Commonwealth of Pennsylvania

ECONOMIC & BUDGET OUTLOOK

FISCAL YEARS 2016-17 TO 2021-22

Independent Fiscal Office

NOVEMBER 2016

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 will 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

Second Floor, Rachel Carson State Office Building
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Harrisburg, Pennsylvania 17105

November 15, 2016

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 2016) or IHS Economics (October 2016). Demographic projections are from the Pennsylvania State Data Center based on tabulations from the 2015 Population Estimates by the U.S. Census Bureau. Historical revenue and expenditure data are from the Commonwealth's Consolidated Annual Financial Report, the Governor's Executive Budget 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 who 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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Executive Summary

This report examines the demographic, economic, revenue and expenditure trends that will affect the Commonwealth's fiscal condition through fiscal year (FY) 2021-22. Based on the economic and demographic assumptions used by this report, the evaluation finds that various factors imply a long-term fiscal imbalance.

From FY 2016-17 to FY 2021-22, the forecast projects that General Fund revenues will increase at an average rate of 3.3 percent per annum. The rate increases to **3.5 percent per annum** if certain one-time revenue gains are excluded from FY 2016-17. Personal income and sales taxes motivate most revenue gains. By FY 2021-22, those revenue sources will comprise nearly three-quarters (73.8 percent) of General Fund revenues.

Motivated by outlays related to healthcare, and to a lesser extent pensions, expenditures will increase at an average rate of **4.6 percent per annum**. Expenditures for the Department of Human Services (DHS) expand at an average rate of 5.8 percent per annum. Excluding that agency, expenditures grow by 3.8 percent per annum. Actual expenditures would be higher if the potential supplemental appropriations ($388 million) recently identified by DHS were included. Because those amounts have not been appropriated or proposed, they are not included in the summary table below.

Compared to the report issued for the prior fiscal year, the estimated structural deficit identified for FY 2020-21 is largely unchanged ($2.7 billion). Despite a tax package that enacted permanent tax law changes, other policy actions, slightly weaker economic growth and more rapid expansion of certain human services costs offset that impact. This report discusses the factors that motivate that result.

General Fund Projections

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Beginning Balance[1]	$257	$2	--	--	--	--	--
Current Year Revenues	30,902	32,311	$32,971	$34,176	$35,379	$36,758	$37,936
Less Refund Reserve	-1,250	-1,375	-1,375	-1,380	-1,425	-1,475	-1,530
Net Revenue	29,652	30,936	31,596	32,796	33,954	35,283	36,406
State Expenditures[2]	-30,127	-31,535	-33,443	-35,151	-36,655	-38,131	-39,486
Current Year Balance	-476	-599	-1,846	-2,355	-2,701	-2,849	-3,080
Adjustment for Lapses[3]	221	75	100	100	100	100	100
Preliminary Ending Balance	**2**	**-524**	**-1,746**	**-2,255**	**-2,601**	**-2,749**	**-2,980**

Note: figures in dollar millions.

[1] Includes adjustments. Beginning balance omitted for FY 2017-18 and thereafter.

[2] Based on appropriations and executive authorizations.

[3] Current year lapses plus prior year lapses.

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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) 2021-22. 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 demographic trends. Actual revenues and expenditures could deviate significantly from projections due to the uncertainty of economic forecasts and technical factors, such as new federal match rates for spending programs or the adoption of new collective bargaining agreements.

The report designates FY 2016-17 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 2021-22. The analysis assumes that the complement across all executive agencies expands at the same rate as the state population, except the Department of Corrections and the Board of Probation and Parole. For those agencies, the analysis assumes that the ratio of staff to inmates or parolees remains constant over the five-year window.

The report assumes that expenditures grow in a manner that is sufficient to maintain the level of real services provided in the base year. Hence, all expenditure projections include an inflation adjustment to compensate for rising prices. Relevant service populations are also allowed to expand (e.g., older residents who require long-term care) or contract (e.g., elementary school students) based on demographic projections.

The report projects General Fund revenues and the expenditures supported by those revenues. The report also includes projections for the Lottery, Tobacco Settlement and Oil and Gas Lease Funds. The report identifies amounts from those funds that are available to support General Fund expenditures. If expenditure growth cannot be supported by those funds, then the report assumes that funding is shifted to the General Fund. The Appendix provides additional detail regarding those funds.

The economic, demographic, revenue and expenditure projections contained in this report can be used as neutral benchmarks to assess pertinent issues such as:

- If economic conditions revert to historical trends, are current tax and spending policies fiscally sustainable?
- What factors drive the fiscal imbalance over the next five years?

The remainder of this report contains five Outlook sections: Demographic, Economic, Revenue, Expenditure and Fiscal Outlooks. An Appendix provides additional data, background and context for the report.

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Section 2: Demographic Outlook

Demographics are a fundamental force that motivates long-term economic, revenue and expenditure trends. Demographic trends determine key populations, such as the potential labor force, 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 from the Pennsylvania State Data Center, the official state demographer.

Trends by Age Group

Demographic projections for Pennsylvania reveal the following trends for 2015 to 2025 (see Table 2.1):

- Total population increases by 473,000 (0.4 percent per annum).
- Nursery, pre-school and elementary students (age 0 to 9) decrease by 60,000 (-0.4 percent per annum).
- Middle and high school students (age 10 to 19) increase by 36,000 (0.2 percent per annum).
- The 20 to 39 year age cohort increases by 175,000 (0.5 percent per annum). This group includes Millennials in 2025.
- The 40 to 59 year age cohort declines by 389,000 (-1.2 percent per annum). This group includes Generation X in 2025.
- The 60 to 79 year age cohort increases by 615,000 (2.3 percent per annum). This group includes most of the Baby Boom generation in 2025.
- The 80 and over age cohort increases by 96,000 (1.5 percent per annum).

