Economic and Budget Outlook

Fiscal Years 2019-20 to 2024-25

Independent Fiscal Office | November 2019

About the Independent Fiscal Office

The Independent Fiscal Office (IFO) provides revenue projections for use in the state budget process along with impartial and timely analysis of fiscal, economic and budgetary issues to assist Commonwealth residents and the General Assembly in their evaluation of policy decisions. In that capacity, the IFO does not support or oppose any policies it analyzes, and will disclose the methodologies, data sources and assumptions used in published reports and estimates.

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The Independent Fiscal Office was created
by the Act of Nov. 23, 2010 (P.L.1269, No.120).

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INDEPENDENT FISCAL OFFICE

November 14, 2019

The Honorable Members of the Pennsylvania General Assembly:

Section 604-B (a)(2) of the Administrative Code of 1929 specifies that the Independent Fiscal Office (IFO) shall "provide an assessment of the state's current fiscal condition and a projection of what the fiscal condition will be during the next five years. The assessment shall take into account the state of the economy, demographics, revenues and expenditures." In fulfillment of that obligation, the IFO submits this report to the residents of the Commonwealth and members of the General Assembly. In accordance with the mission of the office, this report does not make any policy recommendations.

The data and projections presented in this report are from various sources. Economic projections for Pennsylvania are from the IFO, while projections for the U.S. are from the Congressional Budget Office (August 2019) or IHS Markit (October 2019). Demographic projections are from the IFO based on tabulations from the 2018 Population Estimates by the U.S. Census Bureau and data supplied by the Pennsylvania Department of Health. Historical revenue and expenditure data are from the *Governor's Executive Budget*, the state accounting system and various departmental reports. All revenue and expenditure projections are from the IFO. Other data sources are noted in the relevant sections of this report.

The office would like to thank all of the individuals, agencies and organizations that assisted in the production of this report. Questions and comments can be submitted to contact@ifo.state.pa.us.

Sincerely,

MATTHEW J. KNITTEL
Director

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Contents

Executive Summary

This report examines the demographic, economic, revenue and expenditure trends that will affect the Commonwealth's fiscal condition through fiscal year (FY) 2024-25. Based on the economic and demographic assumptions used by this report, the analysis projects a deficit for the current fiscal year that is carried forward to future years and results in a structural imbalance.

From FY 2019-20 to FY 2024-25, the forecast projects that General Fund revenues will increase at an average rate of 3.2 percent per annum. The underlying rate increases to 3.4 percent per annum if a new sales and use tax transfer that begins in FY 2022-23 is excluded. The forecast assumes that the Pennsylvania economy operates at its long-term potential and a recession does not occur.

For FY 2020-21, expenditures are projected to increase by 4.8 percent, which includes all assumed supplementals for FY 2019-20. The increase is due to the non-recurrence of one-time savings measures used to support expenditures by the Department of Human Services, the expansion of health and human services programs and reduced support from non-General Fund sources (e.g., Lottery Fund). After that year, expenditure growth moderates and the projected imbalance levels off until FY 2022-23. For that year, the projected deficit grows by nearly $400 million due to a new sales tax transfer. If the new sales tax transfer did not occur, then the fiscal imbalance would contract in all years after FY 2021-22.

General Fund Financial Statement

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Beginning Balance[1]	-$33	--	--	--	--	--	--
Current Year Revenues	34,858	$35,718	$37,004	$38,101	$38,967	$40,346	$41,769
Less Refund Reserve	-1,306	-1,270	-1,302	-1,335	-1,368	-1,402	-1,437
Net Revenue	33,552	34,448	35,702	36,766	37,599	38,944	40,332
State Expenditures[2]	-33,402	-34,778	-36,753	-37,850	-39,057	-40,227	-41,519
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Current Year Balance	150	-330	-1,051	-1,084	-1,458	-1,283	-1,187
Less Assumed DHS Supplemental	0	-279	0	0	0	0	0
Adjustment for Lapses[3]	-117	200	125	125	125	125	125
Preliminary Ending Balance	**0**	**-409**	**-926**	**-959**	**-1,333**	**-1,158**	**-1,062**

Note: Millions of dollars.

[1] Beginning balance omitted for FY 19-20 and thereafter. Includes adjustments.

[2] Based on appropriations. FY 18-19 includes current year lapses and approved supplemental appropriations. FY 19-20 includes requested supplemental appropriations as of October 31, 2019.

[3] Includes prior year lapses and actual transfers to the Budget Stabilization Reserve Fund.

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Section 1: Introduction

This report provides an overview of the demographic, economic, revenue and expenditure trends that will affect the Commonwealth's fiscal condition through fiscal year (FY) 2024-25. The report examines long-term trends to facilitate an assessment of current tax and spending policies. The projections are best viewed as plausible outcomes from the application of reasonable economic assumptions and the continuation of current policies and demographic trends. Actual revenues and expenditures could deviate significantly from the projections in this report due to the uncertainty of economic outcomes and unanticipated technical factors, such as changes to federal tax laws and federal matching funds.

The economic projections displayed in this report motivate most General Fund revenues through FY 2024-25. The projections do not represent a formal economic forecast, but rather a controlled simulation. They assume that economic growth is consistent with full employment, historical labor productivity gains and inflation expectations. The economic simulation provides a neutral baseline that policymakers can use to assess fiscal sustainability, and it does not assume that a recession occurs over the five-year budget window. In this manner, the economic forecast represents a "best case" scenario.

The report designates FY 2019-20 as the base year. All revenue and expenditure projections use that year as a reference year and assume that the policy choices embedded therein do not change through FY 2024-25. The report makes two forecasts of baseline expenditures. The first forecast represents a "cost to carry" concept and only includes increases in mandatory spending such as debt service, pension contributions and entitlement programs. The second forecast assumes that expenditures grow in a manner that is sufficient to maintain the level of real services provided to service populations in the base year. Hence, most expenditure projections include an inflationary adjustment to compensate for rising prices and an appropriate demographic extrapolator. Combined, the two forecasts provide a reasonable lower and upper bound for future spending.

The report projects expenditures supported by General Fund revenues, as well as other revenue sources. To that end, the report includes projections for the Lottery, Tobacco Settlement and Oil and Gas Lease Funds. Certain disbursements from those funds support General Fund programs, and the projections allow policymakers to determine if legislative or policy changes are needed so the funds can maintain their current levels of support. The Appendix provides further detail regarding those funds.

The report starts with the demographic and economic outlooks. Those outlooks provide the foundation for the five-year projections of General Fund tax revenues and expenditures that follow. Several appendices provide further details on all forecasts contained in this report.

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Section 2: Demographic Outlook

Demographics are a critical factor that motivate long-term economic, revenue and expenditure trends. Demographics determine key populations, such as the potential labor force that affects economic growth, elementary and secondary students who require educational services and elderly residents who may require long-term care. All population projections contained in this section are by the IFO based on data from the U.S. Census Bureau and Pennsylvania Department of Health.[1] Other data sources are noted in the table footnotes.

Trends by Age Group

Demographic data and projections for Pennsylvania reveal the following trends for the two periods that span 2015 to 2020 and 2020 to 2025 (See **Table 2.1**):

- Total population is projected to remain nearly flat in both time periods (0.1 percent per annum growth).
- The school age cohort (age 0 to 19) is projected to contract by 75,000 (-0.5 percent per annum) and then contract an additional 64,000 (-0.4 percent per annum).
- The working-age cohort (age 20 to 64) is projected to contract by 154,000 (-0.4 percent per annum) and then contract an additional 204,000 (-0.6 percent per annum). This group includes Millennials and Generation X in 2025.
- The retiree cohort (age 65 to 79) is projected to expand by 276,000 (3.3 percent per annum) and then expand an additional 254,000 (2.6 percent per annum). This group includes most of the Baby Boom Generation in 2025.
- The elderly cohort (age 80+) is projected to expand by 9,000 (0.3 percent per annum) and then expand by 79,000 (2.4 percent per annum). This group includes most of the Silent Generation in 2025.

Broad demographic trends impact the revenue and expenditure projections included in this report. For example:

- The forecast projects that the working-age population (age 20 to 64) will contract from 2020 to 2025 (-204,000, -2.8 percent cumulative). If labor force participation rates do not increase, then this trend will constrain economic and revenue growth.
- The forecast projects that residents age 65 and older will expand rapidly from 2020 to 2025 (333,000, 13.5 percent cumulative). This trend implies strong demand for healthcare and long-term care services.

[1] For more information on the assumptions used in the IFO projections, see the Appendix.

The subsections that follow provide further discussion of demographic trends through 2025. Single year demographic detail can be found in the Appendix.

Table 2.1
Pennsylvania Demographic Trends and Projections

Age	Number of Residents (000s)			Gain or Loss (000s)		Avg. Annual Growth	
Cohort	2015	2020	2025	2015-20	2020-25	2015-20	2020-25
0-4	714	690	666	-24	-24	-0.7%	-0.7%
5-9	737	727	704	-11	-22	-0.3	-0.6
10-14	760	749	740	-11	-9	-0.3	-0.2
15-19	829	799	791	-30	-9	-0.7	-0.2
20-24	862	799	774	-63	-25	-1.5	-0.6
25-29	858	850	791	-8	-59	-0.2	-1.4
30-34	796	867	862	71	-4	1.7	-0.1
35-39	738	800	875	62	74	1.6	1.8
40-44	756	740	805	-16	65	-0.4	1.7
45-49	839	747	735	-91	-12	-2.3	-0.3
50-54	930	818	731	-112	-87	-2.5	-2.2
55-59	950	894	789	-56	-105	-1.2	-2.5
60-64	839	898	847	59	-51	1.4	-1.2
65-69	696	775	832	79	57	2.2	1.4
70-74	499	630	706	131	76	4.8	2.3
75-79	367	432	553	65	121	3.3	5.1
80-84	282	291	351	9	59	0.6	3.8
85+	333	333	353	0	20	0.0	1.1
Total	**12,786**	**12,842**	**12,906**	**56**	**65**	**0.1**	**0.1**
Age Cohort Summary							
0-19	3,040	2,965	2,901	-75	-64	-0.5%	-0.4%
20-64	7,569	7,414	7,210	-154	-204	-0.4	-0.6
65-79	1,562	1,837	2,092	276	254	3.3	2.6
80+	616	625	704	9	79	0.3	2.4
Total	**12,786**	**12,842**	**12,906**	**56**	**65**	**0.1**	**0.1**

Note: Thousands of residents. Detail may not sum to total due to rounding.

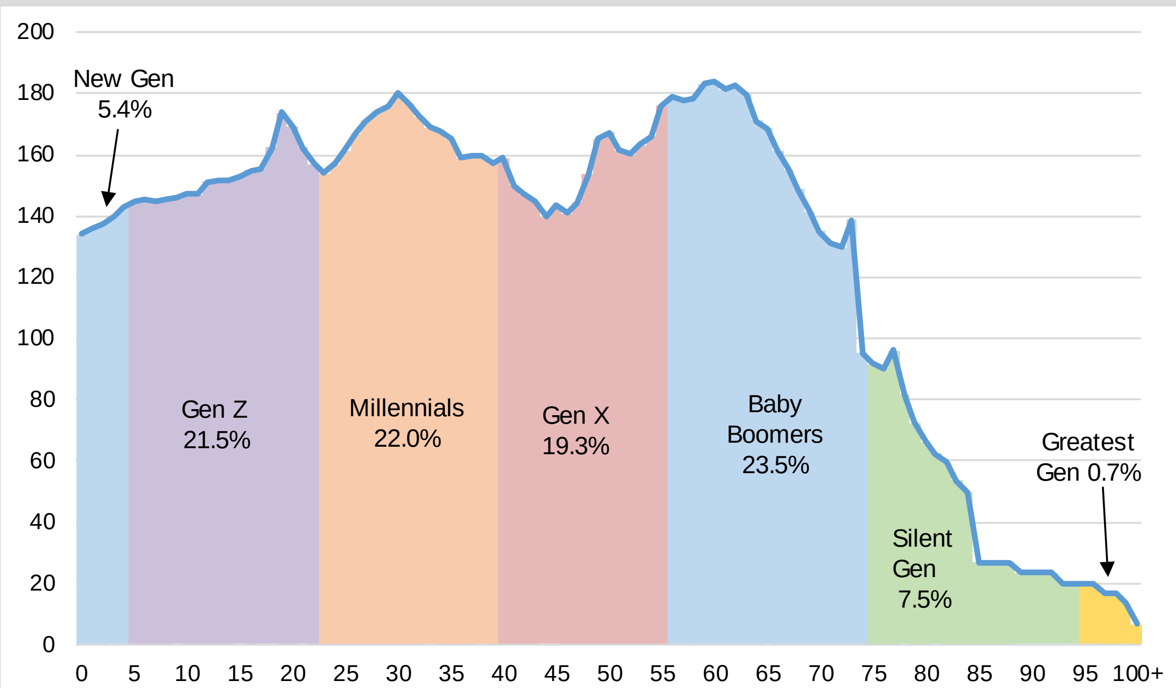
Source: The 2015 data are from the U.S. Census Bureau 2018 Population Projections. The 2020 and 2025 data are projections by the IFO using data from the U.S. Census Bureau and PA Department of Health. Calculations by the IFO.

Pennsylvania Population Distribution

Figure 2.1 displays the Pennsylvania population distribution for 2020 by generation. The distribution is characterized by three larger generations of Baby Boomers (age 56 to 74, 23.5 percent of total population), Millennials (age 23 to 39, 22.0 percent) and Generation Z (age 5 to 22, 21.5 percent). However, the percentage for Generation Z is overstated due to the large number of 18 to 22 year olds that reside temporarily in the state to attend Pennsylvania's many colleges and universities.

In 2020, the largest generation, the Baby Boomers, will still motivate many of the broad trends observed in the state and national economies. By 2025, Millennials will overtake Baby Boomers as the largest surviving generation. For that year, the forecast projects the following population shares for the seven current generations: New Generation (10.6 percent), Generation Z (21.5 percent), Millennials (22.2 percent), Generation X (18.8 percent), Baby Boomers (21.5 percent), Silent Generation (5.4 percent) and Greatest Generation (0.1 percent).

Figure 2.1
2020 Pennsylvania Population Distribution



Note: Thousands of residents. The generational birthdate ranges are as follows: New Generation, 2016-present; Generation Z, 1998-2015; Millennials, 1981-1997; Generation X, 1965-1980; Baby Boomers, 1946-1964; Silent Generation, 1926-1945 and Greatest Generation, 1905-1925.

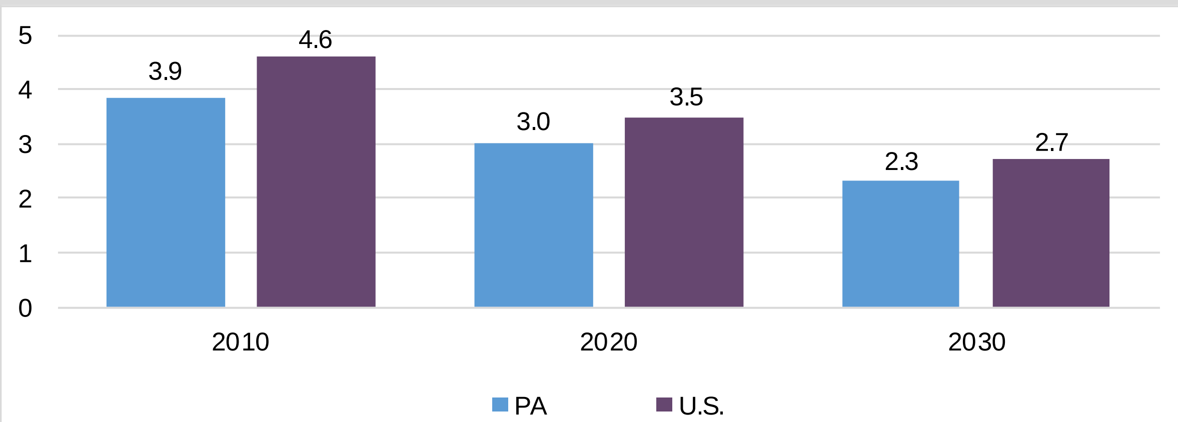
Source: Projections by the IFO using data from the U.S. Census Bureau and PA Department of Health.

Dependency Ratios Decline

Working-age residents remit the majority of state tax revenues that support dependents attending school and elderly that require dedicated healthcare services.[2] Demographers use two metrics known as dependency ratios to illustrate the relationships between these three groups. The two ratios are the working-age (age 20-64) to youth (age <20) and working-age to retiree (65+) populations. From 2010 to 2030, the working-age to youth ratio is projected to remain stable at roughly 2.5 for Pennsylvania and 2.3 to 2.4 for the United States. For Pennsylvania, this implies that there are roughly 2.5 working-age adults per youth.

Unlike the working-age to youth ratio, the working-age to retiree ratio is trending downward for both Pennsylvania and the United States. **Figure 2.2** displays this ratio for Pennsylvania (blue) and the United States (purple) for 2010, 2020 (projected) and 2030 (projected). In 2010, there were 3.9 working-age residents per retiree in Pennsylvania and 4.6 for the United States. Both ratios are projected to decline substantially in 2020 (3.0 for Pennsylvania, 3.5 for the United States) and 2030 (2.3 for Pennsylvania, 2.7 for United States). The downward trend directly corresponds to the retirement of Baby Boomers combined with a contraction of the working-age population.

Figure 2.2
Pennsylvania and U.S. Working-Age (20-64) to Retiree (65+) Ratios



Source: Data for 2010 is from the U.S. Census Bureau 2018 Population Estimates. The 2020 and 2030 Pennsylvania data are projections by the IFO using data from the U.S. Census Bureau and PA Department of Health. The 2020 and 2030 U.S. data are from the U.S. Census Bureau Population Projections 2017. Calculations by the IFO.

Figure 2.2 illustrates the challenges that policymakers will encounter during the next decade. Over time, there will be relatively fewer working-age residents to support the needs of rapidly expanding retiree and elderly populations. Stated differently, the burden of support will fall on a smaller group of taxpayers. The actual contraction of the working-age cohort, which remits the great majority of state taxes, suggests that real per capita tax levels for that age group must increase to keep pace with the anticipated increase in demand for healthcare and other services.

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[2] A recent analysis by the IFO found that residents age 65 and older remit roughly 29 to 32 percent of all homeowner property taxes, 13 to 16 percent of state personal income tax and 19 to 22 percent of state sales tax. See "Senior Spending and Tax Revenues," IFO legislative request, September 23, 2019.

Components of Population Change

Table 2.2 decomposes the change in state population from 2010 to 2025 to illustrate the factors that motivate low population growth rates. Three factors drive the projected flat growth of the state population during that 15-year time period:

- The forecast projects that the number of births will decline while the number of deaths will increase. From 2010 to 2015, births (706,000) outnumbered deaths (641,000) by 65,000, but for 2020 to 2025, deaths are projected to outnumber births by 12,000.
- From 2010 to 2015, net migration was 10,000 and is projected to increase to 42,000 (2015 to 2020) and 77,000 (2020 to 2025). The overall positive net migration is due to net inflows from international migration. The most recent data also reveal a reduction in outflows from net domestic migration.
- Although not shown explicitly in the table, declining college enrollment also impacts state demographic trends. Pennsylvania typically receives a large influx of non-resident students who attend college. The temporary students are counted as residents for the purpose of the Census. While most return to their home state, some secure employment and remain in the state.

