployment Rate (%)



Prior to the pandemic, Maryland's unemployment rate bottomed out at 3.2% in November 2019. In the same month, unemployment was 3.6% nationwide, 2.8% in Virginia, and 5.2% in Washington, D.C. In April 2020, unemployment spiked to a high of 9.0% in Maryland, 14.7% nationwide, 12.0% in Virginia, and 11.2% in Washington, D.C. While Maryland experienced a

similar magnitude of job losses during the pandemic, the unemployment rate did not rise by nearly as much, indicating a greater decline in Marylanders participating in the labor force. In the recovery from the pandemic, unemployment fell quickly nationwide, and in 2021 the national unemployment rate nearly matched the unemployment rate in Maryland. However, the decline in unemployment in the U.S. leveled off in early 2022, while unemployment continued to decline in Maryland.

By July 2023, Maryland's unemployment rate fell to a remarkably low 1.8%, compared to unemployment rates of 2.5% in Virginia, 5.0% in Washington, D.C., and 3.5% nationwide. Maryland's low unemployment rate indicates the available labor supply is in high demand and highly utilized.[39] In Maryland, there are 3.1 job openings for every 1 job seeker compared to the U.S. as a whole where there are 1.3 openings for every job seeker.[40] A very low unemployment rate also points to a constrained labor supply as the cause of Maryland's lower employment growth, rather than an issue of lack of demand from employers. An additional consideration is that the unemployment rate is a somewhat limited indicator of the labor market and is best for assessing the strength of the economy in the short-term.

A very low unemployment rate also points to a constrained labor supply as the cause of Maryland's lower employment growth, rather than an issue of lack of demand from employers.

Labor Force Participation Overview

A broader measure of the labor market that reflects longer-term trends is labor force participation, which measures the percentage of the population who are either working (employed) or actively looking for work (unemployed). An unemployed person is defined as someone who is not employed and actively looking for work. A person who is not participating in the labor force is one who is not employed and not actively looking for work.

Maryland's civilian Labor Participation Rate (LPR) is traditionally higher than the national average and most other states. While this is still true, the gap has narrowed considerably, because of improvements elsewhere and contracting labor participation in Maryland, as shown in Figure 13.

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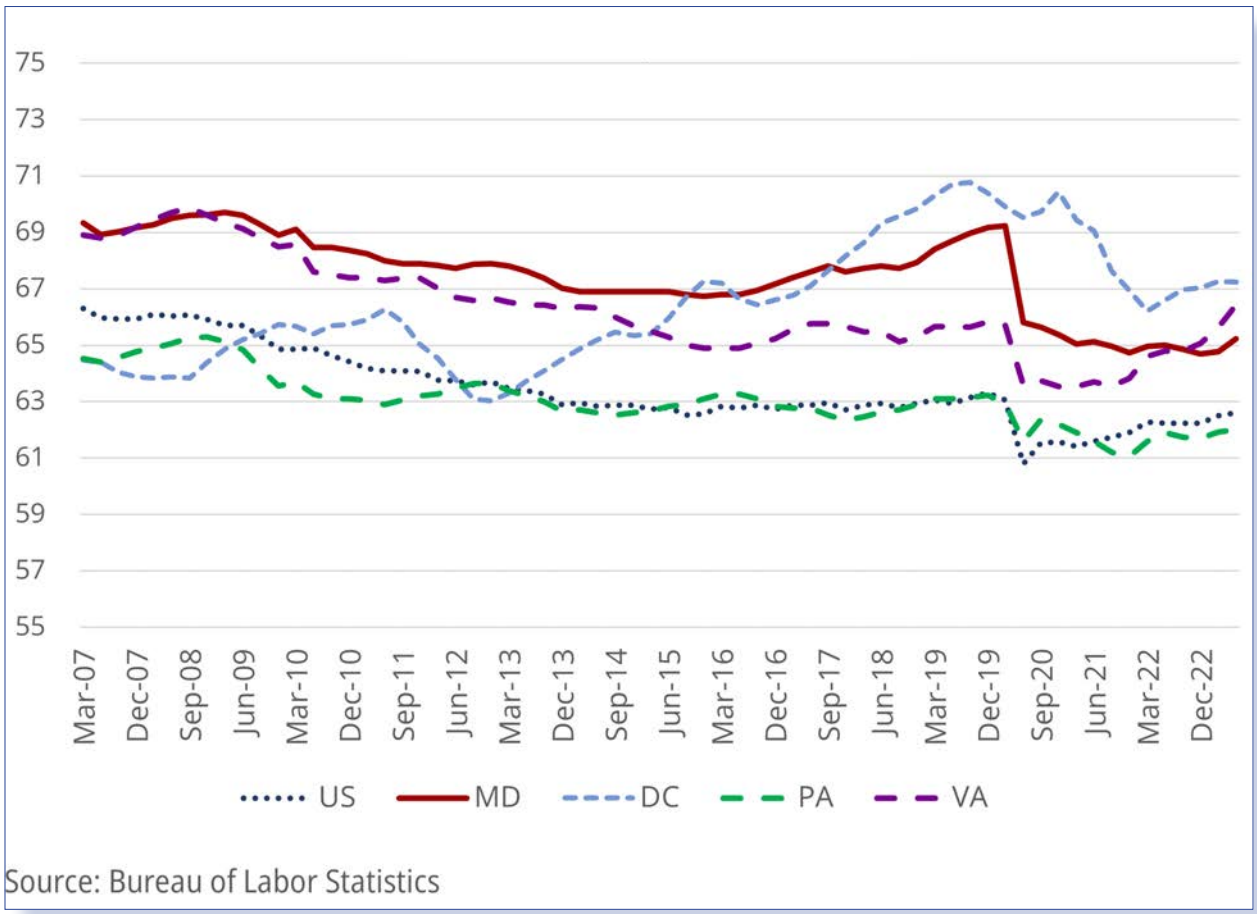
Figure 13: Labor Participation Rate (%)



Two trends are responsible for the decline in LPR in Maryland and across the U.S. First, there is decline in labor participation that pre-dates the pandemic. This trend is driven by various factors, including the aging of the overall population and an increase in health problems and other barriers to labor participation, some of which stem from the ongoing opioid epidemic. It is difficult, however, to determine causality – often a lack of economic opportunity and poor health are reinforcing feedback loops. Second, and less understood, is the sharp decline in LPR in Maryland since the pandemic that has subsequently not recovered even though it has in most states and the U.S.

Examining data on the pre-pandemic decline and pandemic-induced decline reveals that the declines vary both in gender and age. Dating to the early 2000s, LPR in the state has declined for both men and women, noticeably between the ages of 25 and 44. Though the decline in women was only between the ages of 25 to 34, the drop in this age group is concerning as most workers approach their peak earnings in their 40s. Since 2016, LPR has increased or is mostly stable for those ages 45 or older but does not offset the aging population or LPR decrease in the younger population.

Figure 14: Men Not in the Labor Force by State (Ages 35 – 44)

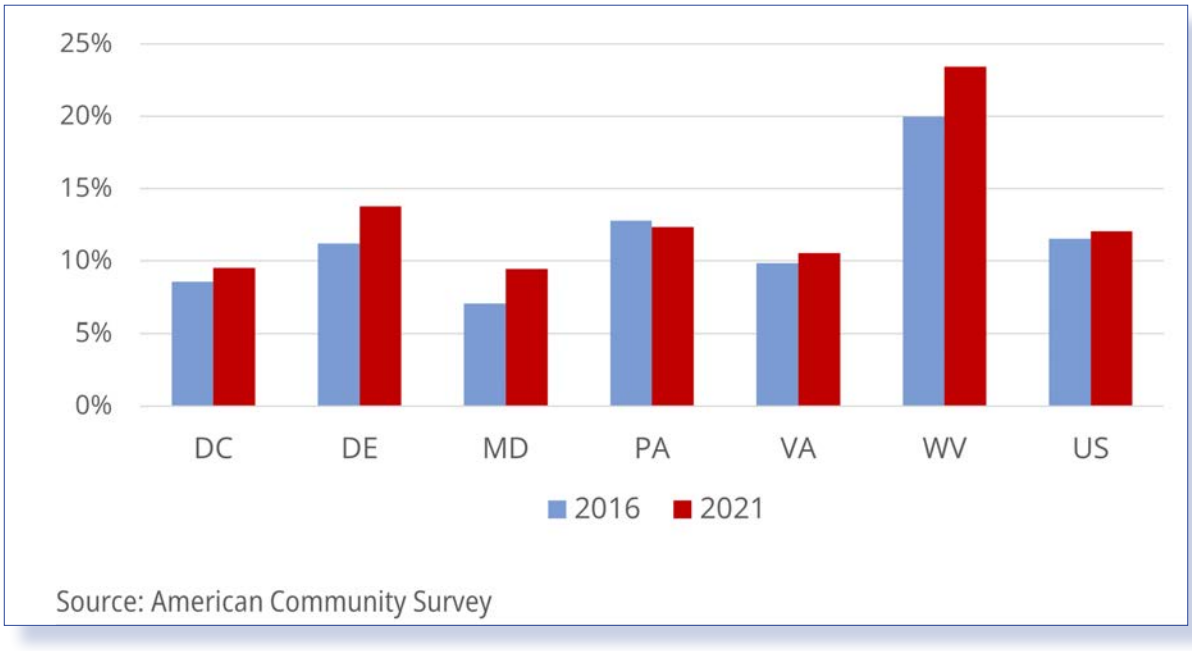
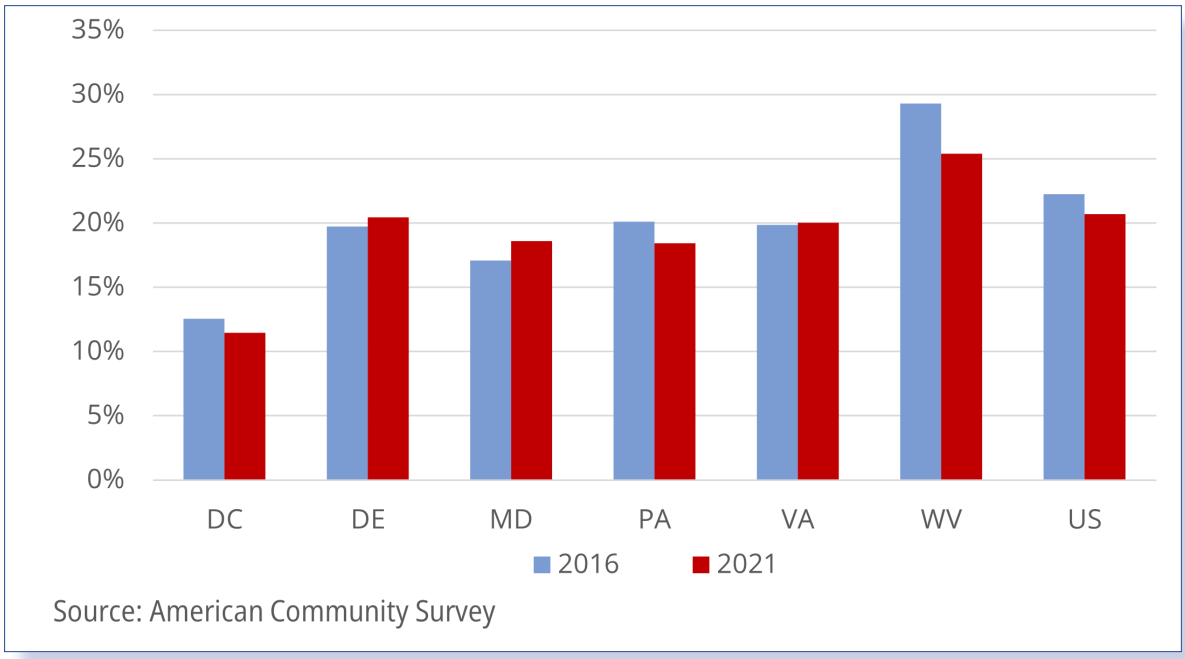


Figure 15: Women Not in the Labor Force by State (Ages 25 – 34)



The decline in LPR for women has been more pronounced in Maryland than the rest of the nation. The decline in participation for women since the pandemic also occurred in those ages 16 to 24, as well as in the 25 to 34 age cohort. For men, the decline since the pandemic was most evident for those between the ages of 16 and 24.

The decline in LPR for women has been more pronounced in Maryland than the rest of the nation.

The factors driving the changes in LPR have important economic and policy implications. There was a mostly cyclical recovery in labor participation beginning in 2016 that lasted until 2019. In the aftermath of the Great Recession, many people wanted to work, did not find suitable employment, became discouraged, and dropped out of the labor force. Overall participation increased when an improved labor market enticed some people back into the work force.

It appears that structural issues, such as the aging population, poor health conditions of the working age population, and worker-replacing technologies are mostly responsible for the Maryland's LPR decline since the Great Recession. If so, improvements in the labor market will likely not lead to a significant improvement in labor force participation and will constrain the growth of the state's labor force.

Changes in Maryland's LPR – Great Recession through the COVID-19 Pandemic

There was a prolonged decline in Maryland's LPR during the Great Recession, and it did not begin to recover until 2016, when Maryland's LPR increased by 1.9 percentage points. LPR had almost fully recovered by late 2019. (See Figure 13). This increase was better than the national average and most neighboring states, which were relatively flat except for the District of Columbia, which saw an increase. Even though Maryland's overall LPR increased, certain demographics experienced increased labor force dropout, setting the stage for Maryland's lack of recovery since the pandemic.

Maryland's LPR fell in the pandemic and has not recovered any of the lost ground, whereas nationally LPR has made a partial recovery. Maryland's LPR gradually declined through spring 2023. Although it has since recovered modestly, it remains below where it was in the fourth quarter of 2020. In contrast, Virginia's recovery has been so strong that Virginia has surpassed its pre-pandemic level and is now also higher than Maryland's LPR for the first time since 2008 (as illustrated in Figure 13).

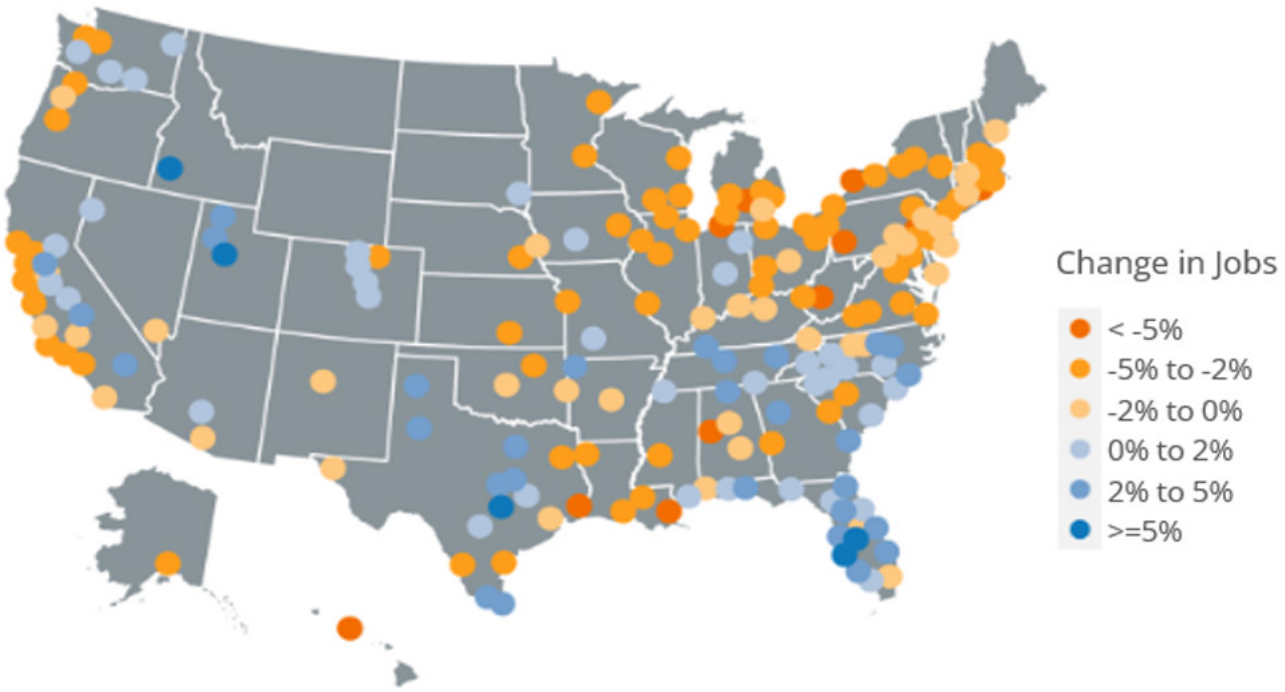
While all regions of the U.S. saw a decline in labor participation during the pandemic, the four percentage points decline in Maryland was greater than the average. New England had the steepest decline, but it was only about 2 percentage points, about one half the decline in Maryland. Furthermore, the South Atlantic region, which includes Maryland, saw a decline of only 1 percentage point.[41]

Several studies have examined the factors contributing to the decline in Maryland's labor force since the pandemic. According to one study, Maryland experienced the tenth slowest growth rate since the pandemic, as of May 2021.[42] The study concluded that states with lower population densities required a less restrictive response to COVID-19, and therefore, experienced higher recovery rates. More densely populated states like Maryland had a higher risk of spreading COVID-19 before vaccines were widely available and therefore were slower to return to normal economic activities. Also, states with a slower recovery from the pandemic were more likely to have parents, especially mothers, stay at home while children attended school virtually.

Additionally, the Brookings Institution found that as of March 2022, most of the nation's large metro areas, including the District of Columbia, remained below pre-pandemic job totals, as Figure 16 illustrates.[43] Metro areas in the Northeast, West Coast, and Midwest were more likely to have shortfalls compared to pre-pandemic levels, whereas the Southeast and the non-coastal West were likely to have higher job levels.[44] Metro areas that had at least 5% job growth from February 2020 to March 2022 were also among the fastest-growing metro areas in the country prior to the pandemic.[45] Furthermore, as of May 2023, the Bay Area Council Economic Institute in California identified the District of Columbia and Baltimore areas as being among the economic regions with the lowest job recovery.[46]

From 2019 to 2021, Maryland had a greater decline in its labor participation than the national average and neighboring states, like Pennsylvania and Virginia. Nationally, and in Pennsylvania, the decline in labor participation since the pandemic is being driven primarily by men dropping out of the labor force. Conversely, Virginia's decline in LPR during the pandemic was driven almost entirely by women dropping out of the labor force. Maryland saw similar dropout rates between both men and women.

Figure 16: Change in Metro Employment, February 2020 to March 2022



Source: Brookings Institution analysis of data from Bureau of Labor Statistics.

Figure 17: Total Civilian Labor Force Participation Indexed to 2019 (=100)

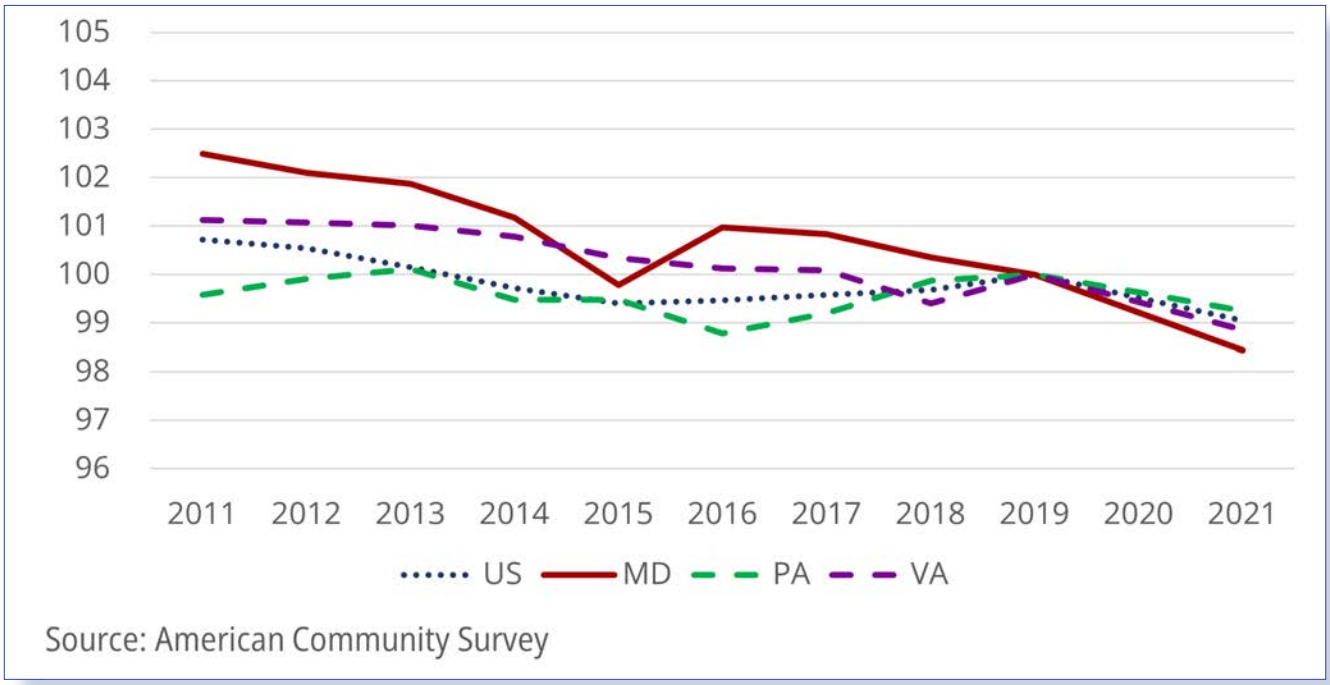
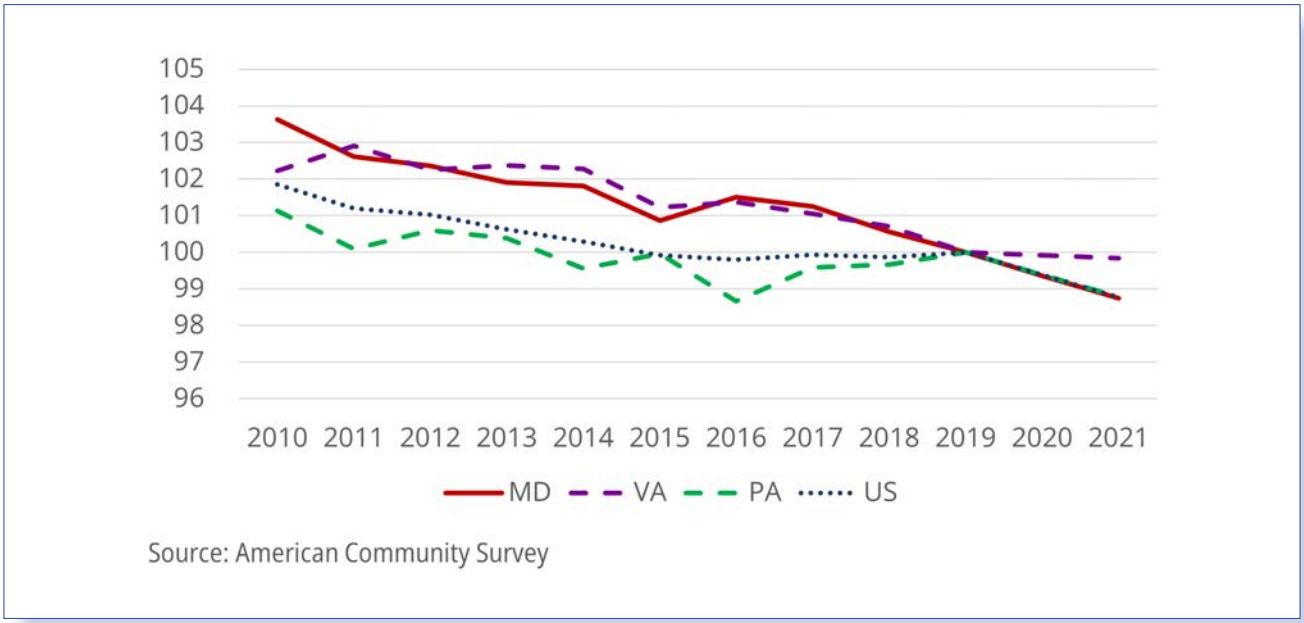


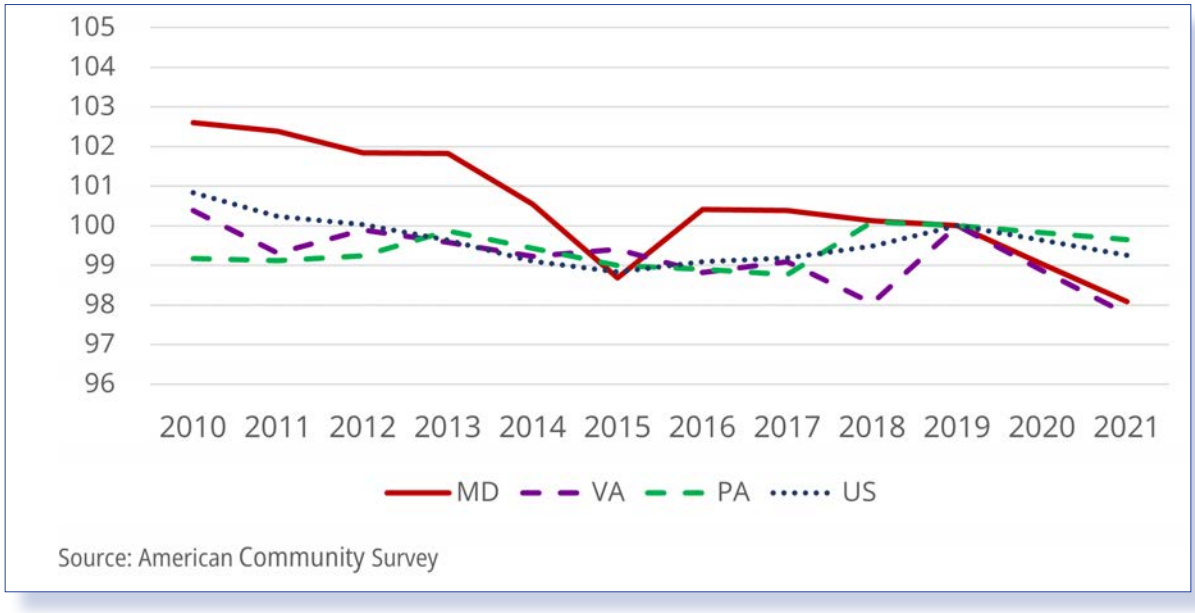
Figure 18: Male Civilian Labor Force Participation Indexed to 2019 (=100)



Male labor participation fell most, in Maryland and across the nation, in the 16-24 age cohort to an extent that cannot be fully explained by increased educational attainment. In Maryland, labor participation declined by 3.9% for these men, surpassing the nation's 1.4% decline; in Virginia and Pennsylvania, the decline was around 1.0%. In Virginia, the 65 to 74 age cohort had the largest decline in male labor participation at 1.4%, the same decline for this cohort as in Maryland, surpassing the nation's 0.7% decline. In Pennsylvania, the 75 and greater age group had the greatest labor force decline at 2.3%. See Figure 18.

While Maryland's male labor force declined at a faster rate than its female labor force during the 2016-2021 period, the pandemic had a more negative impact on the female labor force. Maryland women in the 16 to 24 and 25 to 34 age cohorts had a 2.0% decline in labor participation from 2019 to 2021. Virginia fared even worse with 3.9% and 2.3% of women in the 16 to 24 and 25 to 34 age groups dropping out of the labor force, respectively. By comparison, only 1% and 0.4% of women in the 16 to 24 and 25 to 34 age groups dropped out of the labor force, nationally.

Figure 19: Female Civilian Labor Force Participation Indexed to 2019 (=100)



For more detailed information on the change in labor participation by gender and age, please refer to Appendix 1.

Potential Factors Driving Lower Labor Participation

The decrease in labor participation in Maryland, neighboring states, and the nation since the Great Recession can be attributed to multiple factors, including the aging population and the related rise in retirements. Following the Great Recession, baby boomers began to reach retirement age. Since then, the age 55 and older cohort's share of the population has been growing across most states and census regions. At the same time, the 18 to 44 age cohort's share of the population has trended downward or has remained relatively flat since the Great Recession (but increasing slightly during the pandemic).[47]

Compared to its neighboring states and the nation, Maryland has a relatively low percentage of its population in the 15 to 24 age group and a relatively higher percentage of its population in the 45 to 54 age group. Furthermore, these shifts in the makeup of the population have resulted in the median age increasing for more than a decade across states, Census regions, and the nation. Maryland's median age has remained higher than the national average, the District of Columbia, and Virginia. Meanwhile, the median age in Maryland is lower than West Virginia, Pennsylvania, and Delaware.[48] The aging population explains much of the overall decline in U.S. labor participation since the Great Recession. But this national trend cannot explain Maryland's relatively worse performance.

Detailed examination of the data presented earlier revealed that there are disparities in labor force dropout rates by age and gender. In Maryland, the decline in male labor participation, since the Great Recession, is most prevalent in the 25-34 and 35-44 age cohorts. For women, labor participation decline, since the Great Recession, is most pronounced in the 25-34 age cohort. This raises the question of what factors are affecting these groups to a greater extent in Maryland than nationwide.

According to the 2020 *Annual Social and Economic Supplement of the Current Population Survey*, the most commonly cited reason why working-aged women in the United States are not in the labor force is that they are taking care of the home, a term that includes childcare, followed by going to school. The survey reported that 37% of women not in the labor force were taking care of the home compared to only 6% of men not in the labor force.[49]

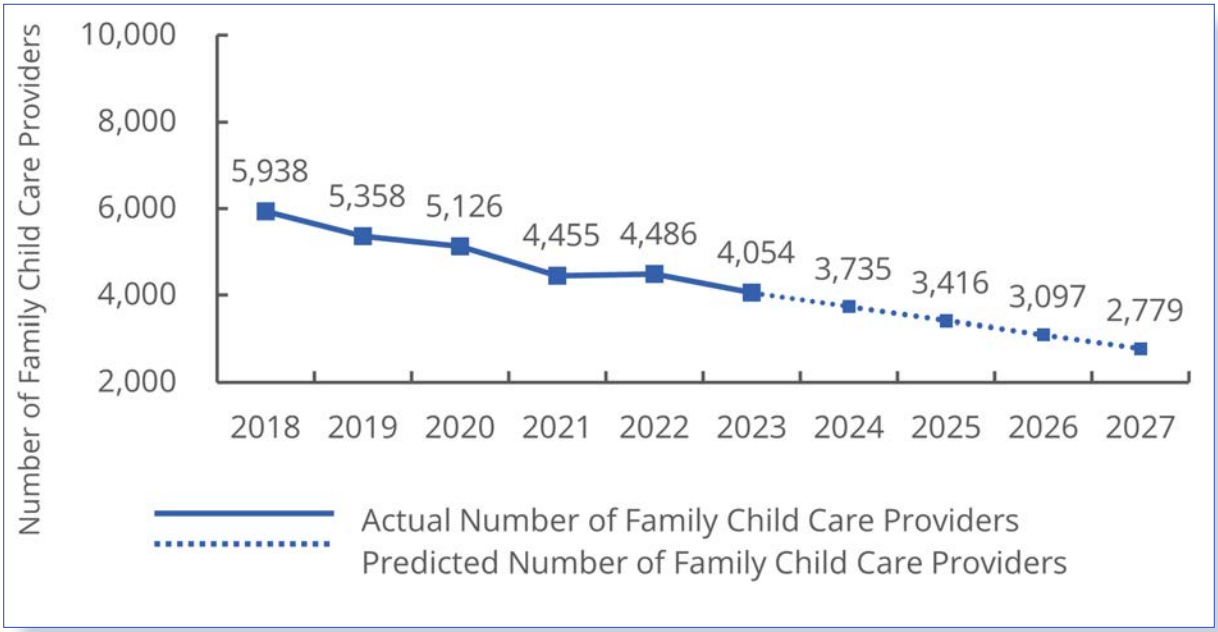
Many of the women surveyed are leaving the workforce to care for children. Childcare costs are rising, and for many families, losing one income is less costly than two incomes paying for childcare services.[50] One study illustrating the role of childcare costs in female employment found that as childcare costs increased, overall female employment decreased by 5%. Employment for women with children under the age of 5 decreased by 13%.[51] Conversely, policies mitigating childcare costs are associated with improved female labor participation.[52]

Female labor participation in the U.S. stopped rising at the end of the 20th century and has gradually declined so far this century. In contrast, female labor participation continued to increase in other wealthy industrialized countries. According to the Organization for Economic Co-operation and Development (OECD), an organization of mostly high-income countries, the working-age female LPR in the U.S. was 4.9 percentage points above the OECD average in 1990. In 2022, that measure was 0.7% below the average.[53] Research by the OECD and others typically identifies childcare responsibilities as a primary reason for women to exit the labor force. That research also shows access to childcare and family-friendly policies, such as paid family leave and flexible schedules, enable more women to participate in both raising children and working.

