

REPORT OF THE
MARYLAND BOARD OF REVENUE ESTIMATES
ON

The seal of the State of Maryland is centered in the background. It features a circular design with a central figure holding a bow and arrow, surrounded by a wreath. The text "SEAL OF THE STATE OF MARYLAND" is visible around the perimeter, along with the date "1632".

ESTIMATED
MARYLAND
REVENUES

FISCAL YEARS ENDING JUNE 30, 2018 AND JUNE 30, 2019

SUBMITTED TO
LAWRENCE J. HOGAN, JR.
GOVERNOR

DECEMBER 13, 2017



State of Maryland

Board of Revenue Estimates

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Director, Bureau of
Revenue Estimates

December 13, 2017

Honorable Lawrence Hogan
Governor of Maryland
State House
Annapolis, Maryland 21401

Dear Governor Hogan:

In compliance with Section 6-106(b) of the State Finance and Procurement Article of the Annotated Code of Maryland, the Board of Revenue Estimates has prepared and herewith submits to you new estimates of State revenues for the fiscal years ended June 30, 2018 and June 30, 2019, based upon current laws and administrative practices. As in the past, the estimates represent the collective efforts of each of the Board members and their staffs.

The Board will continue its study of economic and revenue trends and will report to you any significant changes that may affect Maryland's revenues.


Respectfully yours,



Peter Franchot, Chairman



Susanne Brogan on behalf of
Nancy K. Kopp



David R. Brinkley

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Executive Summary

The Board of Revenue Estimates submits revised general fund revenue estimates of \$17.059 billion for fiscal year 2018 and \$17.625 billion for fiscal year 2019. These estimates translate to 2.2% and 3.3% year-over-year increases, respectively. The growth rates are generally sluggish with respect to historical pre-Great Recession general fund collections, though consistent with Maryland’s near-term economic climate. The fiscal year 2018 revision represents a decrease of \$73.2 million from the September 2017 estimate, while the fiscal year 2019 revision represents an increase of \$11.0 million. The contrast in revisions reflects adjustments made to account for the impact of individual income tax planning in light of the potential passage of tax reform; on net, the adjustments result in a \$62.1 million decrease to the revenue forecast.

The economic outlook remains generally unchanged from September 2017. Economic growth is expected to continue, but at a rate lower than in previous periods of economic expansion. Although this is both a national and State issue, Maryland's performance is disproportionately impacted by both continuing federal budget sequestration and federal policy uncertainty.

Our expectations for employment remain unchanged. Employment growth is anticipated to slow from 1.4% in 2016 to 1.3% in 2017. Through October, the reported 2016 year-over-year growth rate from the Bureau of Labor Statistics is 2.3%. We believe this growth as reported is overstated; there is preliminary census-type data from the Department of Labor Licensing and Regulation that suggests the federal data, which is based on a survey, is considerably optimistic. Looking to the out-years, employment growth is expected to continue to slow as a result of full employment.

Maryland Board of Revenue Estimates’ Economic Forecast

Calendar Year	Employment		Aggregate Wages		Average Wages		Personal Income	
	Sep 17	Dec 17	Sep 17	Dec 17	Sep 17	Dec 17	Sep 17	Dec 17
2016	1.4%	1.4%	3.8%	3.0%	2.4%	1.6%	3.6%	3.6%
2017	1.3%	1.3%	4.0%	3.7%	2.6%	2.3%	4.1%	3.6%
2018	0.8%	0.8%	4.0%	4.0%	3.2%	3.2%	4.3%	3.7%
2019	0.5%	0.5%	3.8%	3.8%	3.2%	3.2%	4.1%	3.8%

As it stands today, the economy is simply not producing the type of wage gains that would normally be associated with a 4% unemployment rate. A tightening of the labor market portends upward pressure on wages; however, several factors, among them low productivity, low inflation, and age demographics, have served to counter that pressure, keeping wage growth low. Accordingly, the positive effects of wage growth, most notably the reinvestment of those wages back into the local economy, have been stifled.

Thus, as has been the case post-Great Recession, wage growth will remain muted. As such, we have adjusted fiscal year 2017 growth in aggregate wage/salary income and average

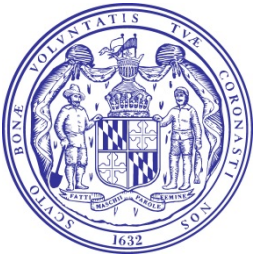
wages down to 3.7% from 4.0% and to 2.3% from 2.6%, respectively. However, given the maturity of the expansion and the above factors, we continue to expect aggregate wage growth of 4.0% in 2018 and 3.8% in 2019 as new workers gain experience. Recent gains in labor productivity and increasing inflation coupled with the low unemployment rate do point towards future wage gains. Average wage growth is still expected to rise to 3.2% for 2018 and 2019.

Driving the net decrease in our total revenue forecast is a downward revision to individual income tax revenue. The reduction to our wage forecast directly reduces general fund income tax withholding by approximately \$35 million per year. This revision also reflects our expectation that tax planning is occurring in order to shift income and expenses between tax years in anticipation of federal tax reform. We estimate that \$113 million in general fund individual income tax (about \$2.3 billion in taxable income) will shift from tax year 2017 into tax year 2018. While this would be a net zero impact across tax years, it plays out over three fiscal years. Those two items as well as other minor adjustments reduce the current fiscal year by \$91.9 million and increase fiscal year 2019 by \$17.5 million.

In order to stress the uncertainty that tax planning puts on these estimates, it is important to note that we are essentially estimating the behavior of a small number of very savvy taxpayers. To quantify the importance of these taxpayers, we note that the top 1% of income tax taxpayers in Maryland accounted for 20% of income tax collections; these are taxpayers that have the type of income and deductions that are more flexible for timing recognition. We also note that any federal tax bill will contain provisions that significantly impact Maryland taxpayers, both in terms of the amount of federal taxes owed as well as the way the State tax is calculated. There remains tremendous uncertainty regarding both the particular provisions of the bill and the regulatory language which will not be established until after the bill is made law. These estimates assume current law and behavioral planning reactions only; the estimates will be amended should a federal tax reform bill pass.

The sales tax, the State's second largest source of general funds, has been revised downward to \$33.0 million for fiscal year 2018 and \$52.3 million for fiscal year 2019, for estimated growth rates of 1.8% and 2.5%, respectively. This revision reflects our reduction in wage growth but also the impacts from ongoing structural changes to the sales tax base, including the proliferation of non-nexus online and consumer-to-consumer sales, shifting preferences for digital goods and services, and shifting consumer patterns as the first wave of the baby boomer generation begins to retire.

Corporate receipts are revised upwards to account for strong year-to-date results and a slightly improved outlook for corporate profits; no adjustment is made for federal tax reform. Estate taxes are also increased to account for year-to-date performance. Franchise tax receipts increase in fiscal year 2019 due to a later than expected start date for a statutory program that reduces business filing fees.



State of Maryland Board of Revenue Estimates

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The Board of Revenue Estimates thanks the following participants of the Revenue Monitoring Committee for their assistance.

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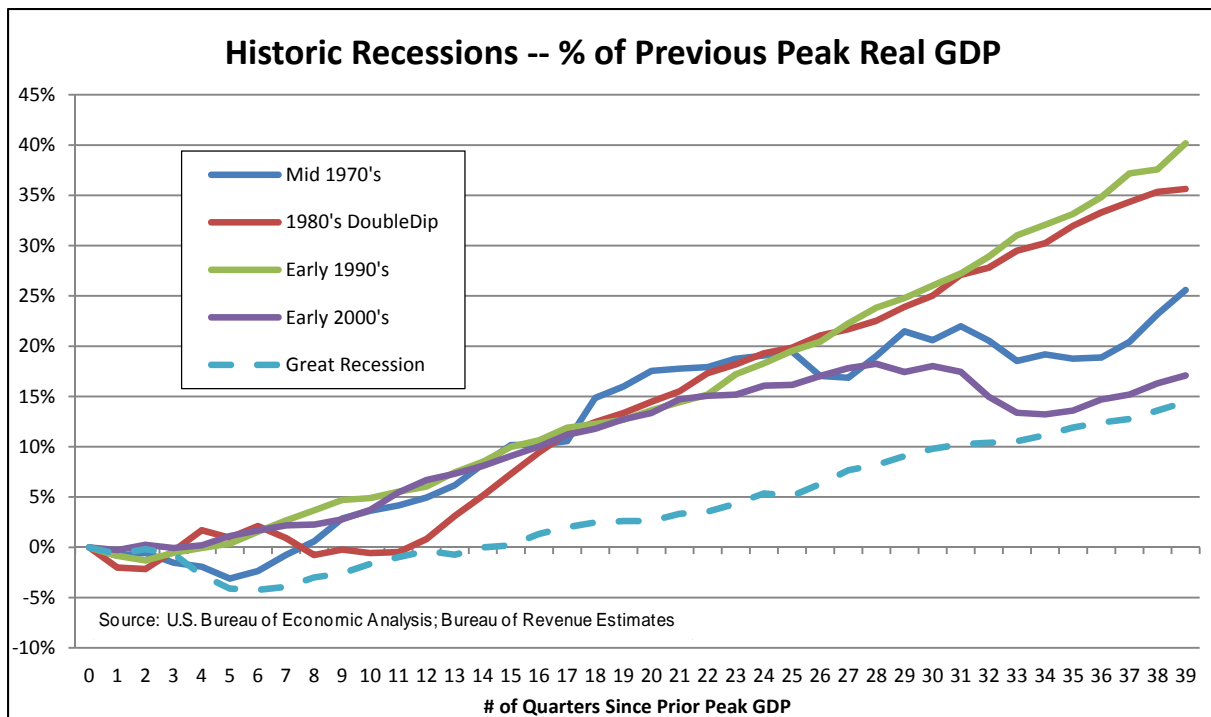


Economic Outlook

In the nation as a whole, economic growth since the Great Recession remains consistent but muted. Moreover, the fiscal drag from ongoing federal policy uncertainty continues to restrain growth in Maryland and the region. In other words, the economic picture has not changed much. Our outlook calls for improving employment and wages as what is already the second longest post World War II expansion continues, just not at the rates witnessed throughout the expansionary periods of the 1990s and 2000s.

The National Expansion and Productivity

The growth trajectory of Real Gross Domestic Product (GDP), the broadly used inflation adjusted aggregate measure of the national economy, as displayed in the chart below, has been the slowest relative to any other expansion since World War II. In fact, through the third quarter of 2017, the national economy is only 14.4% larger than its pre-recession peak (a full 39 quarters later), a remarkable laggard relative to other expansions. The confluence of slow growth and federal policy uncertainty feeds into the expectations of business owners contemplating capital and labor expansion, discouraging investment.