For 2015 to 2020, broad demographic trends could have implications for the revenue and expenditure projections included in this report. For example, revenue growth could be affected by these trends:

- The forecast projects that the primary working age population (age 20 to 64) will contract during the five-year interval (-103,000, -1.4 percent). If labor force participation rates do not increase, then this trend will restrain economic and revenue growth.
- The continued transition of the large Baby Boom cohort into retirement will restrain total statewide wage growth. Those retirees will be replaced by lower-paid workers, and this natural "churning" will restrain total wages earned to a greater extent than historical trends.

Table 2.1
Pennsylvania Demographics: 2005 - 2015 - 2025

Age	Number of Residents (000s)			Gain or Loss (000s)		Avg. Annual Growth	
Cohort	2005	2015	2025	2005-15	2015-25	2005-15	2015-25
0-4	722	715	687	-7	-28	-0.1%	-0.4%
5-9	746	736	704	-10	-32	-0.1	-0.4
10-14	852	760	738	-92	-22	-1.1	-0.3
15-19	906	830	888	-76	58	-0.9	0.7
20-24	817	853	938	36	85	0.4	1.0
25-29	735	863	799	128	-64	1.6	-0.8
30-34	733	800	806	67	6	0.9	0.1
35-39	837	740	888	-97	147	-1.2	1.8
40-44	952	759	806	-193	47	-2.2	0.6
45-49	989	842	742	-147	-99	-1.6	-1.2
50-54	899	932	743	33	-189	0.4	-2.2
55-59	782	952	804	169	-147	2.0	-1.7
60-64	593	840	874	247	33	3.6	0.4
65-69	475	697	862	222	165	3.9	2.2
70-74	426	500	727	74	227	1.6	3.8
75-79	406	367	556	-40	189	-1.0	4.2
80-84	315	283	347	-33	64	-1.1	2.1
85-89	177	221	249	44	28	2.2	1.2
90-94	71	89	97	17	8	2.2	0.9
95+	16	24	19	8	-5	4.2	-2.3
Total	**12,450**	**12,803**	**13,276**	**353**	**473**	**0.3**	**0.4**
Age Cohort Summary							
0-19	3,226	3,041	3,018	-185	-23	-0.6%	-0.1%
20-39	3,122	3,257	3,432	135	175	0.4	0.5
40-59	3,622	3,484	3,095	-137	-389	-0.4	-1.2
60-79	1,900	2,404	3,019	504	615	2.4	2.3
80+	580	616	712	36	96	0.6	1.5
Total	**12,450**	**12,803**	**13,276**	**353**	**473**	**0.3**	**0.4**

Note: thousands of residents.
Source: Pennsylvania State Data Center. Detail may not sum to total due to rounding.

Expenditure projections could also be affected by demographic trends from 2015 to 2020:

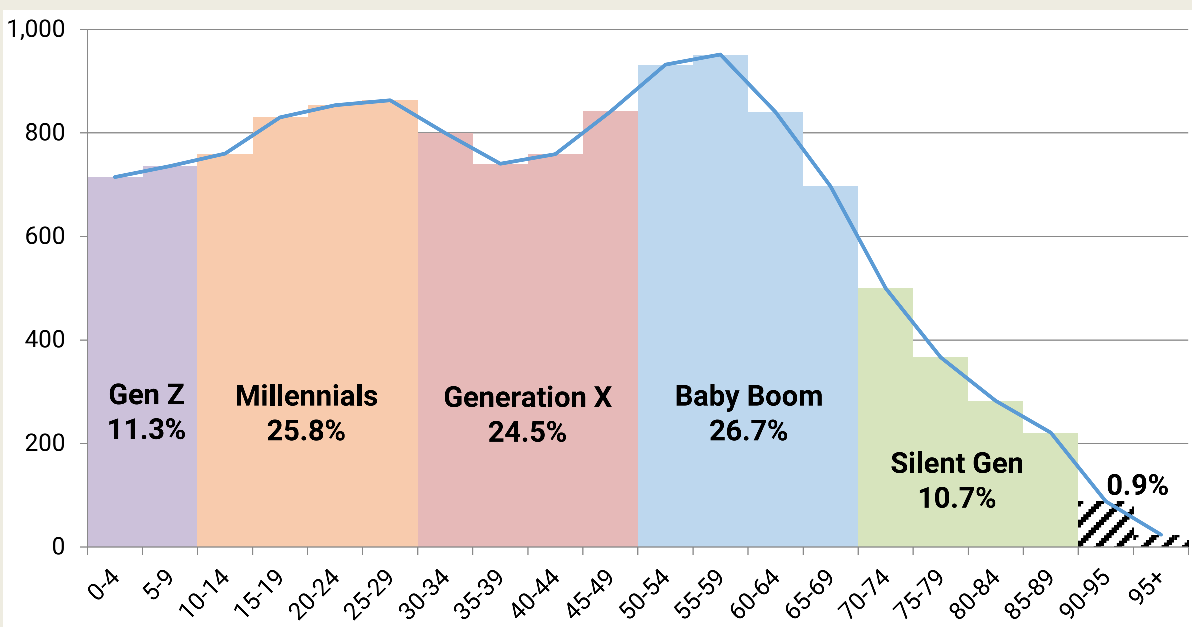
- The forecast projects a contraction of residents age 5 to 14 (-23,200, -1.5 percent). That trend will affect basic and special education funding.
- The increase in the 65 and older age cohort (320,400, 14.7 percent) implies significant growth in demand for healthcare and long-term care services.