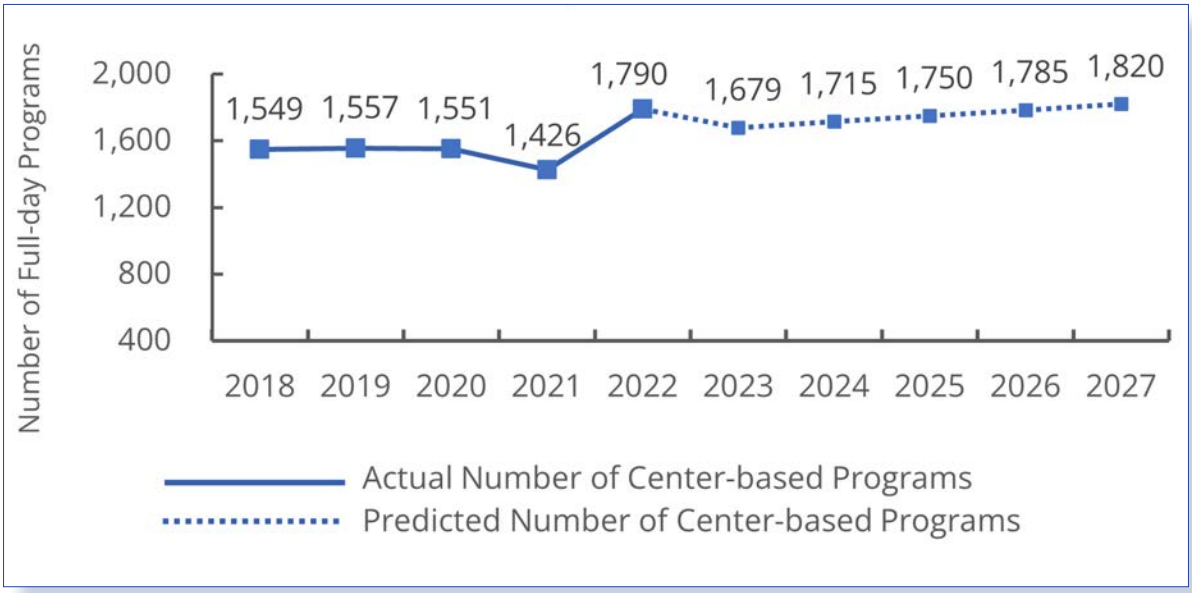
According to the 2022 Cost of Care Survey, Maryland ranked as the eighth costliest state for daycare. The District of Columbia was ranked as the most expensive.[54] The number of family daycare providers in Maryland is declining while center-based programs appear to be recalibrating after volatility during the pandemic, as shown in Figure 20. In addition, costs are continuing to increase across family and center-based programs for all age groups.[55]

Figure 20: Actual and Predicted Growth Patterns for Family and Center-based Child Care Providers

Actual and Predicted Number of Family Child Care Providers in Maryland 2018-2027



Actual and Predicted Number of Center-based Child Care Providers in Maryland 2018-2027
Full-day (8-12 hours)



Source: Maryland Family Network Childcare Demographics Report 2023

Health Outcomes as Barriers to Employment

In work published for the Brookings Institution,[56] economist Alan Krueger undertook an expansive analysis of U.S. labor force and employment trends, including the decline in labor participation. His research identified the aging population as the primary driver and found that increased school enrollment largely offset declining LPR among young people.

Additionally, his research led to a concerning conclusion that health issues are also a key factor causing the decline in LPR and are primary barriers preventing working-aged people from entering or re-entering the labor force. For example, he found that one-half of working-age men who are not in the labor force have a health condition that is a barrier to employment. People who are not in the labor force report health barriers at significantly higher rates than do those who are unemployed and therefore still in the labor force due to their current efforts to find a job. This suggests that a strong job market has only a muted impact on overall labor participation, as labor participation is much less sensitive to the business cycle than employment.

The pandemic has likely worsened health outcomes and increased health-related barriers to employment. Research released in August 2023 by the U.S. Centers for Disease Control and Prevention found that 6% of U.S. adults had Long COVID, and one-fourth of those adults reported significant activity limitations. The study also found that the prevalence of Long COVID was highest in the 35 to 44 age cohort. As a more densely populated state, Maryland had higher COVID infection rates before vaccines were widely available.[57]

Krueger's research found both physical and mental health and well-being play a prominent role in labor participation trends nationally. Working-aged men who are not in the labor force reported low levels of emotional well-being, and women surveyed who left the labor force for reasons other than home responsibilities reported similarly low levels of well-being. These issues are somewhat circular, since a physical or mental health issue can push an individual out of the labor force, which can then result in worse physical and mental health, which can affect job search efforts, and cause other negative outcomes.

See Appendix 2 for additional detail on the potential impact of mental and physical health, including the opioid epidemic, on labor force participation in Maryland.

Case Study: Changing Healthcare Workforce

Why it matters

Healthcare is the largest industry in terms of employment in Maryland and the nation. Bureau of Labor Statistics employment data from May 2022 shows that the healthcare industry represented 9.6% of all jobs in the state with 253,000 jobs.[58] If including social assistance jobs, total healthcare related jobs account for 13.3% of all jobs in Maryland, which ranks first by share of total employment distribution in the state. Occupational Employment and Wage Statistics published in May 2022 measured the annual mean wage for healthcare practitioners and technical occupations to be $108,360. That is nearly $40,000 more than the statewide annual mean wage of $69,750.[59] (Note: this is a different metric than statewide median household income of $108,200).

The healthcare industry is a key fixture of Maryland's economy and will play an increasingly important role as the state population continues to age. In less than 30 years, the share of Maryland's population aged 65 and older has increased by 6 percentage points: from 11% in 1995 to 17% in 2022 and shows no signs of slowing.[60] Nationally, trends are similar. Between 2010 and 2020 the U.S. saw the largest-ever percentage point increase in the 65-plus population, from 13% to 16.8%[61].

What happened during the pandemic?

A top headline of the pandemic was that the healthcare industry faced a unique burden as the frontline workforce – healthcare heroes – cared for sick patients while facing daily exposure to the virus. After three years, the industry is seeing the impacts of employee burnout. While healthcare workers were hailed as heroes during the pandemic, risking exposure to COVID-19 while tending to the ill and saving lives, their sacrifice has a steep cost.

A 2022 report by the Maryland Hospital Association found a 25% vacancy rate in nursing positions across hospitals.[62] Furthermore, the shortfall of nurses needed to meet demand by 2035 is growing.[63] More than 60% of Maryland Board of Nursing licensees and certificate holders surveyed say they have thought about leaving nursing recently due to feeling overworked and burned out.[64]

Post-pandemic outlook

To reduce vacancies and sustain service post-pandemic, healthcare providers have made significant adjustments to their workforce models, according to the participants of Policy Division roundtable discussions. These adjustments include: (1) accommodating remote work where possible, (2) offering other forms of flexibility or benefits to in-person staff, and (3) relying more heavily on contract staff, third-party staffing agencies, international workers, and part-time employees to meet staffing needs. For example, prior to the pandemic, Frederick Health, in Frederick County, paid workers compensation insurance in just three states. They are currently filing in 17 different states, where their remote workforce is located. This hospital and others have turned to allowing IT, finance, and call center staff to work remotely to achieve or sustain adequate staffing.

Where employees (like doctors, nurses, and other clinical staff) cannot work remotely, healthcare providers are limited in the perks they can provide, and vacancy rates are higher. One approach, employed by Adventist HealthCare, in Montgomery County, and others, is to spend more on signing bonuses for full-time employees. While the program has been successful in attracting new employees, the approach comes with potentially unintended consequences in a tight labor market, including elevated turnover as some healthcare workers jump between hospitals in search of the best deal—a risk factor that health systems have to weigh. Employers on the Eastern Shore describe "cannibalizing themselves" with slight variations in starting salary. In response, TidalHealth, in Wicomico County, and other area hospitals are evaluating pay scales to reduce turnover and are implementing retention bonuses.

All hospitals that participated in roundtable discussions noted outsized spending on contract nurses (or "travel nurses") in recent years to accommodate unprecedented demand with a relatively fixed labor supply. TidalHealth reported that at certain points during the pandemic, more than 8% of their staff were agency contractors, up from about 0.7% historically. Several hospitals noted a surge in activity from third-party staffing agencies. TidalHealth reported experiencing staff quitting, connecting with a third-party staffing agency, and returning to work at the hospital at a higher cost to TidalHealth. Similarly, Adventist HealthCare reported a high percentage of travel nurses on their payroll who are local but pursue contract nursing because it can be more lucrative. Adventist HealthCare has made a concerted effort over the last year to reduce those high agency utilization rates. Strategies they have used include a post-pandemic recruitment campaign incentivizing travel nurses to join the healthcare system as employees.

Frederick Health shared that they have implemented strategies to reduce poaching by external agencies and to encourage nurses to return to full-time employment, with some positive results. Frederick Health and others are finding that contract nursing work is slowing and returning to pre-pandemic rates.

Even as hospitals get their headcounts back to pre-pandemic levels, their labor force looks different today than it did a few years ago. There are more healthcare workers willingly seeking part-time, per diem, and contract work, with less focus on retirement and savings and more emphasis on sign-on bonuses. Notably, increases in contract employment are not limited to healthcare. Discussions with Maryland's labor unions revealed a significant concern around the rise in independent contractors and instances of worker misclassification, during and coming out of the pandemic. Unions say this shift can deprive workers of overtime, as well as other workplace protections and benefits.

The state of Maryland's healthcare workforce appears less stable and more transient than it was pre-pandemic, which deserves close attention in the near term. The labor force issues confronting the healthcare industry demonstrate the extent to which the depressed labor supply is restricting economic growth in Maryland. Demand for healthcare is strong and employment would be expanding if there was more labor force available.

Case Study: Women and Maryland's Economy

Why it matters

Relative to other states, Maryland continues to have a strong labor force participation rate (LPR). As of July 2023, LPR in Maryland was 65.3%[65] compared to 62.7% for the U.S. The last time that Maryland's labor force participation rate was at or below 65% was in the 1970s.[66] Just before the pandemic (in February 2020) Maryland's labor force participation rate was 69% compared to 62% for the entire U.S.[67]

While greater than the national rate, the 4-percentage point differential in Maryland's pre- versus post-pandemic labor force participation rate is significant and is a drag on the state economy. It represents 181,000 "missing workers" from February 2020-July 2023, Marylanders who are no longer employed and are not looking for work. Until the state's labor force participation rate recovers, or population grows significantly, economic growth is likely to remain sluggish. The labor shortage means that even if economic conditions are strong and employers have growth opportunities, they won't have access to a workforce that will facilitate that growth.

From 2019 to 2021, men and women in Maryland dropped out of the labor force at similar rates. Dropout rates among men tracked with most of Maryland's neighbors and national trends. Dropout rates among women in Maryland, however, stand out. Between 2019 and 2021, 2% of women ages 16-24 and 25-34 dropped out of the labor force in Maryland, whereas nationally these figures were 1% and 0.4%, respectively. In total, across all age cohorts, 100,000 women left the labor force in Maryland between 2019 and 2021.[68]Understanding why women in Maryland are leaving the labor force at this elevated rate and getting them back will be key to the state's near-term and future economic growth.

What happened during the pandemic?

Every state in the nation experienced a downturn in labor force participation during the pandemic, but most bounced back relatively quickly. Maryland did not. Maryland made the U.S. Census Bureau's list of six states where women's recovery is furthest from pre-pandemic levels.[69]

Roundtable participants shared their frontline perspectives on the reasons women are leaving the labor force, including childcare costs and changes in priorities among women

coming out of the pandemic, and a desire for more autonomy and flexibility as it relates to work policies. Data back up these observations and provide additional explanations.

- **Occupational segregation.** The industries most likely to employ women were disproportionately impacted by the pandemic.[70] Nationally, six in 10 women were employed in three sectors at the outset of the pandemic: education and health, leisure and hospitality, and retail.[71] These industries experienced outsized job losses, and their recovery has been slower.[72] Today, women are not participating in these sectors to the same degree that they did pre-pandemic, even where job openings have recovered.

- **Childcare.** According to a 2022 survey by the U.S. Chamber of Commerce, 32% of unemployed women do not plan to return to work because they must care for a family member.[73] Several roundtable participants shared personal stories of a spouse leaving the workforce to care for children because the margin between take-home wages and costs of childcare was so small. Many center-based childcare programs shut down during the pandemic, and while occupancy has recovered beyond pre-pandemic levels, family-based daycares, which tend to be more heavily relied on in lower income communities while also providing a source of income for community-based providers, have not.[74] Childcare in Maryland became more expensive during the pandemic. Between 2019 and 2023, the average annual cost of childcare increased by 14 to 30% across program types (family childcare providers and center-based programs) and ages (0 to 23 months, 2 to 4 years, and 5 years).[75] At the same time, the pay gap between women and men is growing – especially among those who are mid-career when they may be thinking about starting a family. [76,77] This may help explain the outsized decrease of women aged 25 to 34 in Maryland who left the labor force between 2019 and 2021 (2% of women in Maryland versus 0.4% of women nationally in this age cohort).

- **Labor force** dropout among women in dual-income households. According to the same 2022 survey by the U.S. Chamber of Commerce, 28% of unemployed women cited their ability to rely on other family members financially as the reason they have not returned to work.[78] In a high-wealth and rapidly aging state like Maryland,[79] there may be a disproportionate number of women in dual-income households who are financially secure enough to leave the labor force early.

- **Entrepreneurship.** Roundtable participants observed that (at least anecdotally) many women started their own business(es) during the pandemic. According to the Census Bureau's Business Formation Statistics, between 2019 and 2022, business

applications in Maryland increased by 31.4% across all counties. The increase in business applications during this time was greatest in Caroline County (69%), followed by Somerset (65%), Dorchester (61%), Wicomico (57%), St. Mary's (55%), Charles (55%), Allegany (51%), Washington (46%), Garrett (45%), and Frederick (45%) counties. Notably, these are all relatively rural counties. Per capita, the top ten counties for 2022 business applications were much more evenly distributed across the National Capital Region, Central Maryland, and the Eastern Shore. Garrett County in Western Maryland, however, still topped the list.[80] Surveys reveal that women are discouraged over job prospects – more so than men.[81] While business starts data are not broken down by gender, women may be disproportionately motivated, more so than men, to start businesses to pursue their passions and to have greater control over their schedules.

- **Higher education.** There are just over 1 million women in Maryland who hold at least a bachelor's degree compared to 867,053 men.[82] Despite depressed rates of enrollment in higher education nationally, women continue to represent the majority of college-educated workers.[83] Full-time enrollment in higher education, therefore, is another plausible explanation for the higher levels of labor force drop out among women aged 16 to 24 and 25 to 34 in Maryland.

Post-pandemic lookahead

One of the most important questions for Maryland's economy coming out of the pandemic is whether women, and especially prime-aged working women aged 25 to 34, will return to the labor force at the same rates as prior to the pandemic. If women do not return to the labor force, Maryland's labor pool will remain shallow, making it difficult for employers to fill jobs and for the state's economy to grow.

The pandemic has demonstrated that women are especially interested in and highly value flexibility in their work. Some of the early trends post-pandemic around workplace policies and business starts offer positive signs that more women will return to Maryland's labor force. The permanence of remote work could be an important factor for Maryland in boosting labor force participation for women to pre-pandemic levels. In speaking with business leaders and economic development officials across the state, opinions of remote work are mixed and employers' ability to accommodate demand for hybrid or remote varies greatly by industry. But there is consensus that some degree of remote work is here to stay for jobs that can be performed off site. While remote work is below its pandemic peak, and it is still too early to tell how widespread it will be going forward, it appears to be enduring, and that would likely boost women's participation in the labor force.

The surge in startups across a broad array of industries also appears to have staying power post-pandemic.[84] This is supported by Maryland's Department of Assessment and Taxation data on business starts, as measured by articles of incorporation and articles of organization submitted by residents. New business starts have remained relatively consistent and elevated over the past two years. And while these data are not broken down by gender, they offer a positive sign that women may be finding an alternative path through entrepreneurship to contribute to Maryland's economy. Conversations with women entrepreneurs across the state provide examples of this trend. In one instance, April Harper shared that she left her full-time payroll employment position in 2022 to pursue a side business producing and selling all-natural self-care products that she and her husband launched during the pandemic. Last year, the Harpers opened their business Harp Vision in Baltimore's Lexington Market and have since hired two employees, in addition to themselves. Harper expressed that a key reason for leaving her job was for flexibility to manage chronic health issues and pursue higher education, both of which align with research around labor force participation.

Other trends post-pandemic indicate that depressed levels of labor force participation in Maryland among women may be here to stay for some time. The ongoing availability and affordability of childcare is a stubborn challenge keeping women with young children out of the labor force. The Maryland Family Network anticipates ongoing declines in family-based childcare, which could have the effect of making childcare in Maryland even more expensive than the state's current position as the eight costliest state for child care.

There are other financial considerations that will likely determine whether women return to the labor force. For example, the U.S. Census Bureau reports that 19% of unemployed women have stated that they do not plan to return to work until wages increase.[85] This implies that if wages continue to rise more slowly in Maryland, compared to the U.S. and neighboring states, some women may remain on the sidelines of the economy. For women in dual-income households who dropped out of the labor force during the pandemic, there could be a need to return to the labor force to help boost household income, especially as pandemic-era savings dwindle. As a wealthy state, however, Maryland may have comparatively more of these households where one member can afford not to work.

Looking ahead, it will be important to monitor the trends of women and the economy in Maryland to determine whether a new normal is emerging with fewer women working in the traditional labor force and how the state will make up for the lost economic activity.

SECTION 3: MARYLAND POPULATION AND MIGRATION TRENDS

Population and Migration Introduction

Attracting and retaining people to live, work, raise a family, and retire underlies the economic vitality of any region. Population growth can also be driven by changes in migration, improvements to health, and other demographic trends including aging and fertility rates. These factors change the natural population growth rate (domestic births minus deaths) and net migration patterns (in migration minus outmigration). Migration is further broken down to account for migration to other states within the U.S. and net international migration.

Maryland's population growth has been impacted by two national trends. First, natural population growth has slowed since the Great Recession as birth rates have declined. Second, domestic migration patterns have recently shifted. Previously, large metro areas of the U.S. continued to attract workers and increase in population. The pandemic exacerbated a recent shift away from these more populous and higher cost-of-living areas to smaller metropolitan areas and non-metropolitan counties.

Given the decline in the natural population, this shift in domestic migration away from more expensive states such as Maryland had an outsized impact on the total change in population. In 2021 and 2022, Maryland's population declined for the first time since World War II. Examining migration within Maryland shows a similar pattern – people moving away from the Baltimore and Washington, D.C., metro areas to the Eastern Shore, Southern Maryland, and Western Maryland. The cost of housing may be one of the key factors driving the decision on where people live.

The pandemic caused many shocks to society, and, as with many of its impacts, it is too early to determine if the recent shift in migration is durable, or whether it will continue in the same magnitude. For example, the last time Maryland's population declined, the decline was followed by a decade of strong population growth.

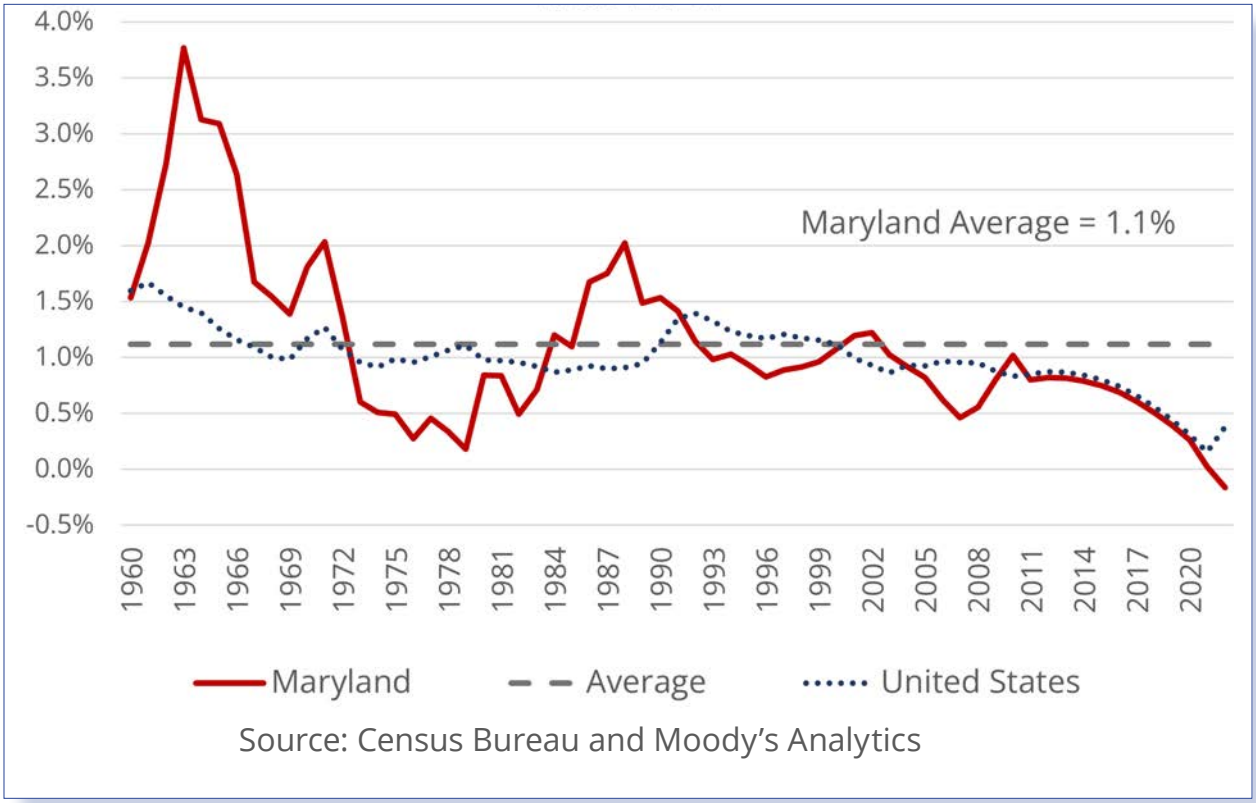
Maryland's Profile – Migration/Economic Output

As illustrated in Figure 21, Maryland's population often follows cyclical patterns, growing faster than the U.S. in the 1960s, lagging in the 1970s, then outperforming again in the 1980s. Starting in the 1990s, Maryland's population has increased more slowly, except for a few years in the early 2000s. Federal government spending increased significantly after 9/11, likely

drawing people to Maryland to fill additional jobs. This shows a strong relationship between job creation and population growth.

Population growth in the U.S. slowed significantly in 2010 primarily due to an aging population. Population growth in Maryland slowed in a similar manner but to a greater extent. In the years since the pandemic, there has been a divergence as the U.S. population increased by 0.4% in calendar 2022 while it decreased by 0.2% in Maryland.

Figure 21: U.S. and Maryland Population Growth 1960 – 2022

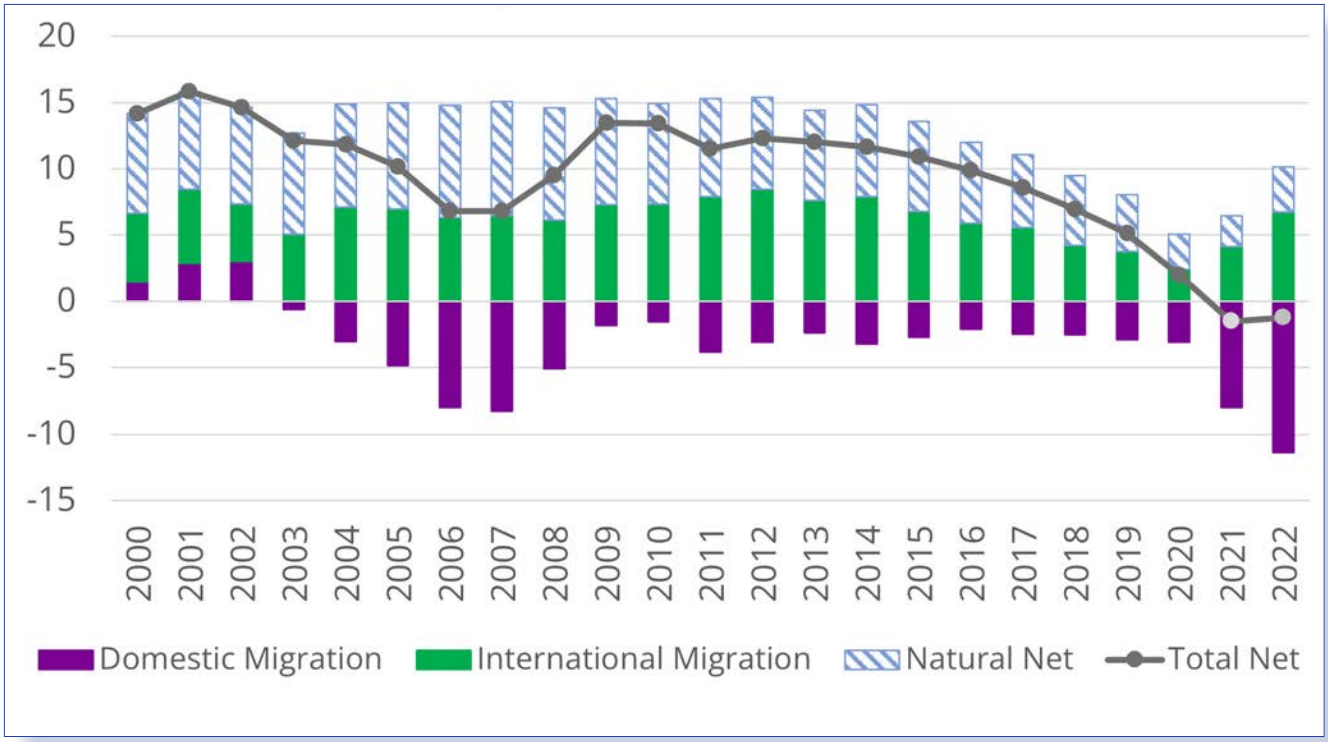


Although COVID-19 was the third and fourth largest cause of death in the U.S. during 2021 and 2022, this does not explain Maryland's population loss as the nation gained population.[86] Maryland's natural population growth rate of 2.23 per 1,000 residents in calendar 2022 was higher than the national rate of 1.43, primarily due to a lower death rate.[87]

As demonstrated in Figure 22 below, for the last ten years, Maryland has experienced domestic outmigration – Maryland residents moving to other states in greater numbers than those moving into Maryland. However, the pandemic and its shocks to society expedited domestic outmigration in the last two years. The recent decline in Maryland's population is attributable to increased domestic outmigration combined with longer-term decline in natural population growth.

The recent decline in Maryland's population is attributable to increased domestic outmigration combined with longer-term decline in natural population growth.

Figure 22: Maryland Domestic Outmigration and Natural Population Growth (thousands)



Maryland's migration pattern is similar to other wealthy states including Connecticut, Massachusetts, and New Jersey which have expensive housing markets and large urban economic centers. Most of these states, including Maryland, have above-average capital per worker, leading to higher productivity and therefore higher incomes.[88] Maryland had the highest median household income in calendar 2022 and has either been first or second highest in the last ten years.[89] This begs the question of why people are leaving (and not moving to) the State given its economic advantages. The cost of living (chiefly cost of housing), especially for older adults who benefit less from Maryland's public schools and high-wage jobs, is central to the answer.

Ever since the Agricultural Revolution, regions with high non-agricultural labor productivity typically pull in migrants in search of higher incomes. These regions experienced higher population and economic growth than regions with lower productivity. Currently, in the U.S. and Maryland, the opposite is occurring.

Examining migration by age and income cohort, as well as by source of immigration and destination of emigration can shed some light on domestic migration patterns. There is a wide spectrum of people migrating in and out of the State. Generally, higher-income and older residents have the greatest propensity to emigrate, while younger, middle-income people are immigrating to Maryland. At the same time, there are people migrating within Maryland and across neighboring state lines that fall outside of those categories of domestic migrants.

In general, Internal Revenue Service (IRS) tax return data show people are moving to Maryland from jurisdictions with similarly high incomes but relatively higher costs of living, such as New York, and the District of Columbia (see Figure 24). Similarly, people are moving out of Maryland to states with a lower cost of living such as Pennsylvania and the Carolinas. This general pattern of people moving away from areas of high cost of living is evident both nationally and when examining county-to-county migration within Maryland (see Figures 24 and 25).

The relatively higher net migration for younger, middle-income residents suggests that people move to Maryland earlier in their careers to access the state's high-wage job market, particularly in the Washington, D.C., and Baltimore metropolitan areas. Maryland's public K-12 and higher education systems also provide a strong incentive for families with school-aged children to move to or remain in Maryland.

Although Maryland has a lower cost of living than Washington, D.C., it has some of the most expensive neighborhoods in the country.[90] As people age, the pull factors of high wages and quality schools and other government services matter less, and the cost-of-living matters more. The economic centers that attract some people are a prime driver for others to leave or decide to not move to Maryland, due to high costs.

Simultaneously, the more populated areas of Maryland are experiencing outmigration, whether to other states or other regions of Maryland.[91] These trends suggest a displacement effect, where net migration falls as the overall population, and related cost of living, rise. People who choose not to move to Maryland, who may have otherwise done so (were it not for cost) also reduce the state's population growth. However, the number of people who make that choice cannot be observed in the data.

Domestic Outmigration by Income and Age

IRS taxpayer migration data tracks tax return filings as filers move throughout the country. This data was used to produce net migration statistics by age and income cohort as seen in Figure 23. The average annual net migration between 2012 and 2020 in Maryland reflects a loss of just over eight thousand residents to domestic migration annually.

In general, outmigration in Maryland since the pandemic is now greater at the ends of the age and income spectrum. The increased outmigration is concentrated among those under age 26, and age 55 and older, while overall rates have not changed in the 26 to 54 age cohort. Outmigration is generally stable for middle-income individuals ($50,000 to $100,000) but has increased for both low (under $50,000) and high-income (over $100,000) individuals.

As with younger and older individuals, outmigration since 2012 in the 26 to 54 age cohort was higher for low-income individuals. However, outmigration lessened for moderate and high-income individuals, demonstrating how factors like age and income can change sensitivity to cost of living.

In general, outmigration in Maryland since the pandemic is now greater at the ends of the age and income spectrum.

As illustrated in Figure 23, the majority of Maryland's positive net migration can be found among individuals between the ages of 26 to 44, and is greatest among people aged 35 to 44.