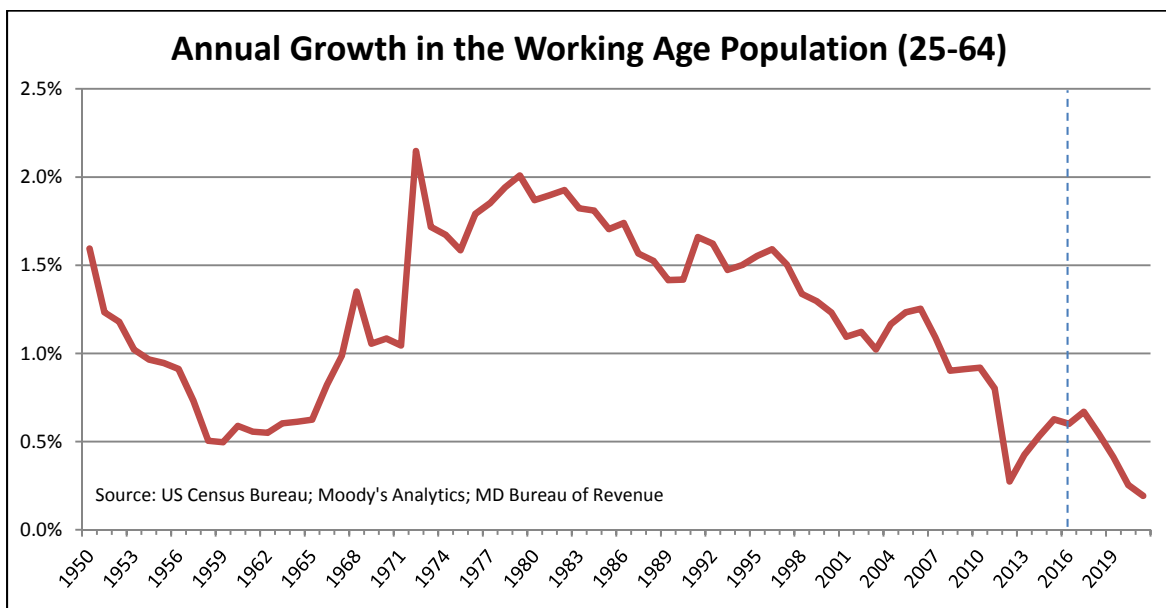
But uncertainty regarding current economic conditions cannot be the only explanatory variable for our slow recovery. Nominal consumption expenditures have been strong, growing at an average 4.0% annually beginning in 2014, a particularly relevant point as consumer spending typically accounts for around 70% of GDP. Such robust and sustained demand should support positive investment decision metrics; however, it does not seem that companies are investing

heavily in the future. Quite the opposite, companies are distributing cash to their investors at a relatively high instance through one-time measures such as stock buy backs or ongoing measures such as increased or new dividends.

A company, acting as a fiduciary for its owners, should only distribute cash to shareholders when it cannot determine an investment with a greater return. While this might be somewhat a function of the ever increasing need to meet short-term investor return requirements, it is also likely demonstrative of fewer investment opportunities. The latter is a point of particular concern and requires further examination.

The quantity of labor and the productivity of that labor sums up to the supply side of the economy. Contrary to what is often turned into a partisan political argument, the supply and demand sides of the economy are equally relevant and highly dependent upon one another. While there is no empirical consensus for the root cause of the recent economic sluggishness, it is likely a function of a declining outlook for labor force growth, the ability of that labor to grow production levels at previously experienced rates, and the subsequent impact those factors will have on demand.

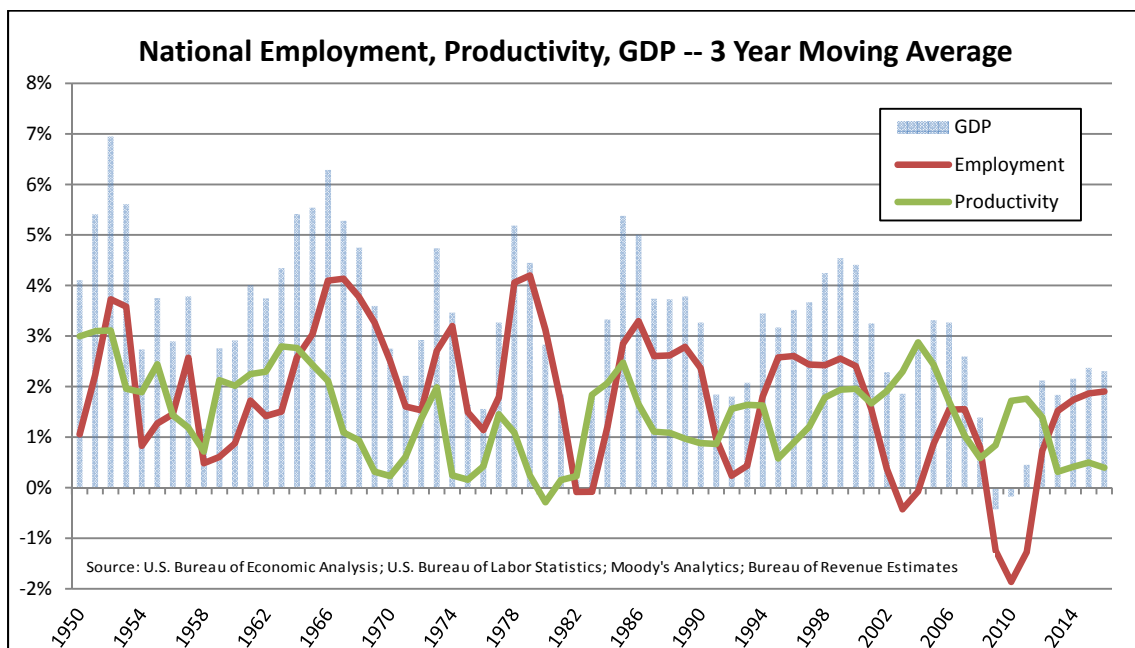
The premise that this country, as well as most countries, is aging is nothing new; that trend is within the ten year horizon. Demographic trends are set in stone early; they are based on population age structure, life expectancy, and birth rates. For many years now it has been common knowledge that not only would the share of those aged 65 or more increase significantly, but also that the number of individuals in the working years of their life (defined here as 25 – 64) would grow at an increasingly slow pace. The latter fact is a direct problem from an economic output perspective, while the prior has myriad other implications. Slowing growth in the number of workers, *ceteris paribus*, translates to slower growth in economic output. The chart below illustrates historical growth rates in the working age population as well as Moody’s Analytics outlook; the baby boomer generation and a recent uptick from their offspring, the millennials, are evident. However, falling birth rates, beginning with the baby boomers and continuing with subsequent generations, has resulted in the current outlook.



The above could be offset by increased productivity, but that seems to be unlikely in the near term. Since World War II this country has witnessed extraordinary growth in productivity, a key reason that this country enjoys the relatively high standard of living that it does. Technological revolutions affecting industrial as well as office activities have dominated the economic landscape, resulting in outsized gains for the economy.

The cause of recent slowing in productivity is a highly debated issue amongst economists. One argument is that we have picked the proverbial low hanging fruit, meaning that marginal improvements made to technology at this point result in lesser gains than prior improvements; hence slower growth. Additionally, such technology is now relatively ubiquitous across industries and consumers alike. Another theory is that decreasing competition observed in most industries, combined with, and in part caused by, increasing public support for incumbent firms, has dulled the incentive to innovate and puts new innovative firms at a disadvantage.

These theories are not mutually exclusive, however one of the most significant causes relates to demographic trends: a significant share of the labor force is aging, while a large generation of younger workers is entering the labor force. This means there are proportionally fewer middle aged workers in the labor force, who tend to be the most productive age cohort. As the most experienced workers exit the labor force, and less experienced workers enter, average productivity declines. The chart below shows employment, productivity (defined here as output per worker) and GDP growth. The number of people employed and their productivity equals GDP. It is clear that the past few years have seen historically low productivity, at around the same time the millennials began entering the labor force. This period of low productivity has a precedent in the available history: the 1970s, about the time baby boomers were reaching working age. Yet employment growth in the 1970s was such that GDP growth continued to be relatively strong. If this argument is correct, productivity growth, and therefore GDP growth, given our outlook for employment, will remain subdued for the near future. On the positive side, we can expect productivity growth to increase as younger workers gain experience, and wage gains to follow.



The contrary views to the above require full disclosure and are two-fold. First, the argument can be made that we cannot foresee future productivity improvements. For example, could anyone have truly predicted the omnipresence of the internet and smart phones? Therefore how could we discount the possibility for future innovation? Human ingenuity will result in some great new market or technological improvement, whether it is an energy revolution or something completely unimaginable at the moment. However, faith in the future is not a prudent basis for the near-term outlook. The second argument is that GDP is not accurately measuring the contribution of much of the new technology, particularly technology that is available for free (e.g., Facebook, etc.). It is not a simple endeavor to determine its value. To be sure, many of the websites and applications coming out of Silicon Valley type companies create great utility, but that does not mean they comparatively create the broad based economic value as, say, enterprise software systems did in the 1990s. Furthermore, non-monetary transactions are not part of the tax base, which means that the amount of value they create has little significance for the amount of tax revenue the State will collect.

The above supply side issues translate to the demand side, and vice-versa. Slower growth in workers also means slower growth in consumers. If the expectation is for GDP to grow slower in general because of productivity concerns, that will translate to lesser wage gains, another impediment to consumer spending. Additionally, recent high unemployment may have temporarily eroded the ability of workers to demand higher wages, or willingness of employers to provide them. The result would be less incentive for employers to invest in labor saving technology that would boost productivity. Of course, many of our companies and their workers are operating in the global economy, not a national economy. Many developed nations are further along the road of aging populations. While economic growth has begun to moderately increase in developed nations, increases in purchasing power in developing nations has slowed relative to prior decades. These trends have likely already been factored in to investment decisions and further increases, such as from reduced corporate taxes, will only prove modest in the forecast horizon.