The subsections that follow provide further discussion of demographic trends for the remainder of the current decade and the two decades that follow. Additional demographic detail can be found in the Appendix.

Pennsylvania Population Distribution

Figure 2.1 displays the Pennsylvania population distribution for 2015 based on generations. The distribution is characterized by two peaks comprised of Baby Boomers (age 50 to 69 in 2015, 26.7 percent of total population) and Millennials (age 10 to 29, 25.8 percent). Between those generations resides Generation X. Generation Z and the Silent Generation reside on the upper and lower tails of the distribution.

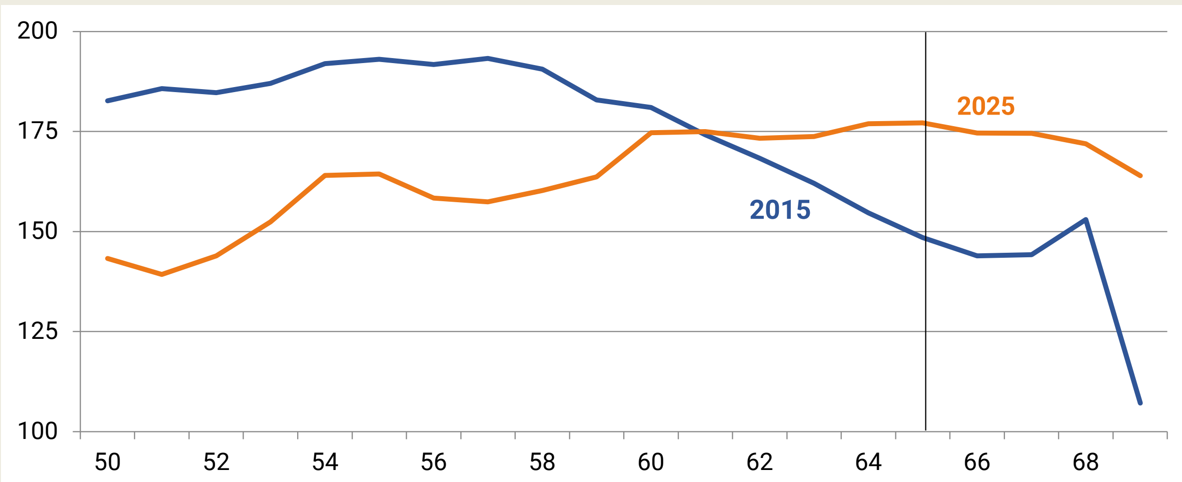
Figure 2.1
2015 Pennsylvania Population Distribution



Note: thousands of residents.
Source: Pennsylvania State Data Center.

Figure 2.2 displays the distribution of residents age 50 to 69 for 2015 (estimated) and 2025 (projected). The figure provides a “close up” for the Baby Boom generation depicted in Figure 2.1. For 2015, the additional detail reveals the dramatic difference (42.8 percent) in the number of residents age 68 compared to those age 69, and represents the leading edge of the Baby Boom generation. For 2014, the average retirement age was 62 for women and 64 for men, so the great majority of those individuals have likely retired. Figure 2.2 illustrates that the number of retirements will continue to increase every year over the next decade. Moving forward ten years, the 2025 distribution shows that the number residents turning age 65 will have peaked, and retirements will generally decline over the decade that follows. This dynamic occurs due to the aging of the smaller Generation X.

Figure 2.2
Two Distributions for Residents Age 50 to 69: 2015 vs. 2025



Note: thousands of residents.
Source: Pennsylvania State Data Center.

Components of Population Change

Table 2.2 decomposes the change in the Pennsylvania population from 2015 to 2020 and the two decades that follow into births less deaths (organic growth), domestic migration and international migration. For 2015 to 2020, the forecast projects that:

- Organic growth will comprise a little less than one-third (30.0 percent) of net population gains.
- Domestic migration to other states will produce a contraction of 30,000 residents.
- International migration will comprise most (82.4 percent) of the net population gains.

International migration will continue to be a crucial factor for long-term population growth because the forecast projects that organic population growth will turn negative (-82,000) for the 2030-40 decade. For the next two decades, the forecast projects that net international migration will drive all state population gains. The median international migrant (age 27.1 for those migrating in 2010 or later) is much younger than the median Pennsylvania resident (age 40.7 in 2015). Therefore, international migration will provide needed growth to the Pennsylvania labor force.

From 2015 to 2040, the forecast projects that the Pennsylvania population will expand by 1.13 million residents (8.8 percent). (See middle and bottom of Table 2.2.) Despite births and migration adding residents to the lower and middle parts of the population distribution, the 80 and older age cohort will show the largest gains of all age groups due to longer life expectancies and the aging of the Baby Boom generation.

Compared to the report issued last year by the IFO, newly available data had a significant impact on certain aspects of the state population projection. Notable changes can be summarized as follows:

- Organic growth has been revised downward due to lower fertility rates.
- Domestic migration has been revised downward from a small net positive to negative. The revision is based on new migration data from the U.S. Census Bureau and tax return data from the IRS. (See page 11.)
- International migration has been revised upward significantly. The U.S. Census data show that roughly half of recent immigrants are from Asia, a quarter from Latin America, and the remainder from Africa and Europe.