Birth, death and migration trends in Pennsylvania are described in more detail over the next several pages.

Table 2.2
Components of Pennsylvania Population Change

	By Time Period (000s)			Cumulative
	2010-15	2015-20	2020-25	2010-25
Start of Period	**12,711**	**12,786**	**12,842**	**12,711**
Natural Increase	**65**	**13**	**-12**	**66**
Births	706	682	657	2,045
Deaths	-641	-668	-670	-1,979
Net Migration	**10**	**42**	**77**	**129**
Age 0 to 17	48	58	64	171
Age 18 to 24	-36	-30	-22	-88
Age 25 to 64	21	33	57	111
Age 65 to 79	-11	-17	-22	-49
Age 80+	-12	-3	0	-15
End of Period	**12,786**	**12,842**	**12,906**	**12,906**

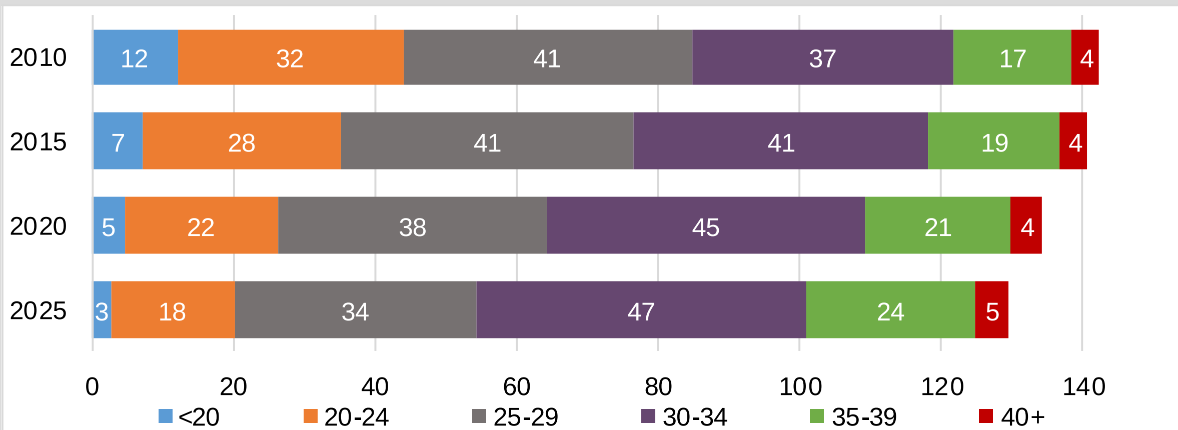
Note: Thousands of residents.

Source: The 2010 through 2018 data are from the U.S. Census Bureau 2018 Population Projections and PA Department of Health. The 2019 through 2025 data are projections by the IFO using data from the U.S. Census Bureau and PA Department of Health. Calculations by the IFO.

Birth Trends

Figure 2.3 illustrates the gradual decline in the number of births from 2010 (142,400) through 2025 (129,400). The figure divides births by the maternal age group at birth. The gradual increase of births by women age 30 or older (purple, green and red) and the decline of births by women under age 30 (blue, orange and dark gray) are current trends assumed to continue into the future.

Figure 2.3
Pennsylvania Number of Births (000s) by Maternal Age and Year



Source: 2010 and 2015 are from the Pennsylvania Department of Health. 2020 and 2025 are IFO projections.

Table 2.3 displays the share of females by age group giving birth for the same four years as Figure 2.3. The share of women under age 30 who give birth is projected to continue to decrease, while the share of women age 30 and older who give birth is projected to continue to increase. As a result, the average maternal age at birth is projected to increase from age 27.9 (2010) to age 30.3 (2025).

Table 2.3
Share of Females Giving Birth by Age Group and Year

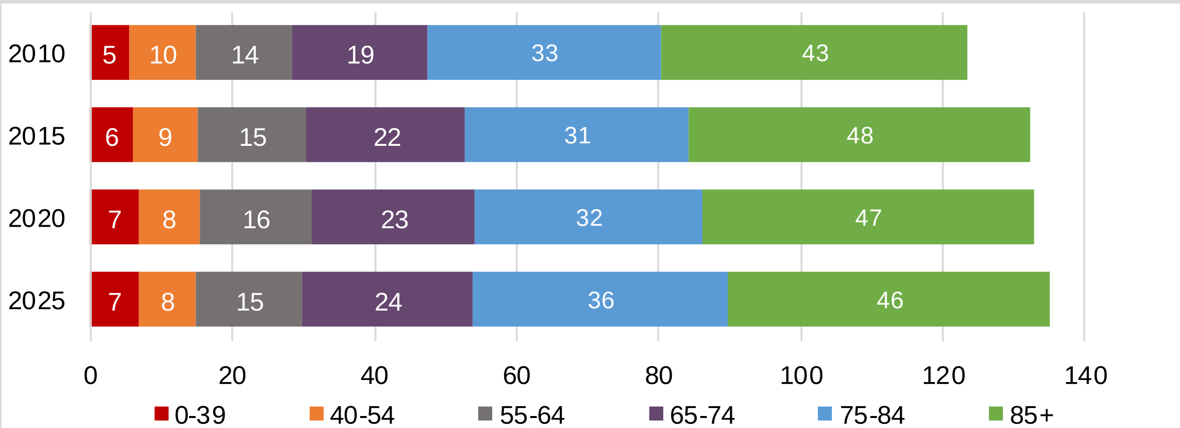
	2010	2015	2020	2025
Age 13-19	2.0%	1.3%	0.8%	0.5%
Age 20-24	7.3	6.6	5.5	4.6
Age 25-29	10.4	9.9	9.1	8.7
Age 30-34	10.1	10.5	10.5	11.0
Age 35-39	4.4	5.1	5.2	5.5
Age 40-50	0.4	0.4	0.5	0.6
Total (Age 13-50)	**4.5**	**4.6**	**4.5**	**4.3**
Avg. Maternal Age	**27.9**	**28.7**	**29.5**	**30.3**

Source: 2010 and 2015 are from the Pennsylvania Department of Health. 2020 and 2025 are IFO projections.

Decedent Trends

Figure 2.4 illustrates the gradual increase in the number of decedents from 2010 (123,500) through 2025 (135,200) in Pennsylvania. The figure divides decedents by age group. From 2020 to 2025, the total number of decedents is projected to increase due to the aging of the Baby Boomer cohort into the age 75 to 84 age group, which has notably higher decedent rates than the 65 to 74 age group.

Figure 2.4
Pennsylvania Number of Decedents (000s) by Age and Year



Source: 2010 and 2015 are from the Pennsylvania Department of Health. 2020 and 2025 are IFO projections.

Table 2.4 displays each age group's decedent rate for the same four years as Figure 2.4. While the overall decedent rate is projected to remain flat between 2010 and 2025, decedent rates for populations age 65 or older continue to decline as medical advances improve life expectancies. Table 2.4 shows a significant reduction in the share of decedents for residents age 85 and older. The reduction is partially due to the large influx of Baby Boomers during the forecast period that reduces the median age and decedent rates for that age group.

Table 2.4
Decedents as a Share of Population by Age Group and Year

	2010	2015	2020	2025
Age 0-39	0.1%	0.1%	0.1%	0.1%
Age 40-54	0.3	0.4	0.4	0.4
Age 55-64	0.8	0.9	0.9	0.9
Age 65-74	1.9	1.9	1.6	1.6
Age 75-84	4.9	4.8	4.4	4.0
Age 85+	14.0	14.4	14.0	12.9
Total	**1.0**	**1.0**	**1.0**	**1.0**

Source: The 2010 and 2015 data are from the PA Department of Health with calculations by the IFO. The 2020 and 2025 data are projections by the IFO.

Domestic Migration Trends

Table 2.5 displays Pennsylvania's net domestic migration in 2011, 2014 and 2017 for various regions and states.[3] The top half of the table displays net migration by region. In total, net domestic migration to Pennsylvania declined from -8,176 in 2011 to -27,426 in 2017. Although the state gained residents due to an increase in domestic net migration from border states and the Northeast region, the decline of net migration from other regions, especially the Southeast and Southwest has been more significant. It is likely that declining net migration from these regions may be weather related, as these areas tend to have warmer climates attractive to retirees. The bottom half of Table 2.5 distributes net migration from border states to individual states. In 2017, Pennsylvania had a positive net migration from New Jersey, New York and Maryland.

Table 2.5
Net Domestic Migration to Pennsylvania by Region and Border States

	2011	2014	2017
All States			
Border States	7,331	23,065	19,768
Northeast	111	-6,772	1,572
Midwest	-1,625	-5,437	-3,058
West	1,751	-18,527	-2,489
Southwest	-2,906	-3,885	-8,006
Southeast	-12,838	-24,920	-35,214
Total	**-8,176**	**-36,475**	**-27,426**
Border States			
New Jersey	10,049	16,152	13,821
New York	2,834	7,788	11,179
Maryland	701	7,959	2,806
West Virginia	-146	-1,441	-1,010
Delaware	-4,819	-239	-2,425
Ohio	-1,288	-7,154	-4,603
Total	**7,331**	**23,065**	**19,768**

Note: Border states include: NJ, NY, MD, OH, DE & WV. Southeast includes: VA, KY, TN, NC, SC, AR, LA, MS, AL, GA, FL & DC. West includes: WA, OR, CA, ID, NV, UT, MT, WY, CO, AK & HI. Northeast includes: ME, VT, NH, MA, CT & RI. Midwest includes: MI, IN, IL, MN, IA, MO, ND, SD, NE, KS & WI. Southwest includes: AZ, NM, TX & OK.

Source: Estimations by IFO using U.S. Census Bureau, American Community Survey 1-Year Microdata Files 2011, 2014 and 2017 and 2018 Population Estimates, Components of Population Change.

[3] The total net domestic migration figures are from the U.S. Census Bureau's Components of Population Change statewide totals. Those totals are apportioned to various states and regions based on data from the U.S. Census Bureau's American Community Survey, one-year microdata files.

Population Growth Across States

From 2010 to 2018, the data from **Table 2.6** show that Pennsylvania's average annual population growth (0.10 percent) was lower than all border states with the exception of West Virginia. Pennsylvania and nearly all border states had a lower per annum population growth rate than the United States (0.73 percent) during that same time period.

The final two columns decompose the average annual population growth from 2010 to 2018 into two components: organic growth (births less deaths) and net migration. Pennsylvania had the second lowest per annum organic growth of all border states (0.09 percent); only West Virginia was lower (-0.13 percent). With the exception of Maryland (0.46 percent) and New York (0.44 percent), Pennsylvania and border states had lower organic growth rates than the United States (0.43 percent). For net migration, Pennsylvania's average growth rate (0.02 percent) ranked near the middle of the border states. Delaware and Maryland had higher net migration growth rates while New York, West Virginia, Ohio and New Jersey had lower per annum growth compared to Pennsylvania.

Table 2.6
Average Annual Growth Rates of Border State Populations 2010 - 2018

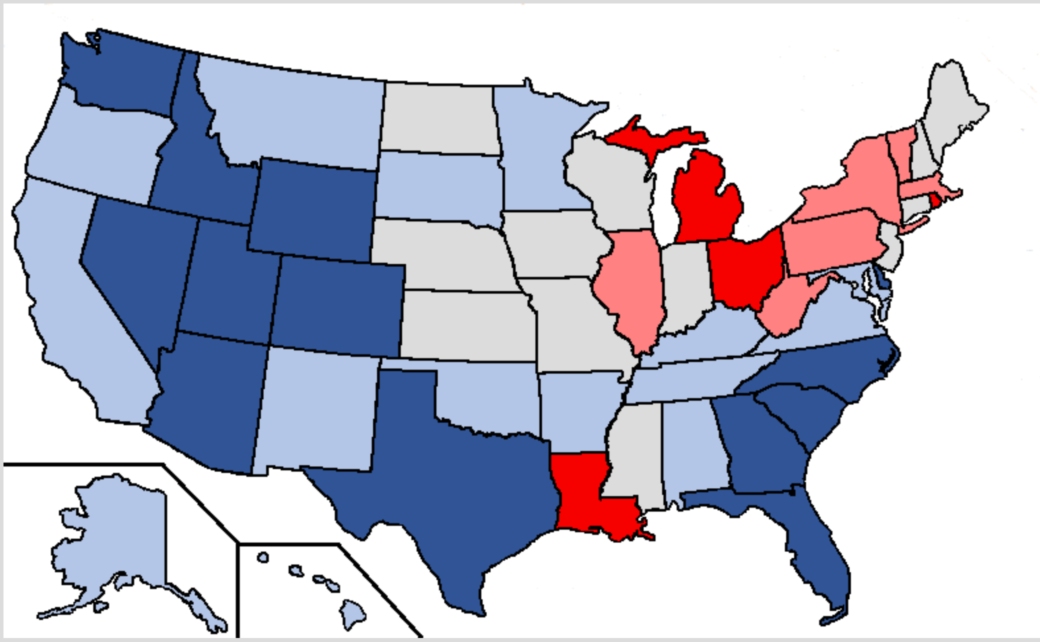
	Total Population	Organic Growth (Births - Deaths)	Net Migration (Incoming - Outgoing)
Delaware	0.93%	0.30%	0.65%
Maryland	0.57	0.46	0.12
New Jersey	0.16	0.21	-0.04
Ohio	0.16	0.36	-0.20
New York	0.11	0.44	-0.34
Pennsylvania	**0.10**	**0.09**	**0.02**
West Virginia	-0.32	-0.13	-0.19
United States	**0.73**	**0.43**	**0.31**

Source: U.S. Census Bureau. Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2018.

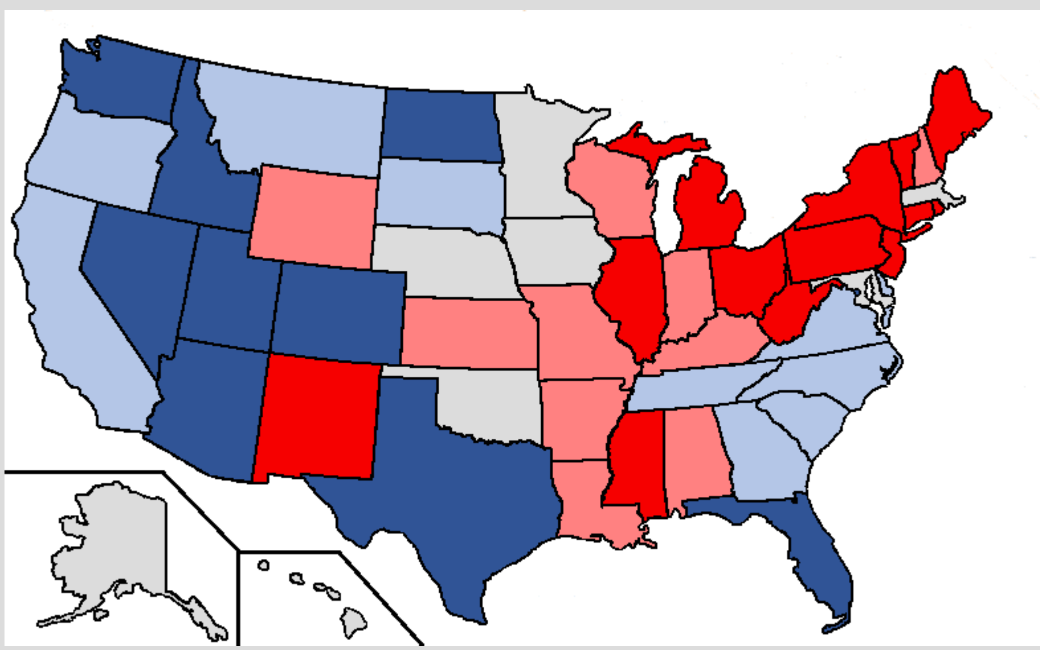
Figure 2.5 on the next page provides a visual representation of average annual population growth across all states for 2000 to 2010 (top) and 2010 to 2018 (bottom). Using the key at the bottom of the page, dark blue states recorded the highest rate of average annual growth (>1.30 percent) while red states recorded the lowest rates of growth (<0.20 percent).

The two maps illustrate that most of the U.S. population growth over the last 18 years occurred in the South and West. The maps also illustrate that population growth has slowed considerably in the current decade compared to the previous decade. For 2000 to 2010, only four states resided in the lowest-growth group (dark red). One state absorbed the continued contraction of the U.S. car industry (Michigan) while another recorded a large net outflow due to a hurricane (Louisiana). For the current decade, 13 states reside in the lowest-growth group. That group includes most New England and most Mid-Atlantic states.

Figure 2.5
Average Annual Population Growth 2000 to 2010



Average Annual Population Growth 2010 to 2018



Key

>1.30%
0.70% - 1.29%
0.40% - 0.69%
0.20% - 0.39%
<0.2%

Source: U.S. Census Bureau. 2000 and 2010 Census and 2018 Population Estimates.

Section 3: Economic Outlook

Five metrics provide insight that analysts use to gauge the performance of a state economy: (1) real gross domestic product (GDP, excludes inflation), (2) nominal GDP, (3) statewide wages and salaries, (4) the regional consumer price index (CPI-U) and (5) the annual change in payroll employment (i.e., net job gains). These variables motivate most General Fund revenue projections contained in the next section of this report. **Table 3.1** displays historical and projected average annual growth rates for these metrics for the three five-year intervals: historical (2010-15), historical and estimates (2015-20) and the forecast period (2020-25).

The projected average annual growth rates for the forecast period exceed historical averages for some variables. That outcome is largely attributable to the tighter state labor market that provides support for wage growth, which comprises nearly 60 percent of all cash income received by Pennsylvania residents. The economic forecast assumes that the state and national economies return to a historical, non-recession rate of expansion and rate of inflation. It provides a baseline that can be used by policymakers to assess whether current fiscal policies are sustainable over the long-term in a favorable economic environment that does not include a downturn or recession.

Key assumptions of the economic forecast include the following:

- The Federal Reserve achieves its target inflation rate of 2.0 percent for its preferred inflation measure (personal consumption expenditures).
- Pennsylvania labor force participation rates continue to increase.
- Wage earners receive raises that exceed inflation (i.e., real wages increase).
- Labor productivity growth reverts to historical averages.

Further technical details regarding the economic forecast can be found in the Appendix.

Table 3.1
Average Annual Growth Rates for Pennsylvania Economic Variables

	2010-15	2015-20	2020-25
Real GDP	1.7%	1.7%	1.7%
Nominal GDP	3.4%	3.8%	4.0%
Wages and Salaries	3.5%	3.5%	3.9%
Philadelphia CPI-U	1.4%	1.3%	2.0%
Payroll Job Gains (000s)	42.5	54.1	44.0

Source: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics. Forecast by IFO.

The forecast assumes that real economic growth remains stable at a long-run growth rate that is consistent with full-employment and normal productivity gains. (See **Table 3.2**.) State economic growth is typically measured by the change in real GDP, which represents the value of all final goods and services produced by the state economy during a calendar year. Real economic growth is a function of the change in employment and labor productivity. The forecast assumes a modest slowdown in 2020 and recent jobs and wage data suggest a modest deceleration of economic growth. Although a recession is more likely to occur than not over the next five years, the economic forecast does not include a recession because the purpose of the analysis is to provide insights into the long-term fiscal position of the Commonwealth and the associated structural surplus or deficit. By definition, a structural surplus or deficit reflects an economy that operates at full-employment (i.e., has an unemployment rate that equals the "natural rate" of unemployment for the state economy, roughly 4 to 5 percent) and omits any one-time measures such as the temporary shifting of funds or payment delays.