Labor Market Improvements & Wage Growth

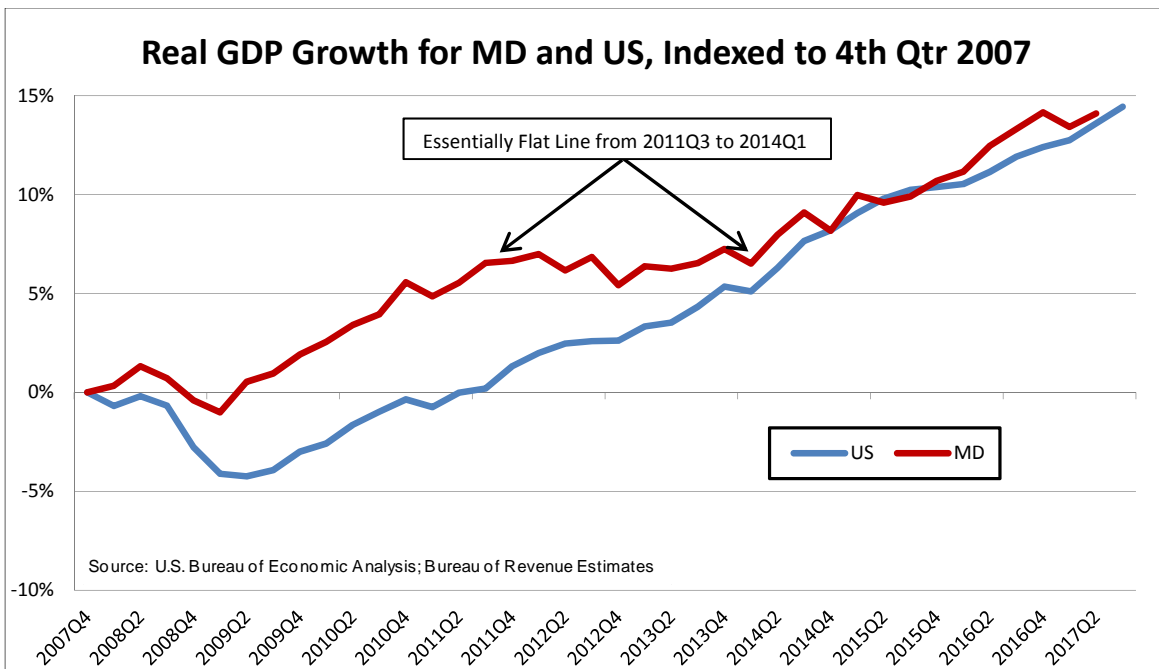
The national labor market continues to improve, though by how much depends on the data source. In October 2017, the national unemployment rate fell to 4.1% while Maryland's unemployment rate remained at 3.8%. After growing 1.4% in 2016, the number of jobs in Maryland has grown 1.9% through October of this year according to the Current Employment Statistics (CES) payroll survey. The Quarterly Census of Employment and Wages (QCEW) however, puts the State's year over year employment growth at 1.0% as of Q2 2017, compared to CES estimates of 1.8%. The QCEW is a census of employers, so it is more reliable. Our forecast therefore assumes employment growth for 2017 will follow the trajectory of the QCEW rather than the CES. Lagging employment gains have been wage improvements. The average wage, defined as total wages divided by the total number of jobs, increased just 1.6% in 2016 and is up only 0.5% through the first two quarters of 2017. In several years after the Great Recession inflation adjusted average wage growth was negative, meaning consumers lost purchasing power.

However, wage gains typically do lag employment gains. This is a bright spot in the outlook; as unemployment decreases and individuals come back into the labor market, the market will tighten and wage growth should increase. However, demographic factors are likely holding back average wage growth statistics. An individual's wage tends to rise over time with experience. As baby boomers reach retirement, relatively high paid employees are being replaced by employees with lower wages on average. This churn in the work force would tend to hold down observed average wages even if individuals are experiencing wage gains.

An additional concern at this point is that the job mix, or the types of jobs that are being created, has been heavily concentrated in positions that pay below the national average wage. As a result, growth in average wages might remain muted relative to the normal gains accompanying a tightening labor market. Gains in the national labor market have favored low-skilled service positions. Such positions are likely growing in order to satisfy demand from those consumers who have seen their incomes rise at healthy rates throughout this recovery: those that own capital and those in skilled positions. There is, of course, nothing wrong with the work or services performed by individuals in these lower-skilled positions, but it will restrain average wage growth. This may help reconcile the weak growth in GDP and the strong labor gains.

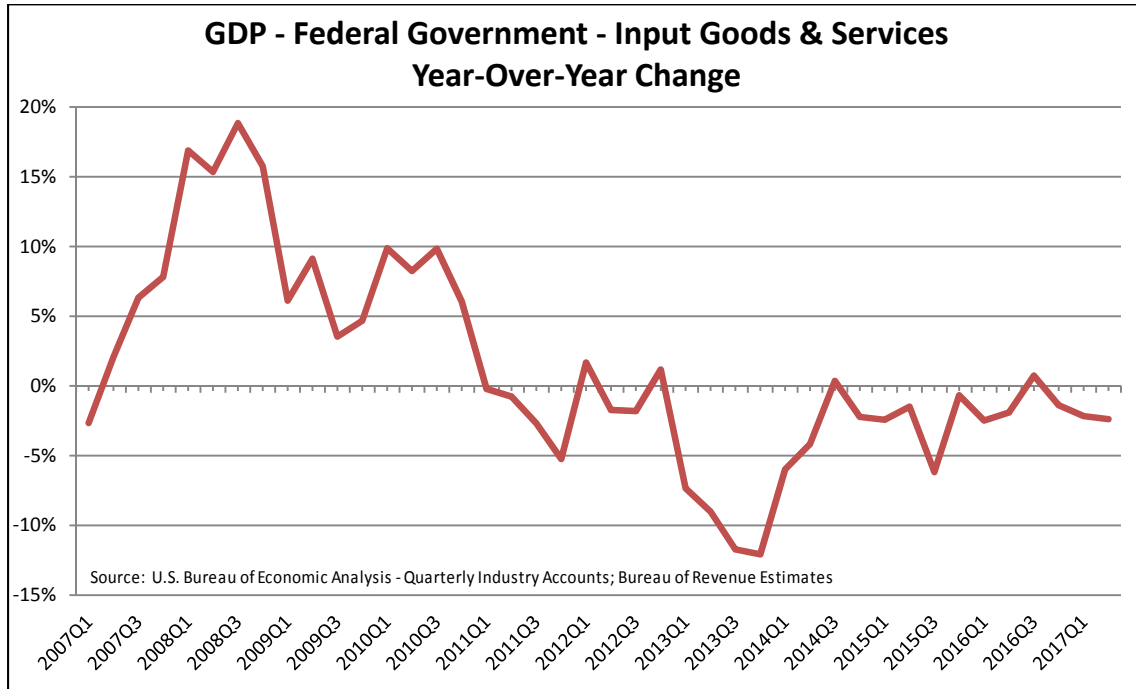
Maryland and Federal Fiscal Policy

Maryland's economic growth between 2012 and 2015 was tepid at best, particularly relative to national growth. This coincides with federal budget sequestration. The following chart illustrates the relative weakness of Maryland's recovery over this period compared to the national recovery, a clear indication of the relative fiscal drag. Fortunately, as the worst of the sequester passed, Maryland's economy returned to growth in line with the nation as a whole.



The chart on the following page helps illustrate the timing of the sequester impacts. The data is somewhat esoteric, but it shows the growth in the value of intermediate inputs purchased

by the federal government. Intermediate inputs represent the value of the private sector's sales to the federal government, an important component to Maryland's economy. While this data is not Maryland specific, we are far more affected than any other jurisdiction outside of Virginia and the District of Columbia.



As the above chart shows, the decline in the value of intermediate inputs purchased by the Federal Government leveled out at around the same time Maryland's economy returned to growth. That said, the sector will likely continue to be a drag. The sequester targets will restrain growth in discretionary spending until 2019; therefore an important sector of our economy will remain limited. In light of present federal budget uncertainty, this remains a risk to our forecast. A lower spending and hiring trajectory for the federal government will have impacts on Maryland similar to the sequester, whereas fiscal stimulus in the form of tax cuts will benefit the State's relatively wealthier on average residents. At the same time, the Federal Reserve is tightening monetary policy, resulting in a higher federal funds rate: additional fiscal stimulus in this context is likely to lead to tighter monetary policy in order for the Fed to accomplish its dual mandate of low and stable unemployment and inflation.

Fiscal policy will also be a possible positive risk to this forecast. Federal sequestration did essentially nothing to fix the federal fiscal quagmire or address national debt. In fact, it may have had a negative effect; the economic impact of the half-measures reduced economic growth without solving longer term spending issues. The real issues for the federal fiscal outlook are entitlements (also related to demographics). Should Congress address the real problem, and remove the sequester altogether, Maryland will grow at a higher trajectory.

The Maryland Outlook

Maryland's economy will expand in 2017 and growth in employment is expected to be 1.3%, down from 1.4% in 2016. Employment growth in 2018 is expected to slow as a result of having reached full employment and declining working age population growth. Growth in the average wage for 2017 is expected to rise to 2.3% from 1.6% in 2016. In addition to the reasons that have been discussed throughout this summary, there appear to have been timing issues, such as an extra pay period at the end of 2015, which has brought artificial volatility to year over year wage growth statistics. The rate of wage growth is expected to increase as the labor market tightens and workers gain experience, but remain low relative to historical norms. Aggregate wage growth and personal income measures increase as employment and the average wage improves. The outlook for the largest general fund revenue source, the income tax, is relatively strong. This is due to Maryland's strong concentration of wealthy taxpayers. However, comparing the number of taxpayers to population estimates, the share of Maryland residents filing tax returns has been declining. This suggests that a lesser share of residents are paying Personal Income Taxes, though the reasons are not known with certainty and the issue requires further analysis.

Outlook For Key Maryland Economic Variables				
Calendar Year	Non-Farm Employment Growth	Personal Income	Aggregate Wage & Salary Income	Average Wage
2015	1.6%	4.5%	4.6%	3.0%
2016	1.4%	3.6%	3.0%	1.6%
2017E	1.3%	3.6%	3.7%	2.3%
2018E	0.8%	3.7%	4.0%	3.2%
2019E	0.5%	3.8%	3.8%	3.2%
2020E	0.6%	4.1%	4.0%	3.4%
2021E	0.4%	3.8%	3.3%	2.9%

Source: Bureau of Revenue Estimates

Revenue growth of the SUT per unit of overall economic growth as well as per dollar spent by consumers appears to have declined. This is due in part to demographic forces. Beyond middle age, individuals tend to consume less overall and a greater share of non-taxable services. In addition to the rise of online retailing and digital goods, the internet has enabled a sharing economy and more frequent consumer-to-consumer sales of used goods. Real estate and construction however, are relative bright spots in the recent history and outlook. The number of houses in foreclosure has declined back to rates observed in the late 1990s and early 2000s, while sales have been strong. The median existing house price grew 3.7% in 2016 and is up 4.9% year to date as of October. Employment in residential construction grew 3.2% in 2016. Sales and Use Tax (SUT) receipts point to strength in the construction sector as a whole. In fiscal year 2017, SUT receipts from the construction sector grew by 4.2%, following growth of 4.4% in fiscal year 2016.

Inflation has been historically low since the Great Recession. As measured by the Consumer Price Index, inflation has risen to 1.8% as of October. All else equal, lower inflation would mean lower nominal wage growth, as employers do not need to increase nominal wages by as much to keep up with inflation. An increase in inflation and nominal wage growth would result in higher income tax revenues than would otherwise be the case. Increasing nominal prices could, by the same logic, lead to faster growth in nominal SUT revenue. However, inflation has been driven lately by increasing prices of services rather than taxable goods. When all else is not equal, the net effect depends on the cause of inflation. If the source is negative supply shock, such as during the 1970s oil price spike, real growth, and ultimately tax collections, may be harmed.