Figure 23: Net Annual Average Flow of Maryland Migration – Calendar Years 2012 through 2020

Income Group	All Ages	Under 26	26 - 34	35 - 44	45 - 54	55 - 64	65 and older
Total	(8,006)	(918)	(995)	(309)	(1,021)	(2,957)	(1,806)
1 - 10K	(9)	134	(16)	(58)	(49)	(74)	54
10K - 25K	(466)	(272)	(35)	(19)	(44)	(148)	53
25K - 50K	(449)	(254)	98	107	(68)	(262)	(70)
50K - 75K	(1,224)	(348)	(359)	74	(72)	(329)	(191)
75K - 100K	(1,287)	(115)	(343)	(16)	(97)	(394)	(322)
100K - 200K	(3,075)	(57)	(371)	(311)	(396)	(1,071)	(868)
200K+	(1,496)	(6)	31	(85)	(296)	(679)	(462)

High Migration Flow — Low Migration Flow

Source: U.S. Internal Revenue Service; MD Bureau of Revenue Estimates

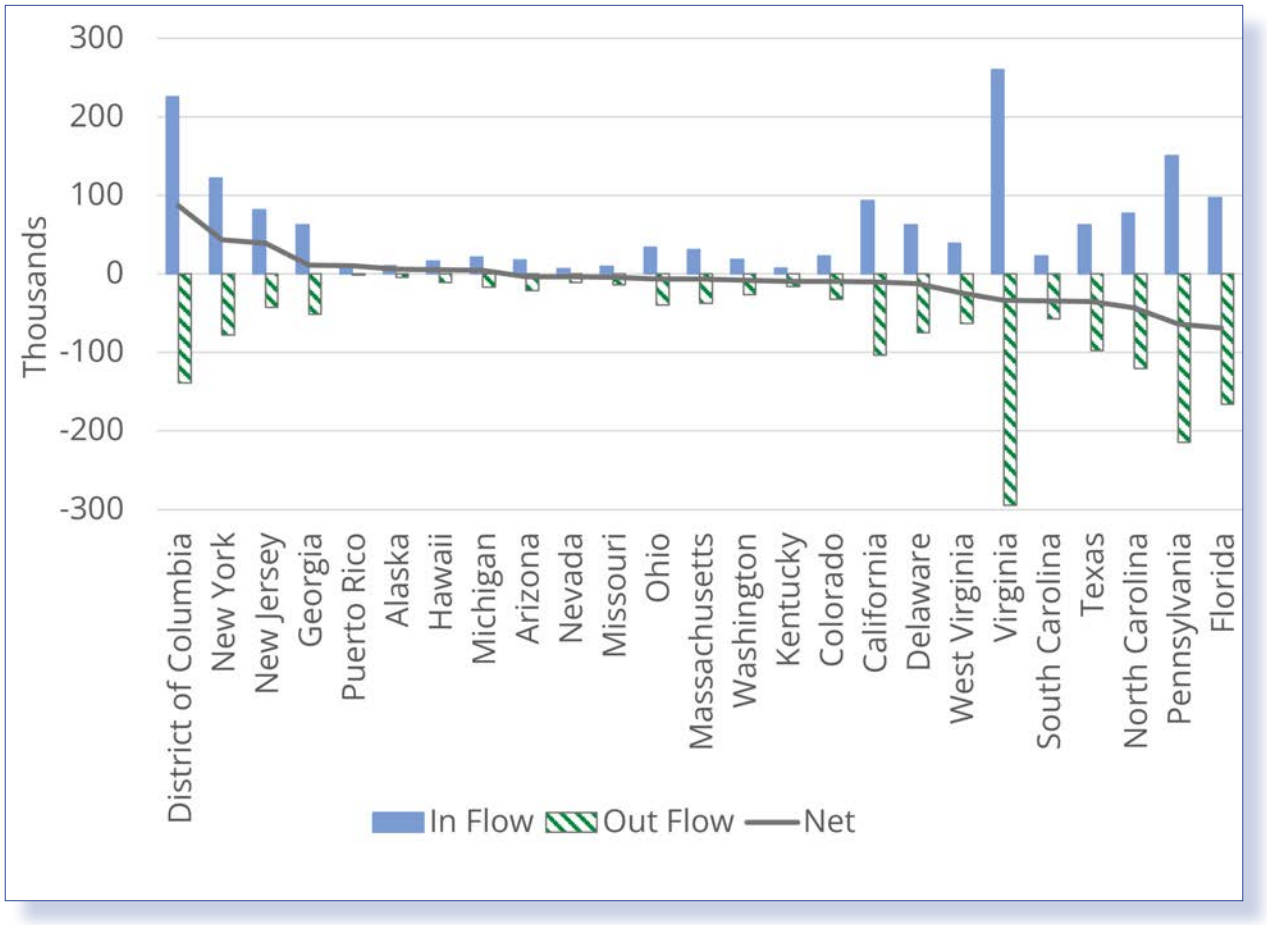
Domestic Migration by State

Despite the pull factors drawing younger people to Maryland, the state has experienced sustained out-migration to other states. Since 2010, the lower-cost mid-Atlantic states of Pennsylvania, Virginia, West Virginia, and Delaware account for about one-third of population loss in Maryland, as many emigrants chose to remain relatively close. In particular, Maryland and Virginia share an enormous number of migrants between them, likely centered around the economic center of Washington, D.C. Figure 24 displays Maryland's state-to-state migration flows, the inflow and outflow of migrants between Maryland and the states with the highest absolute values of net migration with Maryland.

Even though Virginia has the largest flow of total migrants between states (554,478), it is only the sixth-largest destination for net outmigration. On net, 1.12 Marylanders moved to Virginia for every Virginian moving to Maryland. Pennsylvania caused a little less than double the net outmigration for Maryland (63,900 compared to 33,800 in Virginia) and was the second largest source of net outmigration, despite a lower total migration. Virginia, a high-cost state relative to the national average, has a marginally lower cost of living than Maryland, and is also experiencing net outmigration of older, higher-income people to largely the same destinations as Maryland.

The largest source of net outmigration of Marylanders is Florida. Other significant sources of population loss are other fast-growing and lower-cost states including North Carolina (third largest source of population loss), Texas (fourth), and South Carolina (fifth). South Carolina has the strongest pull factor of any state, as 2.55 Marylanders moved there for every person moving to Maryland compared to an average of 1.12 for the 34 states that contributed to Maryland's outmigration over this period.

Figure 24: Maryland's State-to-State Migration Flows



Source: U.S. Internal Revenue Service; MD Bureau of Revenue Estimates

Maryland's largest sources of immigration are the District of Columbia, New York, and New Jersey, which account for two-thirds of Maryland's population gain from other states between 2010 and 2020. Although New Jersey is the lowest source of net population gain among these three jurisdictions there are still two New Jerseyans moving into Maryland for every one Marylander moving to New Jersey.

In all three of these jurisdictions, the likely explanation for residents immigration to Maryland is that they are centered around two of the most expensive and productive cities in the nation – New York City (NYC) and Washington, D.C. Maryland, although expensive relative to the national average, provides a less expensive housing market while maintaining an active urban economy. Marylanders migrate to Pennsylvania, Virginia, West Virginia, North Carolina, and South Carolina for apparently similar reasons as people leaving the NYC area for Maryland. Maryland appears to be a waypoint for the gradual emigration of people from the high-wealth, high-cost areas of the Northeast towards more affordable locations.

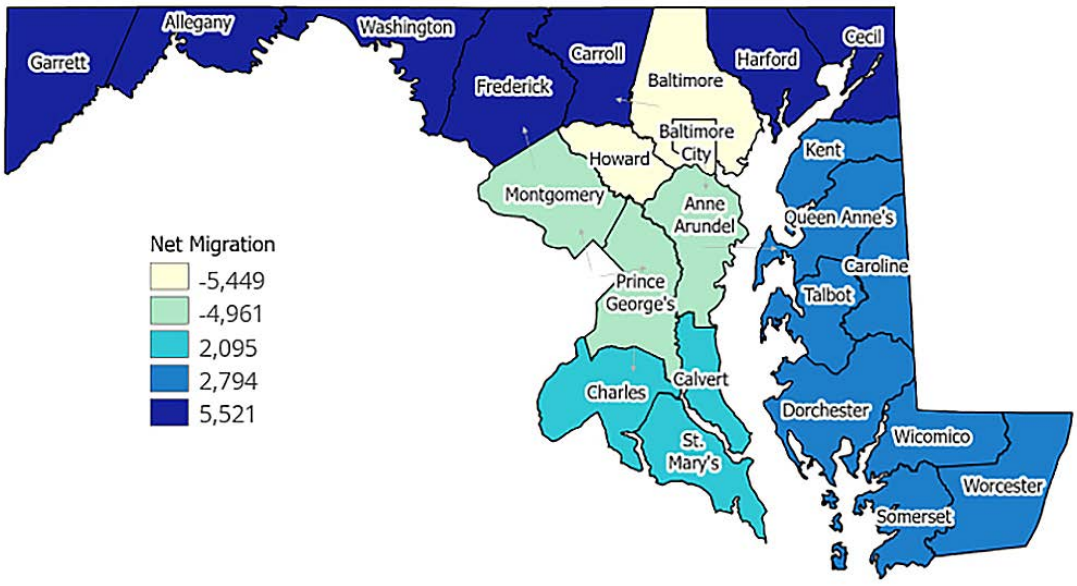
Regional Migration and Intra-Maryland Migration Patterns

A recent analysis conducted by the District of Columbia Office of Revenue Analysis also shows people are migrating away from expensive high-density cities. This analysis concluded that from 2019 to 2021, the District of Columbia had a net loss of more than 16,000 tax-filing households, which equates to approximately 31,000 people leaving the city. The top destinations for tax filers were the city's inner suburbs in Maryland and Virginia, to which Washington, D.C., lost a net of more than 8,000 tax-filing households and more than $1.2 billion in taxable income. Of these suburbs, Prince George's and Montgomery Counties were top destinations, accounting for a $856 million loss in taxable income for D.C.[92]

When examining intra-Maryland migration patterns (migration that starts and ends within Maryland), it appears that Maryland is a microcosm of nationwide migration pattern. Although Montgomery and Prince George's Counties have recently gained population from the District of Columbia, these counties have lost population to lesser populated and/or lower-cost counties within Maryland. Figure 25 shows the outmigration from not only the Maryland-National Capital Region, but also the Central Maryland Region.

There is a clear trend in Maryland and nationwide of net migration away from high-cost populated regions to relatively lower-cost regions, with a significant portion of people relocating to other urban and suburban areas that, while still expensive, are relatively cheaper than where they came from.

Figure 25: Migration within Maryland, Calendar Years 2015-2019

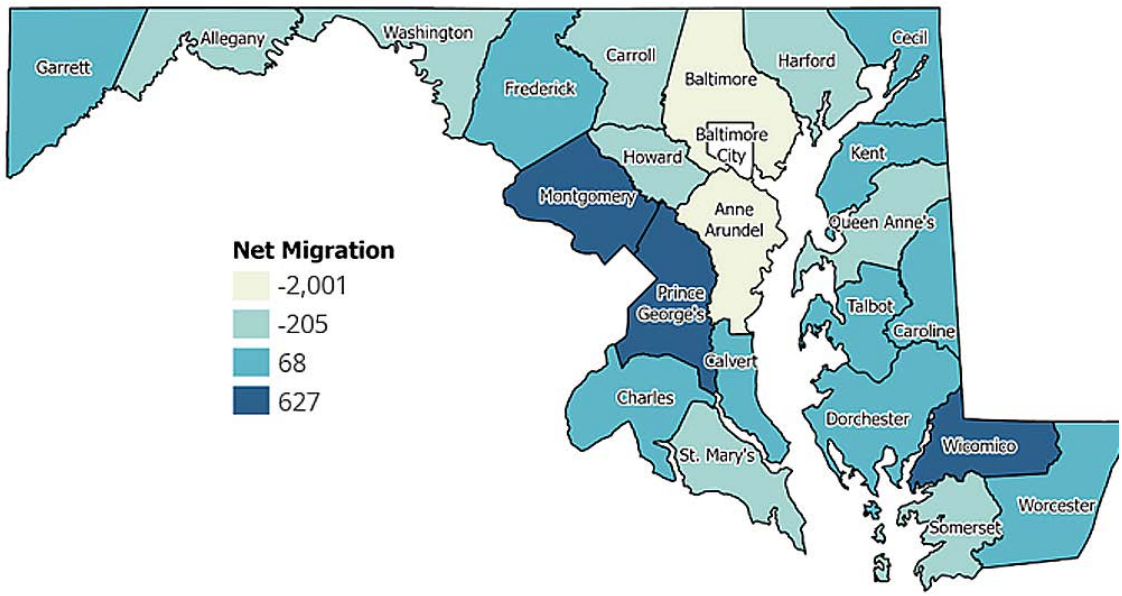


Source: U.S. Internal Revenue Service; MD Bureau of Revenue Estimates

Given that current and future wages and retirement income depend heavily on past wages, people who succeed in establishing a high-income career in Central Maryland or the National Capital Region are likely to maintain relatively high incomes later in life, and stand to reduce their cost of living if they leave the state. Similarly, parents of adult children no longer reap direct benefits from Maryland's public education system (although there are substantial indirect benefits). As the value of these benefits diminishes over time, more residents choose to leave for areas of the state where their incomes will go further. Pull factors that lose value as one ages and push factors that increase with age can explain why it is older, higher-income Marylanders who have the greatest propensity to emigrate, and why more populated areas of Maryland experience negative net migration.

Cost of living offers a clear explanation of migration patterns for most Marylanders across age and income groups. However, for more middle-aged and lower to middle-income Marylanders, it appears that the cost of living is not the primary consideration. This is exemplified by migration out of Baltimore City to nearby areas with a higher cost of living, (at least in terms of median home prices), such as Baltimore County, Anne Arundel County, and Pennsylvania. Recent emigration from Baltimore City differs from more historical emigration in that a greater portion of current emigrants are from traditionally Black neighborhoods.[93]

Figure 26: Baltimore City Outmigration Destination by County, Calendar Years 2015-2019



Source: U.S. Internal Revenue Service; MD Bureau of Revenue Estimates

There is a clear trend in Maryland and nationwide of net migration away from high-cost populated regions to relatively lower-cost regions, with a significant portion of people relocating to other urban and suburban areas that, while still expensive, are relatively cheaper than where they came from.

Recent Pandemic Changes

In calendar years 2019 through 2020, domestic outmigration was concentrated in Central Maryland; however, all but six Maryland counties had net outmigration to other states (Garrett, Kent, Queen Anne's, Talbot, Wicomico, and Prince George's County). Prince George's County was a notable exception as the largest source of outmigration from the District of Columbia as noted previously. This population gain, however, was offset as Prince George's County residents moved to other counties in Maryland including Central and Southern Maryland. Prince George's County was both the largest beneficiary of domestic migration while it experienced the worst outmigration to other Maryland counties, again showing the dynamics of population flows from more expensive populated areas to lower population and cost areas.[94]

Most intrastate migration during this period resulted from people moving away from the National Capital Region while net flows in Central Maryland mostly canceled each other out. Meanwhile, the Eastern Shore, Southern Maryland, and Western Maryland continued to receive residents from the rest of Maryland.[95]

In summary, it appears that early-career individuals leaving expensive urban centers such as New York City and Washington, D.C., come to Maryland for its relatively less expensive housing, high-wage job market, and robust public school system. At the same time, more affluent, late-career individuals leave the state primarily to look for greater affordability. A third group of migrants fits neither description and is made up of people moving for reasons not relating to cost of living.

International Migration

International migration has been a consistent contributor to Maryland's population growth and up until the last few years, offset domestic population loss. Factors that drive international migration often vary across the U.S., but some commonly include the presence of other co-nationals, job opportunities, and cost of living. Figure 27 shows the percentage of students from immigrant families in each local school district during 2021. In the District

of Columbia, students from immigrant families constitute approximately 19% of all students, substantially less than Maryland school districts in the Washington, D.C., suburbs which average 53% of students coming from immigrant families.[96] This demonstrates a clear preference for immigrants to the region to settle and raise families in counties adjacent to D.C. rather than within the district. The decision-making criteria of these migrants can't be observed from the data, but it is likely driven by relatively more affordable housing in Maryland suburbs and a robust public education system.

Figure 27: Percentage of Students from Immigrant Families by School District

Source: Center for Immigration Studies

Cost of Housing and Domestic Migration Patterns

Cost of living features prominently in domestic migration patterns in the U.S. and appears to contribute to Maryland's lower population growth, where the cost of housing is the largest factor contributing to high cost of living.

Cost of living is generally defined as the average expenditure required for maintaining a certain reasonable standard of living. In economic terms, it can be defined as the level of prices, or cost, of a range of everyday or common goods and services. While a high cost of living is viewed negatively by the public, these high costs reflect high levels of income and wealth, as well as the purchasing power of the population. It is overwhelmingly the case that regions with a low cost of living are also low-income. This pattern holds globally as regions with the lowest costs are the most impoverished.

Maryland's high cost of living is driven by high cost of housing. Home prices have been rising nationally, particularly since 2019. Two indexes, the Forbes Advisor and Missouri Economic Research and Information Center (MERIC), show that generally higher cost of living contributes to migration. In the Forbes index, Maryland ranks seventh highest in cost of living out of 50 states and the MERIC index determines that Maryland is also one of the highest cost states. In both indexes, housing is a key driver of elevated costs of living in the State.[97] The median existing-home price (a standard measure of home prices) in Maryland was $411,200 in 2022, compared with $348,600 nationally. The median home price in Washington, D.C., was $732,700 while homes in Virginia and Pennsylvania saw lower prices of $408,200 and $262,300, respectively.[98]

Maryland's high cost of living is driven by high cost of housing. Home prices have been rising nationally, particularly since 2019.

Statewide price metrics mask significant variation within states as the median price of housing in 2022 ranged from a low of $131,800 in Allegany County to a high of $625,000 in Montgomery County, the highest in the state. Notably, the median price in Montgomery County is lower than in Washington, D.C. The other four counties with the highest median housing price (in order) are: Howard, Anne Arundel, Frederick, and Talbot. In addition to Allegany County, counties with the lowest housing costs are Wicomico, Somerset, and Garrett Counties, as well as Baltimore City, the only Central Maryland jurisdiction in the bottom five.[99]

As a principle of economics in a properly functioning market, an increase in demand that causes prices and profits to rise in the short run will trigger an increase in supply in the long run. However, U.S. housing starts (a measure of new construction of privately owned housing units) have not grown in response to higher prices. Housing starts in 2022 were 1.6 million for the year and 5.8% lower than in 1999, before the housing boom and bust of 2000 to 2010, despite considerable population and price growth over this time.[100]

U.S. housing starts have not grown in response to higher prices.

By examining housing starts by census region over time, similar regional patterns emerge that echo overall economic and population growth. The Midwest has seen the largest decline in housing starts, a 40.7% reduction from 1999 to 2022, while the Northeast has experienced the second largest drop in housing starts – 8.3% reduction – during that same time period. In the West, housing starts were recorded at 5.8% below levels in 1999. Of the four census regions,

only the South has experienced growth in housing starts at 10.7% since 1999. In 2021, the South had the highest number of housing starts with 16.9 starts per 1,000 households. The Northeast had the lowest number of housing starts at 6.2 per 1,000 households. The U.S. average is 12.4 starts per 1,000 households.[101] Data demonstrate that, over at least the last two decades, people have been moving to regions where the housing supply is expanding and moving away from regions where housing is becoming scarce.

From 1999 to 2022 the Northeast had the lowest number of housing starts at 6.2 per 1,000 households. The U.S. average is 12.4 starts per 1,000 households.

A recent study titled, "Housing Constraints and Spatial Misallocation" in the *American Economic Journal: Macroeconomics,* examined factors driving geographic differences in housing supply. The authors identified a large and growing gap in wage levels across U.S. cities, between 1964 and 2009: There was twice as much variation in wages between cities in 2009 than there was in 1964. This mirrored a growing gap in productivity across cities during that same period. The authors found New York City, San Francisco, and San Jose were among the most productive cities in the country and experienced the highest productivity growth in the period studied.[102] Throughout history, cities with higher productivity have higher wages that attract workers. As workers move to higher productivity regions, capital per worker and marginal productivity of labor decreases. In areas where workers leave, the marginal productivity of labor increases. The mobility of labor ends up reducing the productivity and wage gaps between cities. The data show that this historical pattern has broken down as problems in the housing market cause a decline in labor mobility.

Since the 1960s, the cities with the highest productivity growth – generally on the West and Northeast coasts – also typically adopted restrictive local zoning codes that constrained the ability of the housing supply to grow within those cities and regions. These housing supply constraints effectively limit the number of workers who have access to the high labor productivity and wages offered by these cities. In essence, workers are priced out of high-wage job markets by housing restrictions. The result is lower labor productivity for the entire country, due to what is called the spatial misallocation of labor. The authors found housing supply restrictions lowered the total growth of the U.S. economy by 50% from 1964 to 2009.[103]

Restricting housing supply in high-productivity cities leads to an increase in property values, and it is therefore in the rational self-interest of current property owners to seek such restrictions. However, the social costs of these private gains are immense, particularly when

one considers higher-income neighborhoods have greater access to a range of benefits, including quality public schools, better government services, healthier environments, and more green spaces. Restricting the ability of people to move into these communities also exacerbates the defacto racial and class segregation created and reinforced by 20th-century urban development and housing policies.

As a result of local housing supply restrictions, employment is growing the least where productivity has grown the most, a clear sign of a dysfunctional market. From 1964 to 2009, the relative share of national employment accounted for by Midwestern cities has declined. This trend is unsurprising given the decline in the relative share of employment from manufacturing and other related industries in the Midwest over the latter 20th century. However, the relative share of employment has similarly declined in the most productive cities, particularly New York City and San Francisco. Unlike the Midwest, relative wages in New York City and San Francisco have grown over time. At the same time, the relative share of employment accounted for by the South, where zoning codes are generally more favorable to increasing housing supply, grew.[104]

In restricted housing markets, a rise in productivity does not result in employment gains but rather increases in property values and average wages. Research by the National Bureau for Economic Research finds that in a tight housing market, an increase in average incomes increases cost of living, including housing, and therefore reduces the real income of those residents who do not share in the wage gains. In short, as wages rise at the top, real incomes for middle to low-wage workers fall, but only where housing supply is constrained.[105] Other research finds that middle-wage jobs are losing relative share in most large cities due to technological change.[106] Diminishing opportunity and falling real incomes for those not at the high end of the wage spectrum can explain why regions of the country with the highest productivity and highest income (like Maryland) are experiencing the most significant out-migration.

Nationally and within Maryland, people are generally moving from high cost to lower cost of living places, and housing costs are a major factor in the cost of living. The creation of new housing supply in high cost of living regions is constrained by several factors, most notably zoning codes. Policies that enable more housing construction and density in high cost of living regions are therefore expected to reduce out-migration and increase in-migration.

Nationally and within Maryland, people are generally moving from high cost to lower cost of living places, and housing costs are a major factor in the cost of living. Policies that enable more housing construction and density in high cost of living regions are therefore expected to reduce out-migration and increase in-migration.

Impact of Remote Work on Migration

There is limited data on remote work, and recent research by the National Bureau of Economic Research found considerable variation in survey results since the pandemic, with differences in methods and wording significantly influencing results.[107] A U.S. Bureau of Labor Statistics survey of employers in 2022 found that 72.5% of employers had little to no telework, 16.4% had some, and 10.3% were fully remote.[108] A January 2023 Stanford study found 59.1% of workers were fully on-site, 28.2% hybrid, and 12.7% fully remote.[109] Regardless of the exact figures, remote work is more common now than it was pre-pandemic but has declined significantly from its pandemic peak.

Recent data suggest that remote work may not be as significant a driver of migration patterns as is commonly assumed. Only some "remote workers" are fully remote, and this significantly limits the population that is able to leave a state while retaining their jobs. There was a significant increase in job switching during the pandemic – quits rose to a record high of 3.0% of total non-farm employment while job openings soared.[110] This suggests that domestic migration away from urban centers would have spiked regardless of the rise in remote working.

Recent data suggest that remote work may not be as significant a driver of migration patterns as is commonly assumed.

In Maryland, it is unclear what effect remote work has had on migration patterns. On the one hand, Maryland experienced its highest rates of in-migration from younger workers during the pandemic. Remote work options likely enabled more of these young workers to move than would have otherwise been the case. On the other hand, Maryland experienced its highest rates of out-migration during the pandemic among older individuals. Older individuals are the least likely age group to work remotely, meaning that remote work options likely had little to do with this group's migration out of Maryland.

Case Study: Housing Availability and Affordability

Why it matters

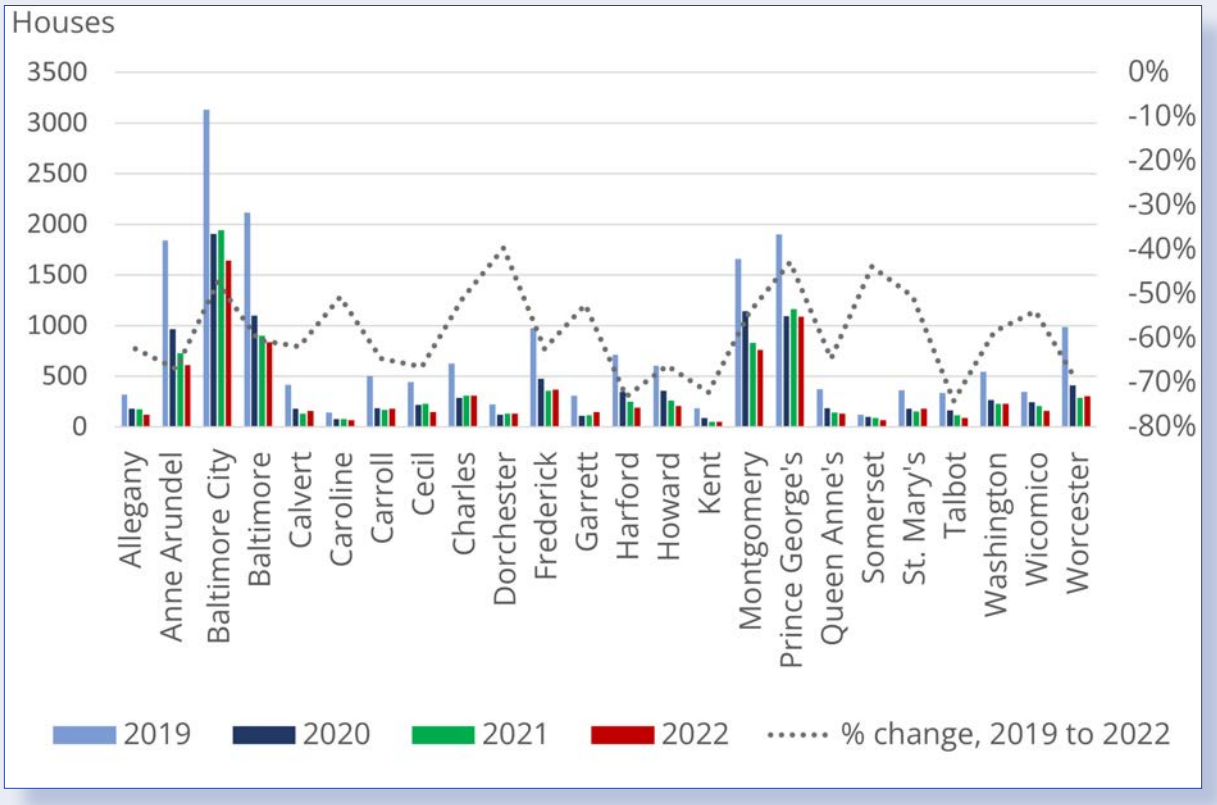
Housing availability and affordability was the top concern in every roundtable discussion across the state. Housing is typically not the top concern for the business community and economic development officials. However, post-pandemic, housing is a major issue from an economic development standpoint as both businesses and residents require a sufficient supply of affordable and available housing across all income levels to thrive. Roundtable participants shared specific stories of prospective businesses turning down potential location plans to Maryland due to insufficient workforce housing. Sustaining an in-person workforce is extremely challenging in a tight housing market, especially for lower-paying jobs and jobs in rural areas. Based on population migration data, cost of housing is a primary factor driving decisions about where people live, nationally and in Maryland.

What happened during the pandemic?

Pre-pandemic, housing inventory and pricing were stable but beginning to tighten: between 2015 and 2019, housing inventory decreased by 30% and median home sale price increased by 18% statewide.[111]

The pandemic turbocharged housing inventory and affordability challenges. Between 2019 and 2022, housing inventory dropped between 40% and 75% in every county (57% statewide). Between 2019 and 2022, median home prices increased by over 25% in all but four counties in Maryland (27% statewide). In Caroline, Garrett, Somerset, and Worcester Counties, median home prices increased by over 50%.[112]

Figure 28: Housing Inventory and Percent Decrease by County, Calendar Years 2019 - 2022

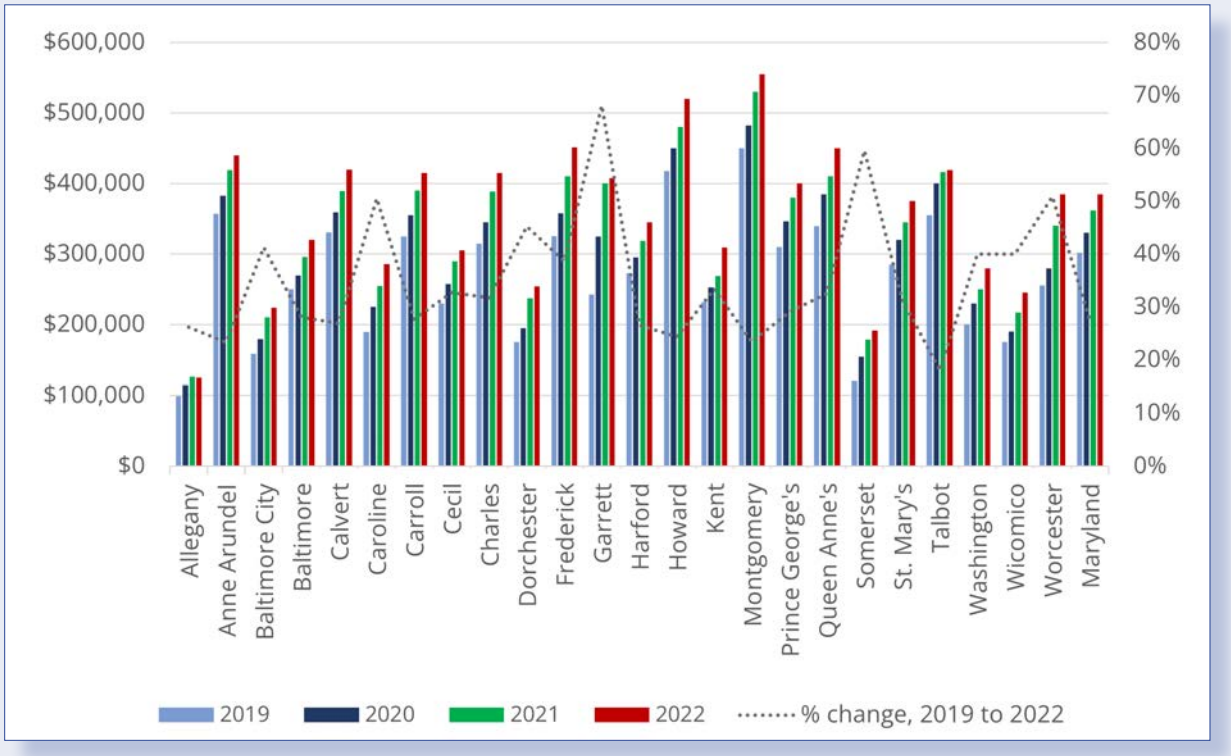


Source: Housing Statistics from MDRealtor.org

As Figure 28 illustrates, inventory tightened in a relatively uniform way – all regions in the state were affected relatively evenly. Changes in affordability, on the other hand, varied widely by region and county. The Eastern Shore stands out for the most dramatic price increases. Eight of the top 10 counties for greatest increase in median home sales price are on the Eastern Shore.

This tracks with what roundtable participants on the Eastern Shore shared. They've witnessed locals, especially front-line workers, including teachers, nurses, restaurant and hospitality staff get priced out of town or city centers. They also have observed (and data confirm[113]) demand driven by wealthier residents from higher-cost parts of Maryland or the region. For example, a business owner in Talbot County remarked that St. Michaels is now dominated with people from Washington, D.C. Pre-pandemic, all 10 of her employees lived downtown and were able to walk to work. Now she's the only one in this position – others, especially younger workers, have had to move further out in order to find housing at a price point that they can afford.

Figure 29: Median Home Prices and Percentage Increase by County, Calendar Years 2019 - 2022



Source: Housing Statistics from MDRealtor.org

As Figure 29 demonstrates, Garrett County topped the list of median home price increase by county between 2019 and 2022 with a 68% jump. Some of the price jumps have to do with population growth, with Western Maryland and the Eastern Shore experiencing a net positive influx of residents during the pandemic. Short term rentals are also undoubtedly part of the story here. Between September 2021 and July 2023, active AirBnB listings increased from 10,900 to over 17,000 statewide. The spike in listings was most dramatic in Garrett and Worcester Counties.[114]

Post-pandemic outlook

Maryland has not been building enough homes going back to the late 1990s. According to Census Bureau Building Permits Survey data, the U.S. on average has far more new housing units permitted per 100,000 residents than the state – Maryland ranks 42nd by that metric.[115] Roundtable participants in each region observed that during the peak of the pandemic, remote work, low-interest rates, and heightened demand for larger homes and greater access to the outdoors motivated out-of-towners to buy homes in more rural and ex-urban parts of Maryland. Some people bought homes to move permanently, others to visit seasonally, and others to own an investment property (i.e., AirBnB or short-term rentals).