Table 3.2
Annual Growth Rates for Pennsylvania Economic Variables

	2018	2019	2020	2021	2022	2023	2024	2025
Real GDP	2.1%	1.9%	1.5%	1.6%	1.7%	1.8%	1.8%	1.8%
Nominal GDP	4.8%	4.3%	3.8%	3.9%	4.0%	4.1%	4.1%	4.1%
Wages and Salaries	4.0%	4.5%	3.6%	3.8%	3.9%	3.9%	3.9%	3.9%
Philadelphia CPI-U	1.3%	1.8%	1.5%	1.8%	2.0%	2.0%	2.0%	2.0%
Payroll Job Gains (000s)	65.6	52.0	45.4	45.8	43.1	43.4	43.7	44.0

Source: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics. Forecast by IFO.

For 2018, the data show modest inflation (1.3 percent) as measured by the Philadelphia CPI-U, which reflects consumer prices in the Philadelphia metro region. Data through August 2019 reveal somewhat higher inflation for the current year (1.9 percent), but deflation for clothing and gasoline. The forecast assumes a minor deceleration of inflation for calendar year (CY) 2020 (1.5 percent) that is consistent with a modest economic slowdown, then convergence to the long-run rate of 2.0 percent per annum.

Employment Trends

The Pennsylvania labor market remains solid, with a current unemployment rate of 3.9 percent. From 2013 to 2018, the state economy added 266,700 net part- and full-time jobs, an average growth rate of 0.9 percent per annum. (See **Table 3.3**.) Going forward, the forecast projects modest average jobs growth (0.6 percent per annum) due to flat demographics and a contracting working-age population. For 2013 to 2018, notable trends include:

- Three sectors comprised nearly 70 percent of total net jobs created: healthcare-social (37.9 percent), transportation-storage (16.5 percent) and leisure-hospitality (14.8 percent).
- Much of the net jobs gains for the healthcare sector is related to home health care or care for the elderly/disabled. During the five-year span, those jobs comprised nearly two-thirds of the net job gains.
- Jobs in the retail sector reflect consumer preference for online purchases. Net retail jobs declined in 2017 (-8,000), 2018 (-6,400) and 2019 (-10,800, partial year and preliminary).

Table 3.3
Pennsylvania Non-Farm Payroll Employment

	Level (000s)		Five-Year Statistics	
Sector	**2013**	**2018**	**Change**	**Growth**
Health and Social	935.5	1,036.7	101.2	10.8%
Transport and Storage	247.2	291.1	43.9	17.8
Leisure and Hospitality	532.1	571.6	39.5	7.4
Construction	223.9	256.0	32.1	14.3
Professional Services	325.8	354.4	28.6	8.8
Business Services	291.4	314.3	22.9	7.9
Education	227.8	238.4	10.6	4.7
Other Services	252.2	260.6	8.4	3.3
Real Estate	59.1	65.2	6.1	10.3
Finance and Insurance	254.2	260.1	5.9	2.3
Manufacturing	565.6	569.2	3.6	0.6
Management	133.9	136.8	2.9	2.2
Wholesale	217.0	216.8	-0.2	-0.1
Information	88.0	85.6	-2.4	-2.7
Mining and Logging	36.1	28.6	-7.5	-20.8
Retail	630.7	619.1	-11.6	-1.8
Government	720.5	703.2	-17.3	-2.4
Total	**5,741.0**	**6,007.7**	**266.7**	**4.6**

Note: Data exclude self-employed individuals and independent contractors.

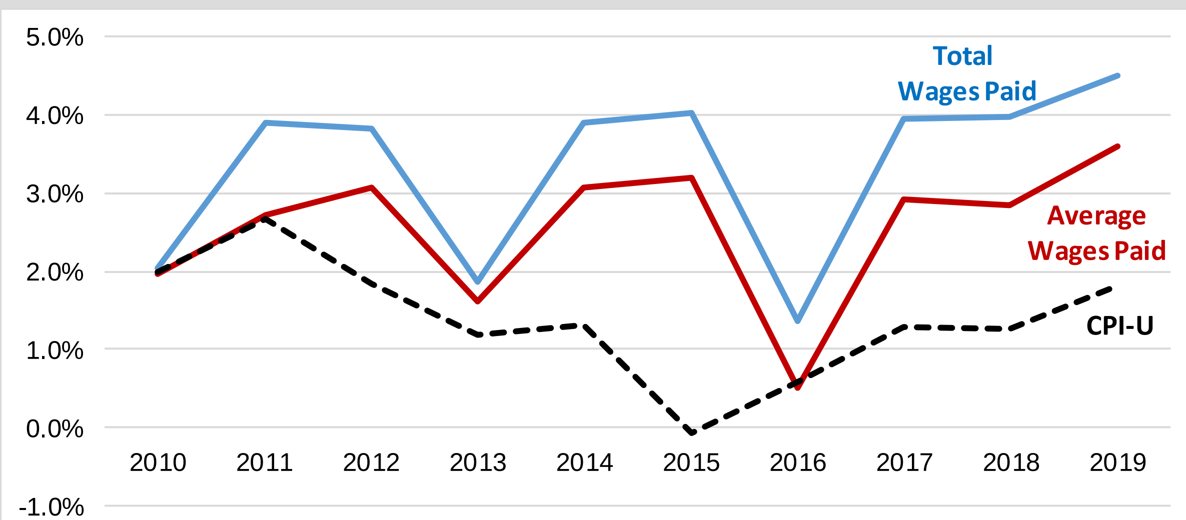
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics. Forecast by IFO.

Wage Trends

The most recent statewide unemployment rate for September is 4.0 percent and the average rate for the year is 3.9 percent, which is the lowest annual rate on record. The record long economic expansion and low population growth motivate that outcome. The solid labor market translates into wage gains for 2019, and the forecast projects that total wages paid to Pennsylvania workers will grow by 4.5 percent, the strongest rate since 2007. (See **Figure 3.1**.) Wage growth typically translates into consumer spending and GDP growth with a short lag. Other notable trends include:

- Total wage growth can be decomposed into (1) growth in number of jobs and (2) growth in the average wages paid. For 2019, the second factor is projected to increase by 3.6 percent. The strong growth of the average wage paid reflects a tight labor market, especially for sectors driven by strong demographic trends (e.g., home healthcare workers) or sectors with a shortage of skilled manual labor.
- The differential between the average wage paid and inflation is considered a "real" wage gain that improves the well-being of workers and increases their purchasing power. Low inflation and a strong labor market have caused a significant divergence in those two series for recent years, which enhances consumer confidence and bolsters spending.
- Average wage gains also reflect the types of new jobs that are created and job "churn," which is the rate at which older, experienced workers leave the labor force and are replaced by younger, lower-paid workers. A higher rate of job churn will generally restrain growth of total and average wages paid. The latest data show that labor force participation rates continue to increase for older workers, which reduces the negative impact of job churn on average wage growth.

Figure 3.1
Growth Rates for Wages Paid to Pennsylvania Workers



Note: CPI-U is for the Philadelphia metro region and may not reflect inflation in other parts of the state.
Source: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics.

Consumer Trends

For FY 2018-19, robust spending by Pennsylvania consumers (and businesses) motivated strong growth in sales and use tax revenues. (See **Table 3.4**.) The forecast projects more moderate growth for the current fiscal year. Although the latest data suggest that Pennsylvania consumers are taking on more debt than previous years, Pennsylvania consumers do not appear to be financially constrained at this time.

Notable trends for Pennsylvania consumers include:

- For FY 2018-19, newly taxable internet sales motivated the very strong growth of sales tax revenues (6.9 percent). If those purchases are removed, then the adjusted growth rate falls to 4.9 percent, still robust by historical standards. That outcome is due to a strong labor market and federal income tax cuts that increased disposable income.
- After five years of modest growth, primary mortgage debt of Pennsylvania consumers grew by 4.8 percent in the first half of 2019.
- Home equity lines of credit (HELOC) debt continued to decline through 2019 Q2 as homeowners appeared reluctant to tap accumulated home equity. However, preliminary data from the Mortgage Bankers Association show that applications for refinancing doubled in 2019 Q3.
- The share of consumer mortgage debt that is delinquent remains at very low levels. Consumers appear well-positioned to service existing mortgage debt in the near term.

Table 3.4
Pennsylvania Consumer Trends

	Calendar Year or Fiscal Year Ending						
	2014	2015	2016	2017	2018	2019	2020
Total Sales Tax	2.7%	4.0%	3.2%	2.1%	3.8%	6.9%	4.5%
Adjusted Sales Tax	2.3%	3.2%	2.4%	0.8%	2.9%	4.7%	3.7%
Primary Mortgage Debt	1.0%	0.0%	1.9%	0.4%	-0.2%	4.8%	n.a.
HELOC Mortgage Debt	5.1%	1.8%	3.1%	-3.4%	-10.1%	-3.7%	n.a.
Student Loan Debt	5.1%	4.1%	5.8%	3.9%	6.5%	3.9%	n.a.
Credit Card Debt	2.3%	3.0%	3.9%	4.5%	6.9%	4.3%	n.a.
Auto Loan Debt	8.2%	7.6%	5.4%	3.1%	2.0%	5.0%	n.a.
% Mortgage Debt Delinquent	4.1%	2.5%	2.0%	1.9%	1.0%	1.0%	n.a.

Note: Debt is on a per capita basis. Debt growth rates for 2019 based on data through 2019 Q2. Delinquent debt is more than 90 days late.

Source: Sales tax forecast by IFO. Debt data from Federal Reserve Bank of New York.

Housing Trends

The Pennsylvania housing market continues to exhibit steady growth that has characterized the industry since the previous recession. During the spring and early summer, home sales softened considerably, but more recently, falling interest rates have provided support to home sales and prices. Consumer debt data (see previous subsection) suggest that homeowners with existing mortgages are able to service debt as default rates are at their lowest levels in a decade.

Notable trends for the Pennsylvania housing market include:

- Home values from the Federal Housing and Finance Agency (FHFA) showed strong gains in 2018. Data for the first two quarters of 2019 reveal a slight deceleration, likely due to relatively weak home sales in the spring.
- The Zillow Median Home Price growth rate has ranged from roughly two to four percent for the past four years. Data through August 2019 show price growth of 5.2 percent.
- The Zillow Home Sales index reveals a contraction in home sales for the same time period, while the average number of days listed continues to fall. Many realtors have noted that there is a shortage of starter homes, and that demand for those homes has outstripped supply.
- Realty transfer tax revenues reflect both the number of sales and sales price of residential and business properties. Recent growth rates have slowed considerably from the pace earlier this decade.

Table 3.5
Pennsylvania Housing Trends

	2013	2014	2015	2016	2017	2018	2019
FHFA Home Value	3.1%	2.1%	2.5%	3.9%	4.5%	5.4%	5.2%
Zillow Median Sales Price	2.7%	-0.5%	3.2%	2.2%	4.1%	3.0%	5.2%
Zillow Home Sales	15.0%	2.1%	13.5%	9.2%	5.9%	4.4%	-2.3%
30-Year Conventional	4.0%	4.2%	3.9%	3.6%	4.0%	4.5%	3.9%
Realty Transfer Tax	15.4%	11.1%	10.4%	16.1%	2.7%	7.2%	6.0%

Note: Zillow data for CY 2019 based on data through August 2019. FHFA Home Value uses the sales-only index. Because the index is a repeat sales index, it measures the value of existing homes, as opposed to only homes that have been sold. Growth rate through second quarter. The Zillow Home Sales figure is not a repeat sales index and only represents values for homes sold during the relevant time period. The 30-Year Conventional Rate is the average mortgage rate for a 30-year fixed rate mortgage.

Section 4: Revenue Outlook

For FY 2018-19, General Fund revenues totaled $34.86 billion and increased by $291 million (0.8 percent) from the prior year. (See **Table 4.1**.) The revenue gain was driven by corporate net income tax (CNIT, 18.0 percent growth), non-motor sales and use tax (SUT, 7.0 percent) and personal income tax (PIT, 28.8 percent) annual payments. Those strong gains offset the loss of $1.9 billion in one-time nontax revenues received in the prior year. The updated forecast used by this report reflects an increase of $200 million over the IFO's official revenue estimate released in July 2019.[4] Increases in PIT ($92 million), escheats ($68 million), non-motor SUT ($50 million), inheritance ($24 million) and CNIT ($4 million) are partially offset by small reductions across other tax types (-$37 million).

Table 4.1
General Fund Revenues

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Personal Income	$14,096	$14,636	$15,360	$15,902	$16,601	$17,276	$17,989
Sales and Use	11,100	11,594	11,998	12,349	12,247	12,620	13,003
Corporate Income	3,398	3,461	3,584	3,739	3,924	4,140	4,370
Gross Receipts	1,250	1,197	1,206	1,217	1,227	1,236	1,247
Realty Transfer	534	553	587	629	665	695	723
All Other	4,481	4,278	4,269	4,266	4,302	4,379	4,436
Total	**34,858**	**35,718**	**37,004**	**38,101**	**38,967**	**40,346**	**41,769**
Growth Rate	0.8%	2.5%	3.6%	3.0%	2.3%	3.5%	3.5%

Note: Millions of dollars.

Revenues are forecast to grow at an average rate of 3.2 percent per annum from FY 2019-20 through FY 2024-25. In the near-term, notable factors that impact revenues include:

- CNIT revenues have been significantly impacted by the federal Tax Cuts and Jobs Act (TCJA). Income shifting in response to the Act provided an artificial boost to FY 2018-19 revenues, but reported profits are expected to normalize in FY 2019-20. Projections will likely continue to fluctuate as firms adjust to tax law changes at the federal level.
- Online retailer provisions enacted under Act 43 of 2017 and the Department of Revenue's application of Sales and Use Tax Bulletin 2019-01 are expected to increase SUT revenues by $401 million in FY 2019-20. The estimate grows to $537 million in FY 2024-25.

[4] See *Official Monthly and Quarterly Revenue Estimates* for more information: http://www.ifo.state.pa.us/download.cfm?file=/Resources/Documents/MQRE-FY19-20-Aug.pdf.

- A new transfer from SUT to the Public Transportation Trust Fund begins in FY 2022-23. For that year, the forecast projects a transfer of $477 million and of $505 million by FY 2024-25.
- Cigarette tax revenues are assumed to be reduced by $115 million annually for debt service related to the Tobacco Settlement Bonds.

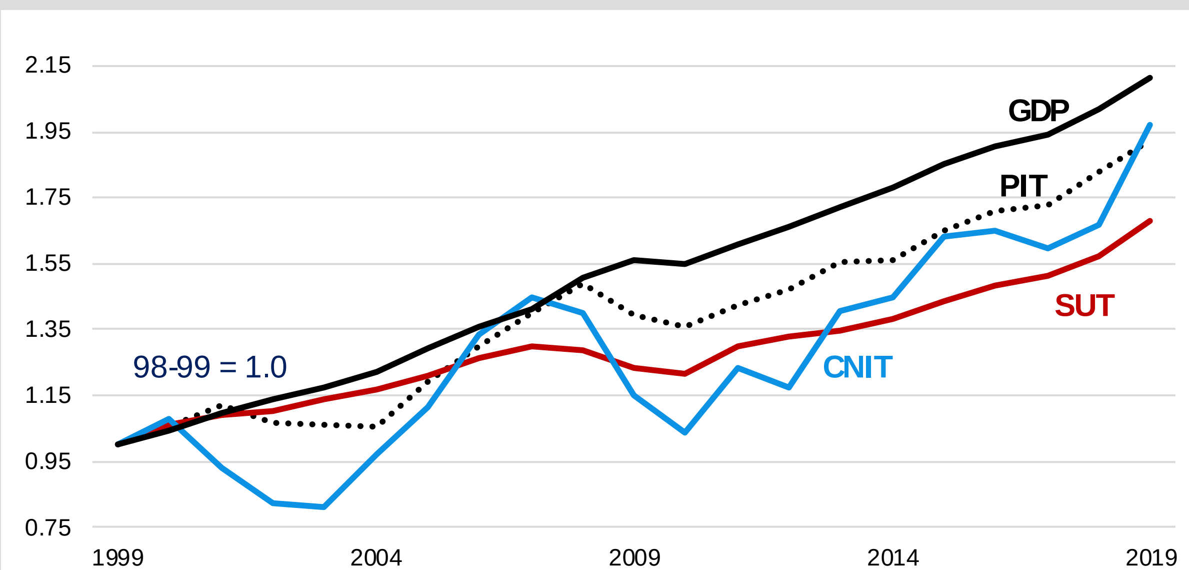
The text that follows provides a brief discussion of historical revenue trends and the outlook for five of the largest General Fund revenue sources. The final subsection provides an overview of other revenue sources. Historical data for General Fund revenues can be found in the Appendix.

Revenue Versus Economic Growth

For the five-year forecast period, the analysis projects that revenues will expand at an average rate of 3.2 percent per annum. That rate increases to 3.4 percent if the new SUT transfer is excluded. For the three largest revenue sources that comprise 83 percent of General Fund tax revenues, the average growth rates are 4.2 percent (PIT), 2.3 percent (SUT, 3.1 percent if the transfer is excluded) and 4.8 percent (CNIT). Those rates are comparable to the assumed overall economic growth of the Pennsylvania economy that expands by 4.0 percent per annum during that time period.

However, over longer periods of time, tax revenues will generally underperform economic growth. **Figure 4.1** displays cumulative growth rates for the state economy (nominal GDP), PIT, SUT and CNIT. For this first comparison, FY 1998-99 is used as the base year and cumulative growth is computed from that year through the latest actual (FY 2018-19). For example, the final PIT value of 1.92 denotes that those revenues expanded by 92 percent since FY 1998-99.