Risks

As usual, risks abound. Federal Reserve action to tighten monetary policy is ongoing; there is a risk that the market reacts in a negative manner that gains traction or that resulting higher interest rates slow broader growth in such a way that the economy again falters. Additionally, there continues to be considerable federal policy uncertainty. Some policies that may or may not come to be could help the Maryland economy, while others could hurt it. Another risk, as ever, is oil prices. A resulting increase in oil prices would be a drag on average consumer spending in Maryland. Where oil prices end up depends predominantly on the size of OPEC production cuts and the ability of shale oil producers in the United States to increase output in response to a rise in prices. While oil price changes still impact the economy, the rise of domestic shale oil producers and their ability to respond quickly to price changes means the US economy is affected to a lesser extent by swings in the international oil market than was the case in the past.

Positive risks include the aforementioned reduction or abolition of federal sequester, increased infrastructure spending, and the expansion of the Panama Canal. The Panama Canal widening, which allows larger cargo ships, called “post-Panamax ships” to sail from Asia to the East Coast. Prior to the project’s completion in June 2016 that cargo was typically delivered to the West Coast and then transported by rail and road throughout the country. Baltimore is one of the few ports on the East Coast with the depth and infrastructure to handle these types of ships and will see increased need for labor and capital. 2016 was a record year in terms of containers and general cargo tons processed. Should there be a meaningful surge in activity and jobs, there will also be positive indirect and induced impacts.

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Table 1
Forecast of the US Economy
 Primary Indicators

Calendar Year	2013	2014	2015	2016	2017	2018	2019
Real Gross Domestic Product (\$ in billions)	15,612 <i>1.7%</i>	16,013 <i>2.6%</i>	16,472 <i>2.9%</i>	16,716 <i>1.5%</i>	17,097 <i>2.3%</i>	17,536 <i>2.6%</i>	17,945 <i>2.3%</i>
Federal Funds Rate	0.1%	0.1%	0.1%	0.4%	1.0%	1.8%	2.3%
10-Year Treasury Bond Yield	2.4%	2.5%	2.1%	1.8%	2.3%	2.8%	3.4%
Consumer Price Index (%D from prior year)	1.2%	1.2%	0.4%	1.8%	2.1%	1.5%	2.5%
Housing Starts (thousands of units)	928 <i>18.4%</i>	1,001 <i>7.8%</i>	1,107 <i>10.6%</i>	1,177 <i>6.3%</i>	1,201 <i>2.1%</i>	1,269 <i>5.6%</i>	1,393 <i>9.8%</i>
New Light Vehicle Sales (thousands of units)	15,530 <i>7.6%</i>	16,452 <i>5.9%</i>	17,396 <i>5.7%</i>	17,465 <i>0.4%</i>	17,139 <i>-1.9%</i>	17,070 <i>-0.4%</i>	17,079 <i>0.1%</i>
Corporate Profits Before Taxes (\$ in billions)	2,033 <i>1.7%</i>	2,141 <i>5.3%</i>	2,117 <i>-1.1%</i>	2,073 <i>-2.1%</i>	2,183 <i>5.3%</i>	2,432 <i>11.4%</i>	2,600 <i>6.9%</i>
Total Non-Agricultural Employment (thousands)	136,379 <i>1.6%</i>	138,937 <i>1.9%</i>	141,813 <i>2.1%</i>	144,306 <i>1.8%</i>	146,440 <i>1.5%</i>	148,570 <i>1.5%</i>	150,428 <i>1.3%</i>
Unemployment Rate	7.4%	6.2%	5.3%	4.9%	4.4%	3.9%	3.8%
Personal Income (\$ in billions)	14,074 <i>1.1%</i>	14,818 <i>5.3%</i>	15,553 <i>5.0%</i>	15,929 <i>2.4%</i>	16,418 <i>3.1%</i>	17,113 <i>4.2%</i>	17,961 <i>5.0%</i>

Source: IHS Markit (December 2017 Forecast)

Table 2
Forecast of the MD Economy
 Primary Indicators

Calendar Year	2013	2014	2015	2016	2017	2018	2019
Total Non-Agricultural Employment (thousands)	2,610 <i>1.0%</i>	2,632 <i>0.9%</i>	2,673 <i>1.6%</i>	2,710 <i>1.4%</i>	2,746 <i>1.3%</i>	2,768 <i>0.8%</i>	2,783 <i>0.5%</i>
Existing Median Home Price (\$)	267,646 <i>6.5%</i>	271,419 <i>1.4%</i>	268,436 <i>-1.1%</i>	270,978 <i>0.9%</i>	284,911 <i>5.1%</i>	294,028 <i>3.2%</i>	301,085 <i>2.4%</i>
Existing Single Family Home Sales (thousands)	61.5 <i>10.3%</i>	62.9 <i>2.2%</i>	69.7 <i>10.9%</i>	79.0 <i>13.3%</i>	83.8 <i>6.1%</i>	87.8 <i>4.8%</i>	91.1 <i>3.7%</i>
Private Housing Starts (thousands)	16.9 <i>17.8%</i>	16.5 <i>-2.8%</i>	17.0 <i>3.2%</i>	17.5 <i>3.4%</i>	16.2 <i>-7.4%</i>	17.6 <i>8.2%</i>	20.9 <i>19.0%</i>
Personal Income (\$ in millions)	312,370 <i>-0.6%</i>	322,609 <i>3.3%</i>	337,212 <i>4.5%</i>	349,267 <i>3.6%</i>	361,793 <i>3.6%</i>	375,307 <i>3.7%</i>	389,731 <i>3.8%</i>
Wages and Salaries (\$ in millions)	150,140 <i>0.8%</i>	155,212 <i>3.4%</i>	162,389 <i>4.6%</i>	167,235 <i>3.0%</i>	173,410 <i>3.7%</i>	180,342 <i>4.0%</i>	187,120 <i>3.8%</i>
Dividends, Interest and Rent (\$ in millions)	58,335 <i>-2.5%</i>	61,733 <i>5.8%</i>	64,719 <i>4.8%</i>	65,926 <i>1.9%</i>	67,701 <i>2.7%</i>	70,023 <i>3.4%</i>	73,034 <i>4.3%</i>
Capital Gains (\$ millions)	6,647 <i>-15.6%</i>	9,508 <i>43.0%</i>	9,643 <i>1.4%</i>	9,643 <i>0.0%</i>	9,643 <i>0.0%</i>	9,643 <i>0.0%</i>	9,643 <i>0.0%</i>
Unemployment Rate	6.5%	5.8%	5.0%	4.3%	4.0%	3.7%	3.7%

Source: Board of Revenue Estimates and IHS Markit (December 2017 Forecast)

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General Fund Revenues

In preparing these estimates, all of the State’s revenue collecting agencies were consulted. In addition, the Board of Revenue Estimates continued to rely on the Revenue Monitoring Committee, comprised of key State staff with revenue estimating knowledge or collection responsibility. The committee compared and considered alternative economic forecasts from national economic consulting firm Moody’s Analytics and Global Insight, and local economists at Sage Policy Group.

Table 3 shows detail on general fund and selected special fund revenue sources for fiscal years 2017 through 2019. Table 4 provides additional detail on general fund revenues. The sections which follow these tables provide more information on each of the state’s general fund revenue sources.

Table 3
Selected Revenues
Fiscal Years 2017 - 2019

	GENERAL FUND			SPECIAL FUND			TOTAL		
	Fiscal Year 2017 Actual	Fiscal Year 2018 Revised Estimate	Fiscal Year 2019 Estimate	Fiscal Year 2017 Actual	Fiscal Year 2018 Revised Estimate	Fiscal Year 2019 Estimate	Fiscal Year 2017 Actual	Fiscal Year 2018 Revised Estimate	Fiscal Year 2019 Estimate
\$ Thousands									
INCOME TAXES									
Individual Corporations	9,019,278	9,288,847	9,782,396				9,019,278	9,288,847	9,782,396
	795,594	844,437	886,498	206,340	219,008	229,917	1,001,934	1,063,446	1,116,414
Total	9,814,871	10,133,285	10,668,893	206,340	219,008	229,917	10,021,212	10,352,293	10,898,810
SALES AND USE TAXES	4,539,320	4,621,907	4,735,147	70,146	70,847	72,264	4,609,466	4,692,754	4,807,411
STATE LOTTERY RECEIPTS									
Lottery Games	484,332	521,207	521,686	107,609	109,870	120,203	591,942	631,077	641,889
Casinos ²		14,819		603,246	646,234	670,157	603,246	661,053	670,157
Total	484,332	536,026	521,686	710,856	756,103	790,360	1,195,188	1,292,130	1,312,046
TRANSPORTATION REVENUES									
Motor Vehicle Fuel Tax				1,072,002	1,052,279	1,109,140	1,072,002	1,052,279	1,109,140
Motor Vehicle Licenses, Fees				794,472	789,492	804,654	794,472	789,492	804,654
Motor Vehicle Titling Tax				886,010	871,000	883,000	886,010	871,000	883,000
Maryland Transit Fees				149,250	156,988	157,247	149,250	156,988	157,247
Maryland Port Fees				49,039	53,547	54,357	49,039	53,547	54,357
Maryland Aviation Fees				243,132	243,167	244,867	243,132	243,167	244,867
Total	-	-	-	3,193,905	3,166,473	3,253,265	3,193,905	3,166,473	3,253,265
OTHER REVENUES									
Property Transfer Tax	62,771	46,028	-	147,315	167,432	221,903	210,086	213,460	221,903
Business Franchises and Filing Fees	228,437	234,067	234,700				228,437	234,067	234,700
State Tobacco Tax	386,976	381,556	378,333				386,976	381,556	378,333
Tax on Insurance Companies	328,734	326,341	349,984				328,734	326,341	349,984
Alcoholic Beverages Excises	32,490	31,856	31,944				32,490	31,856	31,944
Estate & Inheritance Taxes	227,947	216,365	186,489				227,947	216,365	186,489
Clerks of the Court	36,146	34,354	33,940				36,146	34,354	33,940
District Courts	69,303	62,095	60,871				69,303	62,095	60,871
Hospital Patient Recoveries	62,180	68,258	63,621				62,180	68,258	63,621
Interest on Investments	22,492	35,000	47,250						
Miscellaneous Fees, Other Receipts	355,277	331,377	312,083						--- See Notes ---
Total	1,812,752	1,767,298	1,699,215						
Total Current Revenues	16,651,276	17,058,516	17,624,941						--- See Notes ---
Extraordinary Revenues ¹	47,432	-	-						
GRAND TOTAL	16,698,707	17,058,516	17,624,941			---	---	---	---

¹ The fiscal year 2016 GAAP audit of the Local Income Tax Reserve account found that the account was overfunded by \$47.4 million. Additionally certain Casino revenues are distributed to the general fund for fiscal year 2018, they are shown on the Casino line for this table, but as Extraordinary Revenue in Table 4.

² The 2017 Budget Reconciliation and Financing Act directed certain Casino revenues to the general fund for fiscal year 2018.

Notes: Includes all general fund revenues, all Transportation revenues and selected special fund taxes. In conjunction with Appendix B of the Fiscal Year 2016 Budget Book, this table will comprise the official estimate of total state revenues.