Table 2.2
Components of Population Change

	By Source of Change (000s)			Cumulative
	2015-20	2020-30	2030-40	2015-40
Start of Decade or Period	**12,803**	**13,041**	**13,506**	**12,803**
Births less Deaths	72	57	-82	46
Net Domestic Migration	-30	-64	-66	-159
Net International Migration	196	473	577	1,246
End of Decade or Period	**13,041**	**13,506**	**13,935**	**13,935**
	By Age Cohort (000s)			**Cumulative**
	2015-20	**2020-30**	**2030-40**	**2015-40**
Age 0 to 19	21	-65	46	2
Age 20 to 39	77	122	199	398
Age 40 to 59	-253	-77	171	-159
Age 60 to 79	371	264	-307	327
Age 80 or more	23	222	320	564
All Age Groups	**238**	**465**	**428**	**1,132**
	Average Annual Growth Rates			**Cumulative**
	2015-20	**2020-30**	**2030-40**	**2015-40**
Age 0 to 19	0.1%	-0.2%	0.2%	0.1%
Age 20 to 39	0.5	0.4	0.6	12.2
Age 40 to 59	-1.5	-0.2	0.5	-4.6
Age 60 to 79	2.9	0.9	-1.1	13.6
Age 80 or more	0.7	3.0	3.2	91.6
All Age Groups	**0.4**	**0.4**	**0.3**	**8.8**

Note: thousands of residents.
Source: Pennsylvania State Data Center.

State Migration Data

The IRS publishes annual data files that use taxpayer returns to track migration between states. These data represent taxpayers and their claimed dependents, but do not reflect the migration of individuals who do not file a federal tax return (e.g., certain elderly), or are not claimed as a dependent. Unlike Census data, the tabulations are based on actual administrative data, and do not rely on surveys. Therefore, although the IRS data likely understate migration patterns of certain groups, they are more reliable in many respects.

The data reveal the following trends for taxpayers who filed returns in different states for tax years 2013 and 2014, which were filed in calendar years 2014 and 2015:

- Roughly one-third (32.1 percent) of gross inflows to Pennsylvania were from New York and New Jersey.
- Similar to historical years, Florida recorded the largest net gain of Pennsylvania residents.
- The total 2015 net change (-16,434) was lower than 2014 (-26,482) and 2013 (-21,578).

Table 2.3
Domestic Migration - Calendar Years 2014 to 2015

	Inflow to PA	Outflow from PA	Change
New Jersey	20,147	15,610	4,537
New York	20,049	14,750	5,299
Maryland	9,371	8,542	829
West Virginia	2,268	2,194	74
Virginia	5,546	6,742	-1,196
Ohio	5,405	6,484	-1,079
Delaware	4,262	5,547	-1,285
Florida	9,671	18,180	-8,509
California	5,230	7,113	-1,883
Texas	7,013	8,509	-1,496
North Carolina	4,484	6,775	-2,291
All Other	31,722	41,156	-9,434
Total	**125,168**	**141,602**	**-16,434**

Notes: Inflows and outflows represent number of exemptions claimed on tax return for primary filer that moved into or out of PA from filing year 2014 to filing year 2015. Data exclude any individuals not required to file a tax return or not claimed as an exemption on a tax return.

Source: Statistics of Income Division, Internal Revenue Service.

Labor Force Participation Rates

Given the size of the potential labor force (i.e., all residents age 16 or older), labor force participation rates determine the size of the actual Pennsylvania labor force. Residents age 16 or older are part of the labor force if they are employed or actively seek employment, but remain unemployed. The statewide labor force participation rate is equal to the ratio of the labor force to all residents age 16 or older. From 2000 to 2015, Pennsylvania total labor force participation rates declined from 64.0 to 62.8 percent, a reduction of 1.2 percentage points. (See Table 2.4.)

The underlying detail reveals unique trends across age groups:

- The participation rate for males age 25 to 54, a group that comprises a significant portion of the Pennsylvania labor force, has generally declined, but recently increased in 2015. The long-term trend (3.0 percentage point decline from 2000 to 2015) is similar to the U.S. (3.4 percentage point decline).
- The participation rate for residents age 55 to 64 has not changed appreciably since 2005.
- The participation rate for residents age 65 or older has increased significantly. If residents age 65 or older with disabilities are excluded, then the participation rate increases from 18.7 to 23.6 percent for 2015. Those levels and trends are similar to the U.S.

Given the demographic projections from the previous subsection, the Pennsylvania labor force will contract, unless labor force participation rates increase. Over time, a larger labor force increases the potential output of the Pennsylvania economy and provides a solid foundation for future growth.

Table 2.4
Pennsylvania Labor Force Participation Rates

		Age 25-54 Only		Age Groups (Both Genders)					
Year	Total	Male	Female	16-19	20-24	25-44	45-54	55-64	65+
2000	64.0%	91.7%	76.9%	52.6%	76.4%	84.2%	83.8%	60.0%	10.9%
2005	64.4	89.8	77.3	46.0	74.9	83.6	83.1	65.2	12.4
2010	63.2	90.0	76.2	40.7	70.6	83.6	81.9	65.4	16.5
2011	63.2	88.6	75.2	45.3	72.3	82.9	80.1	64.1	16.1
2012	64.0	89.5	76.0	41.8	73.6	83.9	80.6	65.5	17.2
2013	63.4	88.5	75.5	40.4	71.1	82.8	80.3	66.1	17.6
2014	62.4	87.9	75.2	40.9	69.9	82.5	79.3	67.3	16.9
2015	62.8	88.7	76.4	39.4	74.1	83.2	81.4	65.7	18.7

Source: U.S. Bureau of Labor Statistics, Current Population Survey; Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis.