Figure 4.1
Cumulative Growth of Tax Revenue: FY 1998-99 to FY 2018-19



During the previous two decades:

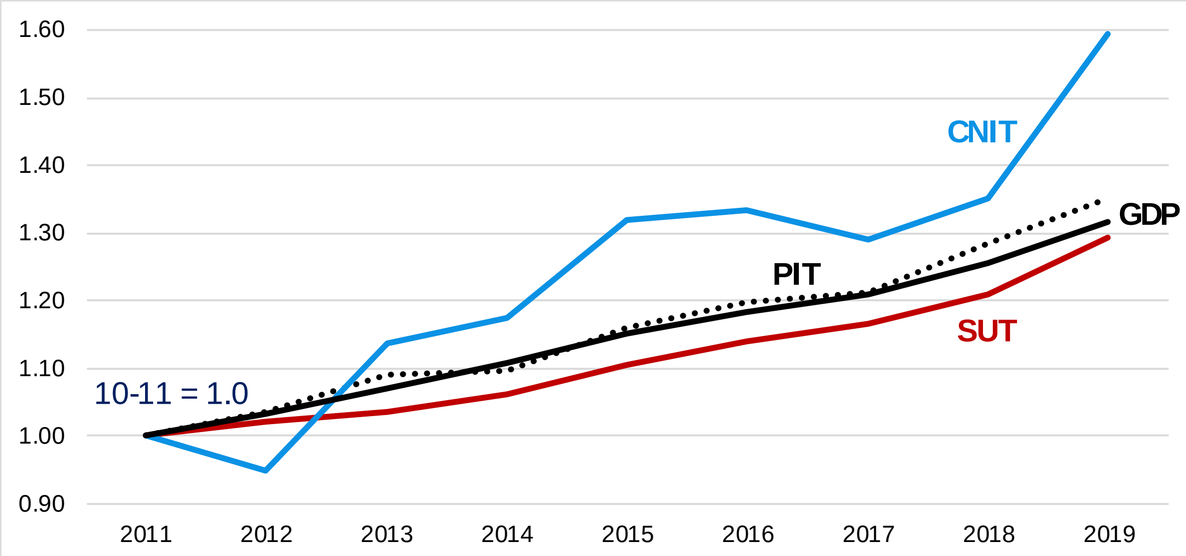
- The economy more than doubled in size as measured by nominal Gross Domestic Product (includes inflation, solid black line). Nominal economic growth flat-lined during the Great Recession, but otherwise expanded by 3 to 5 percent per annum for most years.
- PIT revenues (dotted black line) tracked economic growth closely until 2009. Revenues did not recover from the recession and were permanently reduced.[5]
- SUT revenues (red line) also suffered a decline during the recession, albeit more moderate. Prior to the recession, revenues had been expanding more slowly than the economy due to growing internet sales (previously non-taxable) and consumer spending shifts towards non-taxable services, notably healthcare. More recently, growth has accelerated, largely due to increased SUT compliance related to internet sales.
- CNIT revenues (blue line) shows great volatility and dramatic shifts due to the 2001-02 dot-com and 2008-09 housing-financial recessions. Since then, tax revenues have recovered and strong growth occurred in FY 2018-19 due to federal tax reform, which expanded the state tax base.

A very different picture emerges if the base year is moved forward. **Figure 4.2** shows the same data series but uses FY 2010-11 as the base year. This graph illustrates that revenues track economic growth much closer in the absence of a recession.

- PIT revenues slightly outperform economic growth due to capital gains and business profits.
- SUT revenues accelerated last fiscal year and will continue to converge towards economic growth this fiscal year.
- CNIT revenues significantly outperformed state economic growth due to historically high levels of corporate profitability, federal tax reform and profit shifting.

[5] The PIT series was adjusted for the rate increase in 2004.

Figure 4.2
Cumulative Growth of Tax Revenue: FY 2010-11 to FY 2018-19



These two figures demonstrate the importance of the time frame used in any analysis and the dramatic impact of recessions. When the next recession occurs, policymakers could assume that the lost economic growth will likely not be recaptured in the recovery years that immediately follow. Rather, it is likely that the revenue loss will be permanent and would require permanent changes to the tax code or state appropriations to bring the state budget into balance. The economic forecast used for this analysis does not include a recession because one is not imminent and the projection of a structural surplus or deficit assumes that the state economy operates at full employment. If a recession were likely, then the economic forecast should reflect that outcome and revenues in all future years would be reduced to reflect the permanent implications of the temporary downturn in the absence of policy changes.

Personal Income Tax

The forecast projects that PIT revenues will grow at an average rate of 4.2 percent per annum from FY 2019-20 to FY 2024-25. (See **Table 4.2**.) Withholding tax revenues (4.0 percent per annum) keep pace with increases in wages and salaries while non-withholding (4.7 percent) sources expand at a faster rate. The forecast includes strong growth (5.5 percent) in FY 2020-21 withholding payments due to the occurrence of 53 weekly due dates (Wednesdays) in that fiscal year. This strength is reversed in FY 2021-22 (2.8 percent), as the number of due dates return to normal.

Over the five-year window, non-withholding revenues grow faster than wages and withholding due to capital gains and business profits. For non-recession years, those two income sources generally outpace statewide economic growth and they comprise nearly three-quarters of non-withholding payments for tax purposes.

Table 4.2
Personal Income Tax Revenue

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Withholding	$10,444	$10,793	$11,391	$11,705	$12,183	$12,649	$13,148
Quarterly	1,922	2,113	2,229	2,344	2,461	2,574	2,691
Annuals	1,729	1,730	1,741	1,853	1,957	2,054	2,149
Total Revenue	**14,096**	**14,636**	**15,360**	**15,902**	**16,601**	**17,276**	**17,989**
Growth Rate	5.2%	3.8%	5.0%	3.5%	4.4%	4.1%	4.1%

Note: Millions of dollars.

Sales and Use Tax

The forecast projects that SUT will expand at a rate of 2.3 percent per annum through FY 2024-25, which is reduced due to a new transfer to the Public Transportation Trust Fund (PTTF). The new transfer to the PTTF begins in FY 2022-23 and is estimated to be $477 million for that fiscal year and increase to $505 million in FY 2024-25.[6]

Act 43 of 2017 requires online retailers that sell to Pennsylvania residents to either collect and remit sales tax or comply with notice and reporting requirements. Sales and Use Tax Bulletin 2019-01 lowered the threshold for collecting tax under the Department of Revenue's application of the U.S. Supreme Court's decision in *South Dakota v. Wayfair, Inc.* The forecast assumes these changes will increase revenues by $401 million in FY 2019-20 and $537 million in FY 2024-25. For all e-commerce sales (i.e., nexus, digital downloads and online marketplace sales), the forecast projects total revenues of $739 million in FY 2019-20 and $994 million by FY 2024-25.

The forecast projects that non-motor vehicle revenues will expand at a rate of 2.4 percent per annum through FY 2024-25. (See **Table 4.3**.) If the new PTTF transfer is excluded, then the average growth rate increases to 3.2 percent per annum. For motor vehicles, revenues expand at an average rate of 1.5 percent per annum during the forecast period. After reaching record levels in 2016, U.S. car and light truck sales are projected to decline slightly through 2022, while the average price of a new vehicle increases at a rate of 3.5 percent per annum. Some analysts have expressed caution regarding the motor vehicle sales outlook due to the high volume of auto loans made in recent years. Currently, the third largest category of debt for Pennsylvania consumers is auto loans, after primary mortgage and student loan debt.

[6] The transfer is equal to the greater of (1) the ratio of $450 million to FY 2020-21 sales tax receipts multiplied by current year sales tax receipts or (2) $450 million.

Table 4.3
Sales and Use Tax Revenue

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Non-Motor	$9,616	$10,046	$10,422	$10,731	$10,655	$10,991	$11,336
Motor	1,484	1,548	1,576	1,618	1,592	1,629	1,668
Total Revenue	**11,100**	**11,594**	**11,998**	**12,349**	**12,247**	**12,620**	**13,003**
Growth Rate	6.9%	4.5%	3.5%	2.9%	-0.8%	3.0%	3.0%

Note: Millions of dollars.

Corporate Net Income Tax

The forecast projects that CNIT revenues will expand at an average rate of 4.8 percent per annum from FY 2019-20 through FY 2024-25. (See **Table 4.4**.) Modest growth of 1.9 percent in FY 2019-20 accelerates over the forecast period, consistent with long-term profits growth for non-recessionary years.

Several factors will impact revenues over the forecast horizon:

- Income shifting in response to the passage of the federal TCJA provided an artificial boost to FY 2018-19 CNIT revenues, which grew 18.0 percent from the prior year. As a result, the growth rate for FY 2019-20 is subdued as reporting begins to normalize.
- Preliminary domestic profits growth (non-financial corporations) for tax year 2018 was revised down to 0.9 percent from 10.7 percent as part of the July 2019 re-benchmark by the U.S. Bureau of Economic Analysis. Very preliminary data for the first half of tax year 2019 reveal profits growth of -2.1 percent.
- Corporation Tax Bulletin 2019-04 applies the standards of the U.S. Supreme Court's decision in *South Dakota v. Wayfair, Inc.* in determining nexus for purposes of the CNIT. This change, effective for tax years beginning on or after January 1, 2020, is not incorporated into the forecast but may have a positive impact on CNIT collections.

Table 4.4
Corporate Net Income Tax Revenue

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Total Revenue	**$3,398**	**$3,461**	**$3,584**	**$3,739**	**$3,924**	**$4,140**	**$4,370**
Growth Rate	18.0%	1.9%	3.5%	4.3%	5.0%	5.5%	5.6%

Note: Millions of dollars.

Gross Receipts Tax

The gross receipts tax (GRT) forecast projects a decline in FY 2019-20 followed by modest growth in subsequent years. The FY 2019-20 decline is due to electric receipts, which account for roughly 70 percent of GRT collections and appear out of sync with recent sales data published by the U.S. Energy Information Administration (EIA). Data from the EIA show that Pennsylvania retail sales of electricity in CY 2018 grew by 3.5 percent, the strongest growth since 2014. However, electric receipts for tax year 2018, which typically align with the trend in electricity sales, declined by 10.9 percent. For tax year 2019, estimated payments for the electric sector are strong (17.8 percent growth), but EIA data reflect a 4.8 percent decline in sales revenues through August 2019. It is unclear what is causing this disconnect, but the phenomenon is assumed to suppress growth of GRT revenues in FY 2019-20.

For subsequent years, the forecast assumes moderate growth (2.0 percent per annum) in electric liabilities and a reduction (-2.0 percent per annum) in telecommunications liabilities. These growth rates are based on (1) long-term historical growth in electric receipts and (2) the continued erosion of telecommunications services receipts due to its diminishing tax base.

Table 4.5
Gross Receipts Tax Revenue

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Total Revenue	**$1,250**	**$1,197**	**$1,206**	**$1,217**	**$1,227**	**$1,236**	**$1,247**
Growth Rate	8.7%	-4.3%	0.8%	0.9%	0.9%	0.7%	0.9%

Note: Millions of dollars.

Realty Transfer Tax

Beginning in FY 2016-17, realty transfer tax (RTT) revenues are reduced due to an annual transfer (made in July) to the Housing Affordability and Rehabilitation Enhancement Fund. Act 58 of 2015 authorized the transfer, which is based on RTT collections in the prior fiscal year and was capped at $25 million annually. Act 13 of 2019 increased the cap to $40 million annually. For FY 2019-20, the transfer was $40 million and is projected to remain at that level.

In recent months, a limited supply of housing has restrained the number of home sales in Pennsylvania, but has placed upward pressure on prices. Home sales are projected to remain subdued over the forecast period, while prices increase at a moderate pace. For the second quarter of 2019, sales data from the Federal Housing Finance Agency show that average Pennsylvania home prices increased by 4.9 percent compared to the prior year.[7] The forecast projects that RTT revenues will expand at an average rate of 5.5 percent per annum from FY 2019-20 to FY 2024-25.

[7] Data are for the purchase-only index. See: https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index-Datasets.aspx#qpo.

Table 4.6
Realty Transfer Tax Revenue

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Total Revenue	**$534**	**$553**	**$587**	**$629**	**$665**	**$695**	**$723**
Growth Rate	3.8%	3.5%	6.1%	7.3%	5.6%	4.6%	4.0%

Note: Millions of dollars.

Other Revenue Sources

Other notable trends that affect General Fund revenues include the following:

- The licenses and fees estimate for FY 2019-20 includes the impact of sports betting ($30 million), iGaming ($21 million) and three category 4 table game fees ($8 million).
- The gaming estimate assumes that the second Philadelphia category 2 facility will open in December 2020 and will increase table game revenues by $3 million in FY 2020-21.
- Escheats collections for FY 2019-20 appear to have rebounded and returned to normal collection patterns. This trend is expected to continue over the forecast horizon.
- All estimates assume that Enhanced Revenue Collection Account (ERCA) funding is reauthorized prior to its expiration on June 30, 2020.
- The estimates assume that $185 million will be available annually for transfer from the State Stores Fund to the General Fund.

Table 4.7
Other General Fund Revenue Sources

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Accelerated Deposits	$2	$0	$0	$0	$0	$0	$0
Utility Property	36	37	38	39	40	41	42
Insurance Premiums	444	455	444	453	454	486	488
Financial Institutions	380	372	391	407	425	445	465
Cigarette	1,119	948	885	826	777	734	698
Other Tobacco Products	130	135	140	145	151	158	165
Malt Beverage	24	23	23	23	23	23	23
Liquor	382	396	412	429	446	464	482
Inheritance Tax	1,054	1,091	1,094	1,116	1,140	1,164	1,187
Gaming	132	169	190	182	190	200	209
Minor and Repealed	-23	-35	-42	-43	-45	-47	-49
Liquor Store Profits	185	185	185	185	185	185	185
Licenses, Fees & Misc.	544	427	433	426	437	447	457
Fines, Penalties & Int.	73	76	77	78	79	81	82
Total Revenue	**4,481**	**4,278**	**4,269**	**4,266**	**4,302**	**4,379**	**4,436**
Growth Rate[1]	-28.2%	-4.5%	-0.2%	-0.1%	0.9%	1.8%	1.3%

Note: Millions of dollars.

[1]The growth rate for FY 18-19 reflects the loss of $1.9 billion in one-time revenues received in the prior year.

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Section 5: Expenditure Outlook

For FY 2019-20, total General Fund appropriations are $34.78 billion (includes $779 million of requested supplementals), a $1.38 billion increase over FY 2018-19. The text in this section uses the terms appropriation and expenditure interchangeably. However, the spending authority granted to a particular department or agency (i.e., the appropriation) need not equal actual expenditures for that year. Unused spending authority is reflected as a lapse that reduces budget shortfalls or increases budget surpluses.

Table 5.1
General Fund Expenditures by Agency

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Agency							
Education[1]	$13,748	$14,268	$14,824	$15,146	$15,483	$15,817	$16,148
Human Services[2]	12,802	13,347	14,459	14,987	15,558	16,144	16,745
Criminal Justice[3]	2,562	2,691	2,768	2,840	2,933	3,001	3,061
Treasury	1,165	1,192	1,253	1,300	1,339	1,402	1,427
State Police	307	369	410	456	514	552	585
All Other	2,818	2,912	3,039	3,121	3,231	3,312	3,552
Total Expenditures	**33,402**	**34,778**	**36,753**	**37,850**	**39,057**	**40,227**	**41,519**
Growth Rates							
Education[1]	3.8%	3.8%	3.9%	2.2%	2.2%	2.2%	2.1%
Human Services[2]	5.4	4.3	8.3	3.6	3.8	3.8	3.7
Criminal Justice[3]	5.1	5.0	2.9	2.6	3.3	2.3	2.0
Treasury	3.9	2.4	5.1	3.8	2.9	4.7	1.8
State Police	21.8	20.2	11.3	11.2	12.7	7.3	6.1
All Other	2.7	3.3	4.4	2.7	3.5	2.5	7.2
Total Expenditures	**4.5**	**4.1**	**5.7**	**3.0**	**3.2**	**3.0**	**3.2**

Note: Millions of dollars.

[1]Includes the State System of Higher Education and Thaddeus Stevens College of Technology. Includes requested supplementals for FY 19-20 of $47 million.

[2]Includes requested supplementals for FY 19-20 of $642 million.

[3]Includes the Department of Corrections and the Board of Probation and Parole. Includes requested supplementals for FY 19-20 of $90 million.

The projections throughout most of this section represent General Fund appropriations required to maintain the same level of services provided in the FY 2019-20 base year. Unless otherwise noted, the analysis assumes that FY 2019-20 expenditures supported by funds such as federal funds, other state funds or user fees (sometimes referred to as augmentations) continue to receive support from those sources. An exception occurs when it is clear that the funding source will be unable to provide the same level of relative support in future years. Those instances are described in greater detail in the relevant subsections that follow, as well as the "Other Funds" section in the Appendix.

From FY 2019-20 to FY 2024-25, General Fund expenditures are projected to increase at an average rate of 3.6 percent per annum. The overall trends are driven by the Departments of Human Services (DHS) and Education (PDE), as those two agencies comprise nearly 80 percent of total General Fund expenditures. Three factors motivate the trends in total expenditures:

- Service populations that expand or contract (e.g., school age children).
- The growth of employee wages, pensions and employee and retiree healthcare.
- Various inflation adjustments that maintain the purchasing power of funds appropriated in the base year for all future years.

Tables 5.1 and **5.2** provide detail based on department and expenditure category. Notable trends include:

- SERS and PSERS contribution growth rates continue to moderate after many years of significant growth. From FY 2019-20 to FY 2024-25, the average growth rate of SERS contributions is estimated to be 4.1 percent per annum while PSERS is 3.5 percent per annum.
- Pre-K to Grade 12 expenditures grow modestly due to contraction of the school age population. The uptick in growth for FY 2020-21 (4.0 percent) is due to the return of the authority rentals and sinking fund requirements (commonly known as PlanCon reimbursements, discussed further in the education subsection).
- Strong growth in DHS expenditures for FY 2020-21 (8.3 percent) is due to the use of one-time savings measures to offset spending in FY 2019-20. The program expenditures funded by these measures are expected to return to the long-term growth trend in future years.
- The notable increase in "All Other" agencies in FY 2024-25 is due to the repayment of a $165 million transfer from the Workers' Compensation Security Fund to the General Fund that occurred in FY 2016-17.[8]
- Roughly $47 million in expenditures within the Departments of Environmental Protection (DEP) and Conservation and Natural Resources (DCNR) that were shifted to various other funds are projected to return to the General Fund in FY 2020-21.

[8] Act 20 of 2019 amends the Fiscal Code to require repayment of a $165 million transfer from the Workers' Compensation Security Fund by July 1, 2024. The analysis assumes that repayment occurs in FY 2024-25.

Table 5.2
General Fund Expenditures by Category

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Expenditure Type							
Wages[1]	$2,553	$2,668	$2,781	$2,882	$2,983	$3,062	$3,141
Pensions (SERS/PSERS)	3,344	3,525	3,707	3,819	4,010	4,128	4,220
Healthcare/Benefits[2]	940	979	1,018	1,067	1,117	1,170	1,225
Pre-K-12 Education[3]	9,761	10,091	10,499	10,702	10,908	11,115	11,320
Medical Assistance	4,588	4,053	4,856	5,038	5,247	5,452	5,679
Long-Term Living	2,776	3,654	3,754	3,896	4,056	4,255	4,451
Intellectual Disability	1,976	2,071	2,092	2,155	2,222	2,291	2,362
Other Human Services	2,795	2,900	3,070	3,187	3,288	3,379	3,469
Debt Service	1,118	1,144	1,204	1,250	1,287	1,349	1,373
All Other	3,551	3,693	3,773	3,853	3,938	4,025	4,278
Total Expenditures[4]	**33,402**	**34,778**	**36,753**	**37,850**	**39,057**	**40,227**	**41,519**
Growth Rates							
Wages[1]		4.5%	4.2%	3.7%	3.5%	2.6%	2.6%
Pensions (SERS/PSERS)		5.4	5.2	3.0	5.0	2.9	2.2
Healthcare/Benefits[2]		4.2	3.9	4.8	4.7	4.7	4.7
Pre-K-12 Education[3]		3.4	4.0	1.9	1.9	1.9	1.8
Medical Assistance		-11.7	19.8	3.7	4.1	3.9	4.2
Long-Term Living		31.7	2.7	3.8	4.1	4.9	4.6
Intellectual Disability		4.8	1.0	3.0	3.1	3.1	3.1
Other Human Services		3.7	5.9	3.8	3.2	2.8	2.7
Debt Service		2.3	5.2	3.8	3.0	4.8	1.8
All Other		4.0	2.2	2.1	2.2	2.2	6.3
Total Expenditures[4]		**4.1**	**5.7**	**3.0**	**3.2**	**3.0**	**3.2**

Note: Millions of dollars.