Table 4
Maryland General Fund Revenues
 Fiscal Years 2017 - 2019

<u>\$ Thousands</u>	FY 2018					FY 2019			
	FY 2017 Actual	September Estimate	December Estimate	Difference	Growth	September Estimate	December Estimate	Difference	Growth
INCOME TAXES:									
Individual	9,019,278	9,380,740	9,288,847	(91,893)	3.0%	9,764,866	9,782,396	17,529	5.3%
Corporation	795,594	827,257	844,437	17,181	6.1%	873,550	886,498	12,948	5.0%
Total	9,814,871	10,207,997	10,133,285	(74,712)	3.2%	10,638,416	10,668,893	30,477	5.3%
SALES AND USE TAXES	4,539,320	4,654,892	4,621,907	(32,985)	1.8%	4,787,447	4,735,147	(52,301)	2.5%
STATE LOTTERY	484,332	519,500	521,207	1,707	7.6%	522,818	521,686	(1,132)	0.1%
OTHER REVENUES									
Business Franchise Taxes	228,437	232,168	234,067	1,900	2.5%	198,109	234,700	36,591	0.3%
Tax on Insurance Companies	328,734	326,341	326,341	-	-0.7%	349,984	349,984	-	7.2%
Estate and Inheritance Taxes	227,947	198,489	216,365	17,876	-5.1%	184,063	186,489	2,426	-13.8%
Tobacco Tax	386,976	381,556	381,556	-	-1.4%	378,333	378,333	-	-0.8%
Alcoholic Beverages Excise Tax	32,490	32,878	31,856	(1,022)	-1.9%	33,293	31,944	(1,349)	0.3%
District Courts	69,303	67,566	62,095	(5,471)	-10.4%	66,443	60,871	(5,573)	-2.0%
Clerks of the Court	36,146	34,586	34,354	(232)	-5.0%	34,229	33,940	(289)	-1.2%
Hospital Patient Recoveries	62,180	58,296	68,258	9,963	9.8%	58,296	63,621	5,325	-6.8%
Interest on Investments	22,492	35,000	35,000	-	55.6%	47,250	47,250	-	35.0%
Miscellaneous	355,277	321,389	331,377	9,988	-6.7%	315,235	312,083	(3,151)	-5.8%
Total	1,749,981	1,688,269	1,721,270	33,001	-1.6%	1,665,234	1,699,215	33,980	-1.3%
Total Current Revenues	16,588,505	17,070,658	16,997,669	(72,989)	2.5%	17,613,916	17,624,941	11,025	3.7%
Extraordinary Revenues ^{1&2}	47,432	14,996	14,819	(177)		-	-	-	
Transfer Tax Revenues ³	62,771	46,028	46,028	-		-	-	-	
GRAND TOTAL	16,698,707	17,131,682	17,058,516	(73,166)	2.2%	17,613,916	17,624,941	11,025	3.3%

¹ The fiscal year 2016 GAAP audit of the Local Income Tax Reserve account found that the account was overfunded by \$47.4 million

² The 2017 Budget Reconciliation and Financing Act directed certain Casino revenues to the general fund for fiscal year 2018

³ The Tax Property Article §13-209 has been altered across several legislative sessions so as to provide various distributions to the general fund

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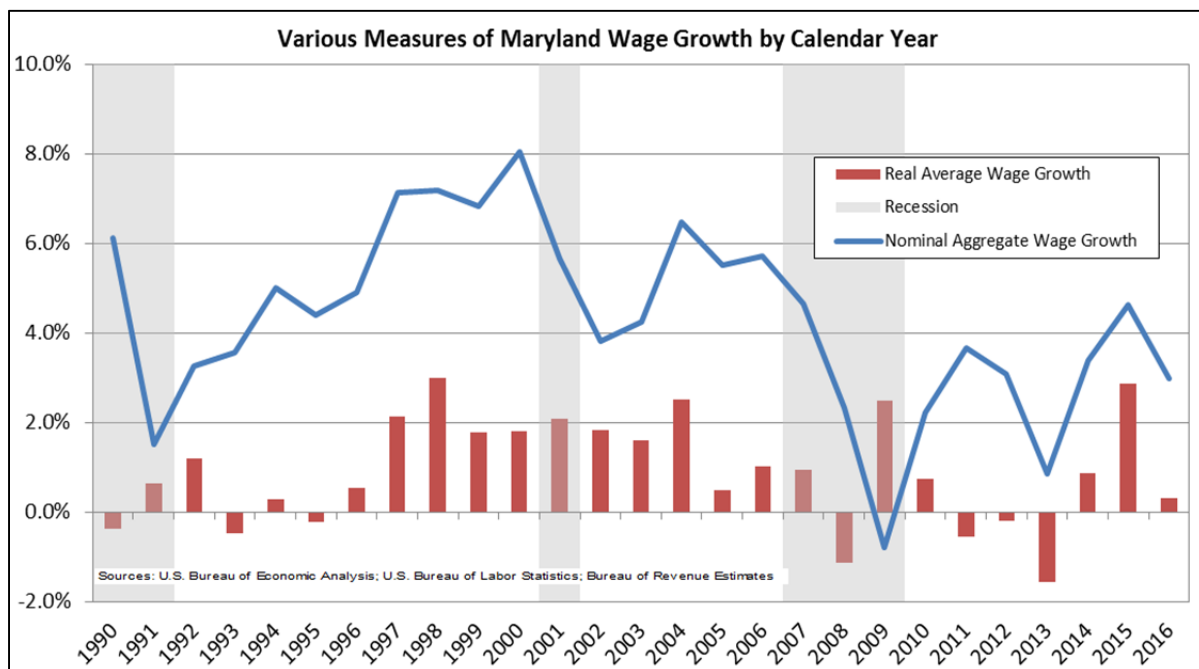


Individual Income Tax

General fund estimates for the personal income tax are expected to increase 3.0% for fiscal year 2018 to \$9.289 billion and another 5.3% in fiscal year 2019 to \$9.782 billion. Income tax withholding, approximately 90% of net income tax receipts, is expected to grow at an underlying rate of 4.3% to 4.4%; however, pay period timing serves to skew this rate across fiscal years. Further distorting the rate is the tax-planning behavior expected to have taken place in anticipation of Republican policies following the 2016 Presidential and Congressional elections. Nonetheless, in spite of this modest outlook, the fundamentals do show encouraging signs for future growth.

Withholding

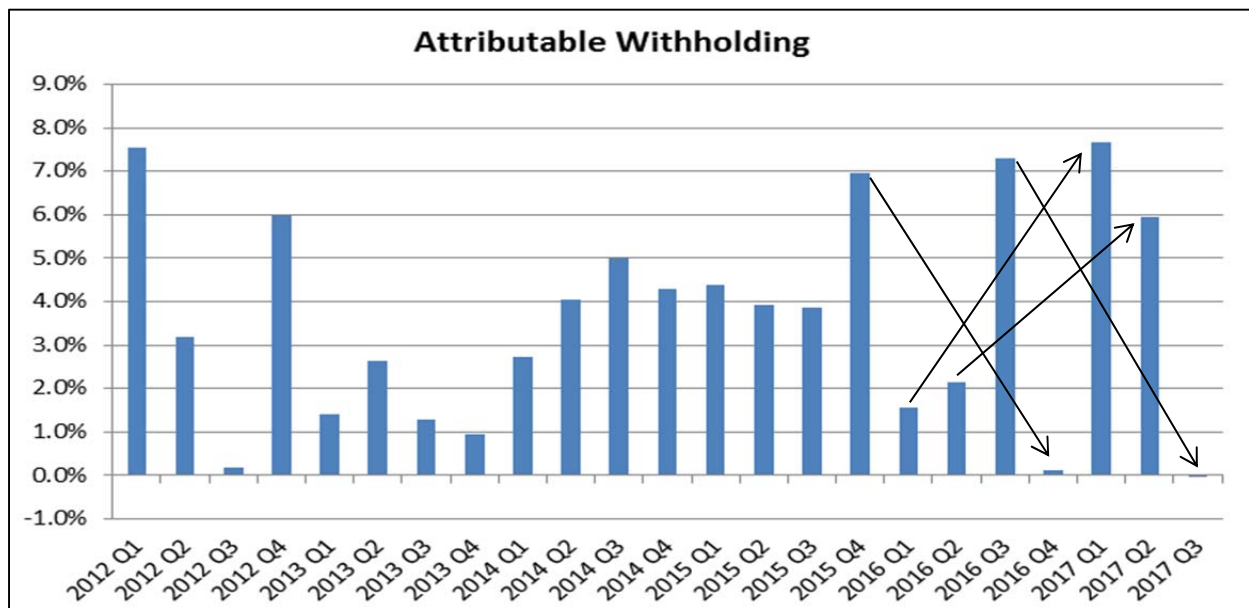
Wage growth throughout this economic expansion has been anemic, severely limiting the aggregate growth of the total income tax. The chart below illustrates that aggregate year-over-year wage growth has breached 4.0% only once in this expansion and that inflation adjusted average wage growth has been sub 1.0% in every year save for 2015 and actually contracted between 2011 and 2013 as sequestration and federal shutdowns exacerbated already weak fundamentals. Furthermore, we believe that 2015 contained an additional pay period for many employees that impacted both aggregate and average wage growth in 2015 and 2016, bolstering growth in the former and restraining it in the latter.



The fiscal year picture looks somewhat different; withholding for fiscal year 2017 increased 6.2%. The exaggerated growth rate is again related to pay periods for employers. From a system perspective, when an employer remits withholding, they provide the pay period end date; that date determines the month and therefore quarter for which that withholding is attributable. For the State, where collections are generally cash-based, attributable periods only matter for the second calendar quarter; this is when the State accrues cash collections from the third quarter into the second quarter. All attributable quarters are quite meaningful to local a government, as that is how withholding is distributed to them.

The closeout of fiscal year 2017, which had a significant accrual amount by historical standards, initiated an investigation into the cause. We found among our top accounts four distinct bi-weekly pay period cycles that mattered to this exercise. The largest grouping of those payers went through a four quarter stretch where the number of pay periods was different than that of the prior year, thus significantly distorting the rates of aggregate wage growth between the fourth quarter of 2015 and the third quarter of 2017. This cycle occurs roughly every five years for each of the distinct pay periods. There is one note of caution, as mentioned previously: the assignment of periods is taxpayer driven. We found several definitive instances where the taxpayer had explicitly provided the wrong information; these instances were marked by a single payment that differed from their very clear long term pattern.