Dependency Ratios

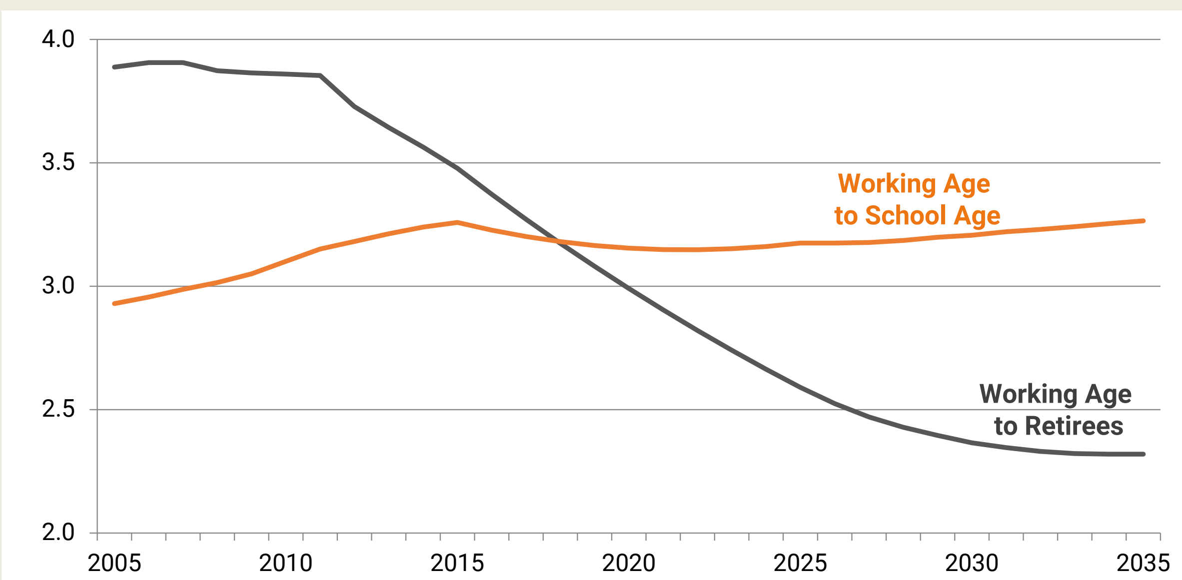
A common metric used by demographers is dependency ratios. These ratios provide a convenient metric to summarize important trends in a state or national population. Two widely-used dependency ratios are the youth and elderly dependency ratios. For this report, the youth dependency ratio is defined as the ratio of residents age 20 to 64 (i.e., the workforce) to residents age 0 to 19. The elderly dependency ratio uses the same numerator, but residents age 65 or older in the denominator.

The actual data and projections for 2005 through 2035 reveal the following:

- For 2015 through 2035, there is little change in the youth dependency ratio: there are roughly 3.2 working age adults for every resident under age 20. Both age groups experience a modest contraction over the next two decades, and the ratio remains stable.
- The elderly dependency ratio falls from 3.9 to 2.3. The ratio decreases every year through 2030, and then levels off. The downward slope corresponds exactly to the retirement of the Baby Boomers.

This simple graph provides an illustration of the challenges that will be faced by Commonwealth residents over the next decade. Over time, there will be relatively fewer working age residents to support the needs of a rapidly expanding elderly population. Stated differently, the burden of support will fall on a relatively smaller group of taxpayers.

Figure 2.3
Ratio of Pennsylvania Working Age Populace to Retirees and School Age Population



Source: U.S. Census Bureau and Pennsylvania State Data Center.

Regional Population Comparison

Table 2.5 displays population estimates for Pennsylvania, surrounding states and the U.S. for 2010 and 2015. During that time period, the state population expanded at the same rate as Ohio, more rapidly than West Virginia, but lagged other surrounding states. Compared to the U.S., state population growth was notably lower. Other results include:

- The data show that 23.8 percent of Pennsylvania residents are under age 20, 1.8 percentage points lower than the nation. Compared to surrounding states, only West Virginia has a lower share of population under age 20.
- Nearly three-fifths (59.2 percent) of the state population resided in the typical working age range (ages 20 to 64, not shown). That share is roughly the same as the U.S., and higher than three surrounding states.
- The share of residents age 65 or older is the same or higher than all surrounding states, except for West Virginia. Based on median age, Pennsylvania (median age of 40.7) was the sixth oldest state in the nation behind Maine (44.5), Vermont (42.8), New Hampshire (42.8), West Virginia (42.1) and Florida (41.9).

Table 2.5
Regional Population Comparison

	Levels (000s) and Growth			Shares and Median Age		
	2010	2015	AAGR	< 20	65+	Median
Pennsylvania	12,712	12,803	0.1%	23.8%	17.0%	40.7
Delaware	900	946	1.0	24.3	17.0	40.0
Maryland	5,788	6,006	0.7	25.0	14.1	38.4
Ohio	11,541	11,613	0.1	25.3	15.9	39.3
New Jersey	8,804	8,958	0.3	24.8	15.0	39.6
New York	19,403	19,796	0.4	23.9	15.0	38.3
Virginia	8,026	8,383	0.9	25.0	14.2	37.8
West Virginia	1,854	1,844	-0.1	23.0	18.2	42.1
U.S.	309,347	321,419	0.8	25.6	14.9	37.8

Note: AAGR is average annual growth rate.
Source: U.S. Census Bureau Population Estimates.