With more people – especially higher-income earners – buying homes in rural Maryland, there are some benefits to impacted counties. Local governments gain property taxes and/or transfer taxes from every home sale. New higher-earning permanent residents increase median household income and thereby increase local income tax revenue. Seasonal homeowners and visitors staying in short-term rentals spend money that fuels sales and use taxes for local governments.

But there are also challenges associated with wealthier residents buying homes in rural and ex-urban Maryland. Repeatedly, roundtable participants expressed frustration over short-term rental properties. While they may help boost tourism numbers, they are not legally obligated to collect and remit hotel and occupancies taxes, which is a revenue loss for local governments. Furthermore, many current short-term rental properties were once affordable housing stock. In rural areas with less housing supply, these short-term rentals are removing affordable rental housing from the inventory.

A shortage of affordable housing is unsustainable for businesses, especially those that require an in-person workforce. As city and town centers become more expensive, families and individuals can move further out to the fringes but at a certain point, commutes become untenable, and quality of life diminishes. As people move outward, housing prices in these further reaches are driven upward too, making it less affordable for new or legacy residents. It will be important for local governments to keep a close eye on how the residential housing market impacts their local population and economy.

Officials throughout the state are keenly aware of the problem and are exploring a range of solutions, from community land trusts in Western Maryland and Baltimore City, to transit-oriented development workforce housing for families and individuals in the National Capital region and Baltimore City. There are also local proposals related to sewage requirements and climate impacts for new housing developments in Southern Maryland and the Eastern Shore. More affordable housing inventory can boost Maryland's economy by lowering cost of living thereby attracting and retaining talent.

SECTION 4: STATE OF THE ECONOMY REGIONAL ROUNDTABLE SUMMARIES

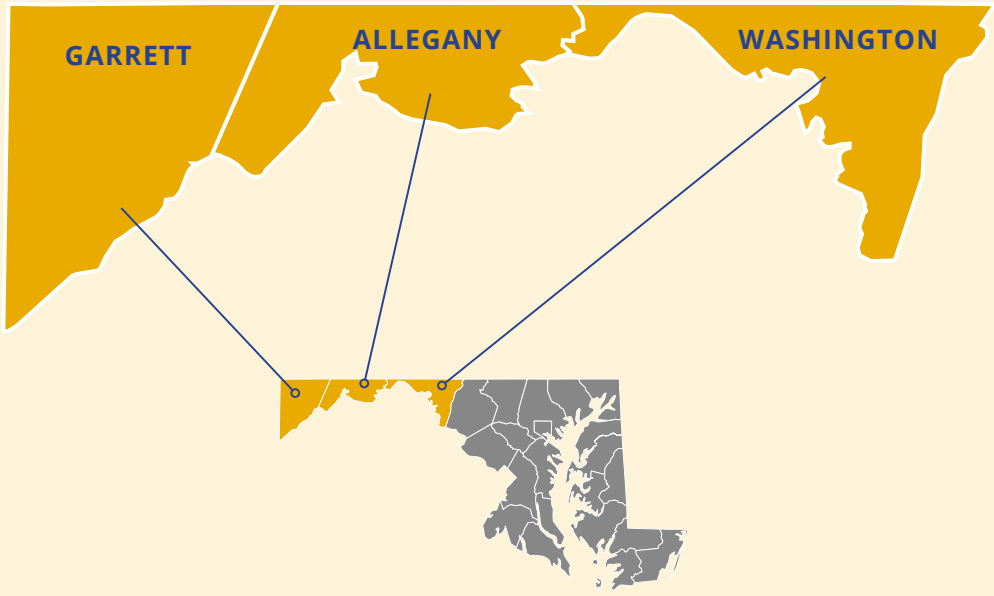
To obtain a more comprehensive picture of the state of Maryland's economy, the Office of the Comptroller facilitated a series of roundtable discussions and interviews with businesses, industry groups, chambers of commerce, economic development leaders, labor representatives, and nonprofit organizations throughout the state. The purpose of these conversations was to complement and compare the BRE's quantitative analysis of economic data with qualitative and anecdotal evidence of individuals experiencing Maryland's economy from the front lines.

The Office of the Comptroller's Policy Division held roundtable discussions in Western Maryland (Frostburg, June 13, 2023), the National Capital Region (Wheaton, June 27, 2023), Southern Maryland (California, July 12, 2023), the Eastern Shore (Salisbury, July 18, 2023), and Baltimore Metro (Baltimore City, August 3, 2023). Additional conversations were held with representatives from counties not in attendance at a roundtable. At least one representative from every county in the state was consulted for this report.

The roundtables and consultations were organized around the three primary areas of the BRE's analysis: economic trends (which included discussions around jobs, industries, and real estate and infrastructure development); labor force (which included discussions around labor force participation, workforce dynamics, and wages); and population and migration (which included discussions around cost of living, housing, and remote work).

These conversations focused on the impacts of the COVID-19 pandemic on Maryland's local economies over the past couple of years to the present, and near-term headwinds and tailwinds in the economy coming out of the pandemic.

Western Maryland Regional Roundtable



Economic Trends

During the pandemic, demand for outdoor activities increased significantly. Western Maryland businesses capitalized on this demand by leveraging the region's natural assets of mountains, forests, lakes, rivers, trails, and parks to grow the outdoor recreation and ecotourism industry. Local officials see this trend continuing in the present and into the near future. Economic development leaders also see potential for Western Maryland to carve out a niche in the emerging upcycling or creative reuse industry that transforms waste or discarded materials into new materials or products of artistic, environmental, or production value. The area is also seeing a surge in entrepreneurship in other sectors, including food and beverage and information technology, as evidenced by activity at local incubators.

There is a significant new development underway in the region: warehouses, student housing, and youth sports complexes in Washington County; a river park, downtown redevelopment, and market-rate housing in Allegany County; and expansion in healthcare (in partnership with West Virginia University), mining, and warehouses in Garrett County. The general sense of optimism with these growth and development tailwinds is tempered by what local officials described as ongoing challenges attracting new businesses to the heavily rural region while also growing existing businesses due to labor shortages and lack of housing for workers, addressed in more detail throughout this section.

Labor Force

A top concern among local officials is a severe labor shortage in the region. Businesses are having difficulty finding workers to fill job openings, especially in hospitality and skilled trades. Several employers specifically stated that they are no longer seeing young people looking for work. This observation tracks with the BRE analysis that between 2019 and 2021; labor participation fell most in Maryland in the 16 to 24 age cohort. Missing workers who left the labor force during the pandemic and have not returned are particularly noticeable for employers in Garrett County, which is dependent on seasonal staff. To address labor shortages, employers expressed a need to rework their business models and make accommodations for employees, where possible, especially around wages, schedules, and remote work options.

Population and Migration

Migration to Western Maryland fits squarely within the intra-state migration patterns discussed in Section 3 of this report; since at least 2015, Garrett, Allegany, and Washington Counties have experienced net positive intra-state migration. Maryland residents from the National Capital Region and Central Maryland – areas with relatively higher costs of living – are attracted to the lower cost of living in Western Maryland. At the same time, a smaller number of legacy residents have left Western Maryland for greater affordability in other states, notably West Virginia and Pennsylvania. From 2019 through 2020, the three counties of Western Maryland gained a net total of 3,314 people from other parts of the state, while they lost a net total of 1,782 people to other states.

In addition to cost, roundtable participants reported that new residents were drawn to Western Maryland for the open space and outdoor recreation, especially during the pandemic. In many cases, new residents were purchasing second homes or investment properties, as evidenced by the significant increase in AirBnB listings in the region during the pandemic. For others, a move to Western Maryland (whether temporary or permanent) was made possible by remote work.

This activity has created another top concern for local officials in the region (in addition to labor shortage), housing availability. Roundtable participants expressed serious concerns about the shrinking supply of housing and increasing prices of homes, leaving fewer affordable options for year-round, low- to middle-income residents.

As of June 2023, there were 125 homes listed for sale in Allegany County (at price points from $10,000 to $1,000,000), compared with 484 homes on the market in Allegany County in June

2017. Local officials believe the lack of housing is having a direct impact on the region's ability to recruit businesses requiring an in-person workforce (i.e., healthcare, warehouses, etc.). As a result, officials are exploring a range of alternative or innovative housing options. Garrett County is exploring a land trust, Allegany County is repurposing an old school and hospital site into housing, and Washington County is building student housing in collaboration with Meritus Health.

National Capital Regional Roundtable

Economic Trends

Economic trends in the National Capital Region are closely tied to the federal government. Prior to the pandemic, more than 30% of residents in Prince George's County, and 20% of residents in Montgomery County worked in Washington, D.C. The federal government serves as a steady provider of jobs and income in the National Capital Region. As previously stated, in 2021, 41.6% of all Maryland residents receiving wage and salary income from the federal government lived in Prince George's and Montgomery counties.

Pandemic teleworking policies at the federal level have had a tremendous impact on Prince George's and Montgomery Counties. The federal government was an early adopter of remote work during the pandemic and continues to embrace a flexible work model. With fewer federal workers physically in Washington, D.C., and the nearby Maryland suburbs, there have been fewer conferences and events held in the region. This has had a significant impact on the hospitality industry. Fortunately, a post-pandemic travel/ tourism boom – especially extended weekend travel – has helped some hotels and restaurants make up for lost revenue from conferences and federal business activity.

Developers working in and around Washington, D.C., report that commercial real estate is experiencing a dramatic slowdown, which they attribute to employers' plans to shrink office

footprints, high interest rates, decreased foot traffic, and low weekday Metro ridership.[116] One roundtable participant referred to the rise of zombie buildings that are completely vacant.

Economic development officials have observed that new business formation has been slow in Maryland's National Capital Region. Census data confirms that Montgomery County experienced the slowest growth in new business applications of any county in Maryland between 2019 and 2022. Prince George's County also ranked in the bottom third.[117] There are concerns that the region is falling behind the Northern Virginia suburbs in jobs and business growth.

Roundtable participants noted several areas of opportunity, including the region's strong life sciences industry that has benefited from vaccine development and production as well as the emerging industry of quantum computing. The University of Maryland is a leading research institution for quantum technologies – the National Quantum Lab (Q-Lab), the University of Maryland at College Park's IDEA Factory[118], and the Quantum Startup Foundry[119] support entrepreneurs and startups in pursuit of bringing quantum technologies to market. Public and private start-ups in this emerging industry are finding a home in Maryland.[120]

Labor Force

Despite a highly educated workforce, officials reported that labor supply is limited in the National Capital Region, and businesses are finding it challenging to retain talent. Roundtable participants observed that in this tight labor market, prospective and especially younger employees are more motivated by short-term incentives – i.e., signing bonuses and remote work policies over vesting opportunities and retirement benefits. Employers report difficulty in finding and retaining engaged workers.

Employers and economic development professionals in the National Capital Region are concerned they are losing workers to Northern Virginia and worry about a brain drain given that there are increasingly more employment opportunities in business centers in Northern Virginia (i.e., Tyson's Corner and Arlington) and more affordable living options. Regional healthcare providers have found this to be true among their physicians who can make more money in Virginia.

Population and Migration

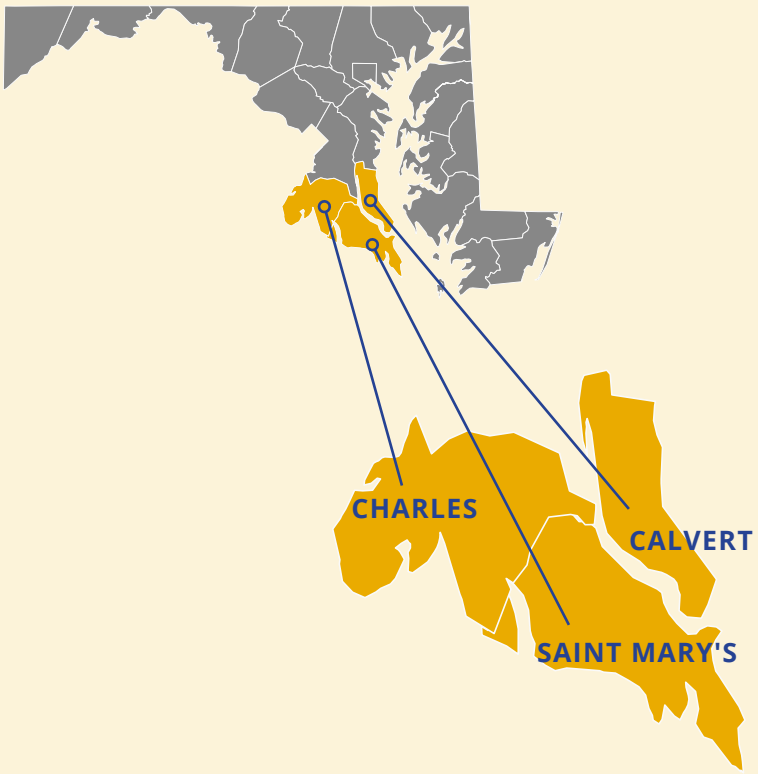
This region is a prime example of cost-of-living-driven migration patterns. The National Capital Region has been losing residents to neighboring and more affordable parts of the state, such as Frederick County to the north and Charles County to the south. While these patterns are not new, they were drastically accelerated during the pandemic. At the same time, Prince George's and Montgomery Counties have gained residents from higher-cost Washington, D.C. Prince George's

County was the top destination for residents leaving Washington in recent years. From 2019 to 2020, Prince George's County experienced a net loss of 6,728 residents to other parts of the State but gained a net 6,006 residents from outside of Maryland, mostly from Washington. During the same time, Montgomery County lost a net of 2,298 residents to other parts of Maryland and lost a net 5,831 residents to other states.[121]

The housing market is strong in the National Capital region, but as the housing supply dwindles in the region, there is concern about sustainability, affordability, as well as a variety of housing options beyond single-family homes. The supply issue is currently a challenge due to high-interest rates, costs of construction, and a lack of capital. Developers reported that project pipelines are drying up and only projects with government subsidies are currently in the works.

Participants felt that the future of remote work policies would have an outsized impact on the region. For example, if the federal government and local employers maintain remote work or hybrid schedules, then people who moved into the region from Washington, D.C., are more likely to remain, and those who moved out of the region to Frederick County, Central, or Southern Maryland are also likely to remain there. However, if workers are required to return to offices beyond a hybrid schedule of two or three days in the office, there is likely to be another shift in migration patterns. Most participants felt this is unlikely, as there is consensus that at least the hybrid work model is here to stay.

Southern Maryland Regional Roundtable



Economic Trends

Southern Maryland was shielded from the most negative economic effects of the pandemic due to the stabilizing presence of the federal government, notably Department of Defense (DOD) military installations, including Naval Air Station Patuxent River and the Naval Support Facility (NSF) Indian Head. These facilities support more than 50,000 employees on federal payroll and a large network of government contractors.[122] During the height of the pandemic in 2020, St. Mary's County, in the heart of Southern Maryland, had the lowest unemployment rate in the state.[123]

Local officials are optimistic about the region's potential to harness DOD investments in weapons defense technologies. The United States Bomb Technician Association, a nonprofit membership association representing more than 2,500 bomb technician firms, bomb squads, and industry and government agencies located its new headquarters in the town of Indian Head in Charles County during the pandemic. The new campus will include a research, development, and training center, as well as a manufacturing park, which is expected to attract businesses in the growing energetics – explosive weapons – field.

In addition to DOD-supported industries, local officials see the potential for growth in other areas: distribution and logistics and healthcare (Charles County); education, driven by the University System of Maryland at Southern Maryland (St. Mary's County); and energy, agriculture, aquaculture, and agritourism (Calvert County). Similar to other regions in the state, this optimism is tempered by concerns relating to labor shortages, lack of housing, and geographic barriers, discussed below.

Labor Force

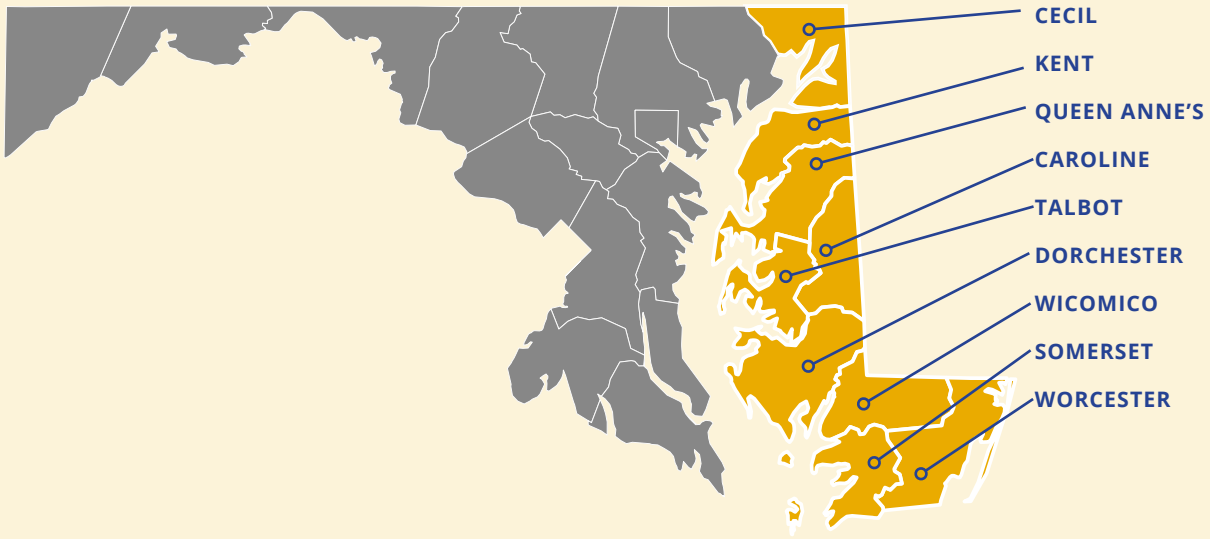
Local employers reported acute challenges due to the labor shortage, especially in the areas of skilled tradespeople, IT specialists, engineers, and healthcare professionals. Several area employers have increased wages to attract and retain talent. One employer cited spending more on six full-time employees now than he spent on seven full-time employees in pre-pandemic. Others cited recruitment challenges especially from younger workers outside the region who are turned off by the region's remote location and lack of urban amenities. As one roundtable participant described: "for people who want city life; you can't pay them enough to come live in this area. But when people do migrate to the area, they tend to put down roots and stay for a long time." Remote work, especially at the military bases, is another recent trend that appears to have an outsized effect in Southern Maryland. Roundtable participants reported that the region is losing workers who no longer have to report to their job on the base, and the general consensus is that remote work has been an overall negative.

Population and Migration

Southern Maryland has seen net positive in-migration from higher-cost parts of the state since at least 2015. During the pandemic, wealthier Marylanders bought houses in Southern Maryland, and Charles County surpassed Prince George's County as Maryland's highest wealth, majority-Black county. Over the past 30 years, Waldorf (Charles County) has grown faster than any other part of the state, gaining 66,000 residents.[124] This has put upward pressure on housing prices and the supply of affordable housing for lower and middle-income residents has become more limited. It was reported that many people who work in Charles County live in Virginia because of the greater availability of affordable housing. Others noted an uptick of individuals renting rooms in family homes.

Local officials expressed concern over long-standing barriers to growth relating to mobility, infrastructure, and development that have been magnified during and coming out of the pandemic.

Eastern Shore Regional Roundtable



Economic Trends

The Eastern Shore's economy is heavily reliant on the natural resources of the Chesapeake Bay, beaches, and farmland. The pandemic had a significant impact on the Shore's agriculture, fishing, and food processing industries due to increased input costs for commodities such as grain and chicken feed, and delays and costs relating to shipping and logistics. Tourism centers, such as Ocean City, saw decreased activity with canceled conferences and fewer travelers, according to local economic development officials. But coming out of the pandemic, Eastern Shore business leaders are optimistic. Roundtable participants discussed the recent Eastern Shore Business Sentiment Survey produced by Salisbury University's BEACON program. The survey found that in the summer of 2023, business leaders were nearly twice as optimistic about improving conditions in their industry than they were in 2022.[125]

Local officials discussed emerging opportunities in value-added agriculture, renewable energy including offshore wind, and hospitality. However, roundtable participants cautioned that major investments in infrastructure – ranging from affordable housing to public transportation and sewage capacity – will be necessary to support any significant future growth and development on the Shore. As one person explained, "Things are not 'plug and play' on the Eastern Shore for prospective businesses due to housing shortages, limited infrastructure, and gaps in workforce development."

Labor Force

The labor shortage is a top concern among local officials coming out of the pandemic. Businesses across the board expressed significant challenges in recruiting and retaining workers. To overcome labor shortages, employers have found it necessary to embrace remote work, especially for IT and back-office positions. Employers on the Eastern Shore are also leaning more heavily on staffing firms, contract and part-time employees, and foreign guest workers more so than they did pre-pandemic. Roundtable participants reported increases in job hopping where employees bounce from one employer to the next in search of higher salaries, signing bonuses, and flexible schedules.

Remote work has added a layer of complexity on top of the general challenges that come with a tight labor market. Business owners on the Eastern Shore reported that, prior to the pandemic, they paid lower wages compared to urban centers due to the Shore's lower cost of living. With the increasing availability of remote work positions, many local employers have felt pressure to raise wages considerably; in some cases, by 50% to retain incumbent workers who can find remote jobs with companies offering higher wages that are headquartered in large urban centers. While the opportunity for higher wages, either with local firms or with remote firms, is helping to keep residents on the Eastern Shore and even to attract new residents who enjoy the region's natural surroundings, it is also causing some local firms to lay off staff or hire fewer employees than they otherwise would.

Another challenge, according to roundtable participants, is that the pipeline is drying up for new workers in industries that require in-person work, such as healthcare, education, and public safety, which are also industries that are still experiencing elevated quit rates. Local community colleges including Cecil, Chesapeake, and Wor-Wic Community Colleges report low enrollment in these workforce development programs.

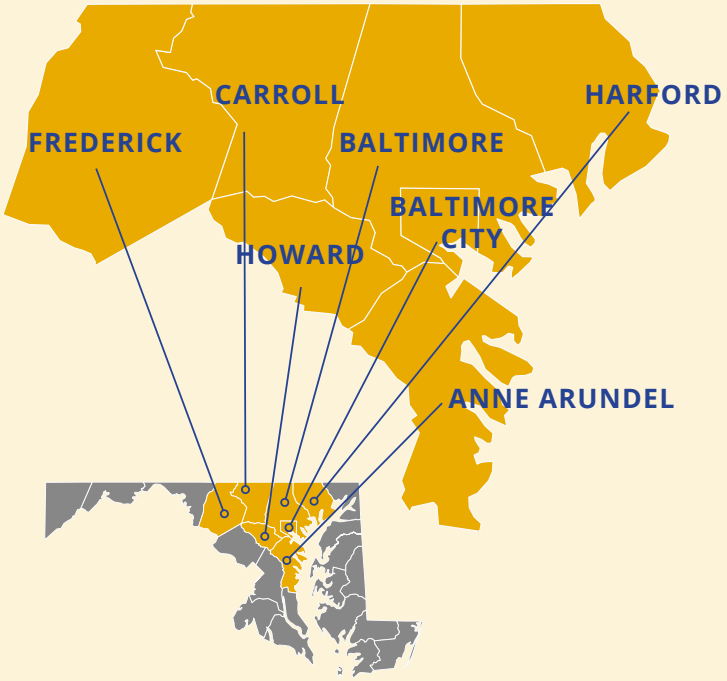
Population and Migration

Roundtable participants cited the lack of affordable housing as a top economic concern in the region as well as a severe detriment to attracting new residents and retaining existing residents. Historically, the Eastern Shore has offered a relatively low cost of living and housing. As the housing market has tightened, prices have risen. Housing inventory has been a challenge on the Shore dating back to the Great Recession, but the situation escalated quickly over the past few years, driven in part by intra-state migration. Between 2015 and 2019, every county on the Eastern Shore experienced net positive intra-state migration. From 2019 through 2020, Somerset and Wicomico Counties gained on net, the most residents of all

counties in the state from both in-state residents and out-of-state residents, and Worcester County ranked fourth in intra-state migration.[126]

Residents from higher-cost areas of the state (and beyond) have been buying homes on the Shore to serve as permanent residences, seasonal homes, and/or investment properties. In the town of Rock Hall, 15% of the housing supply is now occupied by short-term rentals. Towns across the Eastern Shore are reporting a similar spike in AirBnBs and short-term rentals.[127] The affordable housing stock is being depleted and has driven up the price of housing in all nine Eastern Shore counties.[128] Few affordable housing options remain for lower- and middle-income residents looking to rent or buy. They are being pushed further away from city and town centers, and from their jobs, in many cases. For example, as of June 2023, there were only 130 houses on the market in Wicomico County, but more than 400 homes are needed to meet demand.[129]

Central Maryland Regional Roundtable



Economic Trends

Central Maryland is the most challenging region of the state to describe, given the wide-ranging economic conditions across the Baltimore-Columbia-Towson greater metro area. The metro region covers Frederick, Carroll, and Harford Counties to the North; Baltimore County and Baltimore City in the center; and Anne Arundel and Howard Counties to the South. The roundtable discussion was primarily comprised of officials and leaders from Baltimore City and Baltimore County. Follow-up interviews were held with leaders in the other counties in the region. Recent migration patterns and longer-standing economic ties have aligned some of these surrounding counties with other regions in the state. For example, Frederick and Howard counties are as closely aligned with the National Capital region as they are the Baltimore metro area.

Large metro areas across the U.S. were more likely to see job and population loss than suburban or rural areas in general. Of the largest 25 economic regions in the U.S., the Baltimore metro region has been among the slowest to recover, driven by negative GDP growth in Baltimore City and Baltimore County from 2017 to 2021, even while other parts of the region grew. During the same time period, GDP grew in Howard, Harford, Frederick, and Carroll Counties at a faster rate than the statewide average.[130] At the same time, the Baltimore metro region currently holds the lowest unemployment rate of any large metro area in the country.[131]

The negative GDP growth in Baltimore from 2020 to 2021, which brought down the overall region's performance, could be the product of Baltimore having less reliance on the federal government – which grew jobs in Maryland throughout the pandemic – compared to other counties in the region. Parts of the region with large military installations, notably Fort Detrick in Frederick, Fort Meade in Anne Arundel, and Aberdeen Proving Grounds in Harford have fared much better in the Central Maryland region than Baltimore. Recently released data for 2021 to 2022 showed Baltimore City's GDP grew at the second highest rate in the state, which could be a sign that private sector jobs are picking up in Baltimore.[132]

Labor Force

Every county in the region cited talent acquisition as a top priority and challenge. Across extremely diverse industries – healthcare to agriculture, manufacturing to accounting, and professional services to hospitality – businesses are feeling the labor supply shortage. With unemployment so low and the labor force participation rate depressed, many businesses simply can't find enough workers to meet demand, which is holding back their growth. Officials and business leaders are hopeful that state and federal government investments in apprenticeship programs in the region, through the Blueprint for Maryland's Future and other programs, may help bring residents currently out of the labor force back in and expand the labor pool in a way that efficiently matches workers skills with industry needs.

Carroll and Howard Counties offer representative examples of the region's tight labor market. As of August 2023, both counties boasted a 1.5% unemployment rate – lower than Maryland at large which has the lowest unemployment rate in the U.S.[133] Businesses in Carroll County cannot find enough workers to fill job openings locally – they are having to recruit from Southern Pennsylvania for manufacturing, hospitality, and other lower-paying jobs. According to local economic development officials, relative to the rest of the region, wages are lower in Carroll County, so a substantial portion of higher-educated residents commute to higher-paying jobs in other counties. Employers in Howard County are also struggling to fill positions. Howard County, as opposed to Carroll County, offers much higher-paying jobs attractive to young professionals, but many are priced out of living in the area so they may search for jobs elsewhere. Despite consistent population growth in Howard County, economic development professionals hypothesize that the labor pool might be exceedingly tight because residents are relatively affluent and were able to retire early during the pandemic. Businesses observe that employees seem increasingly drawn to part-time work, contractual positions, and starting their own business(es), driven by a desire for more freedom and flexibility.

Remote work has served some counties well and added challenges for others. Harford County leaders, for example, believe that telework has been a boon to the county. Economic development officials shared that prior to the pandemic, it was difficult to attract people to live in the county but telework and hybrid policies have made commuting to employment centers in Baltimore or Washington, D.C. more manageable. In Baltimore, employers are wrestling with remote work. Those industries that require an in-person workforce (i.e., labs and manufacturing jobs) are having a particularly hard time finding staff. Small to mid-sized companies that can accommodate remote work (i.e., accounting and finance) are concerned about the long-term consequences to company culture and professional development. However, in this tight labor market, many employers believe that if they strictly enforce in- office policies, they will lose staff who are easily able to find a job that does allow them to be fully remote.

Population and Migration

Counties in Central Maryland frequently trade residents, and there is a substantial amount of migration within the metro area. Overall, regional migration trends show a gradual movement of Marylanders from Baltimore City to Baltimore County and Anne Arundel County; from Baltimore County to Howard County and to Frederick, Carroll, and Harford; and from Anne Arundel County to the Eastern Shore.

Migration patterns in Central Maryland serve as a microcosm of trends across the country; people are moving from relatively higher-cost parts of the state to lower-cost (more rural) areas. The sustainability of this shift hinges in part on remote or hybrid work policies remaining in place. Baltimore, which is the most affordable major city on the East Coast, is gaining young, middle-income residents from New York, New Jersey, and Washington, D.C. Roundtable participants pointed specifically to an influx of young Black professionals moving to Baltimore.

More rural counties in Central Maryland (like Carroll, Harford, and Frederick) are benefiting more from intra-state migration. These counties are relatively more affordable than the National Capital region, Baltimore City, and Baltimore County. Plus, they were made more accessible during the pandemic thanks to remote or hybrid work policies, and more attractive as people sought more space and bigger houses.

In other parts of Central Maryland, like Howard County, the cost of living is high, and young people who want to live there cannot afford to. Anne Arundel County is experiencing a similar shortage of affordable housing and is concerned about the impact that the increasing cost of living will have on local businesses' ability to find and recruit employees, according to local economic development officials. Both Anne Arundel and Howard counties experienced negative net migration within Maryland.

Case Study: Baltimore City

Why it matters

Baltimore is the largest city in Maryland and the historic economic center of the state. There are eight 4-year institutions of higher education based in Baltimore City, the largest of which are Johns Hopkins University, University of Maryland Baltimore, and Morgan State University. These universities serve as anchor institutions for the area – fostering new business development through technology transfer, providing healthcare services through affiliated hospitals and medical schools, and collaborating with local government on shared goals for social and economic development.[134] These institutions are also among Baltimore's top sources of jobs along with other large employers, including federal agencies like the Social Security Administration and private firms like T. Rowe Price, Morgan Stanley, M&T Bank, and Under Armour.[135]

For more than 300 years, the Port of Baltimore has been a key economic asset to the state and local economies. Baltimore's public port, which is administered by the Maryland Port Administration, is one of the largest in the nation, ranking 9th for total dollar value and 11th for tonnage of international cargo.[136] Baltimore is also home to vibrant arts, culture, and entertainment activities, which drive tourism from across the region, country, and world.

What happened during the pandemic?

Like many urban centers, Baltimore City was hit hard by the pandemic in terms of business closures and population loss to suburban and rural areas. It has been well documented how the pandemic has had a disproportionately negative impact on health and economic indicators for communities of color. As a majority Black city (61%), Baltimore felt this impact. During the pandemic, Baltimore lost an estimated 16,000 residents between April 2020 to July 2022 and lost over 400 businesses from Q1 2020 to Q1 2021.[137] Remote work contributed to increases in office vacancies in Baltimore: Downtown office vacancy rates shot up from 10% in Q1 of 2020 to 17% in Q2 of 2021.[138]

While Baltimore was less insulated by the federal government (as was the case in other regions of Maryland), the city did benefit economically in some ways. Notably, e-commerce, shipping and logistics boomed during the pandemic, culminating in a record year for the Port of Baltimore in 2022 with more than 43.3 million tons of cargo processed.[139] That same year, Baltimore's GDP grew by an astounding 5.9%, outpacing all but one county in Maryland

and most large metro areas nationwide. More than 80% of Baltimore's 5.9% GDP growth was in the service sector.[140] While most industries lost jobs in 2020, the life sciences sector in Baltimore added 400 jobs, in part due to demand for vaccine development. Baltimore City also received a significant amount of federal pandemic-related aid through the American Rescue Plan Act's State and Local Relief Fund: $641 million compared to $193 million for Montgomery County[141] and $177 million for Prince George's County, which represent the top three recipients in Maryland.[142] These funds not only helped to stabilize businesses, workers, and institutions but they have been used to make longer-term investments in economic recovery and growth.