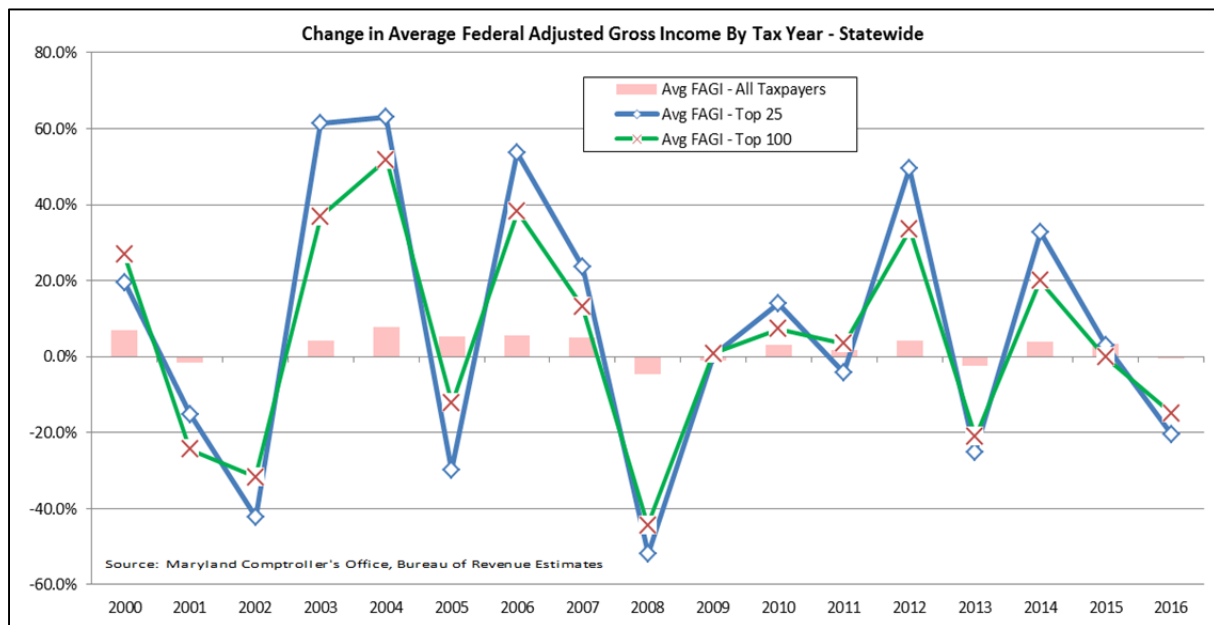
The chart below illustrates attributable withholding by quarter and highlights the recent timing distortion cycle. The heightened second quarter increased fiscal year 2017 withholding and serves to reduce the fiscal year estimated withholding for 2018.



Tax Planning - Income Shifting

Shortly after the Republicans assumed control of both the Presidency and the 115th Congress in November 2016, the stock market surged in anticipation of potential tax cuts and/or reform. Initially, we believed that tax relief might occur early in 2017 and apply to tax year 2017. We assumed that for the seven remaining weeks in that year, taxpayers with non-wage income began to shift income into 2017 and pull expenses into 2016. Our initial estimate was that approximately \$80 million in State tax revenue, which equates to roughly \$1.6 billion in income, shifted tax years.

While we will never be certain as to the exact amount of income, the preliminary picture of 2016 indicates that an extraordinary amount did, in fact, shift into 2017. The chart below illustrates the year-over-year change in the average incomes for all taxpayers, for the top 100 taxpayers, and for the top 25 taxpayers in Maryland over the last several years. By most standards, tax year 2016 was unremarkable, but not significantly depressed. Nominal gross domestic product increased 2.8%, State employment increased 1.4%, and, as previously mentioned, the stock market surged as the year ended. Such a decrease in the top FAGI brackets in 2016 seems to confirm our assumption of taxpayer behavior, and perhaps indicates that we may have underestimated the magnitude of the shift. This shift must be viewed in conjunction with the additional pay day that we believe to have occurred in 2015, the effect of which also served to restrain 2016 growth, most explicitly in the total, but also in the Top 25 and Top 100, albeit to a lesser degree.



Of course, tax relief did not materialize in early 2017. It does, however, appear imminent, and is likely to apply to tax year 2018. At the time of this forecast, the current federal

bill is in conference between the two legislative bodies. The process is moving so rapidly that experts seem to uncover potential unintended tax consequences of the bill on a daily basis. The most recent versions of the bill propose extraordinary changes, but also inconsistent treatments of similar income; generally, the proposals are for non-service industries to receive significant federal tax benefits, and for non-service industries to receive no favorable treatment. To date, there is no change to the treatment of capital gains.

While most taxpayers are still determining how the bill may impact them, it generally incentivizes taxpayers to push income, particularly business income, from 2017 into 2018, and vice-versa for expenses. This bill has been under discussion since early November, providing additional time for tax planning in this occurrence relative to the prior. We anticipate a significant amount of tax planning to have occurred, and have incorporated it into this estimate. The result is an estimated shift of approximately \$2.3 billion dollars, which translates to approximately \$112.5 million in general fund revenues. The shift is not a one-for-one in fiscal years, but it does shift revenue primarily from fiscal year 2018 into fiscal year 2019. We show the shift as occurring largely through final payments (payments with returns), though it may come in earlier through larger than expected estimated payments.

A disclaimer here is necessary: an estimate of the behavior and income effects of a small yet significant subset of our tax base is always relatively more difficult and more uncertain than estimates of the broader population. There is uncertainty not only in the amount, but also in the fiscal years in which the income will shift. For example, as many taxpayers anticipate the loss of the state and local income tax deduction, we might realize a tremendous amount of tax year 2018 tax payments in December 2017, thereby making those tax payments deductible for federal taxes. This will be an incentive that we will monitor. Furthermore, these estimates assume existing tax law. A full analysis of post-reform impacts will be conducted following the eventual passage of the bill. To that end, it should be noted that the bill as currently written would likely trigger extraordinary behavioral impacts that we will not be able to model.

Table 5
Individual Income Tax Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016 Actual	2017 Actual	2018 Estimated	2019 Estimated
Gross Receipts (State & Local)				
Withholding	12,585,880	13,367,762	13,767,195	14,386,004
Estimated Payments	1,957,103	1,936,069	1,986,680	2,082,861
Payments with Final Returns	1,716,427	1,720,252	1,809,806	2,007,381
Fiduciary	124,396	125,628	131,803	136,241
Gross Receipts	16,383,806	17,149,711	17,695,484	18,612,487
Refunds	(2,621,264)	(2,718,071)	(2,809,780)	(2,934,438)
Net Receipts (State & Local)	13,762,542	14,431,640	14,885,705	15,678,049
Local Reserve Account	(5,243,868)	(5,411,420)	(5,595,857)	(5,894,654)
Income Tax Check-offs	(1,089)	(942)	(1,000)	(1,000)
Net General Fund	8,517,585	9,019,278	9,288,847	9,782,396

Figures may not sum to totals due to rounding.

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Corporate Income Tax

General Fund corporate income tax revenues decreased 9.0% to \$795.6 million in fiscal year 2017. Gross receipts for fiscal year 2017 decreased 5.2% while refunds increased 30.9%. In fiscal year 2016, receipts were bolstered by an extraordinary court decision settled in favor of the State; a slowdown in growth in fiscal year 2017 was therefore expected. Even so, underlying growth in gross receipts was negative. Refunds were elevated in fiscal year 2017 due to several extraordinary refunds for large tax payers. Taken together, net revenue declined 11.3%. The General Fund share of net revenue increased from 77.5% to 79.4% in fiscal year 2017, where it will remain under current law. As a result, General Fund revenue declined by less than net revenue.

Nationally, corporate profits grew 4.1% in fiscal year 2017, after declining 7.1% in fiscal year 2016. Leading up to 2017, growth in corporate profits had fallen from historic highs earlier in the decade to relatively subdued levels compared to the previous two economic expansions. Growth in corporate profits is expected to be modest over the forecast horizon; however, there is considerable risk to this forecast pertaining to federal tax policy. To the extent corporations pay a lower effective tax rate due to a cut in the statutory federal rate, corporate profits, and therefore corporate income tax revenue at the State level, would increase. The magnitude of the impacts of changes to federal tax policy is highly uncertain. National measures of corporate profits do not fully correlate with corporate income tax receipts in Maryland. This is partly due to timing issues related to the normal tax administration process, as well as differences both in national income and tax accounting relative to Maryland and between the corporate tax base composition of Maryland and that of the nation as a whole.

Through November, net receipts are up 51.3%. The bulk of the increase is due to a substantial decrease in refunds back to more normal levels; through November, refunds are down 41.9%. Based on the timing of large refunds last fiscal year, YTD net receipts growth is expected to decline as the fiscal year goes on. Gross receipts are up 5.2% through November. For fiscal year 2018, net receipts are forecast to grow 6.1%. General fund revenue is forecast to increase the same amount as legislated changes in the distribution of net receipts completed in fiscal year 2017 and will remain unchanged under current policy. For fiscal year 2019, net receipts and general fund revenue are forecast to increase 5.0%.

Table 6
Corporate Income Tax Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018 Estimated	2019 Estimated
	Actual	Actual		
Gross Receipts	1,319,162	1,250,779	Note 1	Note 1
Refunds	(190,154)	(248,845)	Note 1	Note 1
Net Receipts	1,129,008	1,001,934	1,063,446	1,116,414
Transportation Trust Fund	(186,803)	(146,224)	(155,201)	(162,932)
Higher Education Investment Fund	(67,740)	(60,116)	(63,807)	(66,985)
Net General Fund	874,465	795,594	844,437	886,498

Note 1: Estimates are only for net receipts
Figures may not sum to totals due to rounding.

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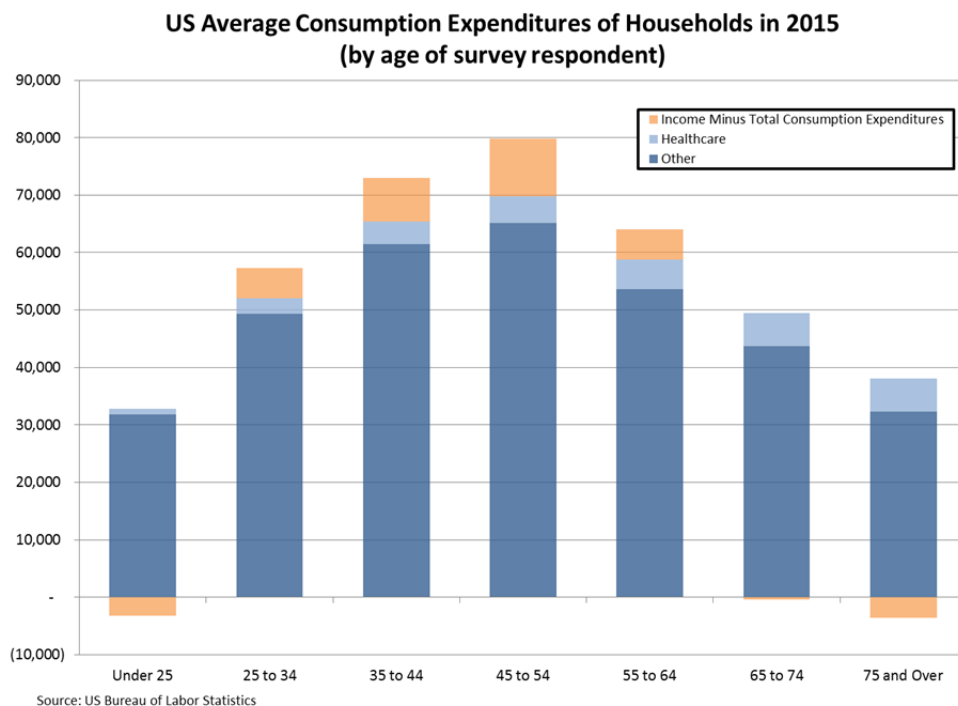


Sales and Use Taxes

The sales and use tax, the second largest component of general fund revenues, slowed from 2.2% growth in fiscal year 2016 to 2.1% in fiscal year 2017. The Board is revising down its estimate for fiscal years 2018 and 2019 by \$33.0 million and \$52.3 million for growth rates of 1.8% and 2.5%, respectively. Out-year estimates have also been revised downward, as we project growth rates to float between 2.2% and 2.7% in the years following fiscal year 2019. These significant revisions reflect the underperformance of sales tax revenues despite gains in GDP and employment; sales tax revenues have declined as a share of both GDP and dollar spent on consumption. This slowdown is due to a confluence of several factors.