Section 3: Economic Outlook

Six metrics provide a broad snapshot of the Pennsylvania economy: (1) real state gross domestic product (GDP, excludes inflation), (2) nominal GDP, (3) personal income, (4) wages and salaries, (5) the regional consumer price index (CPI-U) and (6) the annual change in payroll employment. These variables motivate most General Fund revenue projections contained in this report. Table 3.1 displays historical and projected average annual growth rates for these measures for the two most recent six-year intervals (2004-10 and 2010-16) and the forecast period (2016-22).

The projected average annual growth rates for the forecast period exceed certain historical averages. That outcome is attributable to the severe 2008-09 recession caused by the housing and financial crisis. The economic forecast assumes that the state and national economies return to a historical, non-recession rate of expansion. 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.

The economic forecast is based on historical trends for the state and national economies. Key assumptions include the following:

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

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

Table 3.1
Average Annual Growth Rates for Pennsylvania Economic Variables

	2004-10	2010-16	2016-22
Real GDP	0.8%	1.6%	1.9%
Nominal GDP	3.4%	3.2%	4.1%
Personal Income	3.5%	3.5%	4.3%
Wages and Salaries	2.8%	3.3%	3.9%
Philadelphia CPI-U	2.5%	1.2%	2.1%
Payroll Job Gains (000s)	-3.8	43.3	47.5

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 in the current year and converges to a long-run average growth rate. (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. Recent data from the U.S. Department of Labor show that U.S. labor productivity surged in 2016 Q3 after declining for three consecutive quarters. The data suggest no overall productivity growth for 2016, compared to an average gain of 0.6 percent per annum since 2010.

Table 3.2
Annual Growth Rates for Pennsylvania Economic Variables

	2015	2016	2017	2018	2019	2020	2021	2022
Real GDP	1.7%	1.7%	2.0%	2.0%	2.0%	1.9%	1.9%	1.9%
Nominal GDP	2.5%	3.2%	3.7%	4.1%	4.2%	4.2%	4.1%	4.1%
Personal Income	3.8%	2.9%	3.7%	4.4%	4.6%	4.5%	4.4%	4.2%
Wages and Salaries	4.0%	2.7%	3.3%	4.0%	4.1%	4.1%	4.0%	4.0%
Philadelphia CPI-U	-0.1%	0.6%	1.5%	2.1%	2.2%	2.2%	2.2%	2.2%
Payroll Job Gains (000s)	48.6	44.3	50.0	48.9	47.8	46.7	45.6	45.9

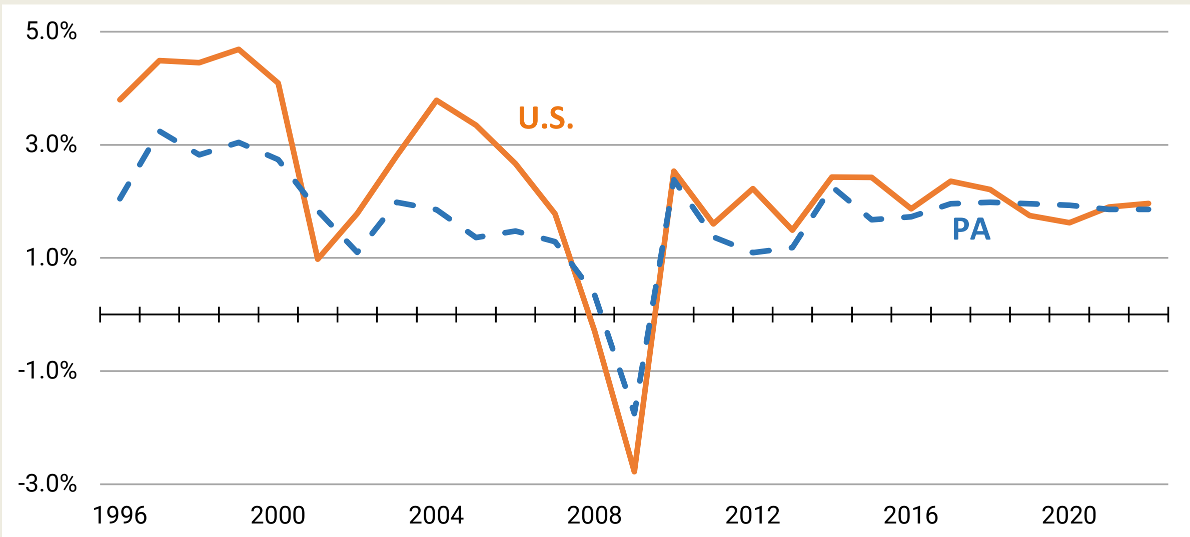
Source: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics. Forecast by IFO.

For 2015, the data show minor deflation as measured by the Philadelphia CPI-U, which reflects consumer prices in the Philadelphia metro region. The deflation was caused by significant reductions in consumer prices for gasoline and natural gas. Excluding energy, year-over-year CPI-U growth was 1.6 percent for 2015. Data through September 2016 reveal very modest inflation for the current year, as a broad range of consumer goods (e.g., food, clothing and cars) show minimal price growth or actual declines. The forecast projects an acceleration of inflation for 2017 (1.5 percent), then convergence to the long-run steady state rate of 2.2 percent.