Post-pandemic outlook

There are positive signs in Baltimore's economy coming out of the pandemic, according to roundtable participants. Large real estate and infrastructure developments are underway throughout the city. Along the waterfront, new projects have broken ground or are in development at Harbor Point, Baltimore Peninsula, and Harborplace. In Central Baltimore, the historic rail hub, Penn Station, is undergoing a large-scale, mixed-use redevelopment, which will also benefit from the rebuilding of the Frederick Douglass Rail Tunnel. Baltimore's anchor institutions are investing in new academic and business properties. In neighborhoods throughout East and West Baltimore, outdated and uninspiring mixed-use developments are being redeveloped, from Perkins Somerset Oldtown to Reservoir Square.

Baltimore is poised to benefit from recent federal designations including the U.S. Department of Commerce Tech Hub program, which will support growth in healthcare technology.[143] Further, the White House Workforce Hubs initiative will help to create a pipeline of skilled and diverse workers for projects supported by nearly $10 billion in new federal investments to upgrade transportation, deliver clean and reliable energy, expand access to high-speed internet, ensure that residents have clean water, and more.[144]

Baltimore is also seeing growth in industries especially hit hard by the pandemic, including tourism, which showed large increases in 2022 and has nearly returned to pre-pandemic levels.[145] City leaders from the public and private sectors are also organizing around shared blueprints for driving inclusive economic growth, such as the city's Baltimore Together plan and a business-led effort for supporting diverse startup entrepreneurs known as "Equitech."

To maximize these opportunities, Baltimore must address stubborn challenges that pre-date, but were exacerbated by, the pandemic including:

- **Population loss:** Baltimore's population has decreased from 620,000 in 2010 to 569,000 in 2022.[146] Baltimore benefits from younger, middle-income residents moving into the city to take advantage of urban amenities, higher wages, and more affordable options compared to other East Coast cities. However, the city loses more residents to surrounding counties and states. Since 2010, there has been a substantial migration of Black households from the city.[147] More recently, since the pandemic, outmigration from Baltimore has been driven by high earners.[148]

- **Public safety:** There have been more than 300 homicides in Baltimore every year since 2015 and property crimes such as auto theft have been on the rise coming out of the pandemic.[149] Overall, however, Baltimore is not experiencing a rise in crime as is the case in many cities across the country, and in 2023, Baltimore ended the year with fewer than 300 homicides for the first time in nearly a decade.[150]

- **Poverty:** Baltimore's poverty rate increased during the pandemic and currently stands at about 20% overall (compared to 11.5% nationally) and 35% percent for children.[151] High poverty rates manifest a range of socioeconomic challenges, such as poor health and blighted housing and neighborhoods.

The State of Maryland has a number of economic centers and regions, all of which are important to the state's economic well-being. But for Maryland to achieve increased and sustained levels of growth, it needs a strong economic anchor in Baltimore City.

Appendix 1 – Demographics of Maryland's Decline in Labor Participation

The Bureau of Revenue Estimates (BRE) examined data from the U.S. Census Bureau American Community Survey (ACS) to examine the specific segments of Maryland's labor force that explain the decline in labor participation. This more detailed data, however, is published less frequently and is less timely than the Current Population Survey (CPS) data shown above. 2021 is the most recently available year of ACS data.

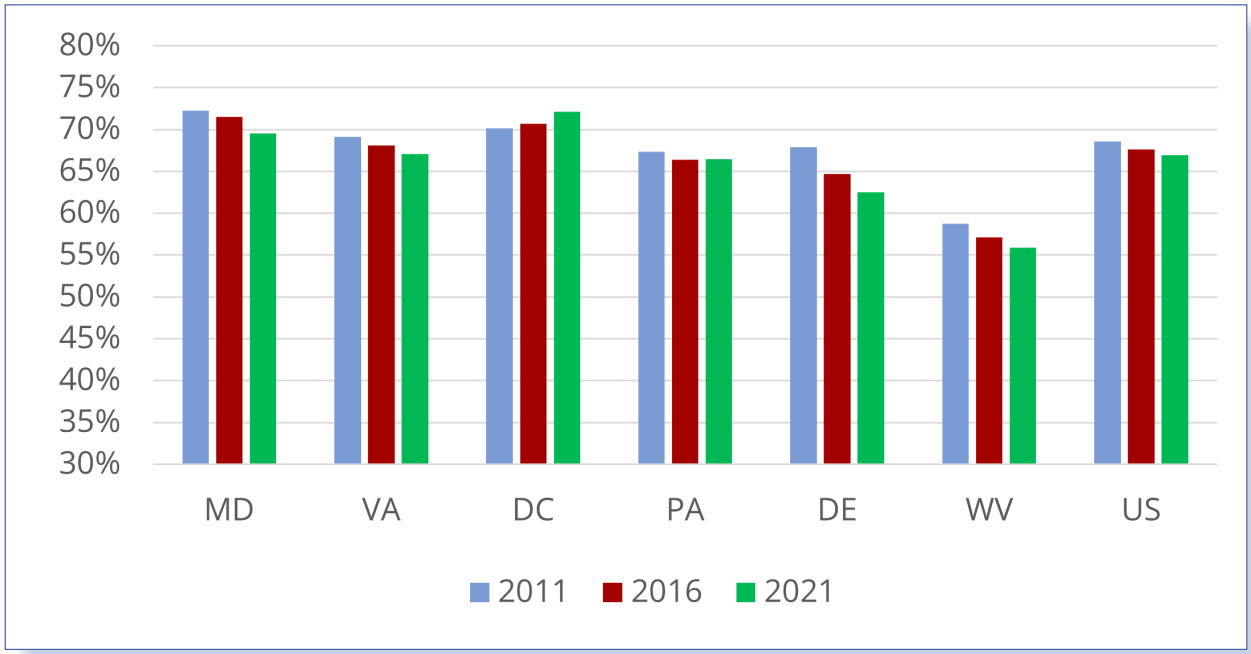
Gender Labor Force Differences

The 1.9 percentage point decline in Maryland's male labor participation that occurred from 2016 through 2021 was slightly more pronounced than the 1.5 percentage point decline in the rate of female participation. However, during this time most of Maryland's neighbors had either a smaller decline in male labor participation or increased as in the District of Columbia and Pennsylvania.

In contrast to Maryland's decrease, U.S. female labor participation stayed relatively constant over this period and decreased in each neighboring state by less than 1.0 percentage points. As in the case of men, it also increased in the District of Columbia and Pennsylvania. In short, while Maryland's male labor participation fell by a greater amount, the decrease in women's labor participation was worse relative to the change in the U.S.

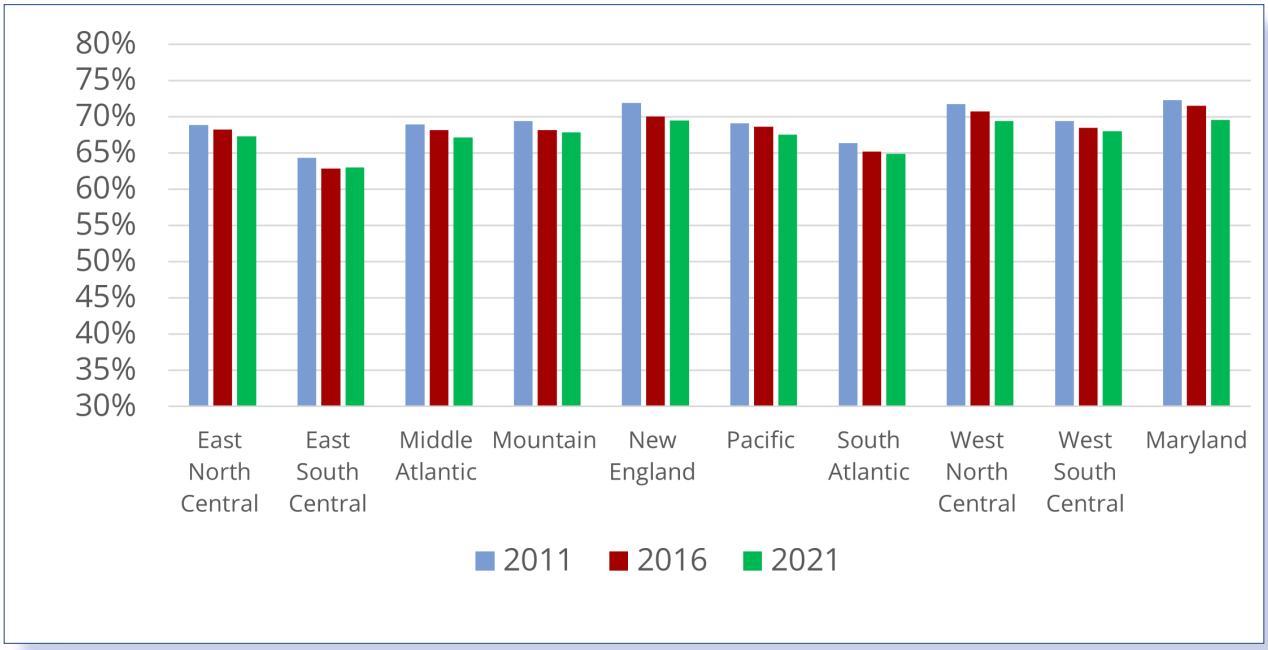
Maryland's male labor force declined at a faster rate compared to all regional averages. The only neighboring state that fared worse was Delaware. Despite these declines, male labor participation remained higher in Maryland than in surrounding states, all census regions, and the U.S. The District of Columbia was the only neighboring state with a higher male labor participation. Since 2021, more timely data from the CPS shows that Virginia's total labor participation has since surpassed Maryland.

Figure 30: Male Civilian Labor Force by State



Source: American Community Survey

Figure 31: Male Civilian Labor Force by Region



Source: American Community Survey

Female labor participation in Maryland is still higher than in most neighboring states and census regions. However, it declined over this period, especially during the pandemic. Maryland's female labor participation declined more steeply compared to all census regions and neighboring states. See Figure 32, facing page.

Age Cohorts Contributing to Civilian Labor Force Decline

The aging of the U.S. population is the primary contributing factor to the sustained decline in labor participation nationally, as individuals aged 55 and above have a significantly lower labor participation rate than younger workers. However, age is not the sole determinant of labor force decline, as there are other factors that explain the trend. In fact, the decline in Maryland's labor participation between 2016 and 2021 is most prevalent among individuals aged 25 to 44. This trend is alarming because this age group typically is either working towards or are in their most productive years. As a result, there is a significant opportunity cost to not being part of the labor force. Additionally, even if they return, their absence from the labor force will likely lead to a depreciation of their human capital and result in lower lifetime earnings.

Overall labor force declines in both men and women occurred in those between the ages of 25 to 34, whereas the decline in the 35 to 44 age cohort appears to be driven by men leaving the labor force. Men aged 35 to 44 have the next highest labor force dropout rate in the State after the college-aged population. As the relative share of workers in their 40s declines, the productivity of the State's labor force also declines.

The decline in Maryland's male labor force in the 35 to 44 age cohort was greater compared to all census regions. The U.S., Delaware and West Virginia were the only neighboring states that had a sharper decline while Pennsylvania was the only neighboring state that had an increase in this segment of the male labor force. However, in 2021, labor participation for men aged 35 to 44 was still higher in Maryland than in the U.S., all census regions, and all neighboring states.

Figure 32: Female Civilian Labor Force by State

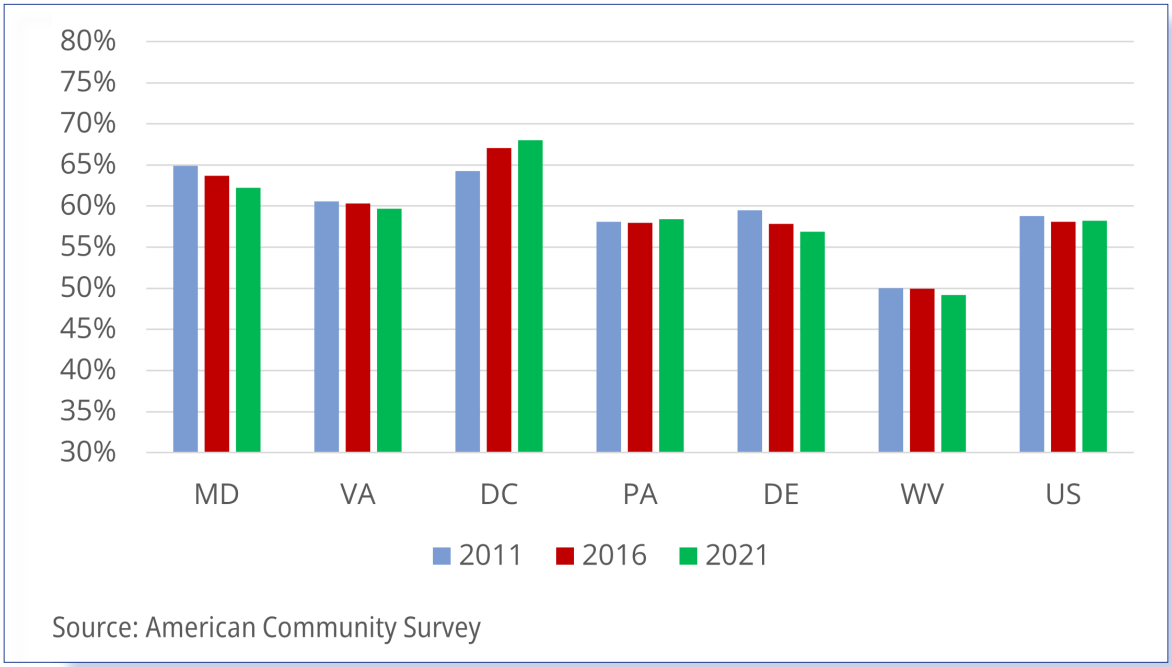


Figure 33: Female Civilian Labor Force by Region

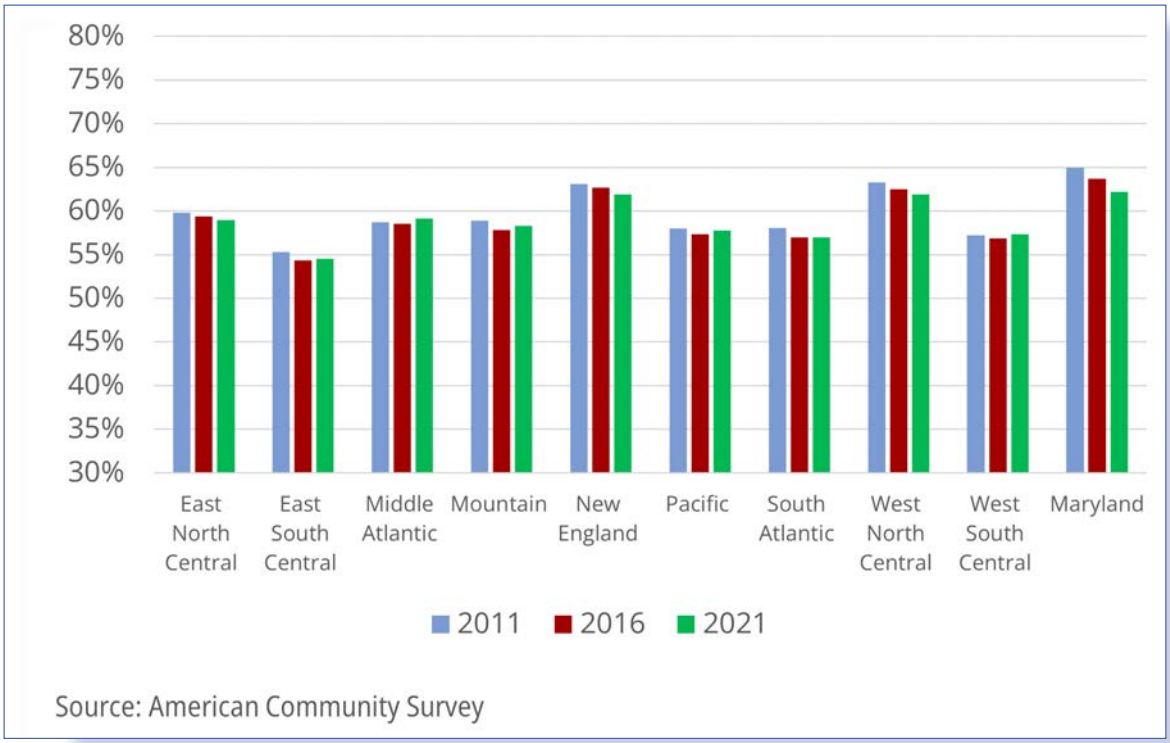


Figure 34: Men Not in the Labor Force by State (Ages 35 – 44)

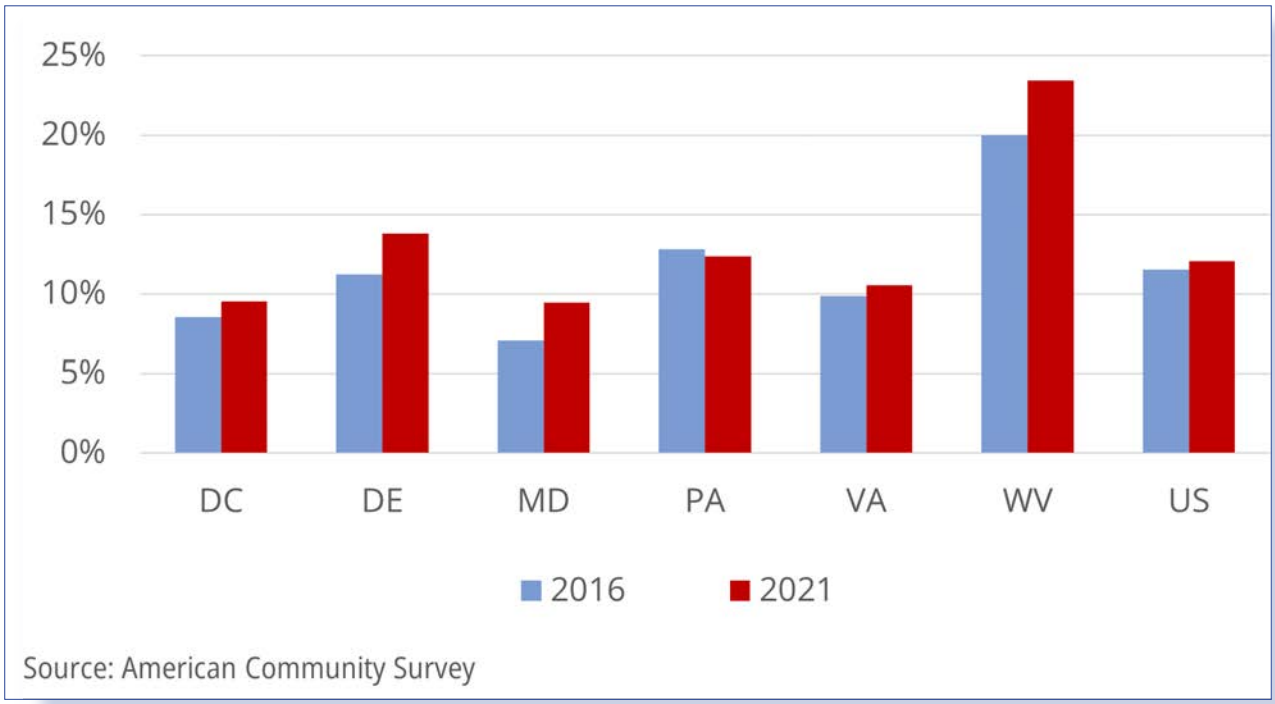
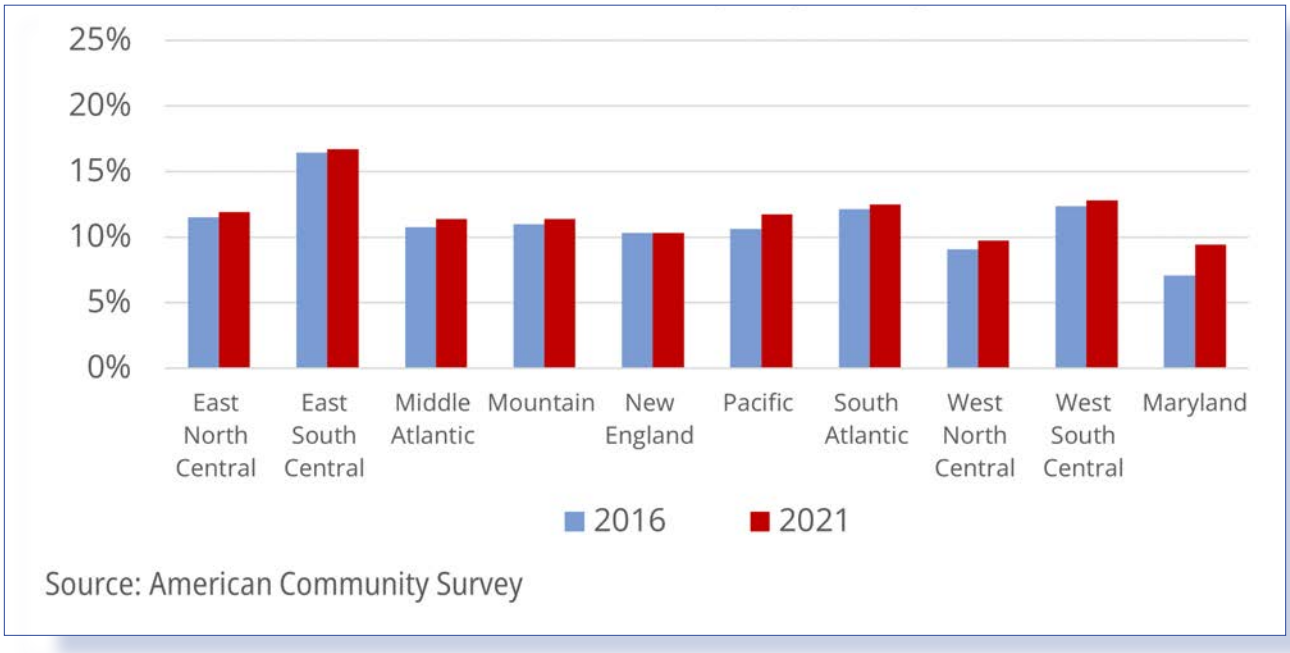


Figure 35: Men Not in the Labor Force by Region (Ages 35 – 44)



Although the increase in labor force dropout during this time was less severe for men aged 25-34 compared to those in the 35 to 44 age cohort, the increase in labor force dropout in this cohort was worse in Maryland compared to all census regions and neighboring states

except for West Virginia. At the end of this period, however, labor participation among 25- to 34-year-old men was still higher in Maryland than in the nation, most census regions, and neighboring states except for the District of Columbia.

Figure 36: Men Not in the Labor Force by State (Ages 25 – 34)

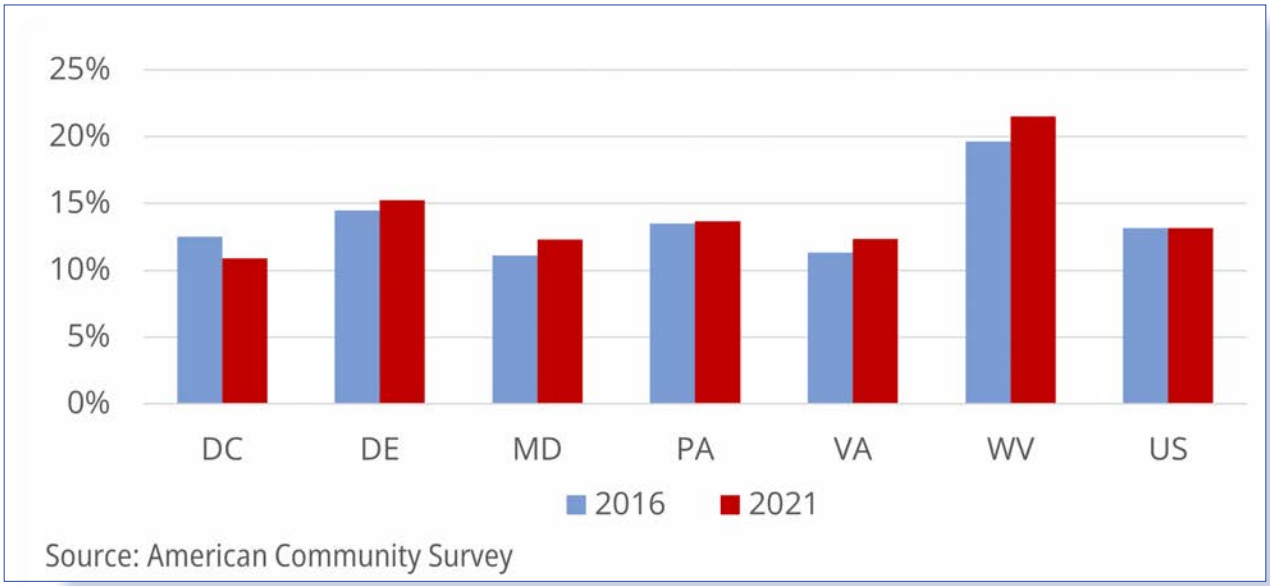
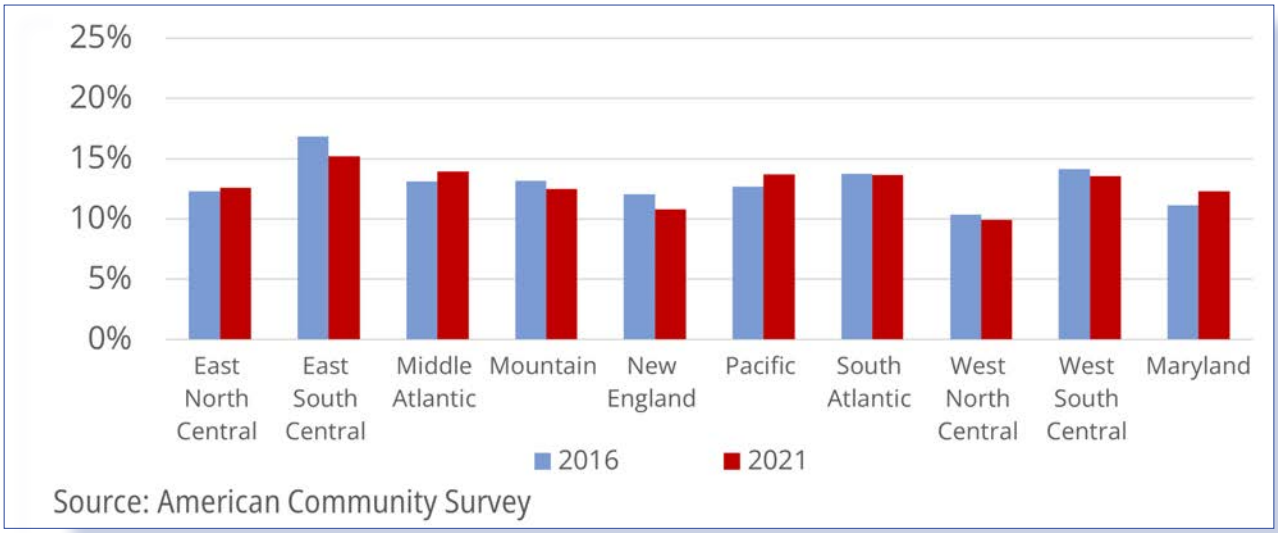


Figure 37: Men Not in the Labor Force by Region (Ages 25 – 34)



Over the same time, the increase in women who were not in the labor force in Maryland was concentrated in the 25 to 34 age cohort despite being unchanged or improved in most neighboring states as well as nationally and in most census regions. Despite its decline in recent years, labor participation for this cohort of women continued to be higher in Maryland than in most census regions, the nation, and most neighboring states.

Figure 38: Women Not in the Labor Force by State (Ages 25 – 34)

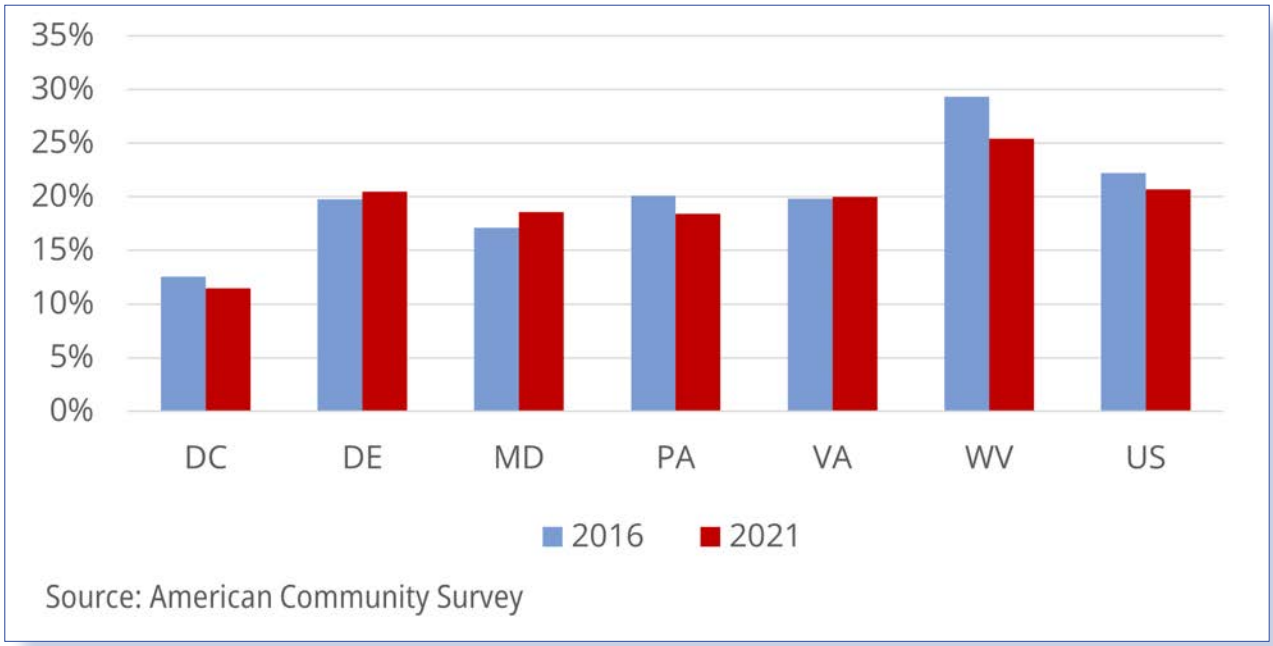
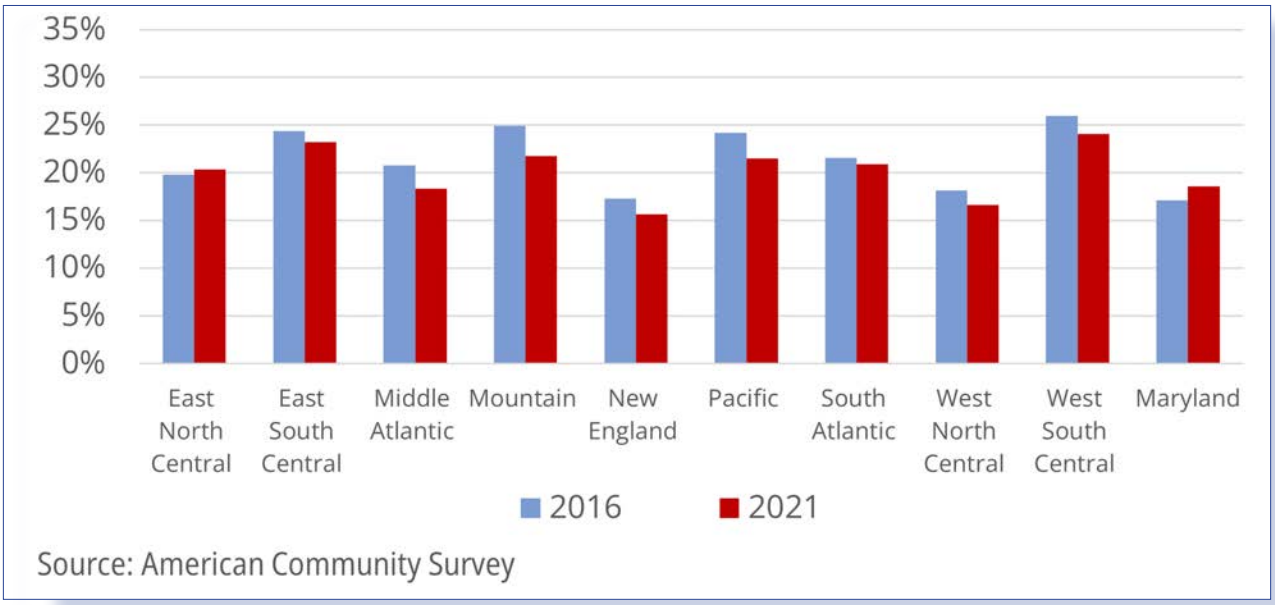


Figure 39: Women Not in the Labor Force by Region (25 – 34)



Labor participation in Maryland is also falling by a higher rate in the 16 to 24 age cohort. In fact, Maryland's neighbors had a decline in the share of these women who were not in the labor force with the exception of Virginia. Higher educational attainment is often cited as a reason for lower labor participation among these individuals and Maryland's increasing educational attainment rates are higher than most states.