First, the State's changing age demographics continue have significant implications for income and, therefore, spending. As the population distribution becomes concentrated at the ends of the age spectrum, productivity declines, and wage growth slows. Any positive wage effects on spending that result from job gains among younger cohorts are offset by movement up the age brackets and out of the labor force by members of the older cohorts.

The changing age structure of the population also alters general consumption patterns. Consumption expenditures decline after middle-age; older cohorts not only earn less income and spend less, but tend to spend more of it toward nontaxable expenditures such as healthcare.



Meanwhile, the spending habits of younger cohorts are impacted by factors like student loan debt and growing preferences for amenity-based housing, both of which cannibalize disposable income and have contributed to the development of the sharing economy. These demographic driven shifts in consumption patterns also reflect the more general trend toward a preference for services, which are generally nontaxable. As a share of national GDP, spending on services has increased almost 4.5% since 2000.

In addition to demographics, the proliferation of nontaxable goods continues to have an impact on sales and use tax revenues. Smartphones and mobile applications have facilitated the rise of internet-based consumption. Consumption of nontaxable digital goods has cannibalized spending on tangible goods and factors into the recent bouts of deflation in retail prices. The internet has also enabled the rise of non-store retailers; sales occurring in an online marketplace remain untaxable if the non-store retailer lacks nexus in the State.

The uncertainty of federal policy can serve to further hinder spending. Although federal wages appear to have continued to grow through 2017Q3, there remains a hiring freeze or threat of a hiring freeze at a number of federal agencies. These threats reinforce the conservative approach many federally-employed Marylanders have recently adopted.

Finally, productivity, the natural path to wage gains, has lagged for the last several years, partially as a result of the influx of less experienced workers. The jobs gained, on average filled by younger, less experienced workers, constitute a mix skewed toward lower-income occupations. This, in addition to the price of crude, which has not risen above \$60 a barrel since June 2015, has contributed to the historically low levels of inflation (near or sub 2%) that have followed the Great Recession. Moreover, overall inflation has been driven by an increase in the price of services; inflation in goods prices has been practically nonexistent. Low inflation means slow growth in wages as well as in nominal prices for taxable goods, which has significant impacts on consumption and sales tax revenues.

Given the consistently low rates of growth during the expansion, the expansion's maturity, and the macroeconomic factors outlined above, we have made a long-term downward adjustment to the outlook for sales and use tax revenues. The below figures reflect the antiquated nature of the sales and use tax in the new macroeconomic reality.

Growth in the Consumer segment, the largest component, sharply declined in fiscal year 2017 to 1.3%, down from 4.0% in fiscal year 2016 and 5.9% in fiscal year 2015. Growth in fiscal years 2018 and 2019 is expected to be 2.6% and 2.7%, respectively; fiscal year 2019 is revised down from 2.9% in September. Growth in Construction, meanwhile, remains the lone bright spot. The industry continues to benefit from historically low mortgage interest rates. It declined merely 20 basis points, from 4.4% in fiscal year 2016 to 4.2% in fiscal year 2017; still, based on year-to-date attainment, we are revising it down from 4.3% and 3.9% to 2.9% and 3.1%

in fiscal years 2018 and 2019, respectively. The Utilities segment, composed of communications related sales, largely consumer, and power sales, largely business, has seen broad based year-to-date declines; as such, we have revised its growth rate down from -3.1% to -6.1% for fiscal year 2018 and from 1.5% to 0.1% for fiscal year 2019.

Table 7
Sales and Use Tax Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Consumer	3,259,059	3,301,779	3,386,535	3,478,052
Construction	619,063	645,205	664,226	684,986
Capital Goods	287,600	287,463	284,676	286,974
Utilities	359,886	388,041	364,516	364,777
Gross Collections	4,525,609	4,622,489	4,699,952	4,814,789
Assessments	11,718	10,062	10,314	10,572
Refunds	(33,085)	(23,085)	(17,512)	(17,950)
Transportation Trust Fund	(30,780)	(31,566)	(31,881)	(32,519)
Other	(28,980)	(38,580)	(38,966)	(39,745)
Total General Fund	4,444,481	4,539,320	4,621,907	4,735,147

Figures may not sum to totals due to rounding.

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Remaining Supporting Tables

Table 8A
Traditional Lottery - Sales
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016 Actual	2017 Actual	2018 Estimated	2019 Estimated
Pick 3	241,570	239,154	240,708	241,343
Pick 4	280,783	291,588	292,255	298,050
Multimatch	31,095	24,019	23,428	23,368
Instant/5 Card Cash	617,200	682,298	751,397	773,991
Keno/Racetrax	478,648	483,643	489,817	501,904
Bonus Match 5	20,612	19,799	19,705	19,664
MegaMillions/Powerball	216,743	166,478	172,330	176,203
Instant Ticket Lottery Machines¹	9,829	11,868	12,224	12,407
Cash4Life	11,959	16,194	14,097	14,097
Gross Sales	<u>1,908,438</u>	<u>1,935,041</u>	<u>2,015,960</u>	<u>2,061,027</u>

Note 1: Sales accounting for Instant Ticket Lottery Machines was changed to “net after payout” basis beginning fiscal year 2016
Figures may not sum to totals due to rounding.

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Table 8B
Traditional Lottery - Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Pick 3	96,202	99,559	100,999	97,076
Pick 4	135,225	100,210	123,348	122,713
Multimatch	11,089	8,566	8,462	8,195
Instant/5 Card Cash	102,020	111,790	119,139	123,234
Keno/Racetrax	122,979	124,147	126,941	126,169
Bonus Match 5	6,968	6,673	6,773	6,742
MegaMillions/Powerball	89,490	67,867	70,014	71,664
Instant Ticket Lottery Machines¹	595	702	740	751
Cash4Life	3,924	7,032	5,865	6,217
Gross Revenue	568,492	526,546	562,281	562,761
Less: Stadium Authority Revenue	(40,000)	(40,000)	(40,000)	(40,000)
Less: Veteran's Trust Fund Revenue	(60)	(70)	(74)	(75)
Misc. Year End Adjustments	1,321	(1,643)	-	-
Less: MD Intl Race Fund		(500)	(1,000)	(1,000)
Net General Fund	529,754	484,332	521,207	521,686

Figures may not sum to totals due to rounding.

Table 9
Business Franchise Tax Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Public Service Company Franchise Tax	137,537	138,251	139,372	141,141
Filing Fees	84,430	90,186	94,695	93,559
Net General Fund	221,967	228,437	234,067	234,700

Table 10
Insurance Premium Tax Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Insurance Premium Tax	320,228	360,861	361,341	384,984
Less: MD Health Benefit Exchange Distributions	(32,821)	(32,127)	(35,000)	(35,000)
Net General Fund	287,407	328,734	326,341	349,984

Table 11
Estate and Inheritance Tax Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Collateral Inheritance Tax	54,912	52,889	55,692	55,692
Direct Inheritance Tax	89	68	74	77
Estate Tax	206,931	174,990	160,598	130,720
Net General Fund	261,932	227,947	216,365	186,489

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Table 12
Hospital Patient Recoveries
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Medicaid	22,661	19,495	19,579	21,324
Medicare	8,168	8,382	8,672	8,859
Insurance and Sponsors	5,420	4,840	4,500	4,500
	36,250	32,717	32,750	34,683
Disproportionate Share	21,249	27,762	34,508	27,937
Medicaid Cost Settlements		1,702	1,000	1,000
Net General Fund	57,499	62,180	68,258	63,621

Figure may not sum to totals due to rounding

Table 13
Excise Tax Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Cigarette Tax	360,468	348,893	342,145	338,725
Other Tobacco Products Tax	34,812	38,083	39,411	39,608
Net General Fund Tobacco	395,279	386,976	381,556	378,333
Distilled Spirits Tax	16,538	16,899	16,578	16,702
Wine Tax	6,348	6,891	6,632	6,665
Beer Tax	8,741	8,361	8,289	8,206
Miscellaneous Licenses	404	432	447	461
Subtotal Alcoholic Beverages Taxes	32,032	32,583	31,946	32,034
Less: MD Wine and Grape Promotion Fund	(86)	(93)	(90)	(90)
Net General Fund Alcoholic Beverages	31,946	32,490	31,856	31,944

Figures may not sum to totals due to rounding.

Table 14
General Fund Court Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
District Courts	72,334	69,303	62,095	60,871
Clerks of the Court	34,203	36,146	34,354	33,940

Table 15
General Fund Interest Earnings
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Interest Earnings	15,008	22,492	35,000	47,250

Table 16
Miscellaneous Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Recording Organization & Capitalization Fees	14,117	14,283	14,613	14,978
Excess Fees of Office	688	(3,186)	(2,601)	(2,943)
Unclaimed Property	91,199	94,673	90,000	90,000
Local Income Tax Reimbursement	15,257	13,271	13,770	16,109
Uninsured Motorist Penalty Fees	48,696	48,734	51,170	52,449
Federal Retiree Drug Subsidy	16,385	13,631	13,200	12,800
Tobacco Conversion Program Bond Repayment	3,823	3,823	3,823	-
Miscellaneous Revenues and Transfers	4,276	3,429	2,000	2,000
Net General Fund	194,440	188,658	185,975	185,394

Figures may not sum to totals due to rounding.

Table 17
Miscellaneous Agency Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
PSC Fines, Citations and Filing Fees	425	50	412	62
Legislature	22	30	25	25
Workers' Compensation	60	53	54	54
Public Defender	2,088	1,760	1,945	1,984
Attorney General	30,443	55,144	41,476	31,943
Executive & Administrative Control	14,525	8,724	9,430	9,837
Financial & Revenue Administration	20,973	19,433	16,028	16,042
Budget & Fiscal Administration	4,459	6,112	5,595	4,491
General Services	-	772	1,144	-
Natural Resources	122	110	111	113
Agriculture	66	110	93	93
Health & Mental Hygiene	29,647	36,250	31,752	32,242
Human Resources	1,376	51	3,182	1,552
Labor, Licensing & Regulation	9,538	12,877	10,138	5,793
Public Safety & MD State Police	14,151	13,778	14,449	14,663
Public Education	7,979	8,958	5,145	5,217
Housing and Community Development	1,277	376	380	384
Business & Economic Development	512	34	20	20
Environment	641	609	2,607	730
Juvenile Services	1	1	1	1
Alcoholic Beverage Licenses	1,400	1,386	1,415	1,443
Net General Fund	139,704	166,619	145,402	126,689

Figures may not sum to totals due to rounding.