[1]Includes wages, salaries, bonuses and payroll taxes (Medicare and Social Security).

[2]Includes all non-pension benefits such as health and life insurance and other miscellaneous benefits for retirees and employees.

[3]Excludes department personnel expenses and the state share of PSERS funding.

[4]Includes requested supplementals for FY 19-20 of $779 million.

Current Services Versus Cost-to-Carry Baselines

Expenditures can be forecast using various methods. A "current services" concept is reflected in Tables 5.1 and 5.2 and used throughout this section. The current services method applies inflationary or demographic adjustments to maintain the level of real services provided to residents of the Commonwealth in the base year. Another method to project expenditures is the cost-to-carry approach. The cost-to-carry concept only increases funding for programs or line items that must be funded due to state or federal law, debt or pension obligations or the care of individuals under the jurisdiction of a state agency. For the purpose of the cost-to-carry concept, the following items increase at the same rate as the current services approach:

- Programs administered by DHS, Department of Criminal Justice (DCJ) and Pennsylvania State Police (PSP);
- State employee personnel costs including wages, retiree healthcare and current employee healthcare and other benefits;
- General obligation debt service funded by the General Fund;
- Pension contributions funded by the General Fund including reimbursements to school districts for school employee pensions (PSERS) and state employee pensions (SERS);
- Payments to school districts for partial reimbursement of school employee Social Security employer costs; and
- PlanCon reimbursements and repayment of the transfer from the Workers' Compensation Security Fund.

All other programs or line items (referred to as discretionary spending) are held flat at FY 2019-20 funding levels. Those items include the basic and special education subsidies, as well as funds for non-personnel expenses such as office supplies, rent, utilities, furniture, computers and travel.[9]

Table 5.3 provides details on the cost-to-carry concept and a comparison to the current services concept at the bottom of the table. The difference between the current services and cost-to-carry forecasts increases from $257 million in FY 2020-21 to $1.28 billion in FY 2024-25. The cost-to-carry forecast grows at an average rate of 3.0 percent per annum while the current services forecast grows by 3.6 percent per annum. The subsections that follow use the current services approach.

[9] Within the basic education subsidy only the non-school employee Social Security amount is held flat.

Table 5.3
Cost-to-Carry Versus Current Services

Fiscal Year	19-20	20-21	21-22	22-23	23-24	24-25
Human Services[1]	$12,678	$13,772	$14,276	$14,813	$15,378	$15,961
Criminal Justice[1,2]	609	625	642	659	677	697
State Police[1,3]	45	51	59	67	74	80
General Obligation Debt[4]	1,144	1,204	1,250	1,287	1,349	1,373
School Employee Pensions[4]	2,628	2,750	2,838	2,936	3,030	3,123
School Employee Social Security[4,5]	579	588	597	606	617	628
PlanCon[6]	11	209	205	205	205	205
WCSF Transfer[7]	0	0	0	0	0	165
Wages/Salaries	2,668	2,781	2,882	2,983	3,062	3,141
State Employee Pensions	897	957	981	1,074	1,098	1,097
Retiree Healthcare	339	349	373	399	424	451
Employee Healthcare[8]	641	669	693	718	746	774
All Other (Discretionary)	12,541	12,541	12,541	12,541	12,541	12,541
Cost-to-Carry Expenditures	**34,778**	**36,496**	**37,339**	**38,289**	**39,201**	**40,236**
Current Services Expenditures	**34,778**	**36,753**	**37,850**	**39,057**	**40,227**	**41,519**
Difference	**0**	**257**	**512**	**768**	**1,026**	**1,282**

Note: Millions of dollars.

[1]Excludes personnel expenditures.

[2]Includes the Department of Corrections and the Board of Probation and Parole.

[3]Includes the shift in expenditures from the MLF to the General Fund as a result of Act 85 of 2016.

[4]Only includes state General Fund share.

[5]Includes amounts within the basic education funding line item.

[6]Also called the "authority rentals and sinking fund."

[7]Repayment of a $165 million transfer from the Workers' Compensation Security Fund (WCSF).

[8]Includes all non-pension benefits such as health and life insurance and other miscellaneous benefits.

Expenditure Extrapolators

Table 5.4 lists the economic and demographic forecasts used to extrapolate General Fund expenditures from the FY 2019-20 base year through FY 2024-25. Projected expenditures are a function of (1) service populations, (2) inflation and (3) various technical factors (e.g., the increasing state share under Medicaid expansion).

When possible, base year expenditures were disaggregated into five categories across all agencies: (1) wages, (2) pensions, (3) employee healthcare and other benefits, (4) retiree healthcare and (5) other expenditures (e.g., grants and subsidies, non-personnel expenses). Those categories were forecast separately for each agency using the extrapolators displayed in Table 5.4 and then recombined at the agency level.

Table 5.4
General Fund Expenditure Extrapolators

Fiscal Year	20-21	21-22	22-23	23-24	24-25
Demographic Groups					
Age 5 to 17	-0.1%	-0.3%	-0.4%	-0.4%	-0.5%
Age 65 and Older	2.7	2.7	2.7	2.6	2.4
All Residents	0.1	0.1	0.1	0.1	0.1
Personnel Expenses					
Wages[1]	3.0	3.8	4.0	2.9	2.9
Pensions - SERS[2]	2.5	-1.2	5.7	-0.4	-2.6
Retiree Healthcare[3]	0.0	5.5	5.5	5.5	5.5
Employee Healthcare[3]	3.2	3.4	3.5	3.5	3.5
Non-Personnel Expenses	1.6	1.9	2.0	2.0	2.0

[1] Reflects an average employee turnover factor.
[2] Growth in employer contribution rates only.
[3] Separate extrapolators are used for Pennsylvania State Police troopers (not shown).
Source: Forecasts by IFO.

Wage compensation comprises roughly eight percent of total General Fund expenditures. For each agency, wages were extrapolated using two factors. The first factor is an agency-specific employee turnover rate based on data compiled by the Office of Administration (not shown). For most agencies, that factor is negative due to retirements at the upper end of the pay scale that are replaced by younger workers who receive lower wages. The second factor is a general adjustment that reflects (1) a cost of living increase and (2) a general step increase. The forecast assumes that factor is the same across most agencies (4.2 percent per annum). When combined, the two factors yield a growth rate of roughly 3.3 percent per annum. (See Table 5.4.)

The State Employees' Retirement System (SERS) pension extrapolator represents the change in pension contributions based on projected employer contribution rates. The SERS extrapolator in Table 5.4 does not reflect the projected growth in wages or personnel. Hence, the total growth in pension contributions would equal the product of the growth rates for SERS contribution rates, wages and any assumed growth or decline in the state complement.

The forecast assumes that payments for active employee healthcare increases at an average rate of 3.5 percent per annum after FY 2020-21. That rate is equal to general consumer inflation plus a 1.5 percentage point premium for healthcare costs. It is also roughly equivalent to the increase in the per capita active employee healthcare premiums for the past six fiscal years. The retiree healthcare extrapolator assumes that the employer contribution rate remains flat for FY 2020-21, then increases by 5.5 percent per annum. The projected growth rates are based on the latest projection of employer benefit payments published by the actuary for the Retired Employees Health Program.

Non-personnel expenses include items such as computers, office supplies and utilities. The forecast assumes those expenditures grow at the same rate as the regional CPI-U. Non-personnel expenses also include grants or subsidies made to local units and institutions. Forecasts for grants and subsidies generally assume that the relevant service population grows with demographic projections, and the average cost to provide services grows with inflation. Two exceptions are the basic and special education subsidies. For those amounts, the relevant extrapolator (roughly 2.1 percent per annum) reflects an average pay increase (3.5 percent per annum), a general turnover factor (-1.0 percent) and a demographic component (-0.2 to -0.4 percent).

The subsections that follow provide additional detail for pensions, debt service and the Departments of Human Services, Education, Criminal Justice and the State Police.

General Fund Pensions

Combined payments to SERS and the Public School Employees' Retirement System (PSERS) from General Fund appropriations are projected to be $3.53 billion (10.1 percent of appropriations) in FY 2019-20 and $4.22 billion (10.2 percent) by FY 2024-25. Pension contribution projections are based on (1) the growth of employer payrolls and (2) the growth in the employer contribution rate. The Commonwealth reimburses school districts for a portion of their employer contributions, and the PSERS projection represents the state share (generally between 55 and 57 percent).

On June 19, 2019 the State Employees' Retirement Board reduced the long-term assumed rate of investment return from 7.25 percent to 7.125 percent, citing the present market environment as the primary reason for the change. The change in assumed rate of return will become official at the end of calendar year 2019 (to coincide with SERS' actuarial valuation period), and the change is reflected in the projections below. No changes were made to the long-term assumed return rate for PSERS, which remains 7.25 percent.

Table 5.5 reflects the most recent estimates for employer contribution rates from the two pension systems. **Table 5.6** displays estimates for SERS and PSERS contributions calculated by the IFO.

Table 5.5
Employer Contribution Rates

Fiscal Year	Employer Rate[1]		% Change in Rate	
	SERS	PSERS	SERS	PSERS
2016-17	29.50%	30.03%	18.0%	16.2%
2017-18	33.22	32.57	12.6	8.5
2018-19	32.90	33.43	-1.0	2.6
2019-20	33.53	34.29	1.9	2.6
2020-21	34.36	34.77	2.5	1.4
2021-22	33.96	35.19	-1.2	1.2
2022-23	35.89	35.84	5.7	1.8
2023-24	35.73	36.30	-0.4	1.3
2024-25	34.81	36.77	-2.6	1.3

[1] Expressed as a percentage of payroll.

Source: Rates are from various reports released by SERS and PSERS.

Table 5.6
Employer Pension Contributions - State General Fund Share

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
SERS	$856	$897	$957	$981	$1,074	$1,098	$1,097
PSERS	2,488	2,628	2,750	2,838	2,936	3,030	3,123
Total	**3,344**	**3,525**	**3,707**	**3,819**	**4,010**	**4,128**	**4,220**
Growth Rate	7.7%	5.4%	5.2%	3.0%	5.0%	2.9%	2.2%

Note: Millions of dollars.

The SERS projections in Table 5.6 represent only the amounts paid from General Fund appropriations. In addition to appropriations, state agencies make employer contributions from other sources such as augmentations, federal funds and other state funds. The forecast assumes that the other sources will supply the same share of funding as supplied in the base year. If those funds are not sufficient, then General Fund appropriations may need to absorb part of the shortfall.

General Fund Debt Service

The Commonwealth may authorize debt for a variety of purposes and terms. General obligation bonds (20-year) are the largest source of debt issuance and are backed by the full faith and credit of the Commonwealth. These bonds may be financed with revenue from the General Fund or certain special funds (e.g., highway projects funded via the Motor License Fund). The source of repayment is established by statute and generally determined based on the use of the borrowed funds. This subsection discusses debt financed with General Fund revenue. **Table 5.7** displays the projected amount of new debt that will be issued over the forecast period.

Table 5.7
General Fund Debt Service Payments

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Projected Bond Issues[1]	--	$1,026	$1,010	$1,010	$1,010	$1,010	$1,010
New Debt Service[2]	--	0	77	152	245	335	421
Existing Debt Service[3]	--	1,144	1,127	1,098	1,042	1,014	952
Total Debt Service	**$1,118**	**1,144**	**1,204**	**1,250**	**1,287**	**1,348**	**1,372**
Growth Rate	4.3%	2.3%	5.2%	3.9%	2.9%	4.7%	1.8%

Note: Millions of dollars.

[1] Based on IFO projections of future bond issues.

[2] Debt service related to bond issue projections. This estimate does not include payments for debt incurred before November 2019. Assumes new debt is issued in the spring of each fiscal year and the first debt service payment on the new issue is not due until the following fiscal year.

[3] Debt service related to bonds issued before November 2019 and adjusted to account for General Fund debt service payments that originate from non-General Fund sources.

General obligation bonds are issued to meet cash flow needs and are dedicated for specific projects. Each year, these bonds are authorized in an amount necessary to cover that year's cash flow related to currently authorized projects. Therefore, the lag between approval of a project and the bond issue that provides funding can vary greatly based on the project schedule and the agency that administers the funds.

The Pennsylvania Constitution (Article VIII, Section 7) allows debt to be issued for capital projects specifically itemized in an approved capital budget, purposes approved by voter referendum and in response to natural disasters. The amount of debt incurred with each issue is a function of interest rates, and the rates assigned to an issue are based largely on the municipal bond rating specified for that particular issue. The ratings are determined by a rating agency prior to the issuance of a bond and can also be updated periodically via public release.

The last adjustment to Pennsylvania's bond rating occurred in September 2017, when S&P Global Ratings downgraded Pennsylvania's rating from AA- to A+ citing chronic structural imbalances and a history of late budget adoption. This rating was first reflected in the Commonwealth's November 2017 bond issuance. The ratings for subsequent issuances have remained unchanged. (See **Table 5.8**.) However, maturities in recent bond issues have required underwriting from a municipal bond insurance policy to increase the desirability of those maturities among investors.

Table 5.8
Pennsylvania Bond Ratings

	Moody's	S&P	Fitch
March 2009	Aa2	AA	AA
May 2009	Aa2	AA	AA
January 2010	Aa2	AA	AA
May 2010	**Aa1**	AA	**AA+**
December 2010	Aa1	No Rating	AA+
October 2011	Aa1	AA	AA+
April 2012	Aa1	AA	AA+
April 2013	**Aa2**	AA	AA+
October 2013	Aa2	AA	**AA**
April 2014	Aa2	AA	AA
February 2015	**Aa3**	**AA-**	**AA-**
May 2015[1]	Aa3	AA-	AA-
June 2016[1]	Aa3	AA-	AA-
August 2016[2]	Aa3	AA-	AA-
November 2017	Aa3	**A+**	AA-
May 2018[1]	Aa3	A+	AA-
June 2019	Aa3	A+	AA-

[1]Certain maturities were insured by a municipal bond insurance policy and therefore received a higher rating by Kroll Bond Rating Agency (AA+), Moody's (A2) and Standard & Poor's (AA).
[2]Certain maturities were insured by a municipal bond insurance policy and therefore received a higher rating by Kroll Bond Rating Agency (AA+) and Standard & Poor's (AA).

The forecast includes the impact of Act 43-2019, which requires level principal payments over the life of the bond for all debt issuances on or after July 1, 2021. Interest rate assumptions assume a return to historical levels and do not include additional adjustments related to a change in the Commonwealth's bond rating. Fluctuations in growth rates over the forecast period are primarily the result of payment variations resulting from debt service schedules established for bonds issued prior to November 2019.

Human Services

For FY 2019-20, General Fund appropriations for the Department of Human Services (DHS) total $13.35 billion, including $642 million in requested supplementals. State special funds, augmenting revenues and federal funds provide additional support. While General Fund appropriations are the primary focus of the analysis, those appropriations will fluctuate in response to the availability of funds from other sources. For example, the General Fund may pick up the difference if a special fund, such as the Lottery Fund or the Tobacco Settlement Fund, cannot maintain its current level of support.

For FY 2019-20, base year appropriations for DHS are $545 million higher than the prior fiscal year assuming enactment of the $642 million in requested supplementals. (See **Table 5.9.**) This funding level does not reflect all actual program costs due to the use of nearly $600 million in one-time sources to manage current year appropriations. For example, FY 2019-20 expenditures are offset by the use of prior year federal funds and a managed care organization (MCO) payment shift to the next fiscal year. In future years, the expenditures supported by these sources are expected to follow the long-term growth trend. As discussed in this subsection, adjustments also are made for other factors that will affect expenditures in the forecast period. By FY 2024-25, the forecast projects that General Fund expenditures will be $16.75 billion, an average increase of 3.7 percent per annum after FY 2019-20.

Table 5.9
General Fund Expenditures - Department of Human Services

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Wages[1]	$346	$336	$344	$355	$367	$376	$385
Pensions	131	132	138	141	154	157	157
Retiree Healthcare	73	72	72	76	80	85	90
Employee Healthcare[2]	116	129	133	138	143	148	153
All Other							
Medical Assistance	4,588	4,053	4,856	5,038	5,247	5,452	5,679
Long-Term Living	2,776	3,654	3,754	3,896	4,056	4,255	4,451
Intellectual Disabilities	1,976	2,071	2,092	2,155	2,222	2,291	2,362
Human Services Programs	1,310	1,356	1,454	1,513	1,574	1,626	1,679
Mental Health	662	681	699	720	742	764	787
Child Development	488	486	491	498	505	511	517
Income Maintenance	201	202	206	210	214	219	223
Human Services Support	120	131	133	136	139	142	145
Children's Health Insurance	13	43	86	111	115	116	118
Total	**12,802**	**13,347**	**14,459**	**14,987**	**15,558**	**16,144**	**16,745**
Growth Rate	5.4%	4.3%	8.3%	3.6%	3.8%	3.8%	3.7%

Note: Millions of dollars.

[1] Includes wages, salaries, bonuses and payroll taxes (Medicare and Social Security).

[2] Includes all non-pension benefits such as health and life insurance and other miscellaneous benefits.

The provision of Medicaid services comprises the largest share of expenditures for DHS. Medicaid is a joint state/federal program that plays an important role in the provision of (1) physical and behavioral healthcare services to eligible low-income individuals and families and (2) home and community-based and long-term care services to eligible residents who have physical or cognitive disabilities. Medicaid services are provided through various programs grouped under the Medical Assistance (MA), Long-Term Living (LTL) and Intellectual Disabilities (ID) categories. These program categories comprise almost three-quarters of DHS General Fund expenditures, and the forecast projects that they will increase at an average rate of 3.9 percent per annum from FY 2020-21 through FY 2024-25.

The basic components of the forecast are identified in the following bullets. Additional factors that affect expenditure projections for FY 2019-20 and beyond are discussed in the paragraphs that follow.

- The projections assume costs per enrollee for MA will increase by 3.0 percent per annum and LTL will increase by 4.6 percent per annum. These rates are motivated by healthcare inflation.
- Increases in the service population track the growth in the state population (0.1 percent per annum) for MA and ID programs and the age 60 or older population (1.6 percent per annum) for LTL programs.

Appropriations from the Lottery Fund and the Tobacco Settlement Fund supplement General Fund expenditures for the MA and LTL program groups. The Lottery Fund is projected to supply $322 million for DHS expenditures in FY 2019-20 and increase to $407 million in FY 2024-25. The Tobacco Settlement Fund is projected to supply $263 million in FY 2019-20. The forecast assumes a reduction to $245 million for FY 2020-21 and future years based on annual Tobacco Settlement Fund revenues available for MA and LTL programs. In the forecast, the General Fund absorbs any reduction in support from these special funds. See the Appendix for additional information regarding the relevant special fund forecasts.

The analysis includes the impact of Medicaid expansion on General Fund appropriations. Beginning in calendar year 2017, the Commonwealth is responsible for a portion of the costs from enrollees eligible under Medicaid expansion. The state share began at 5 percent for 2017 and increases to 10 percent by 2020 and thereafter. The MA forecast includes the projected impact on General Fund appropriations from a phase down of the enhanced federal matching rate for Medicaid expansion.