Figure 40: Percent of People Not in the Labor Force by State (Ages 45 – 54)

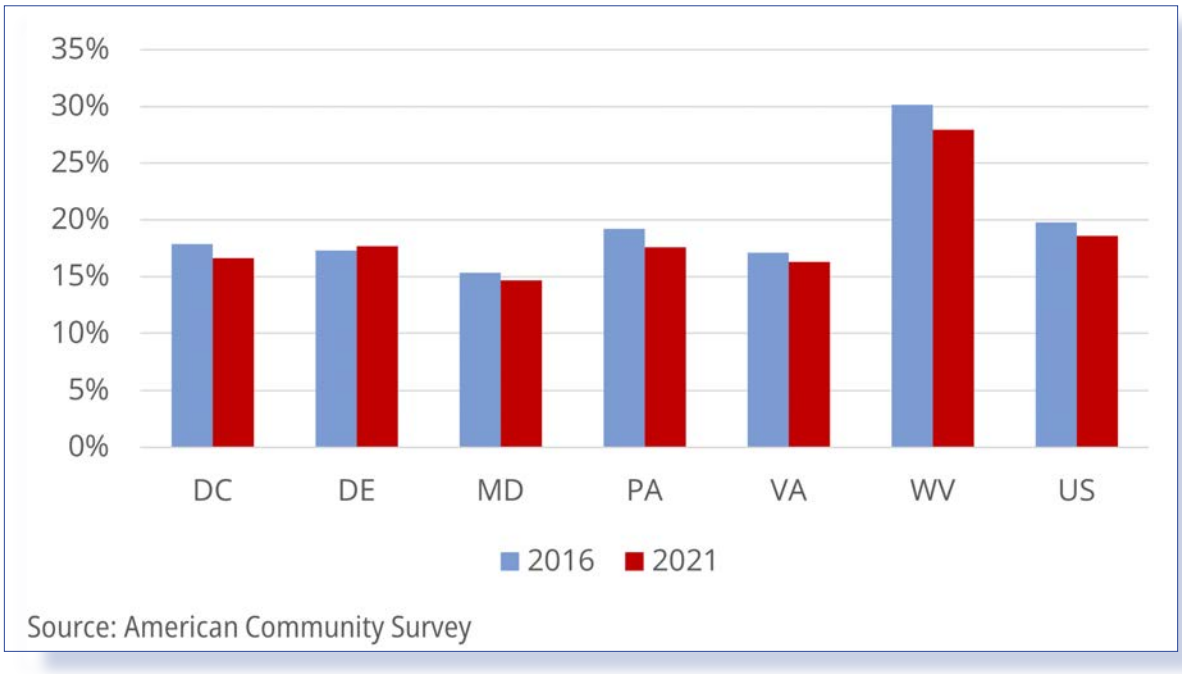


Figure 41: Percent of People Not in the Labor Force by Region (Ages 45 – 54)

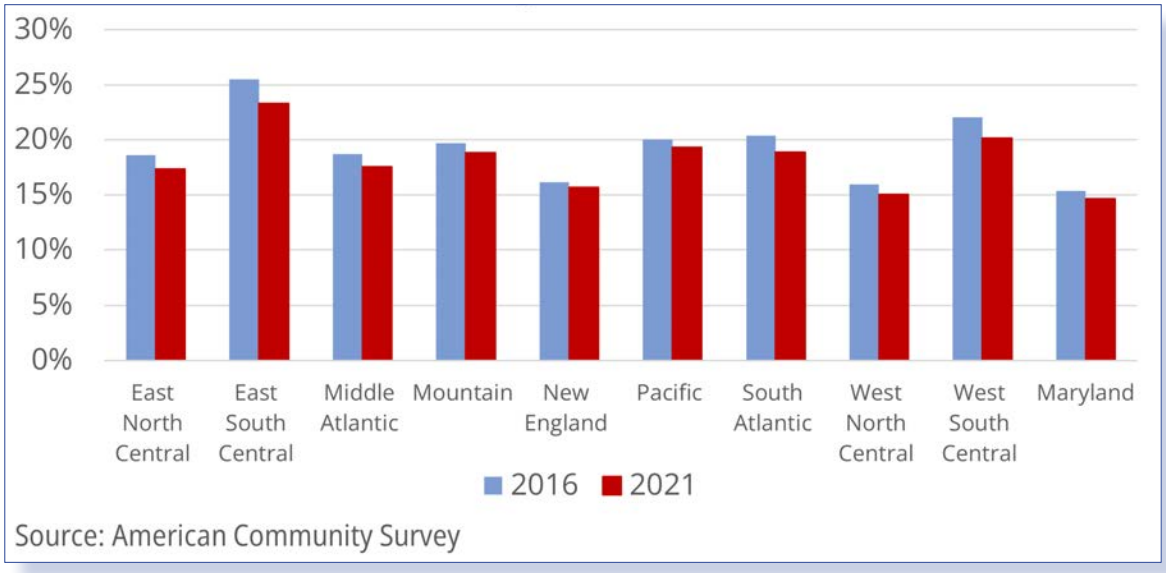


Figure 42: Percent of People Not in the Labor Force by State (Ages 55+)

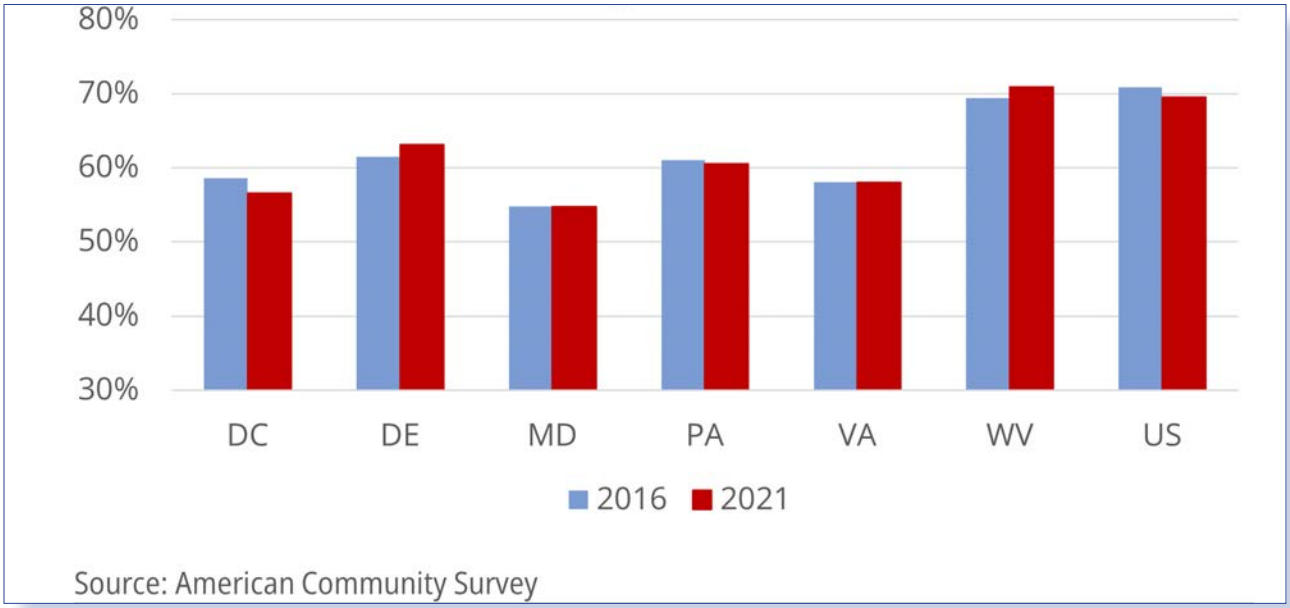
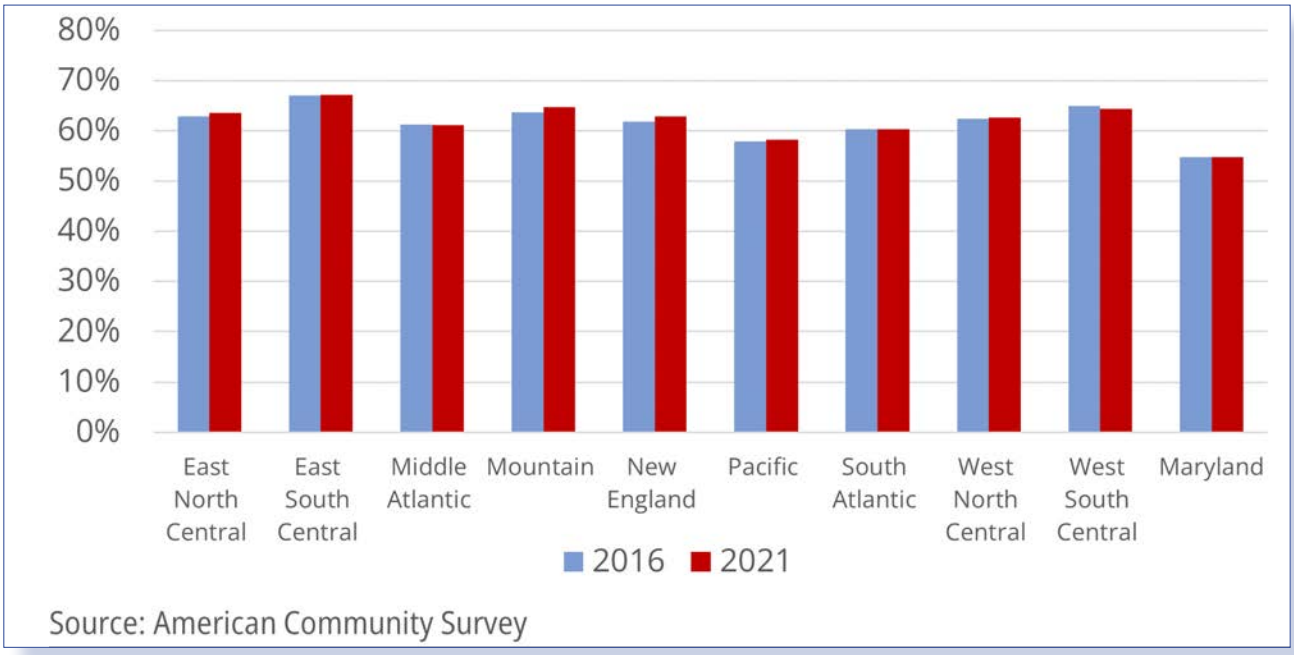


Figure 43: Percent of People Not in the Labor Force by Region (Ages 55+)



Appendix 2 – Health Outcomes and Labor Participation

Researchers generally agree that the aging population is the primary reason for falling labor participation nationally but cannot fully explain the decline. Some research indicates that health reasons are an important factor contributing to the decline in LPR within the working-age population. Life expectancy data suggest Maryland is disproportionately affected by health-related barriers to employment. Maryland's life expectancy at birth is about average compared to other states. However, wealthy states (of which Maryland leads the nation) tend to have higher than average life expectancy. California and New York, for example, were tied for second highest life expectancy in the US in 2019, while Maryland was in the middle of the pack.[152] In addition to overdoses and COVID-19, chronic diseases contribute significantly to the U.S. having a lower life expectancy than other rich industrialized nations.[153]

Mental Health Trends in Maryland and the U.S.

The following analysis examines two specific mental health issues – depression and difficulty concentrating – which can serve as a proxy for mental health more generally. In Maryland, those between the ages of 18 to 34, and to a lesser extent 35 to 44, have reported higher rates of depression than other age groups. Women experienced both higher rates of depression overall and a larger increase in depression. While the prevalence and rise in depression in Maryland is a concerning public health issue, particularly for young women, the data show this is a national public health issue. Maryland has generally fared better compared to the nation and most other states in recent years, making the rise in depression a poor candidate for explaining Maryland's relatively worse economic performance. After spiking in 2017, depression rates in Maryland decreased the following year and only increased slightly through 2021.

Figure 44: Percentage of Maryland Population Reporting Depression, by Age Group and Sex

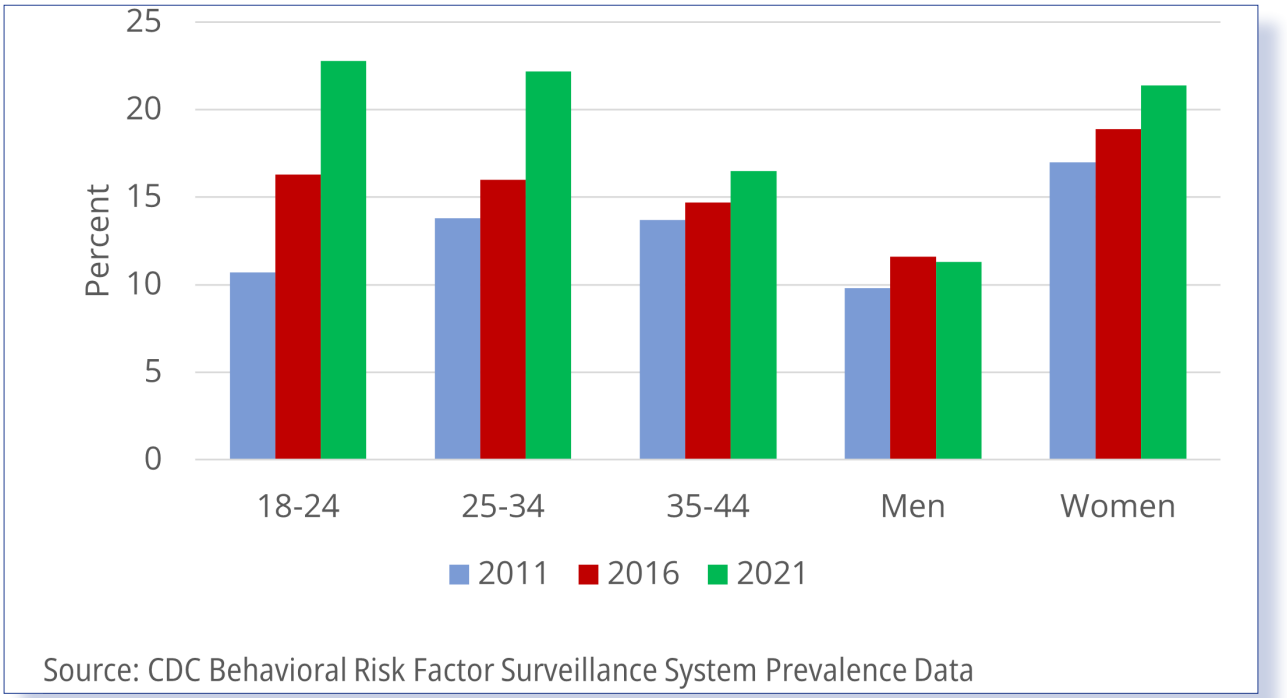
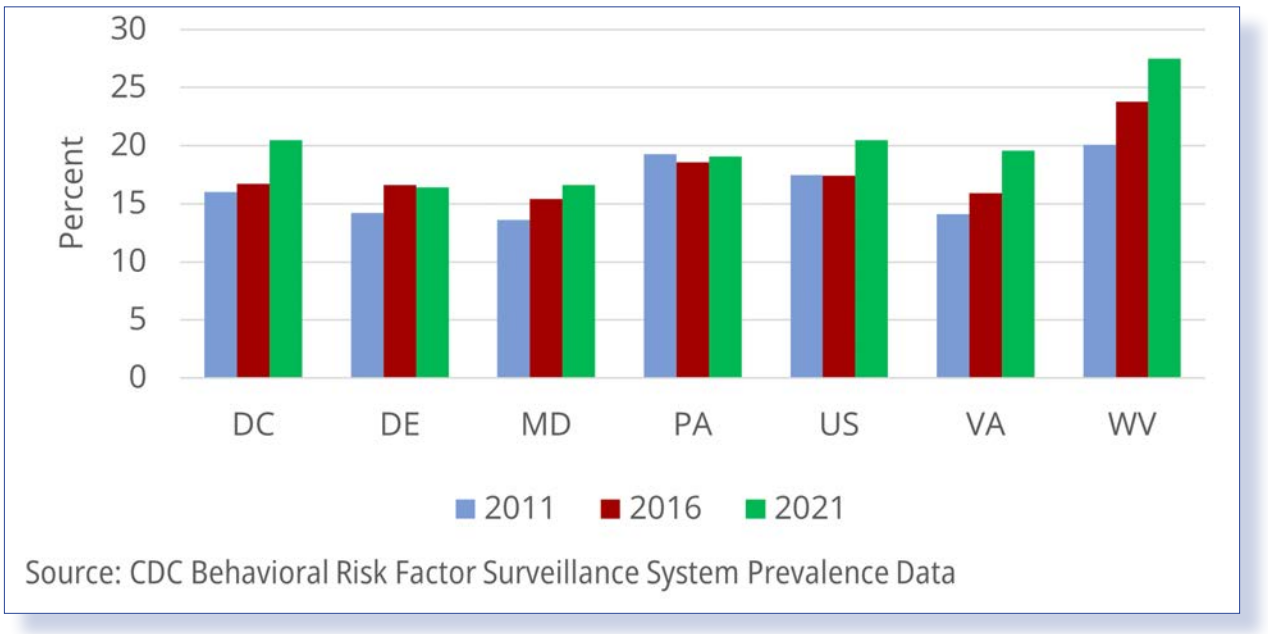


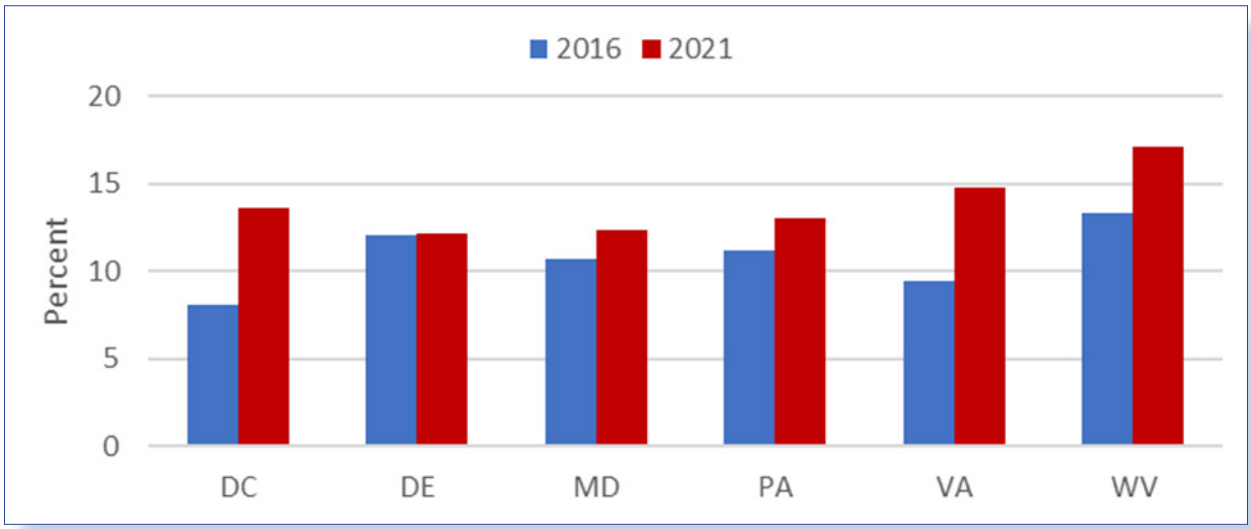
Figure 45: Percentage of Population Reporting Depression by State



In conjunction with increasing depression rates among the younger working-age population, there is an upward trend in people reporting serious difficulty concentrating, remembering, or making decisions in the 18 to 24 and 25 to 34 age cohorts.[154] Again, Maryland has seen

an increase in this mental health-related barrier to labor force entry in recent years, but the increase is generally either similar or less than the increases in neighboring states.

Figure 46: Percent of People Aged 25 – 34 Reporting Serious Difficulty Concentration, Remembering, or Making Decisions



Source: CDC Behavioral Risk Factor Surveillance System Prevalence Data

Physical Health Impacts and the Opioid Epidemic

Looking at more physical aspects of health, research finds that the prevalence of physical pain and its treatment are significant factors causing people to not participate in the labor force. Despite the massive increase in opioid pain medication prescriptions, there was no corresponding decline in the reported prevalence of pain.[155] As is now widely known, what started as an issue of addiction to prescription opioids has spilled over to illicit opioids, which can now be found in a variety of other illicit drugs. The increase in opioid prescribing and use is correlated with lower labor participation; regions that experienced higher rates of opioid prescriptions had greater declines in labor participation, all else equal. Krueger's calculations suggest that the rise in opioid prescriptions caused a 1.4 percentage point decline in male labor participation, or about 43% of the decline from 1999 to 2015. Since then, the opioid epidemic has continued to worsen.

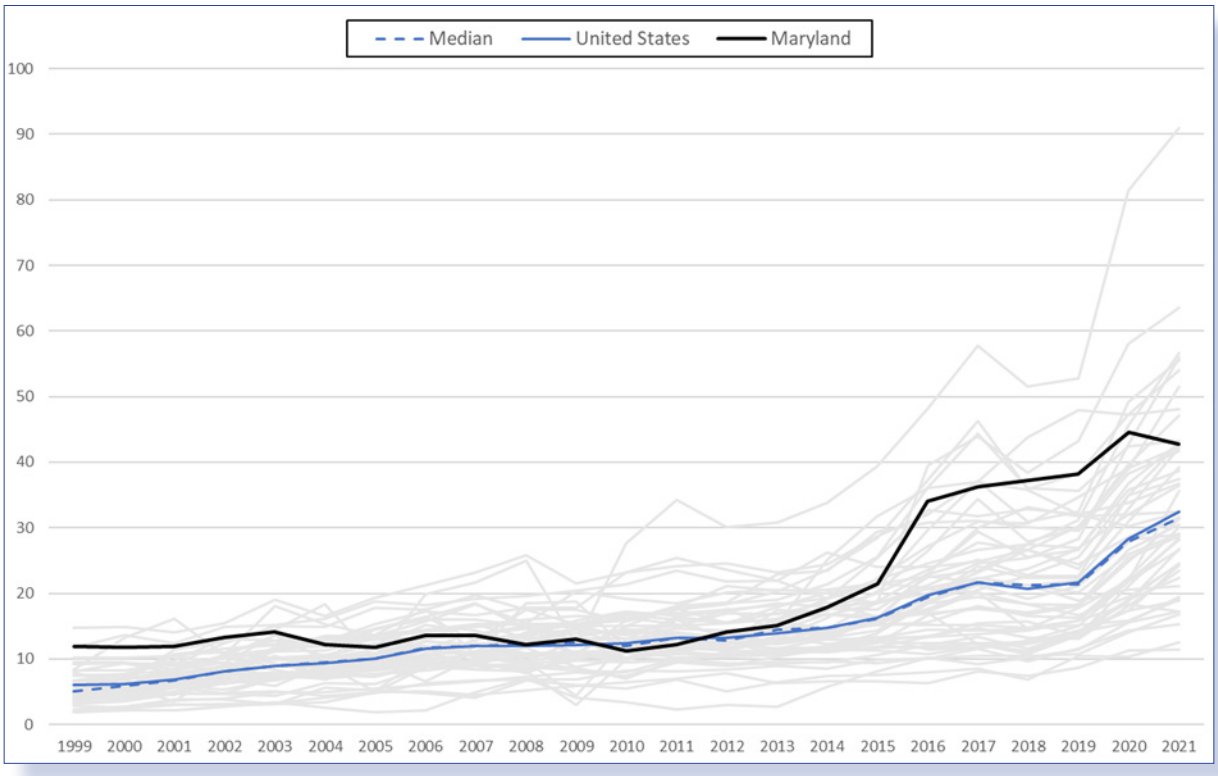
Maryland has been disproportionately affected by the opioid and drug overdose epidemic. Between 2014 and 2021, Maryland consistently ranked among the top 10 worst states with the highest opioid-related death rates.[156] As discussed below, these rates do vary considerably throughout the State.[157] Krueger's research implies a reason Maryland was hit harder by the opioid epidemic than other states. He finds that pain medication was more

widely used in areas where it was more widely prescribed and, adjusting for other observable factors, labor participation fell more in areas where more opioids were prescribed.

A broader metric of drug-related deaths published by the U.S. Centers for Disease Control and Prevention (CDC) – the Drug Overdose Death Rate - showed opioids are responsible for the vast majority of these deaths. Maryland entered the 21st century with the second-highest rate in the nation, at more than double the national average. Maryland's rate stayed steady over the next decade while rising in the nation. By 2008, Maryland's rate was essentially equal to the national average. Unfortunately, this trend did not continue, and Maryland quickly returned to above-average rates of deaths, as show in Figure 47.

By 2016, Maryland once again had one of the highest death rates from drug overdoses in the country. A rare potential bright spot is that in 2021 Maryland had a decline in the death rate while increases continued in most other states and the nation. According to the CDC, drug use prevalence declined over this period even as the death rate rose.

Figure 47: Drug Poisoning Mortality Per 100,000 Residents by State



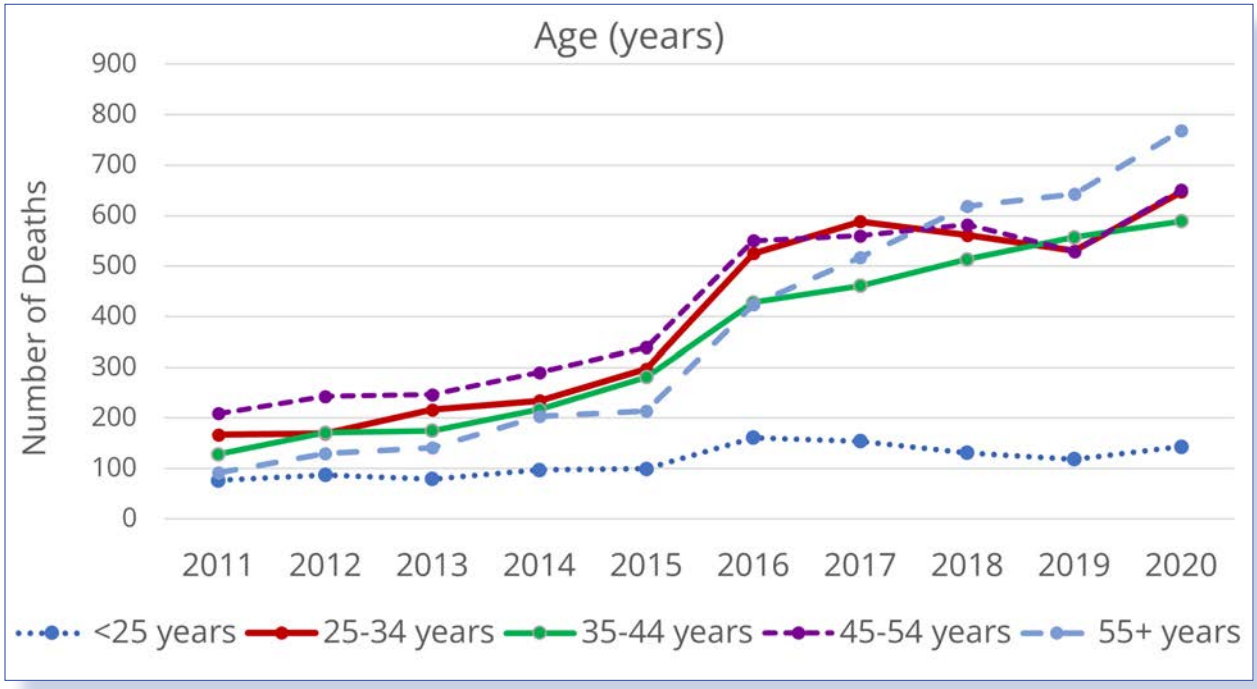
Sources: Center for Disease Control; MD Bureau of Revenue Estimates

The recent increase in the drug overdose death rate correlates closely with the stagnation of Maryland's real economic output. Behind the drug poisoning mortality numbers is the wider

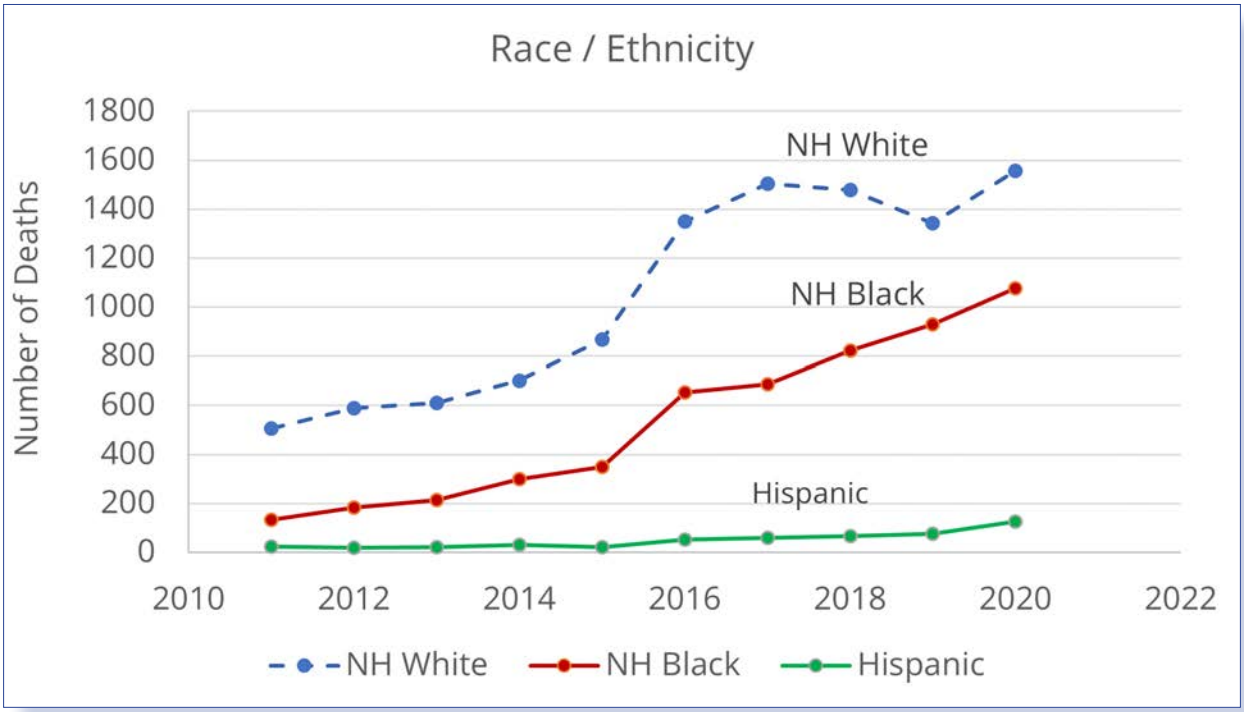
drug-using population. The rising lethality of opioids suggests that drug use is having a more significant disruptive impact on the lives of drug users. Rates are particularly elevated on the Eastern Shore, in the Baltimore metro area, and in Western Maryland. In June 2021, the Maryland Department of Health published data showing that since 2015, drug and alcohol-related deaths have been trending upward for certain demographic groups, particularly working-aged men.[158]

Figures 48 show drug-related deaths, as reported by the Maryland Department of Health in its 2020 Unintentional Drug and Alcohol-Related Intoxication Deaths Report.[159] For ages 26 and over, opioid overdose deaths rose rapidly in 2016 and have been generally trending upward in Maryland and its neighboring states. Most age groups had a decline in deaths between 2020 and 2021, except for those age 55 or older. This cohort also experienced the fastest increase in opioid overdoses between 2016 and 2021. The 35 to 44-year-old age group also had a steady increase in opioid deaths during this period. For the 25 to 34 and 45 to 54 age groups, the number of deaths were generally flat or even in slight decline between 2016 and 2020. According to the CDC, US drug overdose death rates in 2020 and 2021 were highest for the 35 to 44 age cohort.