Figure 3.1 displays real GDP growth rates from 1996 to 2022 for the U.S. and Pennsylvania. For 2016 to 2022, the forecast projects real GDP growth of 1.9 percent per annum for the Pennsylvania economy. By comparison, the Congressional Budget Office (August 2016) projects U.S. real GDP growth of 2.0 percent for the same time period.

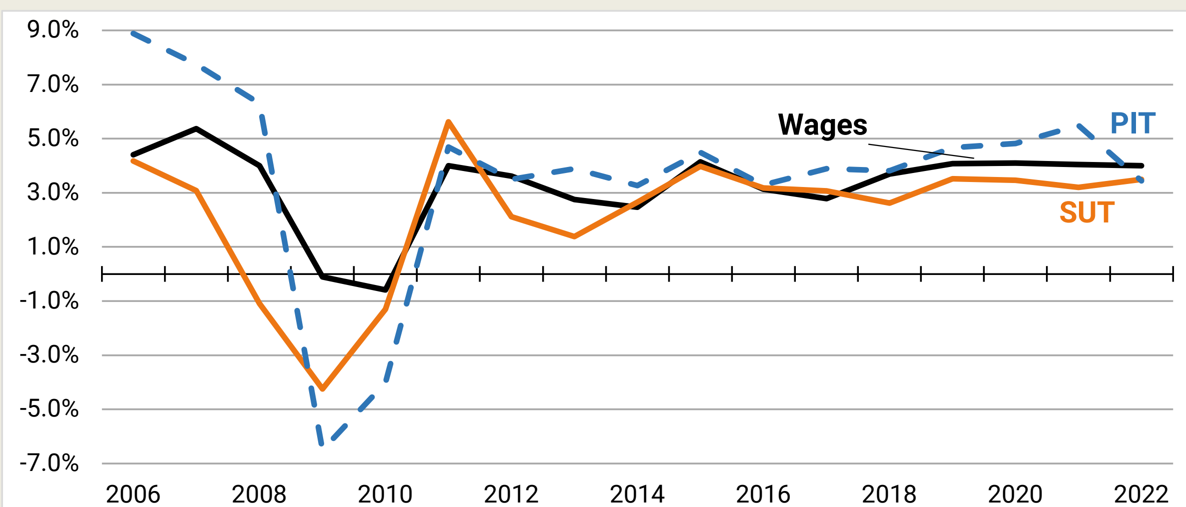
Although the economic forecast includes many variables, the key variable that determines General Fund revenue growth is wages and salaries paid to workers (referred to as wages). The wages paid to workers ($316 billion for 2016) directly motivates most personal income tax (PIT) and sales and use tax (SUT) collections. Those two tax sources comprise roughly 70 percent of General Fund revenues for the current fiscal year. Figure 3.2 illustrates the very high correlation in the annual growth rates of wages, PIT and SUT since 2005. The forecast assumes this relationship continues through FY 2021-22. For the forecast period, PIT growth is somewhat stronger than wage growth due to growth of business profits, dividends and capital gains, which typically outpace wages paid to workers when the economy is not in a recession. By contrast, SUT growth is somewhat lower due to (1) tax base erosion related to more purchases of services over time and (2) the aging of the state population and purchases of non-taxable healthcare.

Figure 3.1
Real GDP Growth Rate for U.S. and PA 1996 - 2022



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

Figure 3.2
Wages Drive Growth of Major Tax Revenues



Note: Data are for fiscal years; 2006 is FY 2005-06. SUT growth excludes $110 million of revenues in FY 2010-11 due to change in payment method. PIT growth excludes $180 million from change in payment method in FY 2009-10 and controls for an estimated $150 million shift into FY 2012-13 from FY 2013-14 due to federal tax law changes.

Employment Trends

Table 3.3 provides historical and forecast employment detail across sectors. The figures represent non-farm payroll employment and do not include individuals employed in the agriculture or military sectors, or independent contractors, sole proprietors and certain partners in partnership entities. From 2010 to 2016, the payroll employment data show:

- The local government sector contracted significantly.
- The state and federal government sectors contracted modestly.
- The professional service, healthcare and leisure-hospitality sectors recorded robust expansions.

From 2016 to 2022, the economic forecast projects employment gains of roughly 47,600 payroll jobs per annum. The forecast projects that:

- All government sectors remain flat and neither expand nor contract.
- The wholesale-retail, transportation and construction sectors record solid growth.
- The major service sectors (professional and business, healthcare and social, and leisure and hospitality) record strong expansions.

Table 3.3
Pennsylvania Non-Farm Payroll Employment

	Employment Levels (000s)				Change (000s)		
Sector	2004	2010	2016	2022	04-10	10-16	16-22
Construction	250	215	234	250	-35	19	16
Manufacturing	691	560	566	571	-131	6	5
Wholesale and Retail	893	844	865	897	-49	22	32
Transportation	221	234	269	290	13	35	21
Professional and Business	638	690	786	843	52	96	57
Healthcare and Social	788	900	978	1,066	113	78	88
Leisure and Hospitality	477	500	560	601	23	60	41
State and Federal Gov't	268	272	255	256	4	-18	1
All Local Gov't	484	499	448	447	14	-51	-1
All Other	935	908	921	947	-27	12	26
Total	**5,644**	**5,622**	**5,881**	**6,166**	**-23**	**260**	**285**

Note: Figures for 2016 are preliminary.
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics. Forecast by IFO.