Support for MA and LTL programs is derived from augmenting revenues from various assessments (e.g., MCOs, hospitals and nursing homes). Act 92 of 2015 replaced the previous gross receipts tax on Medicaid MCOs with a monthly, per-member assessment on all MCOs. These assessments expire at various points prior to the end of the forecast period in this report (June 2025), but the analysis assumes that they are extended. The forecast further assumes that the augmenting facility assessments, along with the corresponding federal matching revenues, supply the same share of funding for total DHS expenditures as supplied in the base year.

The following bullets list additional factors that affect DHS expenditures for the current fiscal year and forecast period:

- Use of one-time funds to pay current fiscal year expenses. This method of temporarily reducing current year appropriations (e.g., MA capitation and MA Community HealthChoices) creates a significant increase in appropriation levels the following year unless additional funds become available.

- Reinstatement of the health insurance providers fee. The implementation of this fee, originally scheduled to take effect in 2014 pursuant to the Affordable Care Act, has been delayed each year with the exception of 2018. Beginning in 2020, the fee is reinstated, and the fee is assumed to remain in effect thereafter.
- An extra weekly cycle payment impacted the ID community waiver program in FY 2019-20 because 2019 has one more week than typical. The extra payment does not impact future year costs for the program within the forecast period.
- Commencement of Community HealthChoices (CHC) in the rest of the state. CHC introduces a managed care approach for MA-eligible persons who need long-term services and support. CHC is intended to increase the utilization of home and community-based services and reduce the utilization of institutional services.[10] The forecast includes the annualized program costs for the final phase and a change in the case mix to reflect a modest shift from institutional to community services.
- Shifts from MA appropriations to LTL appropriations due to the implementation of CHC. In FY 2019-20, MA appropriations decline by $535 million as those costs are absorbed by the MA – CHC appropriation. Additional shifting between MA and LTL is not expected to occur after FY 2020-21 due to the complete roll out of CHC.
- Reduction of the federal matching rate for the Children's Health Insurance Program (CHIP). In 2019, the federal matching rate decreased by 11.5 percentage points. In FY 2020-21, the federal matching rate is assumed to drop another 11.5 percentage points, and remains at that level for the forecast period.
- Savings from the implementation of a statewide preferred drug list (PDL). The statewide PDL is expected to increase pharmacy rebates to DHS, which will be partially offset by rate increases to MCOs.

Education

The Pennsylvania Department of Education (PDE) provides resources, support and oversight to the state's 500 school districts and grants and subsidies to post-secondary institutions including: 14 universities within the Pennsylvania State System of Higher Education (PASSHE), 14 community colleges and 4 state-related universities. PDE appropriations can be separated into three broad categories: (1) pre-kindergarten through grade 12 (Pre-K-12), (2) post-secondary and (3) other. The text that follows provides brief descriptions of these categories.

Pre-K to Grade 12

Based on demographic trends of the school-age population, the forecast assumes that the number of public school students will decline from 1.72 million in FY 2018-19 to 1.71 million by FY 2024-25. (See **Table 5.10**.) Holding the ratio of public school students to teachers constant (14.3), the total number of public school staff is also assumed to decline from 147,900 in FY 2018-19 to 147,000 in FY 2024-25.

[10] Currently, implementation is scheduled to occur in three phases: January 2018 (southwest zone), January 2019 (southeast zone) and January 2020 (rest of the state).

Table 5.10
Pennsylvania Public School K-12 Enrollments

School Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Traditional Schools[1]	1,579	1,577	1,575	1,572	1,568	1,563	1,558
Charter Schools	143	148	151	152	153	154	154
Total Schools[2]	**1,722**	**1,724**	**1,725**	**1,724**	**1,721**	**1,717**	**1,712**
Growth Rate	0.2%	0.1%	0.1%	-0.1%	-0.2%	-0.2%	-0.3%

Note: Thousands of students.

[1]Includes students in school districts, state juvenile correctional institutions and comprehensive Career and Technical Centers.

[2]Excludes students in non-public schools in which tuition is paid privately.

Source: FY 18-19 from the Department of Education. Projections by IFO.

Most PDE appropriations (nearly 90 percent) are dedicated to Pre-K-12 purposes. For FY 2019-20, Pre-K-12 appropriations are $12.72 billion (includes $47 million in requested supplementals), $471 million (3.8 percent) higher than FY 2018-19 appropriations. (See **Table 5.12**.) These amounts include the basic education and special education subsidies, the state share of school employees' retirement contributions, pupil transportation, school employees' Social Security, early intervention, Ready to Learn Block Grant and other miscellaneous expenditures.

Demographic projections show that the 5 to 17 year age cohort will contract by 0.3 percent per annum through FY 2024-25. Despite this contraction, Pre-K-12 expenditures expand at a faster pace (2.6 percent per annum) to $14.45 billion, due primarily to solid growth in state reimbursements for school district retirement contributions (3.5 percent per annum) and the authority rentals and sinking fund appropriation included in the "All Other" line.[11] The basic education and special education subsidies expand at a rate of 2.1 percent per annum to maintain a current level of service.

Post-Secondary

For FY 2018-19, there were 343,441 full-time students enrolled at PASSHE universities, state-related universities or community colleges within Pennsylvania. Enrollment has declined every year since FY 2010-11 when there were 376,100 full-time students enrolled in these three institutional categories. **Table 5.11** displays the annual growth rates of full-time college students enrolled in these three categories of post-secondary institutions.

[11] The "authority rentals and sinking fund" appropriation, also known as PlanCon, provides funds to reimburse school districts for school construction costs. The appropriation also supports roughly $11 million in annual charter school lease reimbursements. The projection increases from $11 million in FY 2019-20 to $209 million in FY 2020-21 and then remains nearly flat through FY 2024-25.

Table 5.11
Annual Growth in Post-Secondary Student Enrollment

Fiscal Year	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Selected PA Post-Secondary Institutional Categories[1]							
State System of Higher Education	-2.0%	-2.5%	-2.4%	-2.0%	-2.4%	-2.4%	-0.2%
Community Colleges	-2.1	-5.8	-4.0	-4.5	-4.0	-4.9	-2.0
State-Related Universities	-0.9	2.6	0.5	1.6	1.0	2.9	0.5
Combined	**-1.6**	**-1.3**	**-1.5**	**-1.0**	**-1.3**	**-0.5**	**-0.3**
Total PA Post-Secondary	**-2.4**	**-3.0**	**-2.1**	**-2.2**	**-2.6**	**-1.5**	**-3.0**
Total U.S. Post-Secondary	**-1.6**	**-2.5**	**-1.6**	**-1.5**	**-1.7**	**-0.9**	**-1.0**

[1] Includes full-time enrollment only.

Source: Selected PA Post-Secondary Institutional Categories: Executive Budget, various years. Total PA and U.S. Post-Secondary Enrollment: National Center for Education Statistics.

Since FY 2010-11, community colleges recorded the largest decline in full-time students, followed by PASSHE universities. The recent decline in student enrollment at PASSHE and the community colleges mirror statewide and national trends for all post-secondary institutions. By contrast, state-related universities have recorded gains. (The last two rows in Table 5.11 display the annual growth rates for all students, both full- and part-time.)

For FY 2019-20, PDE's post-secondary appropriations are $1.39 billion, $29 million (2.1 percent) higher than FY 2018-19 appropriations. (See Table 5.12.) These amounts comprise roughly 10 percent of total expenditures by PDE and include state-owned and state-related universities, community colleges and Thaddeus Stevens College of Technology. While the number of students attending post-secondary institutions has declined, appropriations for recent years suggest that policymakers desire to provide a level of funding that grows at roughly the same rate as inflation. Therefore, the forecast assumes that all post-secondary line items grow with general inflation (1.9 percent per annum) to $1.53 billion in FY 2024-25.

Other and Summary

PDE also receives appropriations to provide subsidies to libraries and to fund personnel costs. For FY 2019-20, those amounts are $153 million and increase to $171 million by FY 2024-25 (2.2 percent per annum). For FY 2019-20, PDE's total appropriation is $14.27 billion (includes a $47 million requested supplemental), a $520 million (3.8 percent) increase from the prior fiscal year. The forecast projects that expenditures will increase to $16.15 billion (2.5 percent per annum) by FY 2024-25.

Table 5.12
General Fund Expenditures - Department of Education

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Pre-K through Grade 12							
Basic Education Subsidy[1]	$6,095	$6,255	$6,402	$6,543	$6,681	$6,818	$6,955
School Employees' Retirement	2,488	2,628	2,750	2,838	2,936	3,030	3,123
Special Education Subsidy	1,137	1,187	1,215	1,241	1,268	1,294	1,320
Pupil Transportation	549	549	557	566	575	584	593
School Employees' Social Sec.[1,2]	541	579	588	597	606	617	628
Early Intervention	300	315	317	320	324	329	333
Ready To Learn Block Grant[2]	268	288	292	297	302	307	311
All Other[3]	876	922	1,132	1,142	1,157	1,171	1,185
Total Pre-K through Grade 12[2]	**12,253**	**12,723**	**13,253**	**13,545**	**13,849**	**14,150**	**14,448**
Post-Secondary							
State-Related Universities	581	597	607	618	631	643	656
Community Colleges[4]	295	295	300	305	312	318	324
PASSHE-State Universities	468	477	485	495	504	515	525
Thaddeus Stevens Coll. of Tech.	15	19	19	19	20	20	21
Other Post-Secondary	3	3	3	4	4	4	4
Total Post-Secondary	**1,363**	**1,391**	**1,414**	**1,441**	**1,470**	**1,500**	**1,530**
General Government Operations	27	28	29	30	32	32	33
Libraries[5]	74	80	81	83	84	86	88
All Other	32	45	46	47	47	48	49
Grand Total[2]	**13,748**	**14,268**	**14,824**	**15,146**	**15,483**	**15,817**	**16,148**
Growth Rate	3.8%	3.8%	3.9%	2.2%	2.2%	2.2%	2.1%

Note: Millions of dollars.

[1]The school districts Social Security subsidy is excluded from the basic education subsidy line and included in the school employees' Social Security line.

[2]Includes FY 19-20 requested supplemental.

[3]Includes Pre-K Counts, special education-approved private schools, services to nonpublic schools, nonpublic and charter school pupil transportation, authority rentals and sinking fund requirements and other items.

[4]Includes community colleges, transfer to Community College Capital Fund and regional community colleges.

[5]Includes library services for the disabled, public library subsidy, library access and state library.

Criminal Justice

The Department of Criminal Justice (DCJ) includes the Department of Corrections (DOC) and the Pennsylvania Board of Probation and Parole (PBPP). Beginning in FY 2018-19, the General Appropriations Act appropriates funds for the Department of Criminal Justice, which includes all funding for both agencies. Although still legally separate, the agencies operate under a memorandum of understanding that combines certain offices and yields cost savings through the elimination of administrative redundancies. Another key element of the consolidation is improved transition of inmates under the DOC's jurisdiction to parolees under the Board's supervision.

Table 5.13
Populations - Department of Criminal Justice

	2013	2014	2015	2016	2017	2018	2019	2020
Inmate Population	51,512	50,756	49,914	49,301	48,438	47,370	46,482	46,818
Annual Change	328	-756	-842	-613	-863	-1,068	-888	336
Percent Change	0.6%	-1.5%	-1.7%	-1.2%	-1.8%	-2.2%	-1.9%	0.7%
Parolee Population	37,971	39,726	41,226	41,500	42,069	41,305	41,459	41,962
Annual Change	1,989	1,755	1,500	274	569	-764	154	503
Percent Change	5.5%	4.6%	3.8%	0.7%	1.4%	-1.8%	0.4%	1.2%

Note: Parolee population is reported on a fiscal year basis.

Source: Pennsylvania Department of Corrections, Annual Statistical Report (various years). Pennsylvania Board of Probation and Parole, Monthly Statistics (various years). Projections are from the Criminal Justice Projections Committee.

Table 5.13 displays a time series of inmates and parolees under the jurisdiction of DCJ. From 2013 to 2019, the inmate population declined at a rate of 1.7 percent per annum, while the parolee population expanded at a rate of 1.5 percent per annum. These trends were motivated by structural and data-driven changes implemented by the Justice Reinvestment Initiative, which diverted technical parole violators (TPVs) from state prisons to contracted county jails and community corrections centers. This action can yield significant cost savings. For FY 2019-20, the average cost of an inmate is roughly $55,900 (includes all costs, including indirect costs and overhead), more than ten times the average state cost of a parolee ($4,300). Based on population projections published by the Criminal Justice Projections Committee, the IFO assumes that from FY 2019-20 to FY 2024-25, the inmate population will contract at an average rate of 0.6 percent per annum and the parolee population will expand at an average rate of 0.7 percent per annum.[12]

For FY 2019-20, total appropriations for the DCJ (includes $90 million in requested supplementals) are $2.69 billion, $129 million (5.0 percent) more than FY 2018-19 appropriations. Most of the increase is attributable to the DOC for increases in Medical Care ($34 million, includes personnel costs) and State

[12] Population Projections, Criminal Justice Projections Committee (October 2019).

Correctional Institutions (SCI, $97 million). The forecast projects that DCJ expenditures will grow by 2.6 percent per annum from FY 2019-20 to FY 2024-25. (See **Table 5.14**.) During the forecast period, three factors constrain the growth in DCJ expenditures: (1) a declining inmate population, (2) savings related to the proposed closing of SCI Retreat and other cost-saving measures and (3) moderate growth of pension expenditures.

Table 5.14
General Fund Expenditures - Department of Criminal Justice

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Wages[1]	$1,203	$1,296	$1,329	$1,366	$1,397	$1,426	$1,455
Pensions	391	413	434	441	477	485	482
Retiree Healthcare	127	101	101	105	109	114	119
Employee Healthcare[2]	246	272	280	286	292	299	308
Inmate Medical Care[3]	162	187	196	205	213	222	233
All Other	432	422	429	437	446	455	464
Total	**2,562**	**2,691**	**2,768**	**2,840**	**2,933**	**3,001**	**3,061**
Growth Rate	5.1%	5.0%	2.9%	2.6%	3.3%	2.3%	2.0%

Note: Millions of dollars.
[1]Includes wages, salaries, bonuses and payroll taxes (Medicare and Social Security).
[2]Includes all non-pension benefits such as health and life insurance and other miscellaneous benefits.
[3]Excludes personnel costs.

State Police

Most funding for the State Police is supplied by the General Fund and Motor License Fund (MLF). Act 85 of 2016 instituted a series of caps on the amount of annual funds that the MLF can provide to the State Police. For FY 2019-20, the MLF appropriation to the State Police is capped at 92 percent of the FY 2016-17 amount. For FY 2020-21 through FY 2026-27, the cap is reduced by 4.0 percentage points each fiscal year. After FY 2026-27, the cap is set at $500 million per year.

For FY 2019-20, the MLF appropriation to the State Police is $738 million. The funding reduction from the MLF to the State Police is partially offset by complement cost savings and fee increases authorized under Act 40 of 2017. However, due to the progressive caps, the forecast shows a significant increase in General Fund expenditures because the fund must absorb future cost increases and provide replacement funds previously supplied by the MLF. (See **Table 5.15**.) State Police expenditures grow at an average rate of 1.3 percent per annum excluding the MLF funding shift, but 9.7 percent per annum with the shift.

Table 5.15
General Fund Expenditures - State Police

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Pre-MLF Funding Shift	$263	$270	$272	$276	$283	$286	$287
Growth Rate	4.3%	2.8%	0.9%	1.3%	2.7%	0.9%	0.6%
MLF Funding Shift[1]	$44	$99	$138	$181	$231	$266	$298
Total	**$307**	**$369**	**$410**	**$456**	**$514**	**$552**	**$585**
Growth Rate	21.8%	20.2%	11.3%	11.2%	12.7%	7.3%	6.1%

Note: Millions of dollars.

[1] Act 85 of 2016 limits State Police funding from the MLF. The analysis assumes that the General Fund absorbs the reduction from the MLF.

All Other Expenditures

The forecasts for all other agencies or departments use the extrapolators from Table 5.4. Most expenditures increase by 2.4 to 3.4 percent per annum over the forecast window. Notable assumptions across agencies include:

- The Pennsylvania Higher Education Assistance Agency (PHEAA) has a low per annum growth rate (1.2 percent) because the projected growth rate is equal to the product of inflation (1.9 percent per annum) and growth in total student population (-0.7 percent per annum).
- In FY 2024-25, there is a scheduled repayment of the $165 million transfer from the Workers' Compensation Security Fund (included in the "All Others" line item in **Table 5.16**).
- The FY 2019-20 budgets for the Department of Environmental Protection (DEP) and Department of Conservation and Natural Resources (DCNR) include $47 million of funds appropriated from the Environmental Stewardship Fund, Recycling Fund and Oil and Gas Lease Fund. The forecast assumes that these special funds will not provide future support, and the expenditures are returned to the respective General Fund appropriations. As a result, FY 2020-21 General Fund expenditures for DEP and DCNR are projected to grow by 6.5 percent and 8.2 percent, respectively.

Table 5.16
General Fund Expenditures - All Other Agencies

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Legislature[1]	$402	$418	$431	$445	$465	$479	$492
Judiciary	356	356	367	380	399	410	421
PHEAA	323	369	373	377	382	387	392
Health	199	203	208	213	219	224	229
Revenue	190	192	197	202	210	215	220
Executive Offices	140	131	133	137	142	145	149
Community & Economic Dev.	157	179	183	188	193	198	202
Environmental Protection	156	135	163	169	176	181	186
Agriculture	152	171	175	178	183	187	191
Military & Veterans Affairs	150	160	164	169	175	180	184
Cons. & Natural Resources	123	117	155	160	166	170	174
General Services	121	120	122	125	130	133	136
All Others[2]	398	407	417	428	444	455	631
Total	**2,865**	**2,960**	**3,088**	**3,171**	**3,282**	**3,364**	**3,605**
Growth Rate	2.6%	3.3%	4.3%	2.7%	3.5%	2.5%	7.2%

Note: Millions of dollars.

[1] Includes government support agencies.

[2] Includes all other agencies and departments not listed above with the exception of PDE, DHS, Criminal Justice, PSP and the debt service part of Treasury.

Section 6: Fiscal Outlook

This report provides an assessment of the Commonwealth's fiscal outlook based on demographic and economic trends. To facilitate that assessment, this section of the report (1) compares recent historical revenue trends to total General Fund program expenditures and (2) combines the revenue and expenditure projections from previous sections in order to identify any potential long-term structural imbalance over the forecast period.[13]

A historical comparison of revenue and expenditure trends is complicated by the recent practice of shifting certain state spending out of the General Fund.[14] To facilitate a meaningful comparison between fiscal years, the IFO calculated annual General Fund program expenditures. The calculation includes (1) General Fund appropriations, (2) special funds used to support General Fund programs and (3) new revenue transfers to fund certain General Fund programs. (See **Table 6.1**.) Based on the computed totals for FY 2014-15 through FY 2019-20, the data reveal that expenditures expanded at a rate of 4.0 percent per annum, outpacing net revenues (which increased at a non-recession growth rate of 3.3 percent per annum) by roughly 0.6 to 0.7 percentage points. This growth rate differential represents the implied structural imbalance over the current and previous five fiscal years (equivalent to roughly $200 to $250 million per annum). Although annual state budgets were brought into balance using temporary one-time measures (e.g., the sale of $1.5 billion of bonds backed by the Tobacco Settlement Fund), the underlying structural imbalance remains.