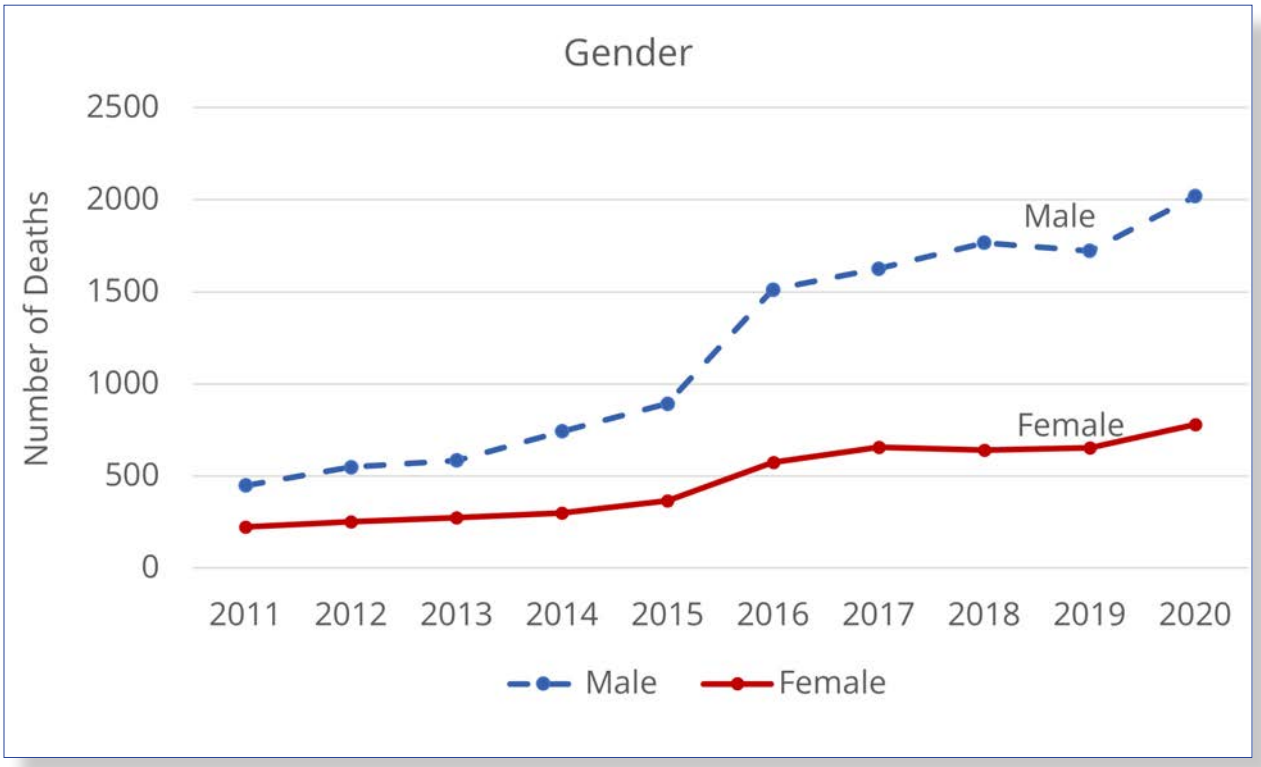
Figure 48: Total Number of Drug- and Alcohol-Related Intoxication Deaths Occurring in Maryland by Age Group, Race/Ethnicity, and Gender (2011 – 2020)



Source: Maryland Department of Health



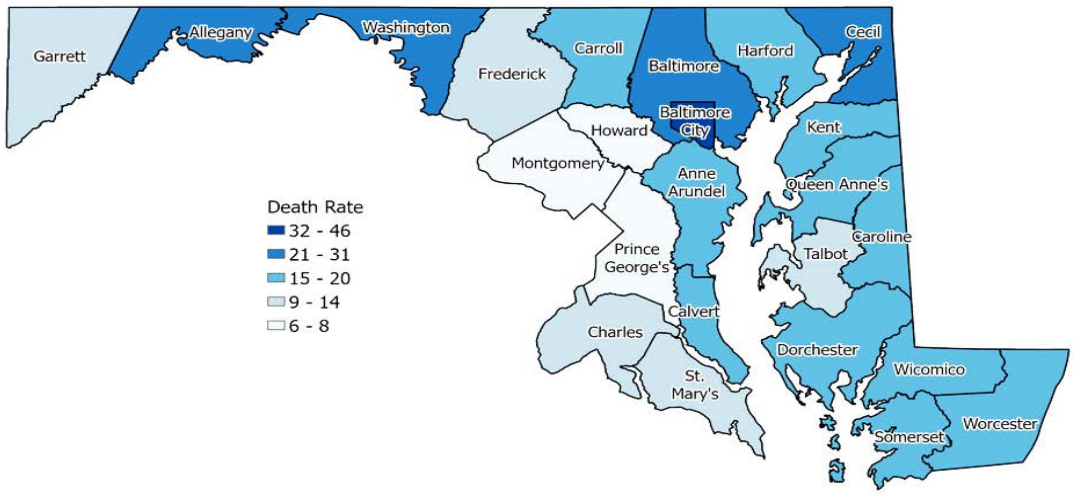
Source: Maryland Department of Health
Note: NH = Non-Hispanic



Source: Maryland Department of Health

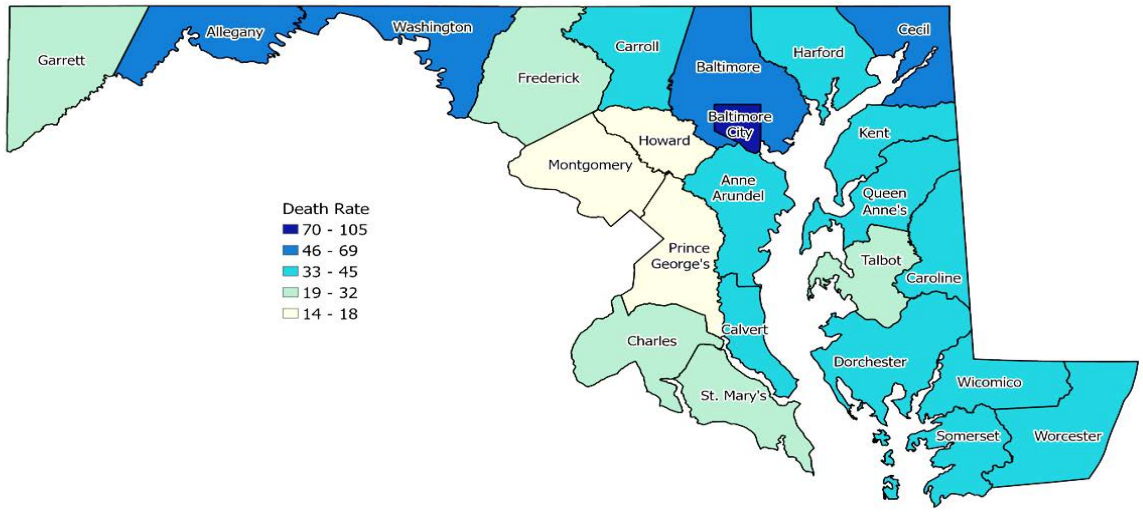
There has been significant variation in death rates by county and over time. The maps below compare the rates in calendar 2010 and 2020.

*Figure 49: Drug Poisoning Death Rates by C*ounty per 100,000 Residents in 2010



Source: Center for Disease Control and Prevention; MD Bureau of Revenue Estimates

Figure 50: Drug Poisoning Death Rates by County per 100,000 Residents in 2022



Source: Center for Disease Control and Prevention; MD Bureau of Revenue Estimates

Appendix 3 – Data Tables for Charts

Data Table for Figure 2: Real GDP Indexed to 2016 Q4 (=100)

Date	US	MD	PA	VA
3/2015	97	95	99	97
6/2015	98	95	99	98
9/2015	98	96	99	98
12/2015	98	97	99	98
3/2016	99	98	99	98
6/2016	99	99	99	98
9/2016	100	99	100	99
12/2016	100	100	100	100
3/2017	100	100	100	100
6/2017	101	100	100	100
9/2017	102	101	101	101
12/2017	103	102	101	101
3/2018	104	101	101	102
6/2018	104	101	102	103
9/2018	105	101	10	103
12/2018	105	101	102	103
3/2019	105.7	100.2	102.7	104.1
6/2019	106.5	101.1	103.3	104.4
9/2019	107.4	101.4	104.1	105.9
12/2019	107.9	101.5	104.1	106.1
3/2020	106.6	98.9	102.6	105.1
6/2020	97.6	92.0	91.7	97.5
9/2020	105.2	98.0	99.6	103.7
12/2020	106.2	98.2	100.5	105.4
3/2021	107.9	101.1	101.4	106.8

Date	US	MD	PA	VA
6/2021	109.7	100.4	102.6	107.9
9/2021	110.4	101.1	102.9	108.9
12/2021	112.3	102.2	105.0	110.9
3/2022	111.9	101.2	104.7	110.0
6/2022	111.7	100.9	104.5	109.7
9/2022	112.6	101.4	105.3	110.3
12/2022	113.3	101.5	106.1	110.9
3/2023	113.9	101.6	106.6	111.2

Source: Bureau of Economic Analysis; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 3: Real Gross Domestic Product per Capita (2012 dollars)

Date	US	MD	PA	VA
3/2014	52,136	56,165	51,100	53,589
6/2014	52,697	56,831	51,730	53,808
9/2014	53,202	57,197	52,273	53,808
12/2014	53,333	56,826	52,433	53,840
3/2015	53,661	57,496	52,707	53,899
6/2015	53,867	57,545	52,714	54,305
9/2015	53,938	57,809	52,643	54,395
12/2015	53,916	58,164	52,777	54,225
3/2016	54,135	58,768	52,832	53,980
6/2016	54,202	59,186	52,878	54,198
9/2016	54,434	59,504	53,250	54,414
12/2016	54,613	59,856	53,153	54,837
3/2017	54,759	59,649	53,031	54,487
6/2017	54,950	59,754	53,210	54,692
9/2017	55,322	60,041	53,718	54,939

Date	US	MD	PA	VA
12/2017	55,798	60,471	53,777	55,296
3/2018	56,108	59,890	53,781	55,465
6/2018	56,426	60,091	53,948	55,694
9/2018	56,765	60,012	54,279	55,981
12/2018	56,803	59,895	54,357	55,919
3/2019	57,050	59,315	54,472	56,356
6/2019	57,377	59,807	54,834	56,446
9/2019	57,833	59,938	55,239	57,190
12/2019	58,041	59,963	55,310	57,270
3/2020	57,317	58,367	54,494	56,663
6/2020	52,423	54,242	48,741	52,508
9/2020	56,515	57,778	52,934	55,850
12/2020	57,039	57,931	53,397	56,721
3/2021	57,899	59,635	53,833	57,421
6/2021	58,863	59,193	54,426	57,972
9/2021	59,217	59,655	54,597	58,483
12/2021	60,175	60,328	55,735	59,533
3/2022	59,865	59,729	55,639	58,991
6/2022	59,694	59,623	55,606	58,801
9/2022	60,082	59,896	56,068	59,025
12/2022	60,376	59,937	56,514	59,247
3/2023	60,591	60,013	56,780	59,316

Source: Bureau of Economic Analysis; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 4: Private Nonfarm Labor Productivity Indexed to 2012 (=100)

Year	Midwest	Northeast	South	West	Maryland	Median
2007	94.376	92.359	92.718	90.976	88.727	92.281
2008	95.173	92.107	94.177	92.826	90.279	94.287
2009	97.01	96.23	97.508	96.586	93.202	96.831
2010	100.074	99.257	100.036	99.439	100.952	100.098
2011	100.009	98.098	100.014	99.653	99.476	100.172
2012	100	100	100	100	100	100
2013	99.843	99.614	100.695	100.431	100.212	99.689
2014	101.595	99.771	100.751	101.296	101.46	100.939
2015	101.647	100.357	102.57	103.38	103.652	102.133
2016	102.048	101.217	102.979	104.122	107.146	101.914
2017	102.015	101.864	103.68	106.807	106.634	102.594
2018	103.699	103.015	104.097	109.329	104.928	103.529
2019	104.774	104.958	105.694	112.473	105.816	104.913
2020	107.922	110.948	108.857	119.347	109.108	107.951
2021	111.044	113.105	109.734	123.178	112.314	110.238
2022	110.183	111.079	108.401	118.941	109.371	109.626

Source: Bureau of Labor Statistics

View Chart

Data Table for Figure 5: Real Average Wage Indexed to Q4 2016 (=100)

Date	US	MD	DC	PA	VA
Mar-14	97.7	96.5	97.9	98.0	98.1
Jun-14	97.3	96.4	97.5	97.4	97.4
Sep-14	97.5	96.8	97.3	97.6	97.5
Dec-14	98.5	97.0	98.4	98.5	98.6
Mar-15	99.5	98.6	99.0	100.2	99.4

Date	US	MD	DC	PA	VA
Jun-15	99.6	98.2	100.0	99.7	99.6
Sep-15	99.7	98.7	99.0	99.8	99.4
Dec-15	99.9	99.2	98.9	100.5	99.0
Mar-16	100.0	99.3	100.1	99.5	99.3
Jun-16	99.5	99.3	99.9	99.1	98.7
Sep-16	99.7	99.5	99.7	100.0	99.2
Dec-16	100.0	100.0	100.0	100.0	100.0
Mar-17	100.3	99.4	100.6	99.9	100.2
Jun-17	100.6	99.9	100.7	100.3	100.3
Sep-17	101.2	100.2	102.3	101.2	100.5
Dec-17	101.9	101.1	101.3	101.4	100.7
Mar-18	102.0	100.6	102.2	101.5	100.7
Jun-18	101.5	100.1	101.7	101.0	100.0
Sep-18	102.3	100.4	103.5	101.8	100.8
Dec-18	102.2	100.0	103.0	101.2	101.0
Mar-19	103.6	101.1	103.0	103.2	101.8
Jun-19	103.3	101.3	102.5	102.9	101.5
Sep-19	103.3	101.2	102.8	102.5	102.4
Dec-19	104.2	102.0	103.5	103.4	102.9
Mar-20	105.2	103.6	104.6	104.4	104.3
Jun-20	112.1	112.2	112.2	113.5	111.3
Sep-20	110.8	110.2	112.0	110.4	109.4
Dec-20	112.7	110.6	115.9	112.0	111.0
Mar-21	111.2	111.2	113.9	109.8	108.9
Jun-21	111.5	107.5	113.2	109.8	108.7
Sep-21	111.4	107.4	112.1	109.4	108.4
Dec-21	111.5	107.5	110.2	109.6	108.9

Date	US	MD	DC	PA	VA
Mar-22	109.8	106.3	109.2	107.9	107.2
Jun-22	107.9	104.5	106.7	107.1	105.5
Sep-22	108.8	105.6	106.7	107.6	107.2
Dec-22	107.6	104.7	106.0	105.7	106.7
Mar-23	107.0	104.1	105.2	105.4	106.2
Jun-23	107.4	104.3	105.5	105.6	106.5

Source: Bureau of Labor Statistics; Bureau of Economic Analysis; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 6: Payroll Employment Indexed to Q4 2016 (=100)

Date	US	MD	DC	PA	VA
Mar-14	95	96	95	97	96
Jun-14	95	97	96	98	96
Sep-14	96	97	96	98	96
Dec-14	96	97	97	99	97
Mar-15	97	97	97	98	97
Jun-15	97	98	97	99	98
Sep-15	98	98	98	99	99
Dec-15	98	99	99	99	99
Mar-16	99	99	99	99	99
Jun-16	99	99	99	99	99
Sep-16	100	100	100	100	100
Dec-16	100	100	100	100	100
Mar-17	100	100	100	100	100
Jun-17	101	100	100	101	101
Sep-17	101	101	100	101	101
Dec-17	101	101	101	101	101

Date	US	MD	DC	PA	VA
Mar-18	102	101	101	101	102
Jun-18	102	101	102	102	102
Sep-18	103	102	102	102	102
Dec-18	103	102	102	102	102
Mar-19	103	102	102	102	103
Jun-19	104	102	102	103	103
Sep-19	104	102	102	103	103
Dec-19	104	102	102	103	104
Mar-20	105	102	103	103	104
Jun-20	92	89	92	88	93
Sep-20	97	94	93	94	97
Dec-20	98	95	93	95	99
Mar-21	99	96	92	96	99
Jun-21	100	97	93	97	100
Sep-21	101	98	95	98	101
Dec-21	103	99	97	99	102
Mar-22	104	99	97	100	102
Jun-22	105	99	98	101	103
Sep-22	106	100	98	102	104
Dec-22	106	100	99	103	104
Mar-23	107	101	99	103	105
Jun-23	107	101	99	104	105

Source: Bureau of Labor Statistics; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 8: Maryland Employment Indexed to 2016 (=100)

Year	Private	Total	Fed	Total Gov	State Gov	State and Local
2014	96.8	97.3	98.1	99.8	101.6	100.4
2015	98.5	98.8	98.8	100.0	101.4	100.5
2016	100.0	100.0	100.0	100.0	100.0	100.0
2017	101.3	101.1	100.7	100.3	100.4	100.1
2018	102.4	102.0	99.4	100.6	101.1	101.1
2019	103.1	102.7	99.8	100.8	101.5	101.2
2020	95.0	95.7	102.5	98.7	98.4	97.1
2021	97.9	98.2	105.1	99.7	99.9	97.4
2022	100.1	100.5	106.4	101.9	102.6	100.0

Source: Bureau of Labor Statistics; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 9: Employment Indexed to March 2020 (=100)

Date	US Federal Government	MD Federal Government	US Nonfarm Employment	MD Nonfarm Employment
31-Mar-19	97.81	98.77	99.59	100.77
30-Apr-19	98.33	98.77	99.75	100.70
31-May-19	98.23	99.05	99.79	100.76
30-Jun-19	98.54	99.18	99.90	101.06
31-Jul-19	98.40	99.25	99.96	100.55
31-Aug-19	99.27	99.59	100.11	100.66
30-Sep-19	99.17	99.52	100.25	100.59
31-Oct-19	98.68	99.25	100.33	100.87
30-Nov-19	98.82	99.46	100.48	100.97
31-Dec-19	98.61	99.46	100.54	100.91
31-Jan-20	99.30	99.80	100.76	100.88

Date	US Federal Government	MD Federal Government	US Nonfarm Employment	MD Nonfarm Employment
29-Feb-20	99.27	99.86	100.95	100.96
31-Mar-20	100.00	100.00	100.00	100.00
30-Apr-20	100.14	100.27	86.41	86.69
31-May-20	100.07	100.68	88.15	87.57
30-Jun-20	100.28	100.82	91.17	89.75
31-Jul-20	101.08	101.23	92.13	91.95
31-Aug-20	109.81	104.56	93.28	92.74
30-Sep-20	108.55	104.77	93.92	93.46
31-Oct-20	103.55	103.81	94.39	93.93
30-Nov-20	100.45	103.34	94.57	94.01
31-Dec-20	100.66	102.79	94.39	94.13
31-Jan-21	100.38	103.68	94.72	94.69
28-Feb-21	100.17	103.95	95.10	94.62
31-Mar-21	100.38	104.29	95.62	95.25
30-Apr-21	100.80	104.63	95.81	95.59
31-May-21	100.52	104.43	96.13	95.81
30-Jun-21	100.45	104.29	96.58	96.08
31-Jul-21	100.42	104.09	97.09	96.73
31-Aug-21	100.49	104.43	97.53	97.06
30-Sep-21	100.38	104.63	97.90	96.96
31-Oct-21	100.03	104.63	98.42	97.42
30-Nov-21	100.21	104.90	98.83	97.65
31-Dec-21	99.90	104.84	99.20	98.10
31-Jan-22	99.93	104.77	99.44	97.81
28-Feb-22	99.93	105.18	100.04	98.47
31-Mar-22	99.90	105.18	100.32	98.11

Date	US Federal Government	MD Federal Government	US Nonfarm Employment	MD Nonfarm Employment
30-Apr-22	99.83	105.45	100.49	98.20
31-May-22	99.72	105.65	100.73	98.29
30-Jun-22	99.13	104.84	100.97	97.98
31-Jul-22	99.69	106.06	101.35	98.99
31-Aug-22	99.62	106.20	101.58	99.05
30-Sep-22	99.69	106.34	101.81	99.14
31-Oct-22	99.83	106.20	102.03	98.76
30-Nov-22	99.90	106.06	102.22	98.87
31-Dec-22	99.93	106.06	102.38	99.01
31-Jan-23	100.35	106.81	102.69	99.27
28-Feb-23	100.66	107.83	102.86	99.24
31-Mar-23	101.04	107.83	103.00	99.34
30-Apr-23	101.18	108.11	103.14	99.54
31-May-23	101.29	108.11	103.35	99.62
30-Jun-23	101.32	108.04	103.48	99.79

Source: Bureau of Labor Statistics; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 10: Federal Government Employment, Year-Over-Year Growth

Date	US	MD	PA	VA
Jan-17	1.5%	1.4%	1.2%	1.1%
Feb-17	1.2%	1.6%	0.6%	0.5%
Mar-17	1.0%	1.5%	0.4%	0.2%
Apr-17	0.5%	1.2%	-0.2%	0.2%
May-17	0.6%	1.5%	-0.1%	0.1%

Date	US	MD	PA	VA
Jun-17	0.3%	1.0%	-0.4%	0.0%
Jul-17	0.2%	0.2%	-0.7%	-0.3%
Aug-17	0.0%	0.0%	-0.8%	-0.5%
Sep-17	-0.2%	0.3%	-1.2%	-0.6%
Oct-17	-0.1%	0.1%	-1.2%	-0.4%
Nov-17	-0.3%	-0.3%	-1.7%	-0.5%
Dec-17	-0.7%	-0.7%	-2.0%	-0.4%
Jan-18	-0.7%	-0.9%	-2.0%	-0.6%
Feb-18	-0.8%	-1.4%	-2.0%	-0.2%
Mar-18	-0.6%	-1.4%	-1.8%	0.1%
Apr-18	0.1%	-1.2%	-1.3%	1.1%
May-18	-0.5%	-1.8%	-1.6%	0.8%
Jun-18	-0.2%	-1.6%	-1.5%	1.4%
Jul-18	-0.2%	-1.1%	-1.3%	1.2%
Aug-18	0.0%	-1.0%	-1.6%	1.4%
Sep-18	0.2%	-1.0%	-1.4%	1.5%
Oct-18	0.1%	-1.2%	-1.6%	1.5%
Nov-18	0.6%	-1.2%	-1.6%	1.6%
Dec-18	0.5%	-1.1%	-1.4%	1.4%
Jan-19	0.4%	-0.5%	-1.4%	1.4%
Feb-19	0.7%	-0.2%	-0.6%	1.7%
Mar-19	0.8%	-0.1%	-0.7%	1.7%
Apr-19	1.0%	-0.1%	-0.8%	0.7%
May-19	1.1%	0.4%	-0.8%	1.1%
Jun-19	1.3%	0.5%	-0.7%	1.0%
Jul-19	1.1%	0.5%	-0.5%	1.2%
Aug-19	1.9%	0.9%	-0.2%	1.4%

Date	US	MD	PA	VA
Sep-19	1.7%	0.8%	-0.2%	1.2%
Oct-19	1.2%	0.7%	-0.2%	1.1%
Nov-19	1.2%	1.0%	0.1%	1.1%
Dec-19	1.0%	1.1%	0.1%	0.9%
Jan-20	1.9%	1.1%	0.2%	2.3%
Feb-20	1.6%	1.2%	-0.1%	2.2%
Mar-20	2.2%	1.2%	0.1%	2.4%
Apr-20	1.8%	1.5%	-0.3%	1.8%
May-20	1.9%	1.7%	-0.2%	1.7%
Jun-20	1.8%	1.6%	0.2%	1.4%
Jul-20	2.7%	2.0%	1.3%	2.2%
Aug-20	10.6%	5.0%	2.3%	4.9%
Sep-20	9.5%	5.3%	2.4%	5.1%
Oct-20	4.9%	4.6%	2.4%	3.4%
Nov-20	1.7%	3.9%	1.8%	2.2%
Dec-20	2.1%	3.4%	1.7%	2.4%
Jan-21	1.1%	3.9%	1.6%	1.0%
Feb-21	0.9%	4.1%	1.0%	0.9%
Mar-21	0.4%	4.3%	1.0%	0.8%
Apr-21	0.7%	4.3%	1.7%	1.6%
May-21	0.5%	3.7%	2.2%	1.2%
Jun-21	0.2%	3.4%	1.8%	1.0%
Jul-21	-0.7%	2.8%	0.4%	0.3%
Aug-21	-8.5%	-0.1%	-0.7%	-2.7%
Sep-21	-7.5%	-0.1%	-0.2%	-2.6%
Oct-21	-3.4%	0.8%	0.4%	-1.3%
Nov-21	-0.2%	1.5%	0.8%	-0.5%

Date	US	MD	PA	VA
Dec-21	-0.8%	2.0%	0.7%	-0.6%
Jan-22	-0.5%	1.1%	0.6%	-0.4%
Feb-22	-0.2%	1.2%	0.9%	-0.3%
Mar-22	-0.5%	0.8%	0.8%	-0.5%
Apr-22	-1.0%	0.8%	-0.3%	-0.5%
May-22	-0.8%	1.2%	-1.3%	0.1%
Jun-22	-1.3%	0.5%	-1.9%	-0.2%
Jul-22	-0.7%	1.9%	-1.8%	0.3%
Aug-22	-0.9%	1.7%	-2.6%	0.4%
Sep-22	-0.7%	1.6%	-2.8%	0.3%
Oct-22	-0.2%	1.5%	-3.3%	0.5%
Nov-22	-0.3%	1.1%	-3.5%	0.2%
Dec-22	0.0%	1.2%	-3.5%	-0.5%
Jan-23	0.4%	2.0%	-3.5%	0.2%
Feb-23	0.7%	2.5%	-3.3%	-0.2%
Mar-23	1.1%	2.5%	-3.5%	0.3%
Apr-23	1.4%	2.5%	-2.9%	0.1%
May-23	1.8%	2.3%	-2.1%	-0.2%

Source: Bureau of Labor Statistics; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 11: Employment Indexed to March 2020 (=100)

Date	US Manu-facturing	MD Manu-facturing	US Professional Services	MD Professional Services	US Nonfarm Employment	MD Nonfarm Employment
31-Mar-19	100.80	100.00	97.73	99.11	99.59	100.77
30-Apr-19	100.79	100.27	97.91	99.31	99.75	100.70

Date	US Manu-facturing	MD Manu-facturing	US Professional Services	MD Professional Services	US Nonfarm Employment	MD Nonfarm Employment
31-May-19	100.75	100.36	98.20	99.46	99.79	100.76
30-Jun-19	100.79	100.71	98.50	99.69	99.90	101.06
31-Jul-19	100.83	100.80	98.81	100.23	99.96	100.55
31-Aug-19	100.83	100.80	99.00	100.39	100.11	100.66
30-Sep-19	100.81	100.80	99.12	100.23	100.25	100.59
31-Oct-19	100.41	100.27	99.27	100.19	100.33	100.87
30-Nov-19	100.75	100.53	99.51	100.19	100.48	100.97
31-Dec-19	100.64	100.45	99.60	100.15	100.54	100.91
31-Jan-20	100.55	100.36	99.91	100.31	100.76	100.88
29-Feb-20	100.51	100.18	100.23	100.23	100.95	100.96
31-Mar-20	100.00	100.00	100.00	100.00	100.00	100.00
30-Apr-20	89.73	93.23	94.64	95.71	86.41	86.69
31-May-20	91.56	93.86	95.17	97.07	88.15	87.57
30-Jun-20	94.16	95.19	95.91	97.95	91.17	89.75
31-Jul-20	94.48	95.55	96.13	98.65	92.13	91.95
31-Aug-20	94.69	95.73	96.65	99.03	93.28	92.74
30-Sep-20	95.13	96.53	97.18	99.77	93.92	93.46
31-Oct-20	95.32	96.35	97.70	99.92	94.39	93.93
30-Nov-20	95.59	96.79	97.89	100.27	94.57	94.01
31-Dec-20	95.90	96.97	98.52	101.12	94.39	94.13
31-Jan-21	95.88	96.97	99.31	101.12	94.72	94.69
28-Feb-21	96.08	96.79	99.70	100.93	95.10	94.62
31-Mar-21	96.46	97.33	100.23	101.93	95.62	95.25
30-Apr-21	96.13	96.35	100.79	101.54	95.81	95.59
31-May-21	96.38	96.53	101.41	102.32	96.13	95.81
30-Jun-21	96.51	96.35	101.72	102.63	96.58	96.08

Date	US Manu-facturing	MD Manu-facturing	US Professional Services	MD Professional Services	US Nonfarm Employment	MD Nonfarm Employment
31-Jul-21	97.08	96.44	102.54	102.74	97.09	96.73
31-Aug-21	97.44	96.62	103.17	103.20	97.53	97.06
30-Sep-21	97.78	96.79	103.81	103.51	97.90	96.96
31-Oct-21	98.24	97.33	104.50	104.17	98.42	97.42
30-Nov-21	98.58	97.60	105.15	104.40	98.83	97.65
31-Dec-21	98.93	97.60	105.64	104.71	99.20	98.10
31-Jan-22	99.19	97.42	106.07	104.79	99.44	97.81
28-Feb-22	99.48	97.95	106.47	105.37	100.04	98.47
31-Mar-22	99.97	97.86	107.09	104.86	100.32	98.11
30-Apr-22	100.38	96.97	107.53	105.60	100.49	98.20
31-May-22	100.54	97.15	108.16	105.71	100.73	98.29
30-Jun-22	100.78	96.97	108.75	105.60	100.97	97.98
31-Jul-22	101.10	97.95	109.22	107.72	101.35	98.99
31-Aug-22	101.34	98.13	109.50	107.84	101.58	99.05
30-Sep-22	101.55	98.22	109.77	107.99	101.81	99.14
31-Oct-22	101.84	99.11	110.22	106.37	102.03	98.76
30-Nov-22	101.95	99.29	110.42	105.64	102.22	98.87
31-Dec-22	102.00	98.75	110.72	105.98	102.38	99.01
31-Jan-23	102.08	98.75	110.90	104.79	102.69	99.27
28-Feb-23	102.11	98.66	111.19	105.37	102.86	99.24
31-Mar-23	102.01	98.04	111.45	106.49	103.00	99.34
30-Apr-23	102.08	97.68	111.92	107.07	103.14	99.54
31-May-23	102.06	98.04	112.38	107.84	103.35	99.62
30-Jun-23	102.11	97.51	112.62	107.72	103.48	99.79

Source: Bureau of Labor Statistics

View Chart

Data Table for Figure 12: Unemployment Rate (%)