Table 18
Transportation Revenues
Fiscal Years 2016 – 2019
(\$ in thousands)

	2016	2017	2018	2019
	Actual	Actual	Estimated	Estimated
Department of Transportation				
Registrations	381,344	389,094	388,300	397,300
Licenses	53,604	55,039	56,900	59,700
Med-Evac Surcharge	71,479	72,043	71,896	73,563
Trauma Physician Services Surcharge	12,316	12,400	12,375	12,662
Miscellaneous Motor Vehicle Fees	193,238	197,491	195,012	195,734
Vehicle Emission Inspection Fees	31,617	33,592	30,509	30,695
Security Interest Filing Fees – Special Funds	12,473	12,378	12,200	12,300
Hauling Fees	10,628	10,997	10,700	10,800
Special License Tags – Special Funds	5,017	4,938	4,800	4,900
Titling Tax	860,416	886,010	871,000	883,000
Sales Tax on – Rental Vehicles	30,780	31,566	31,881	32,519
Special Distribution Tax	1,662,912	1,705,548	1,685,573	1,713,173
Motor Fuel Vehicle Tax	717,836	739,130	729,600	744,500
Road Tax	6,431	6,310	6,800	7,000
Decals & Permits	101	190	-	-
Sales Tax Equivalent	257,066	292,957	272,554	300,668
Indexing	36,435	39,915	50,125	63,972
	<u>1,017,869</u>	<u>1,078,502</u>	<u>1,059,079</u>	<u>1,116,140</u>
Total	2,680,781	2,784,050	2,744,652	2,829,313

Figures may not sum to totals due to rounding.

Table 19
Casino Revenues
Fiscal Years 2016 – 2019
(\$ in millions)

	Video Lottery Terminals			
	FY 2016	FY 2017	FY 2018E	FY 2019E
Education Trust Fund	322.0	361.7	387.7	408.1
Casino Operators	304.3	391.3	474.9	482.7
Local Impact Grants	39.7	47.5	54.8	55.6
Small, Minority, and Women – Owned Business	10.8	12.9	0.0	0.0
Purse Dedication	50.1	54.6	59.0	59.9
Race Tracks Facility Renewal Account	7.0	8.4	9.6	9.8
State Lottery Agency	7.8	9.3	10.1	10.3
General Fund			14.8	0.0
Total Video Lottery Terminals	741.7	885.9	1,011.0	1,026.4

	Table Games			
	FY 2016	FY 2017	FY 2018E	FY 2019E
Education Trust fund	80.5	89.5	93.2	94.8
Casino Operators	321.8	428.0	497.3	505.8
Local Impact Grants	-	17.6	31.1	31.6
Total Table Games	402.3	535.1	621.6	632.2

	Miscellaneous			
	FY 2016	FY 2017	FY 2018E	FY 2019E
Education Trust Fund	1.3	1.7	0.6	-

	Total			
	FY 2016	FY 2017	FY 2018E	FY 2019E
Education Trust Fund	403.8	452.9	481.6	502.9
Casino Operators	626.1	819.4	972.2	988.5
Local Impact Grants	39.7	65.0	85.9	87.2
Small, Minority, and Women – Owned Business	10.8	12.9	0.0	0.0
Purse Dedication	50.1	54.6	59.0	59.9
Race Tracks Facility Renewal Account	7.0	8.4	9.6	9.8
State Lottery Agency	7.8	9.3	10.1	10.3
General Fund			14.8	0.0
Total	1,145.3	1,422.6	1,633.2	1,658.6

Figures may not sum to totals due to rounding.

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Five Year Forecast

These estimates are based on current economic outlook for the U.S. and Maryland economies. The broader economic situation and outlook remain positive yet subdued relative to prior economic expansions of the 1990s and 2000s. The labor market is essentially at full employment and real GDP growth is near the Congressional Budget Office's estimate of potential real GDP growth. This is expected to lead to more bargaining power for labor and upward pressure on wages, the largest segment of personal income. However, consistent with the broader picture, wage growth is expected to remain lower than past expansions. The long run forecast is shaped by demographic trends, particularly the aging of the population. As a result, a lower proportion of the population will be working age, defined here as 25 to 64 years old. All else equal, this means employment growth, and therefore output growth, will slow. Additionally, a large generation of relatively new workers has entered the labor force. Such workers are typically less productive than more experienced workers. Consequently productivity growth is expected to remain low. Productivity should increase as young workers gain experience, but given the forecast of slowing employment growth, the net effect on GDP growth depends on the magnitudes of each factor.

Risks to the forecast include federal policy and fiscal uncertainty, monetary policy, as well as geopolitical risk. Federal spending caps due to sequestration still constrain spending. Changes to the path of domestic spending, both civilian and military can have significant impacts on Maryland's economy. In addition, trade policy uncertainty and the renegotiation of NAFTA could impact the Port of Baltimore. At the time of this forecast, the Federal Reserve is anticipated to increase its benchmark interest rate, despite below target inflation. The extent of future tightening and its effect on the economy is less certain. The price of oil has been relatively low since the end of 2014, but OPEC, a cartel of oil producing nations, has implemented production cuts that appear to have modestly increased prices. Given increased domestic production of oil, the United States economy is less vulnerable to oil price movements, as higher prices incentivize domestic producers to increase their output.

Table 20
Long Term Economic Forecast
 Primary Indicators

Calendar Year	2015	2016	2017	2018	2019	2020	2021
US Real GDP (2009 \$ in billions)	16,472	16,716	17,097	17,536	17,945	18,292	18,618
	2.9%	1.5%	2.3%	2.6%	2.3%	1.9%	1.8%
US Non-Agricultural Employment (thousands)	141,813	144,306	146,440	148,570	150,428	151,367	151,818
	2.1%	1.8%	1.5%	1.5%	1.3%	0.6%	0.3%
US Personal Income (\$ in billions)	15,553	15,929	16,418	17,113	17,961	18,853	19,710
	5.0%	2.4%	3.1%	4.2%	5.0%	5.0%	4.5%
Consumer Price Index (% Δ from prior year)	0.4%	1.8%	2.1%	1.5%	2.5%	2.7%	2.4%
US 10 Year Treasury Bond Yield	2.1%	1.8%	2.3%	2.8%	3.4%	3.6%	3.6%
MD Total Non-Agricultural Employment (thousands)	2,673	2,710	2,746	2,768	2,783	2,799	2,809
	1.6%	1.4%	1.3%	0.8%	0.5%	0.6%	0.4%
MD Personal Income (\$ in millions)	337,212	349,267	361,793	375,307	389,731	405,662	421,056
	4.5%	3.6%	3.6%	3.7%	3.8%	4.1%	3.8%

Source: Board of Revenue Estimates and IS Markit (December 2017 Forecast)

Table 21
Maryland General Fund Revenues
 Fiscal Years 2017- 2023
 (\$ in thousands)

	2017 Actual	2018 Estimate	2019 Estimate	2020 Estimate	2021 Estimate	2022 Estimate	2023 Estimate
Income Taxes							
Individual	9,019,278	9,288,847	9,782,396	10,153,427	10,601,836	11,073,467	11,566,078
Corporation	795,594	844,437	886,498	913,861	970,347	1,015,976	1,063,751
TOTAL	9,814,871	10,133,285	10,668,893	11,067,288	11,572,184	12,089,443	12,629,829
Sales and Use Taxes	4,539,320	4,621,907	4,735,147	4,863,119	4,967,879	5,090,023	5,222,533
State Lottery	484,332	521,207	521,686	535,064	561,483	574,220	587,284
Franchise, Excise, License, Fee	1,749,981	1,721,270	1,699,215	1,669,733	1,683,433	1,722,521	1,750,817
ONGOING GENERAL FUND REVENUES	16,588,505	16,997,669	17,624,941	18,135,204	18,784,979	19,476,207	20,190,462
Transfer Tax GF Share	62,771	46,028	-	-	-	-	-
TOTAL GENERAL FUND REVENUES	16,651,276	17,043,697	17,624,941	18,135,204	18,784,979	19,476,207	20,190,462

Notes:

Totals do not include extraordinary revenues.

Table 22
Revenues From Maryland's Casinos
Fiscal Years 2016- 2022
(\$ in thousands)

	2017 Actual	2018 Estimate	2019 Estimate	2020 Estimate	2021 Estimate	2022 Estimate	2023 Estimate
Video Lottery Terminals							
Education Trust Fund	361,749	387,708	408,078	414,199	404,913	410,986	417,151
Licensee	391,330	474,902	482,729	489,970	497,320	504,780	512,351
Local Impact Grants	47,481	54,798	55,634	56,469	57,316	58,175	59,048
Business Development	12,949	-	-	-	15,500	15,732	15,968
Purse Dedication	54,641	59,045	59,946	60,845	61,758	62,684	63,624
Racetrack Renewal	8,407	9,648	9,796	9,943	10,092	10,243	10,397
MD Lottery & Gaming Control	9,310	10,110	10,264	10,418	10,575	10,733	10,894
General Fund	-	14,819	-	-	-	-	-
Subtotal	885,868	1,011,031	1,026,447	1,041,844	1,057,472	1,073,334	1,089,434
Table Games							
Education Trust Fund	89,455	93,243	94,829	96,268	97,712	99,177	100,665
Licensee	428,041	497,294	505,755	513,427	521,129	528,946	536,880
Local Impact Grants	17,556	31,081	31,610	32,089	32,571	33,059	33,555
Subtotal	535,052	621,617	632,194	641,784	651,411	661,182	671,100
Miscellaneous							
Education Trust Fund	1,698	600	-	-	-	-	-
Subtotal	1,698	600	-	-	-	-	-
Total							
Education Trust Fund	452,901	481,551	502,907	510,467	502,624	510,163	517,816
Licensee	819,371	972,195	988,485	1,003,397	1,018,448	1,033,725	1,049,231
Local Impact Grants	65,037	85,879	87,244	88,558	89,886	91,234	92,603
Business Development	12,949	-	-	-	15,500	15,732	15,968
Purse Dedication	54,641	59,045	59,946	60,845	61,758	62,684	63,624
Racetrack Renewal	8,407	9,648	9,796	9,943	10,092	10,243	10,397
MD Lottery & Gaming Control	9,310	10,110	10,264	10,418	10,575	10,733	10,894
General Fund	-	14,819	-	-	-	-	-
Total	1,422,617	1,633,248	1,658,642	1,683,628	1,708,883	1,734,516	1,760,534