For FY 2019-20, the General Fund revenue and expenditure projections reflect an imbalance of $409 million. The annual imbalance grows to $1.33 billion in FY 2022-23, before declining to $1.06 billion in FY 2024-25.[15] As noted above, prior year imbalances were addressed by a mix of one-time measures, including: (1) revenue enhancements, transfers and accelerations, (2) expenditure reductions, shifts and deferrals and (3) increased reliance on special funds and federal funds. Because the purpose of the analysis is to identify structural imbalances, the projections assume that new one-time or temporary measures are not employed in future years.

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[13] A long-term structural imbalance is an imbalance that remains after unusual economic conditions or other factors (e.g., one-time revenue transfers) are no longer relevant or available.

[14] Examples include the shifting of selected debt service to the Commonwealth Financing Authority, increased revenue transfers to pay expenses from special funds (e.g., School Safety and Security Fund and Pennsylvania Housing Affordability and Rehabilitation Enhancement Fund), etc.

[15] The structural imbalance computation assumes a "current services" baseline, or the expenditures necessary to maintain the current level of real services provided to residents of the Commonwealth as in the base year (FY 2019-20). See Table 5.3 for a comparison of the current services vs. cost-to-carry expenditure forecast.

Table 6.1
General Fund Program Expenditures vs Revenues

	14-15	15-16	16-17	17-18	18-19	19-20	AAGR
General Fund							
State Funds	$29,153	$30,126	$31,942	$31,948	$33,402	$33,999	3.1%
Requested Supplemental	---	---	---	---	---	779	n.a.
Anticipated Supplemental[1]	---	---	---	---	---	279	n.a.
Augmentations[2]	3,023	3,044	3,180	3,453	4,527	3,899	5.2
Restricted	561	529	523	670	687	826	8.0
Total General Fund	**32,737**	**33,699**	**35,645**	**36,071**	**38,615**	**39,782**	**4.0**
Special Fund Offsets							
Lottery Fund[3]	477	310	308	253	372	322	-7.6
Tobacco Settlement[3]	326	284	297	303	291	319	-0.4
Oil and Gas Lease[4]	132	86	50	58	48	80	-9.6
ESF and Recycling[5]	---	---	---	---	---	26	n.a.
Total Special Funds	**935**	**680**	**655**	**614**	**711**	**747**	**-4.4**
General and Special Funds	**33,672**	**34,379**	**36,299**	**36,686**	**39,326**	**40,529**	**3.8**
New Revenue Transfers[6]	0	0	108	153	206	528	n.a.
Total Expenditures	**33,672**	**34,379**	**36,407**	**36,839**	**39,532**	**41,057**	**4.0**
Total General Fund Revenues	30,593	30,902	31,669	34,567	34,858	35,718	3.1
Refunds	-1,340	-1,250	-1,350	-1,339	-1,306	-1,270	-1.1
Net General Fund Revenues	**29,253**	**29,652**	**30,319**	**33,228**	**33,552**	**34,448**	**3.3**

Note: Millions of dollars. Excludes federal funds. AAGR is the average annual growth rate from FY 14-15 to FY 19-20.

[1] Additional supplemental from an expected shortfall in Lottery Fund revenues and other augmentations supporting DHS appropriations.

[2] Deducts $280 million in FY 18-19 and $300 million in FY 19-20 to eliminate double counting from the consolidation of HR/IT services into the Office of Administration. Deducts $200 million in FY 19-20 due to the anticipated non-receipt of certain augmentation revenues.

[3] Includes DHS appropriations only.

[4] Excludes transfers to the Marcellus Legacy Fund.

[5] Environmental Stewardship Fund and Recycling Fund.

[6] Includes various transfers from sales and use, cigarette, personal income and realty transfer taxes. Most new transfers are used to support debt service.

Table 6.2 displays a basic General Fund financial statement. Overall, the results reflect an improved outlook compared to the ending balances contained in the prior year's report, as the imbalance falls by roughly $500 million by the end of the forecast window.[16] The improved outlook is the result of enhanced revenue projections over the forecast period, which are bolstered by expanded SUT collections related to online sales.

The General Fund financial statement includes the impact of $1.06 billion in potential supplemental appropriations for FY 2019-20 related to the following factors:

- On October 31, 2019, the Governor's Office of the Budget released an estimate of $779 million in potential supplemental appropriations for the FY 2019-20 enacted budget. These estimated supplemental appropriations have been incorporated into the FY 2019-20 base year expenditure amounts used to project General Fund spending levels in future years.
- The General Fund financial statement incorporates an additional $79 million DHS supplemental to offset a negative supplemental for Lottery-funded DHS programs to maintain a positive balance in the fund in FY 2019-20.
- The enacted budget for FY 2019-20 relies on a $200 million transfer from the Pennsylvania Professional Liability Joint Underwriting Association (JUA) as a one-time funding mechanism to offset DHS program costs. The transfer has been challenged in federal court and it is uncertain whether these funds will be received in the current fiscal year. The assumed DHS supplemental line in the General Fund financial statement includes the impact of a $200 million supplemental in the event that the JUA transfer does not occur.

The major factors driving the growth in FY 2020-21 expenditures include:

- The use of a short-term managed care payment shift to generate $216 million in one-time savings in FY 2019-20.
- The use of $150 million in prior year federal funds to offset DHS program costs in FY 2019-20.
- A $67 million reduction in Lottery and Tobacco Settlement funds available to cover DHS program costs in FY 2020-21 compared to the enacted levels in FY 2019-20.
- A $94 million increase in Medical Assistance program costs related to the reinstatement of the Affordable Care Act health insurance providers fee in CY 2020.
- The reduction in Federal Medical Assistance Percentages (FMAP) applied in FY 2020-21 relating to MA expansion and the Children's Health Insurance Program (CHIP) ($183 million).
- The $198 million increase in the appropriation for school construction and facilities reimbursement costs (known as PlanCon). Bond proceeds were used to cover these costs in FY 2019-20.
- The $55 million additional increase in Pennsylvania State Police (PSP) expenses resulting from the cap on PSP costs paid from the MLF under Act 85 of 2016.

[16] See *Economic and Budget Outlook: Fiscal Years 2018-19 to 2023-24*: http://www.ifo.state.pa.us/download.cfm?file=/Resources/Documents/Five_Year_Outlook_2018.pdf.

- Roughly $47 million in expenditures within the Department of Environmental Protection (DEP) and Conservation of Natural Resources (DCNR) that were shifted to various other funds are projected to return to the General Fund in FY 2020-21.

Over the last four years of the forecast (FY 2021-22 through FY 2024-25), net revenues and expenditures are projected to increase at an average rate of 3.1 percent per annum.[17] These trends assume the absence of a recession and result in a reduced imbalance over time.

Table 6.2
General Fund Financial Statement

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Beginning Balance[1]	-$33	--	--	--	--	--	--
Current Year Revenues	34,858	$35,718	$37,004	$38,101	$38,967	$40,346	$41,769
Less Refund Reserve	-1,306	-1,270	-1,302	-1,335	-1,368	-1,402	-1,437
Net Revenue	33,552	34,448	35,702	36,766	37,599	38,944	40,332
State Expenditures[2]	-33,402	-34,778	-36,753	-37,850	-39,057	-40,227	-41,519
	--------	--------	--------	--------	--------	--------	--------
Current Year Balance	150	-330	-1,051	-1,084	-1,458	-1,283	-1,187
Less Assumed DHS Supplemental	0	-279	0	0	0	0	0
Adjustment for Lapses[3]	-117	200	125	125	125	125	125
Preliminary Ending Balance	**0**	**-409**	**-926**	**-959**	**-1,333**	**-1,158**	**-1,062**

Note: Millions of dollars.

[1]Beginning balance omitted for FY 19-20 and thereafter. Includes adjustments.

[2]Based on appropriations. FY 18-19 includes current year lapses and approved supplemental appropriations. FY 19-20 includes requested supplemental appropriations as of October 31, 2019.

[3]Includes prior year lapses and actual transfers to the Budget Stabilization Reserve Fund.

[17] Excluding the new transfer from SUT to the Public Transportation Trust Fund ($505 million in FY 2024-25), the average net revenue growth is 3.6 percent per annum.

Appendix

Demographics

The IFO demographics forecast uses a cohort-component model in which birth, death and migration rates are projected separately for males and females. Projections are made by single-year ages using data from the Pennsylvania Department of Health and the U.S. Census Bureau. The projections use the July 1, 2018 Census population estimates as the base year of the forecast.

From the base year, the IFO projects birth, death and net migration rates for Pennsylvania residents. The projection for births is based on a three-year average birth rate from 2015 to 2017.[18] The model uses averages for four groups of females: 13 to 18 year olds, 19 to 22 year olds, 23 to 29 year olds and 30 to 50 year olds. Birth rates for females age 22 or younger are assumed to decline slightly over time based on recent historic trends. Birth rates for females age 23 to 29 are held relatively constant at the computed three-year average. The birth rates for females age 30 and older are assumed to increase based on recent historic trends.

Similarly, deaths are projected using a three-year average death rate from 2015 to 2017.[19] Death rates for those below age 65 are held constant at the three-year average. Death rates for those age 65 and older are assumed to decline by a small amount each year of the forecast based on recent historical trends. These rates are then applied to the projected population.

Total net migration for 2018 by individual age calculated using the 2018 population minus the 2017 population (aged by one year) minus 2018 deaths. The total model net migration is distributed proportionally between domestic and international net migration using U.S. Census Bureau Components of Change. The total net domestic migration is distributed by age using the U.S. Census Bureau 2017 American Community Survey 5-Year microdata file distribution of net domestic migration to Pennsylvania by age. International migration by age is the residual found by subtracting the net domestic migration by age from the total net migration by age. A 2018 net domestic migration rate by age and 2018 net international migration rate by age are calculated and applied to future year's population projections to determine net migration for each future year. **Table A.1** provides a summary of single year population estimates and projections from 2015 through 2025.

[18] Preliminary 2018 birth data is used to inform 2018 birth rates.
[19] Preliminary 2018 death data is used to inform 2018 death rates.

Table A.1
Pennsylvania Population Projections 2015 to 2025

Age	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
0-4	714	711	708	703	697	690	684	679	675	671	666
5-9	737	733	729	726	727	727	726	723	718	711	704
10-14	760	754	755	755	751	749	746	742	739	740	740
15-19	829	822	814	810	807	799	796	797	797	793	791
20-24	862	845	828	815	804	799	795	788	784	781	774
25-29	858	865	870	871	864	850	835	820	807	796	791
30-34	796	806	816	830	850	867	877	884	884	877	862
35-39	738	754	769	783	793	800	813	824	838	858	875
40-44	756	726	714	716	724	740	758	774	788	798	805
45-49	839	832	817	798	774	747	720	709	711	720	735
50-54	930	903	879	855	832	818	813	799	780	757	731
55-59	950	949	937	922	910	894	870	848	825	802	789
60-64	839	856	873	888	895	898	899	887	873	862	847
65-69	696	730	726	738	755	775	791	809	822	829	832
70-74	499	508	552	573	600	630	662	657	670	687	706
75-79	367	373	386	407	421	432	440	483	500	526	553
80-84	282	280	280	283	289	291	298	310	331	342	351
85+	333	336	336	334	332	333	335	337	343	347	353
Total	**12,786**	**12,784**	**12,790**	**12,807**	**12,825**	**12,842**	**12,857**	**12,872**	**12,885**	**12,897**	**12,906**

Note: Thousands of residents.

Source: The 2015 through 2018 data are from the U.S. Census Bureau 2018 Population Projections. The 2019 through 2025 data are projections by the IFO using data from the U.S. Census Bureau and PA Department of Health. Calculations by the IFO.

Economics

The economic forecast used for this report follows the general methodology used by the U.S. Congressional Budget Office (CBO). The approach is a simplified "growth accounting" framework, where real economic output or Gross Domestic Product (GDP) is equal to the product of (1) growth in employment and (2) growth in average worker output, also known as labor productivity. For example, if the number of individuals employed grows by 1.0 percentage point and the average productivity of all workers grows by 0.5 percentage points, then real economic growth would equal (1.01) * (1.005) - 1.0, or 1.5 percent. Hence, an increase (decrease) in employment growth or labor productivity will translate into higher (lower) economic growth.

The state economic forecast is built upon four basic assumptions. They are as follows:

- The Federal Reserve achieves its target inflation rate of 2.0 percent, as measured by the personal consumption expenditures price index. Based on historical trends, the more widely-used consumer price index (CPI-U) would increase at a slightly faster pace, and the analysis assumes that rate is 2.1 percent.
- Regional inflation, measured by the Philadelphia CPI-U, grows at the same rate as the U.S. CPI-U.
- Statewide labor productivity reverts to a historical average and is consistent with U.S. projections.
- The average worker's wage grows by inflation plus a modest premium that is consistent with historical trends for the U.S. and Pennsylvania.

The economic forecast is somewhat different than forecasts typically issued by government entities or private firms. The forecast assumes that certain economic variables revert to historical rates of growth that are consistent with (1) forecasts for the U.S. economy and (2) demographic projections by the IFO. The main purpose of the forecast is to serve as a neutral benchmark against which policymakers could assess the sustainability of fiscal policies over a five-year time horizon. Therefore, the economic forecast employs a simple methodology and does not attempt to capture the many intricacies of the Pennsylvania economy that may ultimately drive economic growth.

The model first establishes the real growth rate of the Pennsylvania economy, which is a function of employment growth and labor productivity. During the past four years, the Pennsylvania economy generated an average of 50,000 to 60,000 net jobs per year. The forecast assumes a moderate reduction in that trend through 2025. This assumption yields an upward trend in the employment to population ratio, which is consistent with recent historical data. (See **Table A.2**.) The data reveal a significant decline in that ratio in 2009 (not shown), but general recovery since that point. This trend is also consistent with the assumption of higher labor force participation rates.

The middle of Table A.2 displays the average output per worker, and the growth in that metric, which may also generally be viewed as labor productivity. For 2017, the average worker produced $117,300 of real output or production. The forecast assumes that labor productivity accelerates in 2019 and reverts to a historical rate of growth of roughly 1.1 percent per annum. That level and trend is consistent with the national economic forecast published by the CBO in August 2019. Typically, Pennsylvania worker productivity lags the U.S. by a small amount.

The employment and worker productivity forecasts yield real economic growth of roughly 1.8 percent per annum. That rate is consistent with the U.S. forecasts issued by the CBO and IHS Markit. Those forecasts assume average U.S. economic growth of 1.9 percent per annum for 2020 through 2025.

The bottom of Table A.2 displays the forecast for the Philadelphia CPI-U. As noted, the forecast assumes that the regional inflation measure follows the level and trends of the national inflation forecast. The CBO forecast assumes that the national CPI-U will increase at an average rate of 2.4 percent per annum from 2019 to 2025. The average regional rate used by this report is slightly lower (2.0 percent).

The final primary economic variable is total wages and salaries paid to workers. The Pennsylvania forecast assumes that wages for the average worker will increase by the rate of inflation, plus a modest premium so that the purchasing power of those wages increases over time. For this analysis, that premium ranges from 1.0 to 1.1 percent per annum. The CBO forecast also includes a premium for U.S. workers, and the premium generally ranges from 1.3 to 1.4 percent per annum. The Pennsylvania premium is consistent with historical state trends. However, it should be noted that the premium is an average gain across all workers, and may not be shared equally by all workers across the income spectrum.

Given these assumptions, the average wage for all workers increases by roughly 3.0 percent per annum. If employment expands by 0.7 percent per annum, then total wages paid to all workers will increase by the product of those growth rates, or roughly 3.8 percent per annum. Similar to the other forecasts, Pennsylvania wages and salaries expand at a somewhat slower pace than the CBO national forecast (4.2 percent) of total wages.

Table A.2
Pennsylvania Economic Variables

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Payroll Employment[1]	5,727	5,741	5,788	5,834	5,883	5,942	6,008	6,060	6,105	6,151	6,194	6,237	6,281	6,325
Change	40	14	47	46	49	59	66	52	45	46	43	43	44	44
Growth Rate	0.7%	0.2%	0.8%	0.8%	0.8%	1.0%	1.1%	0.9%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%
Residents: Age 20 to 69[1]	8,223	8,239	8,257	8,265	8,266	8,230	8,215	8,202	8,190	8,171	8,142	8,112	8,080	8,042
Employ / Population	69.6%	69.7%	70.1%	70.6%	71.2%	72.2%	73.1%	73.9%	74.5%	75.3%	76.1%	76.9%	77.7%	78.6%
Avg. Output per Worker[1]	$112.0	$113.5	$114.9	$116.2	$116.5	$117.3	$118.5	$119.7	$120.6	$121.5	$122.7	$124.0	$125.3	$126.6
Growth Rate	0.9%	1.3%	1.2%	1.2%	0.3%	0.7%	1.0%	1.0%	0.7%	0.8%	1.0%	1.1%	1.1%	1.1%
Real GDP[2]	$641.3	$651.3	$664.8	$677.9	$685.5	$697.2	$712.1	$725.4	$736.0	$747.5	$760.2	$773.6	$787.2	$801.0
Growth Rate	1.6%	1.6%	2.1%	2.0%	1.1%	1.7%	2.1%	1.9%	1.5%	1.6%	1.7%	1.8%	1.8%	1.8%
Philadelphia CPI-U	238.1	240.9	244.1	243.9	245.3	248.4	251.6	256.1	259.9	264.6	269.9	275.3	280.8	286.4
Growth Rate	1.8%	1.2%	1.3%	-0.1%	0.6%	1.3%	1.3%	1.8%	1.5%	1.8%	2.0%	2.0%	2.0%	2.0%
Wages-Salaries[2]	$280.0	$285.2	$296.4	$308.3	$312.5	$324.8	$337.7	$352.9	$365.6	$379.6	$394.6	$410.2	$426.4	$443.2
Average Wage[1]	$48.9	$49.7	$51.2	$52.8	$53.1	$54.7	$56.2	$58.2	$59.9	$61.7	$63.7	$65.8	$67.9	$70.1
Growth Rate	3.1%	1.6%	3.1%	3.2%	0.5%	2.9%	2.8%	3.6%	2.8%	3.1%	3.2%	3.2%	3.2%	3.2%

[1]Thousands of units or dollars.

[2]Billions of dollars.