Date	US	DC	PA	VA	MD
Jan-15	5.7	7.40	5.50	4.80	5.40
Feb-15	5.5	7.30	5.50	4.70	5.30
Mar-15	5.4	7.20	5.50	4.70	5.30
Apr-15	5.4	7.20	5.50	4.60	5.20
May-15	5.6	7.00	5.50	4.50	5.10
Jun-15	5.3	6.90	5.40	4.40	5.00
Jul-15	5.2	6.80	5.40	4.30	4.90
Aug-15	5.1	6.80	5.30	4.20	4.90
Sep-15	5	6.70	5.30	4.10	4.80
Oct-15	5	6.60	5.30	4.10	4.70
Nov-15	5.1	6.60	5.20	4.00	4.70
Dec-15	5	6.50	5.30	4.00	4.60
Jan-16	4.8	6.40	5.30	4.00	4.50
Feb-16	4.9	6.30	5.30	3.90	4.40
Mar-16	5	6.20	5.30	3.90	4.30
Apr-16	5.1	6.10	5.40	3.90	4.30
May-16	4.8	6.10	5.40	3.90	4.30
Jun-16	4.9	6.10	5.40	4.00	4.30
Jul-16	4.8	6.20	5.40	4.00	4.20
Aug-16	4.9	6.20	5.40	4.10	4.20
Sep-16	5	6.30	5.40	4.10	4.30
Oct-16	4.9	6.30	5.30	4.10	4.30
Nov-16	4.7	6.30	5.30	4.10	4.20
Dec-16	4.7	6.30	5.20	4.00	4.20
Jan-17	4.7	6.30	5.20	4.00	4.10
Feb-17	4.6	6.20	5.10	4.00	4.00
Mar-17	4.4	6.20	5.10	3.90	4.00
Apr-17	4.4	6.20	5.00	3.80	3.90
May-17	4.4	6.20	5.00	3.70	3.90

Date	US	DC	PA	VA	MD
Jun-17	4.3	6.10	4.90	3.70	3.90
Jul-17	4.3	6.10	4.90	3.60	4.00
Aug-17	4.4	6.10	4.90	3.50	4.00
Sep-17	4.3	6.00	4.90	3.50	4.00
Oct-17	4.2	6.00	4.90	3.50	4.10
Nov-17	4.2	5.90	4.90	3.40	4.10
Dec-17	4.1	5.90	4.90	3.40	4.00
Jan-18	4	5.90	4.80	3.40	4.10
Feb-18	4.1	5.80	4.70	3.30	4.00
Mar-18	4	5.80	4.60	3.20	4.00
Apr-18	4	5.80	4.50	3.10	3.90
May-18	3.8	5.70	4.40	2.90	3.80
Jun-18	4	5.60	4.30	2.80	3.80
Jul-18	3.8	5.50	4.30	2.80	3.70
Aug-18	3.8	5.50	4.30	2.80	3.70
Sep-18	3.7	5.50	4.20	2.80	3.70
Oct-18	3.8	5.60	4.30	2.90	3.70
Nov-18	3.8	5.70	4.30	3.00	3.70
Dec-18	3.9	5.80	4.30	3.10	3.70
Jan-19	4	5.90	4.40	3.10	3.60
Feb-19	3.8	5.90	4.40	3.10	3.50
Mar-19	3.8	5.80	4.30	3.00	3.50
Apr-19	3.6	5.70	4.30	2.80	3.40
May-19	3.7	5.50	4.20	2.70	3.40
Jun-19	3.6	5.40	4.20	2.50	3.40
Jul-19	3.7	5.30	4.20	2.50	3.40
Aug-19	3.7	5.30	4.30	2.50	3.40
Sep-19	3.5	5.20	4.30	2.60	3.30
Oct-19	3.6	5.20	4.40	2.70	3.30
Nov-19	3.6	5.20	4.40	2.80	3.20

Date	US	DC	PA	VA	MD
Dec-19	3.6	5.30	4.50	2.80	3.30
Jan-20	3.5	5.50	4.50	2.80	3.40
Feb-20	3.5	5.70	4.70	2.90	3.50
Mar-20	4.4	5.70	4.90	3.20	3.50
Apr-20	14.7	11.20	16.20	12.00	9.00
May-20	13.2	8.80	12.90	10.00	8.80
Jun-20	11	8.60	11.30	8.90	8.10
Jul-20	10.2	8.60	10.50	8.20	7.80
Aug-20	8.4	8.40	9.40	7.30	7.10
Sep-20	7.9	8.40	8.80	6.60	7.00
Oct-20	6.9	8.10	8.20	5.80	6.70
Nov-20	6.7	7.90	7.90	5.30	6.60
Dec-20	6.7	7.70	7.70	5.10	6.70
Jan-21	6.3	7.30	7.50	4.80	6.40
Feb-21	6.2	7.10	7.20	4.70	6.20
Mar-21	6.1	7.00	6.90	4.60	6.00
Apr-21	6.1	7.00	6.60	4.40	5.90
May-21	5.8	7.10	6.40	4.20	5.70
Jun-21	5.9	7.20	6.20	4.00	5.70
Jul-21	5.4	7.00	6.00	3.70	5.50
Aug-21	5.2	6.90	5.70	3.50	5.30
Sep-21	4.8	6.60	5.40	3.40	4.80
Oct-21	4.5	6.40	5.10	3.20	4.50
Nov-21	4.2	6.30	4.80	3.10	4.10
Dec-21	3.9	6.10	4.60	3.00	3.70
Jan-22	4	6.00	4.50	2.90	3.70
Feb-22	3.8	5.60	4.40	2.90	3.40
Mar-22	3.6	5.20	4.40	2.80	3.20
Apr-22	3.6	4.90	4.30	2.60	3.10
May-22	3.6	4.60	4.30	2.50	3.10

Date	US	DC	PA	VA	MD
Jun-22	3.6	4.40	4.30	2.50	3.20
Jul-22	3.5	4.10	4.30	2.60	3.20
Aug-22	3.7	3.90	4.30	2.80	3.40
Sep-22	3.5	4.10	4.30	3.00	3.20
Oct-22	3.7	4.20	4.40	3.10	3.20
Nov-22	3.6	4.20	4.40	3.20	3.10
Dec-22	3.5	4.20	4.30	3.10	3.00
Jan-23	3.4	4.50	4.30	3.20	3.00
Feb-23	3.6	4.70	4.40	3.20	2.90
Mar-23	3.5	4.80	4.20	3.20	2.70
Apr-23	3.4	5.00	4.10	3.10	2.50
May-23	3.7	5.10	4.00	2.90	2.40
Jun-23	3.6	5.10	3.80	2.70	2.00
Jul-23	3.5	5.00	3.50	2.50	1.80

Source: Bureau of Labor Statistics

View Chart

Data Table for Figure 13: Labor Participation Rate (%)

Date	US	MD	DC	PA	VA
Mar-07	66.30	69.3	68.9	64.5	68.9
Jun-07	65.97	68.9	68.7	64.4	68.8
Sep-07	65.93	69.0	68.9	64.6	68.9
Dec-07	65.93	69.2	69.4	64.8	69.2
Mar-08	66.10	69.3	69.7	64.9	69.5
Jun-08	66.03	69.5	70.1	65.1	69.7
Sep-08	66.07	69.6	70.4	65.3	69.9
Dec-08	65.90	69.6	70.0	65.3	69.6
Mar-09	65.70	69.7	69.6	65.1	69.3
Jun-09	65.70	69.6	69.5	64.8	69.1
Sep-09	65.33	69.3	69.6	64.2	68.8

Date	US	MD	DC	PA	VA
Dec-09	64.87	68.9	69.5	63.6	68.5
Mar-10	64.87	69.1	69.8	63.7	68.6
Jun-10	64.90	68.5	69.0	63.3	67.6
Sep-10	64.63	68.5	68.7	63.1	67.5
Dec-10	64.43	68.4	68.4	63.1	67.4
Mar-11	64.17	68.2	68.4	63.0	67.4
Jun-11	64.10	68.0	68.1	62.9	67.3
Sep-11	64.10	67.9	68.0	63.1	67.4
Dec-11	64.07	67.9	68.0	63.2	67.4
Mar-12	63.77	67.8	68.2	63.3	67.0
Jun-12	63.73	67.7	68.8	63.5	66.7
Sep-12	63.60	67.9	69.5	63.6	66.6
Dec-12	63.70	67.9	70.1	63.7	66.7
Mar-13	63.47	67.8	70.0	63.4	66.5
Jun-13	63.40	67.6	69.7	63.2	66.4
Sep-13	63.27	67.4	69.1	63.0	66.4
Dec-13	62.90	67.0	68.9	62.7	66.3
Mar-14	62.97	66.9	68.8	62.7	66.4
Jun-14	62.83	66.9	69.0	62.6	66.3
Sep-14	62.87	66.9	69.6	62.5	66.0
Dec-14	62.87	66.9	69.8	62.6	65.7
Mar-15	62.73	66.9	69.7	62.7	65.5
Jun-15	62.80	66.9	69.7	62.8	65.3
Sep-15	62.53	66.8	69.7	62.9	65.0
Dec-15	62.57	66.7	69.8	63.1	64.9
Mar-16	62.83	66.8	70.0	63.3	64.9
Jun-16	62.77	66.8	69.9	63.3	64.9
Sep-16	62.87	66.9	69.9	63.1	65.1

Date	US	MD	DC	PA	VA
Dec-16	62.73	67.2	70.1	62.8	65.2
Mar-17	62.87	67.4	70.2	62.8	65.6
Jun-17	62.87	67.6	70.5	62.8	65.8
Sep-17	62.97	67.8	70.6	62.5	65.8
Dec-17	62.70	67.6	70.5	62.3	65.7
Mar-18	62.87	67.7	70.6	62.5	65.5
Jun-18	62.93	67.8	70.7	62.6	65.5
Sep-18	62.80	67.7	70.1	62.7	65.1
Dec-18	62.93	67.9	70.1	62.9	65.3
Mar-19	63.07	68.4	70.8	63.1	65.7
Jun-19	62.93	68.7	71.1	63.1	65.7
Sep-19	63.13	69.0	71.1	63.1	65.6
Dec-19	63.30	69.2	71.2	63.2	65.8
Mar-20	63.07	69.2	71.3	62.9	65.7
Jun-20	60.80	65.8	68.5	61.6	63.6
Sep-20	61.53	65.6	69.4	62.4	63.7
Dec-20	61.57	65.4	69.0	62.2	63.5
Mar-21	61.40	65.0	68.3	61.9	63.5
Jun-21	61.60	65.1	69.1	61.6	63.7
Sep-21	61.73	65.0	69.7	61.2	63.6
Dec-21	61.90	64.7	69.5	61.1	63.8
Mar-22	62.27	65.0	70.4	61.6	64.6
Jun-22	62.23	65.0	71.2	61.9	64.8
Sep-22	62.23	64.9	71.0	61.7	64.8
Dec-22	62.23	64.7	70.4	61.7	65.1
Mar-23	62.50	64.8	70.5	61.9	65.6
Jun-23	62.60	65.2	70.7	62.0	66.4

Source: Bureau of Labor Statistics

View Chart

Data Table for Figure 14: Men Not in the Labor Force by State (Ages 35 – 44)

Year	DC	DE	MD	PA	VA	WV	US
2016	8.5%	11.2%	7.1%	12.8%	9.9%	20.0%	11.5%
2021	9.5%	13.8%	9.4%	12.4%	10.6%	23.4%	12.1%

Source: American Community Survey

View Chart

Data Table for Figure 15: Women Not in the Labor Force by State (Ages 25 – 34)

Year	DC	DE	MD	PA	VA	WV	US
2016	12.5%	19.8%	17.1%	20.1%	19.8%	29.3%	22.2%
2021	11.5%	20.5%	18.6%	18.4%	20.0%	25.4%	20.7%

Source: American Community Survey

View Chart

Data Table for Figure 17: Total Civilian Labor Force Participation Indexed to 2019 (=100)

Year	US	MD	PA	VA
2011	101	102	100	101
2012	101	102	100	101
2013	100	102	100	101
2014	100	101	99	101
2015	99	100	99	100
2016	99	101	99	100
2017	100	101	99	100
2018	100	100	100	99
2019	100	100	100	100
2020	100	99	100	99
2021	99	98	99	99

Source: American Community Survey

View Chart

Data Table for Figure 18: Male Civilian Labor Force Participation Indexed to 2019 (=100)

Year	MD	VA	PA	US
2010	104	102	101	102
2011	103	103	100	101
2012	102	102	101	101
2013	102	102	100	101
2014	102	102	100	100
2015	101	101	100	100
2016	102	101	99	100
2017	101	101	100	100
2018	101	101	100	100
2019	100	100	100	100
2020	99	100	99	99
2021	99	100	99	99

Source: American Community Survey

View Chart

Data Table for Figure 19: Female Civilian Labor Force Participation Indexed to 2019 (=100)

Year	MD	VA	PA	US
2010	103	100	99	101
2011	102	99	99	100
2012	102	100	99	100
2013	102	100	100	100
2014	101	99	99	99
2015	99	99	99	99

Year	MD	VA	PA	US
2016	100	99	99	99
2017	100	99	99	99
2018	100	98	100	99
2019	100	100	100	100
2020	99	99	100	100
2021	98	98	100	99

Source: American Community Survey

View Chart

Data Table for Figure 20 A: Actual and Predicted Growth Patterns for Family Child Care Providers

Year	Number of Family Chile Care Providers
2018	5,938
2019	5,358
2020	5,126
2021	4,455
2022	4,486
2023	4,054
2024	3,735
2025	3,416
2026	3,097
2027	2,779

Actual and Predicted Number of Center-based Child Care Providers in Maryland 2018-2027 Full-day (8-12 hours)

Data Table for Figure 20 B: Actual and Predicted Growth Patterns for Center-based Child Care Providers

Year	Number of Full-day programs
2018	1,549
2019	1,557
2020	1,551
2021	1,426
2022	1,790
2023	1,679
2024	1,715
2025	1,750
2026	1,785
2027	1,820

Source: Maryland Family Network Childcare Demographics Report 2023

View Chart

Data Table for Figure 21: U.S. and Maryland Population Growth 1960 – 2022

Year	Annual Population Growth US	Annual Population Growth Maryland	Annual Population Growth Maryland Average
1960	1.6%	1.5%	1.1%
1961	1.7%	2.0%	1.1%
1962	1.5%	2.7%	1.1%
1963	1.4%	3.8%	1.1%
1964	1.4%	3.1%	1.1%
1965	1.3%	3.1%	1.1%
1966	1.2%	2.6%	1.1%
1967	1.1%	1.7%	1.1%
1968	1.0%	1.5%	1.1%
1969	1.0%	1.4%	1.1%

Year	Annual Population Growth US	Annual Population Growth Maryland	Annual Population Growth Maryland Average
1970	1.2%	1.8%	1.1%
1971	1.3%	2.0%	1.1%
1972	1.1%	1.4%	1.1%
1973	1.0%	0.6%	1.1%
1974	0.9%	0.5%	1.1%
1975	1.0%	0.5%	1.1%
1976	1.0%	0.3%	1.1%
1977	1.0%	0.5%	1.1%
1978	1.1%	0.3%	1.1%
1979	1.1%	0.2%	1.1%
1980	1.0%	0.8%	1.1%
1981	1.0%	0.8%	1.1%
1982	1.0%	0.5%	1.1%
1983	0.9%	0.7%	1.1%
1984	0.9%	1.2%	1.1%
1985	0.9%	1.1%	1.1%
1986	0.9%	1.7%	1.1%
1987	0.9%	1.8%	1.1%
1988	0.9%	2.0%	1.1%
1989	0.9%	1.5%	1.1%
1990	1.1%	1.5%	1.1%
1991	1.3%	1.4%	1.1%
1992	1.4%	1.1%	1.1%
1993	1.3%	1.0%	1.1%
1994	1.2%	1.0%	1.1%
1995	1.2%	0.9%	1.1%
1996	1.2%	0.8%	1.1%
1997	1.2%	0.9%	1.1%

Year	Annual Population Growth US	Annual Population Growth Maryland	Annual Population Growth Maryland Average
1998	1.2%	0.9%	1.1%
1999	1.2%	1.0%	1.1%
2000	1.1%	1.1%	1.1%
2001	1.0%	1.2%	1.1%
2002	0.9%	1.2%	1.1%
2003	0.9%	1.0%	1.1%
2004	0.9%	0.9%	1.1%
2005	0.9%	0.8%	1.1%
2006	1.0%	0.6%	1.1%
2007	1.0%	0.5%	1.1%
2008	1.0%	0.6%	1.1%
2009	0.9%	0.8%	1.1%
2010	0.8%	1.0%	1.1%
2011	0.7%	0.8%	1.1%
2012	0.7%	0.8%	1.1%
2013	0.7%	0.8%	1.1%
2014	0.7%	0.8%	1.1%
2015	0.7%	0.8%	1.1%
2016	0.7%	0.7%	1.1%
2017	0.6%	0.6%	1.1%
2018	0.5%	0.5%	1.1%
2019	0.5%	0.4%	1.1%
2020	1.0%	0.3%	1.1%
2021	0.2%	0.0%	1.1%
2022	0.4%	-0.2%	1.1%

Source: Census Bureau and Moody's Analytics

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Data Table for Figure 22: Maryland Domestic Outmigration and Natural Population Growth (thousands)

Year	Domestic Migration	International Migration	Natural Net	Total Net
2000	1.48	5.19	7.52	14.19
2001	2.89	5.58	7.36	15.83
2002	3.01	4.32	7.33	14.65
2003	-0.61	5.05	7.67	12.10
2004	-3.04	7.14	7.73	11.83
2005	-4.84	6.99	8.01	10.16
2006	-7.97	6.31	8.47	6.81
2007	-8.23	6.46	8.60	6.83
2008	-5.09	6.14	8.46	9.51
2009	-1.84	7.31	8.00	13.48
2010	-1.53	7.37	7.57	13.41
2011	-3.81	7.90	7.43	11.51
2012	-3.08	8.46	6.95	12.33
2013	-2.40	7.61	6.81	12.03
2014	-3.22	7.92	6.94	11.65
2015	-2.70	6.81	6.78	10.89
2016	-2.13	5.92	6.09	9.89
2017	-2.48	5.60	5.47	8.59
2018	-2.53	4.21	5.29	6.97
2019	-2.89	3.78	4.26	5.16
2020	-3.10	2.39	2.66	1.96
2021	-7.97	4.14	2.33	-1.50
2022	-11.38	6.72	3.44	-1.22

Source: Census Bureau and Moody's Analytics

View Chart

Data Table for Figure 24: Maryland's State-to-State Migration Flows

State	In Flow	Out Flow	Net
District of Columbia	225,550	(138,922)	86,628
New York	121,787	(78,195)	43,592
New Jersey	81,568	(42,479)	39,089
Georgia	62,679	(51,442)	11,237
Puerto Rico	12,109	(1,769)	10,340
Alaska	10,597	(4,684)	5,913
Hawaii	16,223	(10,874)	5,349
Michigan	21,136	(16,698)	4,438
Arizona	17,394	(21,230)	(3,836)
Nevada	6,926	(10,766)	(3,840)
Missouri	9,624	(14,053)	(4,429)
Ohio	33,527	(39,850)	(6,323)
Massachusetts	30,869	(37,252)	(6,383)
Washington	18,381	(26,226)	(7,845)
Kentucky	7,081	(16,453)	(9,372)
Colorado	22,581	(32,133)	(9,552)
California	93,366	(103,696)	(10,330)
Delaware	62,472	(75,099)	(12,627)
West Virginia	38,827	(63,037)	(24,210)
Virginia	260,353	(294,125)	(33,772)
South Carolina	22,431	(57,246)	(34,815)
Texas	62,850	(97,845)	(34,995)
North Carolina	77,127	(120,828)	(43,701)
Pennsylvania	151,158	(215,061)	(63,903)
Florida	97,101	(166,139)	(69,038)

Sources: U.S. Internal Revenue Service; MD Bureau of Revenue Estimates

View Chart

Data Table for Figure 28: Housing Inventory and Percent Decrease by County, Calendar Years 2019 - 2022

County	2019	2020	2021	2022	"% change, 2019 to 2022"
Allegany County	$99,100	$115,000	$126,200	$125,000	26%
Anne Arundel County	$357,000	$383,000	$419,000	$440,193	23%
Baltimore City	$158,200	$179,600	$210,000	$223,500	41%
Baltimore County	$250,000	$269,900	$296,000	$320,000	28%
Calvert County	$331,000	$359,000	$389,225	$420,000	27%
Caroline County	$189,700	$225,000	$255,000	$285,500	51%
Carroll County	$325,000	$355,000	$390,000	$415,000	28%
Cecil County	$230,000	$257,243	$289,993	$305,174	33%
Charles County	$315,000	$345,000	$388,750	$415,000	32%
Dorchester County	$175,000	$195,000	$237,000	$254,000	45%
Frederick County	$325,340	$357,500	$410,000	$451,125	39%
Garrett County	$242,500	$325,000	$400,000	$407,500	68%
Harford County	$272,700	$295,000	$318,980	$345,000	27%
Howard County	$418,000	$450,000	$480,000	$520,000	24%
Kent County	$231,750	$252,500	$269,000	$308,950	33%
Montgomery County	$450,000	$482,500	$530,000	$555,000	23%
Prince George's County	$310,000	$346,000	$380,000	$400,000	29%
Queen Anne's County	$339,450	$385,000	$410,000	$449,900	33%
Somerset County	$120,000	$154,400	$179,000	$191,500	60%
St. Mary's County	$285,000	$320,000	$344,900	$375,000	32%
Talbot County	$355,000	$399,950	$416,500	$419,000	18%

County	2019	2020	2021	2022	"% change, 2019 to 2022"
Washington County	$200,000	$230,000	$250,000	$280,000	40%
Wicomico County	$175,000	$189,900	$217,000	$245,000	40%
Worcester County	$255,250	$280,000	$340,000	$384,950	51%
Maryland	$302,093	$330,000	$361,500	$385,000	27%

Source: Housing Statistics from MDRealtor.org

View Chart

Data Table for Figure 29: Median Home Prices and Percentage Increase by County, Calendar Years 2019 - 2022

County	2019	2020	2021	2022	"% change 2019 to 2022"
Allegany County	319	182	177	120	-62%
Anne Arundel County	1839	966	730	609	-67%
Baltimore City	3129	1904	1941	1645	-47%
Baltimore County	2115	1097	903	838	-60%
Calvert County	414	179	133	158	-62%
Caroline County	140	80	77	69	-51%
Carroll County	505	185	169	179	-65%
Cecil County	444	216	226	149	-66%
Charles County	625	290	308	307	-51%
Dorchester County	222	123	134	134	-40%
Frederick County	975	477	360	367	-62%
Garrett County	309	108	118	147	-52%

County	2019	2020	2021	2022	"% change 2019 to 2022"
Harford County	713	349	248	191	-73%
Howard County	606	357	260	205	-66%
Kent County	187	86	51	52	-72%
Montgomery County	1660	1141	830	762	-54%
Prince George's County	1900	1092	1163	1086	-43%
Queen Anne's County	376	186	143	133	-65%
Somerset County	121	99	88	68	-44%
St. Mary's County	364	181	154	180	-51%
Talbot County	337	164	113	87	-74%
Washington County	543	267	226	226	-58%
Wicomico County	345	244	206	159	-54%
Worcester County	988	412	290	301	-70%

Source: Housing Statistics from MDRealtor.org

View Chart

Data Table for Figure 30: Male Civilian Labor Force by State

Year	MD	VA	DC	PA	DE	WV	US
2011	72%	69%	70%	67%	68%	59%	69%
2016	71%	68%	71%	66%	65%	57%	68%
2021	70%	67%	72%	66%	62%	56%	67%

Source: American Community Survey

View Chart

Data Table for Figure 31: Male Civilian Labor Force by Region

Year	East North Central	East South Central	Middle Atlantic Atlantic	MTN	New England	Pacific	South Atlantic	West North Central	West South Central	MD
2010	69%	65%	69%	70%	72%	70%	67%	72%	70%	73%
2011	69%	64%	69%	69%	72%	69%	66%	72%	69%	72%
2012	69%	64%	69%	69%	71%	69%	66%	71%	69%	72%
2013	68%	64%	69%	69%	71%	69%	66%	71%	69%	72%
2014	69%	64%	68%	68%	71%	68%	66%	71%	69%	72%
2015	68%	63%	68%	68%	70%	68%	65%	71%	69%	71%
2016	68%	63%	68%	68%	70%	69%	65%	71%	68%	71%
2017	68%	63%	68%	68%	70%	69%	65%	71%	68%	71%
2018	68%	63%	68%	68%	70%	69%	65%	70%	69%	71%
2019	68%	63%	68%	68%	70%	69%	65%	70%	69%	70%
2020	68%	63%	68%	68%	70%	68%	65%	70%	68%	70%
2021	67%	63%	67%	68%	69%	68%	65%	69%	68%	70%

Source: American Community Survey

View Chart

Data Table for Figure 32: Female Civilian Labor Force by State

Year	MD	VA	DC	PA	DE	WV	US
2011	65%	61%	64%	58%	60%	50%	59%
2016	64%	60%	67%	58%	58%	50%	58%
2021	62%	60%	68%	58%	57%	49%	58%

Source: American Community Survey

View Chart

Data Table for Figure 33: Female Civilian Labor Force by Region

Year	East North Central	East South Central	Middle Atlantic Atlantic	MTN	New England	Pacific	South Atlantic	West North Central	West South Central	MD
2011	60%	55%	59%	59%	63%	58%	58%	63%	57%	65%
2016	59%	54%	59%	58%	63%	57%	57%	63%	57%	64%
2021	59%	55%	59%	58%	62%	58%	57%	62%	57%	62%

Source: American Community Survey

View Chart

Data Table for Figure 34: Men Not in the Labor Force by State (Ages 35 – 44)

Year	DC	DE	MD	PA	VA	WV	US
2016	12.5%	14.5%	11.1%	13.5%	11.3%	19.6%	13.2%
2021	10.9%	15.3%	12.3%	13.7%	12.3%	21.5%	13.2%

Source: American Community Survey

View Chart

Data Table for Figure 35: Men Not in the Labor Force by Region (Ages 35 – 44)

Year	East North Central	East South Central	Middle Atlantic	MTN	New England	Pacific	South Atlantic	West North Central	West South Central	MD	US
2016	11.5%	16.4%	10.7%	11.0%	10.3%	10.6%	12.1%	9.1%	12.4%	7.1%	0.115271537
2021	11.9%	16.7%	11.4%	11.4%	10.3%	11.7%	12.5%	9.7%	12.8%	9.4%	0.120616783

Source: American Community Survey

View Chart

Data Table for Figure 36: Men Not in the Labor Force by State (Ages 25 – 34)

Year	DC	DE	MD	PA	VA	WV	US
2016	12.5%	14.5%	11.1%	13.5%	11.3%	19.6%	13.2%
2021	10.9%	15.3%	12.3%	13.7%	12.3%	21.5%	13.2%

Source: American Community Survey

View Chart

Data Table for Figure 37: Men Not in the Labor Force by Region (Ages 25 – 34)

Year	East North Central	East South Central	Middle Atlantic	MTN	New England	Pacific	South Atlantic	West North Central	West South Central	MD	US
2016	12.3%	16.8%	13.1%	13.2%	12.1%	12.7%	13.8%	10.4%	14.1%	11.1%	13.2%
2021	12.6%	15.2%	14.0%	12.5%	10.8%	13.7%	13.7%	9.9%	13.5%	12.3%	13.2%

Source: American Community Survey

View Chart

Data Table for Figure 38: Women Not in the Labor Force by State (Ages 25 – 34)

Year	DC	DE	MD	PA	VA	WV	US
2016	12.5%	19.8%	17.1%	20.1%	19.8%	29.3%	22.2%
2021	11.5%	20.5%	18.6%	18.4%	20.0%	25.4%	20.7%

Source: American Community Survey

View Chart

Data Table for Figure 39: Women Not in the Labor Force by Region (25 – 34)

Year	East North Central	East South Central	Middle Atlantic Atlantic	MTN	New England	Pacific	South Atlantic	West North Central	West South Central	MD
2016	19.80%	24.40%	20.80%	24.90%	17.30%	24.20%	21.50%	18.20%	26.00%	17.10%
2021	20.30%	23.20%	18.30%	21.70%	15.60%	21.50%	20.90%	16.60%	24.10%	18.60%

Source: American Community Survey

View Chart

Data Table for Figure 40: Percent of People Not in the Labor Force by State (Ages 45 – 54)

Year	DC	DE	MD	PA	VA	WV	US
2016	18%	17%	15%	19%	17%	30%	20%
2021	17%	18%	15%	18%	16%	28%	19%

Source: American Community Survey

View Chart

Data Table for Figure 41: Percent of People Not in the Labor Force by Region (Ages 45 – 54)

Year	East North Central	East South Central	Middle Atlantic Atlantic	MTN	New England	Pacific	South Atlantic	West North Central	West South Central	MD
2016	19%	26%	19%	20%	16%	20%	20%	16%	22%	15%
2021	17%	23%	18%	19%	16%	19%	19%	15%	20%	15%

Source: American Community Survey

View Chart

Data Table for Figure 42: Percent of People Not in the Labor Force by State (Ages 55+)

Year	DC	DE	MD	PA	VA	WV	US
2016	59%	61%	55%	61%	58%	69%	71%
2021	57%	63%	55%	60%	58%	71%	70%

Source: American Community Survery

View Chart

Data Table for Figure 43: Percent of People Not in the Labor Force by Region (Ages 55+)

Year	East North Central	East South Central	Middle Atlantic Atlantic	MTN	New England	Pacific	South Atlantic	West North Central	West South Central	MD
2016	63%	67%	61%	64%	62%	58%	60%	62%	65%	55%
2021	64%	67%	61%	65%	63%	58%	60%	63%	64%	55%

Source: American Community Survery

View Chart

Data Table for Figure 44: Percentage of Maryland Population Reporting Depression, by Age Group and Sex

Year	18-24	25-34	35-44	Men	Women
2011	10.7	13.8	13.7	9.8	17
2016	16.3	16	14.7	11.6	18.9
2021	22.8	22.2	16.5	11.3	21.4

Source: CDC Behavioral Risk Factor Surveillance System Prevalence Data

View Chart

Data Table for Figure 45: Percentage of Population Reporting Depression by State

Year	DC	DE	MD	PA	US	VA	WV
2011	16	14.2	13.6	19.3	17.5	14.1	20.1
2016	16.7	16.6	15.4	18.6	17.4	15.9	23.8
2021	20.5	16.4	16.6	19.1	20.5	19.6	27.5

Source: CDC Behavioral Risk Factor Surveillance System Prevalence Data

View Chart

Data Table for Figure 46: Percent of People Aged 25 – 34 Reporting Serious Difficulty Concentration, Remembering, or Making Decisions

Year	DC	DE	MD	PA	VA	WV
2016	8.1	12.1	10.7	11.2	9.4	13.3
2017	8.9	18.1	11.9	13.9	11.0	19.3
2018	6.5	10.8	11.4	17.0	13.2	13.1
2019	13.3	13.1	12.3	14.7	11.6	21.1
2020	8.9	14.6	12.3	13.9	10.8	15.2
2021	13.6	12.2	12.4	13.0	14.8	17.1

Source: CDC Behavioral Risk Factor Surveillance System Prevalence Data

View Chart

Data Table for Figure 47: Drug Poisoning Mortality Per 100,000 Residents by State

Year	DC	DE	MD	PA	US	VA	WV
2016	8.1	12.1	10.7	11.2	9.4	13.3	20.1
2017	8.9	18.1	11.9	13.9	11.0	19.3	23.8
2018	6.5	10.8	11.4	17.0	13.2	13.1	27.5
2019	13.3	13.1	12.3	14.7	11.6	21.1	

Year	DC	DE	MD	PA	US	VA	WV
2020	8.9	14.6	12.3	13.9	10.8	15.2	
2021	13.6	12.2	12.4	13.0	14.8	17.1	

Sources: Center for Disease Control; MD Bureau of Revenue Estimates

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Data Table for Figure 48: Total Number of Drug- and Alcohol-Related Intoxication Deaths Occurring in Maryland by Age Group, Race/Ethnicity, and Gender (2011 – 2020)

Age Group

Year	<25 years	25-34 years	35-44 years	45-54 years	55+ years
2011	76	167	128	209	91
2012	87	169	171	243	129
2013	79	216	175	246	141
2014	97	234	217	290	203
2015	99	297	281	339	214
2016	161	525	428	550	424
2017	154	588	461	560	517

Race/Ethnicity

Year	NH White	NH Black	Hispanic
2011	505	132	23
2012	590	183	18
2013	611	214	21
2014	702	298	30
2015	868	350	21

Year	NH White	NH Black	Hispanic
2016	1349	654	53
2017	1505	687	59
2018	1479	823	67
2019	1342	928	75
2020	1556	1076	126

Gender

Year	Male	Female
2011	449	222
2012	548	251
2013	584	274
2014	743	298
2015	893	365
2016	1513	574
2017	1626	656
2018	1766	640
2019	1723	654
2020	2019	780

Source: Maryland Department of Health

View Chart

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