Revenues

Table A.3
General Fund Revenues

	Amounts ($ millions)						Regional	Nominal
FY Ending	Corporate Net	Other Corporate	Sales and Use	Personal Income	All Other	General Fund	CPI-U (levels)	State GDP ($ billions)
1999	$1,725	$2,363	$6,606	$6,684	$1,850	$19,227	170.1	$381
2000	1,860	2,333	7,018	7,066	1,980	20,257	174.2	398.7
2001	1,603	2,260	7,204	7,492	2,003	20,562	178.9	416.3
2002	1,419	2,183	7,293	7,139	2,027	20,060	183.1	431.0
2003	1,397	2,354	7,520	7,106	2,938	21,315	186.9	446.0
2004	1,678	2,673	7,729	7,734	3,015	22,828	192.7	468.4
2005	1,921	2,830	8,000	8,747	2,810	24,309	200.4	493.7
2006	2,302	2,888	8,334	9,524	2,806	25,854	208.2	516.0
2007	2,493	2,984	8,591	10,262	3,121	27,449	214.4	543.6
2008	2,418	3,040	8,497	10,908	3,066	27,928	220.4	571.5
2009	1,980	2,854	8,136	10,199	2,361	25,530	223.7	579.8
2010	1,791	2,788	8,029	9,969	5,071	27,648	225.5	588.3
2011	2,132	2,761	8,590	10,436	3,579	27,497	230.8	609.2
2012	2,022	2,941	8,772	10,801	3,141	27,678	236.0	630.2
2013	2,423	2,766	8,894	11,371	3,192	28,647	239.5	652.6
2014	2,502	2,397	9,130	11,437	3,142	28,607	242.5	677.3
2015	2,811	2,305	9,493	12,107	3,875	30,593	244.0	700.4
2016	2,842	2,295	9,795	12,506	3,463	30,902	244.6	717.1
2017	2,751	2,030	10,004	12,664	4,219	31,669	246.9	738.3
2018	2,879	2,010	10,381	13,399	5,898	34,567	250.0	770.4
2019	3,398	2,113	11,100	14,096	4,152	34,858	253.8	805.6
2020	3,461	2,061	11,594	14,636	3,967	35,718	258.0	838.2
2021	3,584	2,079	11,998	15,360	3,983	37,004	262.3	870.4
2022	3,739	2,115	12,349	15,902	3,996	38,101	267.3	904.9
2023	3,924	2,147	12,247	16,601	4,047	38,967	272.6	941.8
2024	4,140	2,207	12,620	17,276	4,103	40,346	278.1	980.4
2025	4,370	2,243	13,003	17,989	4,164	41,769	283.6	1,020.6
Average Annual Growth Rates								
1999 to 2009	1.4%	1.9%	2.1%	4.3%	2.5%	2.9%	2.8%	4.3%
2009 to 2019	5.5%	-3.0%	3.2%	3.3%	5.8%	3.2%	1.3%	3.3%
2019 to 2025	4.3%	1.0%	2.7%	4.1%	0.0%	3.1%	1.9%	4.0%

Source: Executive Budget, various years. Projections by IFO.

Expenditures

Table A.4
General Fund Expenditures

FY Ending	Amount ($ millions) Education[1]	Human Services	Criminal Justice[2]	Treasury	All Other	General Fund	Regional CPI-U (levels)	Nominal State GDP ($ billions)
1999	$7,511	$5,853	$1,042	$788	$3,069	$18,263	170.1	$381
2000	7,640	6,189	1,130	656	3,680	19,295	174.2	398.7
2001	8,041	6,480	1,161	414	3,766	19,862	178.9	416.3
2002	8,277	6,669	1,151	586	3,747	20,429	183.1	431.0
2003	8,509	6,530	1,247	393	3,721	20,400	186.9	446.0
2004	8,754	7,440	1,299	713	3,680	21,885	192.7	468.4
2005	9,407	7,886	1,331	450	3,980	23,054	200.4	493.7
2006	9,687	8,918	1,358	769	3,933	24,665	208.2	516.0
2007	10,461	9,304	1,420	900	4,212	26,298	214.4	543.6
2008	11,060	8,617	1,600	923	4,768	26,968	220.4	571.5
2009[3]	11,273	8,590	1,606	955	4,660	27,084	223.7	579.8
2010[3]	10,588	8,577	1,593	976	3,209	24,942	225.5	588.3
2011[3]	10,455	8,780	1,663	1,023	3,146	25,067	230.8	609.2
2012	10,491	10,495	1,856	1,090	3,097	27,031	236.0	630.2
2013	10,967	10,623	1,867	1,139	3,122	27,717	239.5	652.6
2014	11,114	11,045	1,998	1,117	3,121	28,395	242.5	677.3
2015	11,564	11,362	2,134	1,144	2,949	29,153	244.0	700.4
2016	12,103	11,516	2,235	1,177	3,096	30,127	244.6	717.1
2017	12,801	12,380	2,564	1,171	3,027	31,942	246.9	738.3
2018	13,243	12,151	2,438	1,121	2,995	31,948	250.0	770.4
2019	13,748	12,802	2,562	1,165	3,125	33,402	253.8	805.6
2020	14,268	13,347	2,691	1,192	3,280	34,778	258.0	838.2
2021	14,824	14,459	2,768	1,253	3,449	36,753	262.3	870.4
2022	15,146	14,987	2,840	1,300	3,578	37,850	267.3	904.9
2023	15,483	15,558	2,933	1,339	3,745	39,057	272.6	941.8
2024	15,817	16,144	3,001	1,402	3,863	40,227	278.1	980.4
2025	16,148	16,745	3,061	1,427	4,137	41,519	283.6	1,020.6
Average Annual Growth Rates								
1999 to 2009	4.1%	3.9%	4.4%	1.9%	4.3%	4.0%	2.8%	4.3%
2009 to 2019	2.0%	4.1%	4.8%	2.0%	-3.9%	2.1%	1.3%	3.3%
2019 to 2025	2.7%	4.6%	3.0%	3.4%	4.8%	3.7%	1.9%	4.0%

[1]Includes State System of Higher Education and Thaddeus Stevens College of Technology.
[2]Prior to FYE 2017, Criminal Justice excludes the Board of Probation and Parole.
[3]Excludes expenditures supported by funds provided under the American Recovery and Reinvestment Act of 2009 (ARRA). Excluded ARRA amounts are: $1.2 billion (FYE 2009), $2.7 billion (FYE 2010) and $3.1 billion (FYE 2011).
Source: Executive Budget, various years. Projections by IFO.

Other Funds

This report facilitates an assessment of the Commonwealth's fiscal condition by providing a detailed analysis of General Fund revenues and expenditures for the current fiscal year and the next five fiscal years. In addition to the General Fund, the Commonwealth maintains numerous special funds dedicated to specific purposes. In general, this report does not address those funds; however, three special funds have unique implications for General Fund expenditures.

Table A.5
Other Fund Disbursements to Offset General Fund Expenditures

Fiscal Year	Lottery[1]	Tobacco[2]	Oil & Gas[3]	Total
2008-09	$301	$248	$12	$561
2009-10	178	263	19	460
2010-11	178	228	24	430
2011-12	178	290	60	528
2012-13	309	255	68	632
2013-14	330	256	102	688
2014-15	477	326	132	935
2015-16	310	284	86	680
2016-17	308	297	50	655
2017-18	253	303	58	614
2018-19	372	291	48	711
2019-20	322	319	80	722
2020-21	352	273	48	673
2021-22	372	273	48	693
2022-23	382	273	48	703
2023-24	392	273	48	713
2024-25	407	273	48	728

Note: Millions of dollars.

[1]Includes MA Long-Term Care, Home and Community-Based Services, Community HealthChoices and MA Transportation.

[2]Includes MA for Workers with Disabilities, Long-Term Care, Home and Community-Based Services, Community HealthChoices and Uncompensated Care.

[3]Includes General Government, State Parks and State Forests.

For recent fiscal years, General Fund appropriations for the Departments of Human Services and Conservation and Natural Resources have been supplemented by the Lottery Fund (Human Services), the Tobacco Settlement Fund (Human Services) and the Oil and Gas Lease Fund (Conservation and Natural Resources). **Table A.5** displays a history and forecast for special funds that augment General Fund expenditures.

Due to the interrelation between these special funds and certain General Fund appropriations, this appendix projects revenues and expenditures for the Lottery Fund, Tobacco Settlement Fund and Oil and Gas Lease Fund for FY 2019-20 through FY 2024-25. These forecasts inform the projection of General Fund appropriations found in the main body of the report. Unless otherwise noted, if special funds cannot sustain the same level of funding provided in prior years, the analysis assumes that future General Fund appropriations will increase to make up the difference.

Lottery Fund

The majority of Lottery Fund revenues support programs that address the needs of a growing elderly population in Pennsylvania. The Departments of Human Services (DHS), Revenue and Transportation receive General Fund and Lottery Fund appropriations. Lottery monies fund most of the budget for the Department of Aging, and that agency does not receive any General Fund appropriations.

For FY 2018-19, Lottery Fund expenditures were roughly equal to funds available ($2.00 billion). (See **Table A.6**.) The forecast assumes that (1) the General Fund will absorb DHS program costs beginning in FY 2019-20 ($79 million) and on an adjusted basis through FY 2024-25, and (2) programs administered by the Department of Transportation will be flat funded. Combined, these assumptions allow the Lottery Fund to maintain a small, positive ending balance in future fiscal years.

Gross ticket sales are projected to grow at an average rate of 2.2 percent per annum for FY 2019-20 through FY 2024-25:

- Instant ticket sales grow by 3.1 percent per annum, based on trends in disposable cash income and the 18 or older population, who may legally purchase tickets.
- Multi-state lottery sales are primarily driven by large jackpots which have yet to materialize in FY 2019-20. As a result, sales for the current fiscal year are expected to decline 11.2 percent. Future fiscal years grow at a rate of 2.3 percent per annum.
- Other traditional game (in-state lottery, numbers and raffle) sales decline by 0.9 percent per annum. Numbers games are projected to decline by 2.5 percent per annum, while in-state lottery sales are projected to increase by 2.2 percent per annum.
- Sales for iLottery are projected to total $564 million in FY 2019-20, the first full year after the initial ramp-up. Sales in future fiscal years level off, growing at an anticipated rate of 1.7 percent per annum.

The forecast projects that net revenues (gross ticket sales less prizes, commissions, transfers and other amounts) will grow at an average rate of 1.8 percent per annum from FY 2019-20 to FY 2024-25. Although ticket sales grow at a faster pace (2.2 percent), net revenues are restrained by higher overall prize payouts (largely associated with iLottery).

The forecast projects that total expenditures will increase by 1.7 percent per annum from FY 2019-20 through FY 2024-25. The department details are as follows:

- Department of Aging appropriations grow by 2.1 percent per annum. Those revenues are earmarked for general operations, PENNCARE, Pre-Admissions Assessment, Caregiver Support, Alzheimer’s Outreach, Pharmaceutical Assistance Fund and grants for senior centers. PENNCARE appropriations for FY 2019-20 and FY 2020-21 decline as program costs shift to the Community HealthChoices appropriation in DHS and grow at a rate of 4.6 percent per annum thereafter. The transfer to the Pharmaceutical Assistance Fund is projected to remain flat through FY 2024-25 as the program’s income thresholds limit the growth in the eligible population. Other programs are projected based on trends for the 65 or older age cohort or the total population and the CPI-U.
- Projections for DHS appropriations (primarily MA Community HealthChoices) assume the General Fund will absorb $79 million of program costs beginning in FY 2019-20 and continuing on an adjusted basis through FY 2024-25. This shift allows the Lottery Fund to maintain a small, positive balance in future fiscal years.
- Department of Revenue (DOR) appropriations grow by 0.7 percent per annum. Approximately two-thirds of appropriations are used for administrative and advertising expenses, vendor commissions and the payment of prize monies. After adjusting for one-time expenses in FY 2019-20, the forecast projects that those operational costs increase in relation to total game sales, as games with higher prize payouts (primarily iLottery) make up a larger share of the total sales mix. The Property Tax Rent Rebate (PTRR) forecast declines over the forecast period due to the program’s statutorily set rebate amounts and income eligibility thresholds. As incomes rise over time, more households will exceed the income limits.
- Department of Transportation appropriations decline 4.5 percent for FY 2019-20 and are held flat through the forecast period. The revenues are earmarked for the Older Pennsylvanians Shared Ride program and a transfer to the Public Transportation Trust Fund.

Table A.6
Lottery Fund Financial Statement

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Beginning Balance[1]	**$4**	**$4**	**--**	**--**	**--**	**--**	**--**
Gross Ticket Sales	4,884	5,110	$5,230	$5,355	$5,475	$5,592	$5,706
Less Field Paid Prizes & Comm.	-3,099	-3,348	-3,447	-3,528	-3,606	-3,681	-3,755
Transfers, Earnings and Lapses	213	148	144	141	137	133	133
Net Revenue	**1,998**	**1,910**	**1,927**	**1,968**	**2,006**	**2,044**	**2,084**
Funds Available	**2,002**	**1,914**	**1,927**	**1,968**	**2,006**	**2,044**	**2,084**
Aging	525	492	485	499	514	530	546
Human Services	372	322	352	372	382	392	407
Revenue	922	924	910	922	934	945	957
Transportation	179	171	171	171	171	171	171
Total Expenditures	**1,998**	**1,909**	**1,918**	**1,964**	**2,001**	**2,038**	**2,081**
Ending Balance	**4**	**5**	**9**	**4**	**5**	**6**	**3**

Note: Millions of dollars.

[1]Beginning balance omitted for FY 19-20 and thereafter.

Tobacco Settlement Fund

The Tobacco Settlement Fund receives monies paid to the Commonwealth under the Tobacco Master Settlement Agreement. The agreement ended litigation between certain large tobacco companies and state attorneys general regarding the advertising, marketing and promotion of tobacco products, as well as the costs incurred by state Medicaid programs to treat smoking-related illnesses. The revenues received by the fund generally are used for health-related programs.

For FY 2018-19, receipts ($346 million) exceeded expenditures ($340 million), which increased the fund balance from $107 million at the beginning of the fiscal year to an estimated $113 million at the end of the year (excludes federal funds). (See **Table A.7**, next page.) Tobacco Settlement Fund revenue projections for FY 2019-20 through FY 2024-25 are based on the schedule of annual payments to Pennsylvania included in the Master Settlement Agreement. The last strategic contribution payment was received in the Spring of 2017.

As permitted by Act 43 of 2017, the Commonwealth Financing Authority issued 30-year bonds with a principal amount of $1.5 billion backed by proceeds from the Master Settlement Agreement. Annual principal and interest payments totaling $115 million begin in FY 2019-20. Funds to make the principal and interest payments will be transferred to the Commonwealth Financing Authority. Act 20-2019 mandates a transfer of cigarette tax revenues into the Tobacco Settlement Fund in the amount of the required debt service for FY 2019-20. As a result, the fund is held harmless in the current fiscal year. The forecast assumes that General Fund revenues will continue to be transferred into the fund to cover the annual debt service payments.

The expenditure forecast reflects the following assumptions:

- The Department of Health expenditures are based on the FY 2019-20 percentage allocations of receipts for the Tobacco Use, Prevention and Cessation and the Health Research line items. These allocations are used for all years of the forecast.
- The Department of Human Services appropriations for MA – Workers with Disabilities and Uncompensated Care are based on the FY 2019-20 allocation percentages for these line items. The Community HealthChoices appropriation is projected at $144 million in FY 2020-21 and remains level through FY 2024-25.

Table A.7
Tobacco Settlement Fund Financial Statement

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Beginning Balance[1]	**$107**	**$113**	**$15**	**--**	**--**	**--**	**--**
Gross Settlements	341	337	337	$337	$337	$337	$337
Transfer to Tobacco Revenue Bond Debt Service	0	-115	-115	-115	-115	-115	-115
NPM Adjustment Settlement Agreement[2]	359	0	0	0	0	0	0
NPM transfer to MA - Community HealthChoices[2]	-344	0	0	0	0	0	0
NPM transfer to Criminal Enforcement Account[2]	-15	0	0	0	0	0	0
Transfer from Cigarette Tax	0	115	115	115	115	115	115
Interest and Other	5	4	0	0	0	0	0
Total Revenues	**346**	**341**	**337**	**337**	**337**	**337**	**337**
Funds Available	**453**	**454**	**352**	**337**	**337**	**337**	**337**
Community & Economic Development[3]	3	3	3	3	3	3	3
Health[3]	46	116	61	61	61	61	61
Human Services[3]	291	320	273	273	273	273	273
Total Expenditures	**340**	**439**	**337**	**337**	**337**	**337**	**337**
Ending Balance	**113**	**15**	**15**	**--**	**--**	**--**	**--**

Note: Millions of dollars. Excludes federal funds.

[1] Beginning balance omitted for FY 21-22 and thereafter.

[2] NPM stands for Non-Participating Manufacturer.

[3] FY 18-19 expenditures are presented on a cash basis. FY 19-20 expenditures may reflect prior year spending authority in addition to current year appropriations.

Oil and Gas Lease Fund

The Oil and Gas Lease Fund (OGLF) receives monies from the leasing of state lands for oil and gas drilling, in the form of rents, royalties, bonus payments and interest. The OGLF revenues support programs related to environmental conservation. Expenditures from the fund are made to the Department of Conservation and Natural Resources (DCNR), with priority given to state park and state forest programs and the Marcellus Legacy Fund, which supports other conservation-related programs.

For FY 2018-19, revenues ($78 million) were less than expenditures ($83 million), which decreased the fund balance from $20 million at the beginning of the fiscal year to $16 million at the end of the year. For FY 2019-20, appropriations from the OGLF include $32 million to state park and state forest programs, $38 million for DCNR's general government operations and a $15 million transfer to the Marcellus Legacy Fund. The DCNR appropriations include $21 million that would typically be covered by the General Fund. Based on revenues of $81 million, the fund balance is projected to be $2 million at the end of the fiscal year. **Table A.8** on the next page displays the financial statement for the OGLF.

The forecast projects that royalty revenues will experience modest growth after FY 2019-20 as the price of natural gas remains relatively low. Sustained growth in both national and regional production, which has outpaced record-high demand, has suppressed prices. During the forecast period, regional prices are projected to grow at a rate of 1.0 percent per annum and Pennsylvania production is projected to increase at a rate of 7.2 percent per annum.[20] Recent data show that production on state lands has not increased with statewide production. Therefore, the OGLF royalty revenues are largely dependent on natural gas prices, which are projected to remain low due to strong production during the forecast period.

The revenue projection uses a combination of data provided by DCNR, DEP and Bentek Energy. Royalties are forecasted using expected trends in price and production through the forecast horizon, with adjustments to reflect actual prices received from sales of gas extracted from state lands. Rentals and bonus payments are projected to remain flat.

The forecast reflects the following assumptions:

- Expenditures from the fund represent statutory provisions for (1) an appropriation of up to $50 million annually for DCNR and (2) a $35 million transfer to the Marcellus Legacy Fund for distribution to the Environmental Stewardship Fund ($20 million for FY 2017-18 and thereafter) and the Hazardous Sites Cleanup Fund ($15 million for FY 2017-18 and thereafter). This transfer was reduced to $15 million for FY 2019-20, but the forecast assumes that it returns to $35 million in the out-years.
- The current revenue forecast projects that the fund can support $48 million in annual appropriations for DCNR operations and the transfer to the Marcellus Legacy Fund. For FY 2020-21, the projected $2 million ending balance in FY 2019-20 would be needed to cover the $1 million shortfall in the budget year.

[20] Price and production projections are from Bentek Energy.

Table A.8
Oil and Gas Lease Fund Financial Statement

Fiscal Year	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Beginning Balance[1]	**$20**	**$16**	**--**	**--**	**--**	**--**	**--**
Royalties	67	70	$71	$72	$73	$74	$75
Rents, Interest and Other	11	11	11	11	11	11	11
Total Revenues	**78**	**81**	**82**	**83**	**84**	**86**	**87**
Funds Available	**98**	**97**	**82**	**83**	**84**	**86**	**87**
Cons. and Natural Resources[2]	48	80	48	48	48	48	48
Transfers to Other Funds	35	15	35	35	35	35	35
Total Expenditures	**83**	**95**	**83**	**83**	**83**	**83**	**83**
Ending Balance	**16**	**2**	**-1**	**0**	**1**	**3**	**4**

Note: Millions of dollars.

[1]Beginning balance omitted for FY 19-20 and thereafter.

[2]FY 18-19 expenditures are presented on a cash basis. FY 19-20 expenditures may reflect prior year spending authority in addition to current year appropriations.