The projected level of job creation is consistent with recent non-recession years. However, due to the projected contraction of the primary working age population (age 20 to 64), labor force participation rates must increase to facilitate that outcome. The forecast assumes that participation rates for older workers will continue to increase substantially over the next decade.

Recent employment data provide additional insight into trends across sectors. Preliminary data through September 2016 show gains for most sectors except the mining, manufacturing, real estate, business services and local government sectors. (See Table 3.4.) Other trends include:

- The mining sector loses a significant number of payroll jobs (-8,500).
- The transportation sector adds fewer jobs than the prior two years, but still records solid job gains (4,300).
- The healthcare (16,200) and leisure-hospitality (13,100) sectors continue to be the largest job generators for the Pennsylvania economy.
- The local government sector (-3,400) continues to contract. The job losses are related to education; municipal government employment expands in 2016 after several years of contraction.

Table 3.4
Recent Changes in Pennsylvania Non-Farm Payroll Employment

	Employment Levels (000s)			Change in Employment (000s)		
Sector	**2014**	**2015**	**2016**	**2014**	**2015**	**2016**
Mining and Logging	37.7	34.1	25.6	1.7	-3.6	-8.5
Construction	228.9	233.7	234.0	5.0	4.8	0.2
Manufacturing	567.7	568.2	566.1	3.0	0.6	-2.2
Wholesale	223.0	225.5	228.5	1.0	2.4	3.1
Retail	632.2	633.3	636.8	1.6	1.2	3.4
Transport and Utilities	254.3	264.4	268.7	7.4	10.2	4.3
Information	85.4	85.1	86.1	-2.4	-0.3	1.0
Finance and Insurance	254.4	254.0	255.4	0.3	-0.4	1.4
Real Estate	60.9	62.1	61.3	1.8	1.2	-0.8
Professional Services	329.1	335.6	345.3	5.1	6.5	9.7
Management	132.7	132.4	135.4	-0.2	-0.3	2.9
Business Services	299.8	307.0	305.5	8.7	7.2	-1.5
Education	230.3	231.6	233.1	3.0	1.3	1.5
Health and Social	949.9	961.6	977.9	14.4	11.8	16.2
Leisure and Hospitality	537.5	547.0	560.1	5.3	9.5	13.1
Other Services	253.5	256.2	259.2	1.3	2.7	3.0
Government	711.1	705.0	702.5	-9.5	-6.1	-2.6
Federal	95.5	95.9	96.5	-1.3	0.4	0.6
State	156.8	157.8	158.1	-0.7	1.0	0.2
Local	458.8	451.3	447.9	-7.5	-7.5	-3.4
Total	**5,788.4**	**5,836.8**	**5,881.5**	**47.6**	**48.6**	**44.3**

Note: Figures for 2016 are preliminary.
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics. Forecast by IFO.

Pennsylvania Income Trends

Pennsylvania current income includes five income categories: (1) wages and salaries, (2) business income (sole proprietorships, S corporations and partnerships), (3) capital income (interest, rent, capital gains and dividends), (4) retirement income (Social Security, pensions and IRAs) and (5) income maintenance (unemployment compensation, disability, veterans' benefits, Supplemental Nutrition Assistance Program and Supplemental Security Income). This income measure includes all income earned or received, and excludes any income that is unrealized or accrued. (See the Appendix for further detail.)

Table 3.5 displays income snapshots for 2010, 2015 and 2020. Notable trends include the following:

- From 2010 to 2015, wages grew by 3.4 percent per annum. The forecast projects that wage growth will accelerate to 3.7 percent per annum for 2015 to 2020.
- Business income is sensitive to economic expansions and contractions because much of the income is profits. The forecast projects business income will expand at a rate (5.2 percent per annum) that exceeds wage growth because business profits generally increase (or contract) at a faster rate than wages paid to employees.
- The forecast projects continued robust growth for capital income (6.4 percent per annum). Higher interest rates and interest income motivate part of that result. Strong capital gains are also a factor, as an expanding cohort of retirees sells assets to generate income.

Table 3.5
Pennsylvania Current Income

	Levels ($ billions)			Share of Income			Avg. Ann. Growth	
Source	2010	2015	2020	2010	2015	2020	2010-15	2015-20
Wages-Salaries[1]	$268.2	$317.1	$379.5	60.3%	58.7%	56.9%	3.4%	3.7%
Net Business	44.2	54.9	70.7	9.9	10.2	10.6	4.4	5.2
Capital	36.1	52.8	72.1	8.1	9.8	10.8	7.9	6.4
Retirement	68.8	91.3	117.3	15.5	16.9	17.6	5.8	5.1
Maintenance[2]	27.3	24.1	27.1	6.1	4.5	4.1	-2.5	2.4
Current Income	**444.6**	**540.2**	**666.7**	**100.0**	**100.0**	**100.0**	**4.0**	**4.3**

[1] Includes the U.S. Bureau of Economic Analysis resident adjustment.

[2] Includes Supplemental Security Income, disability insurance, Earned Income Tax Credit, Supplemental Nutrition Assistance Program, unemployment compensation and veterans' benefits.

Source: Internal Revenue Service, U.S. Bureau of Economic Analysis and various federal and state agencies. See the Appendix for further detail.

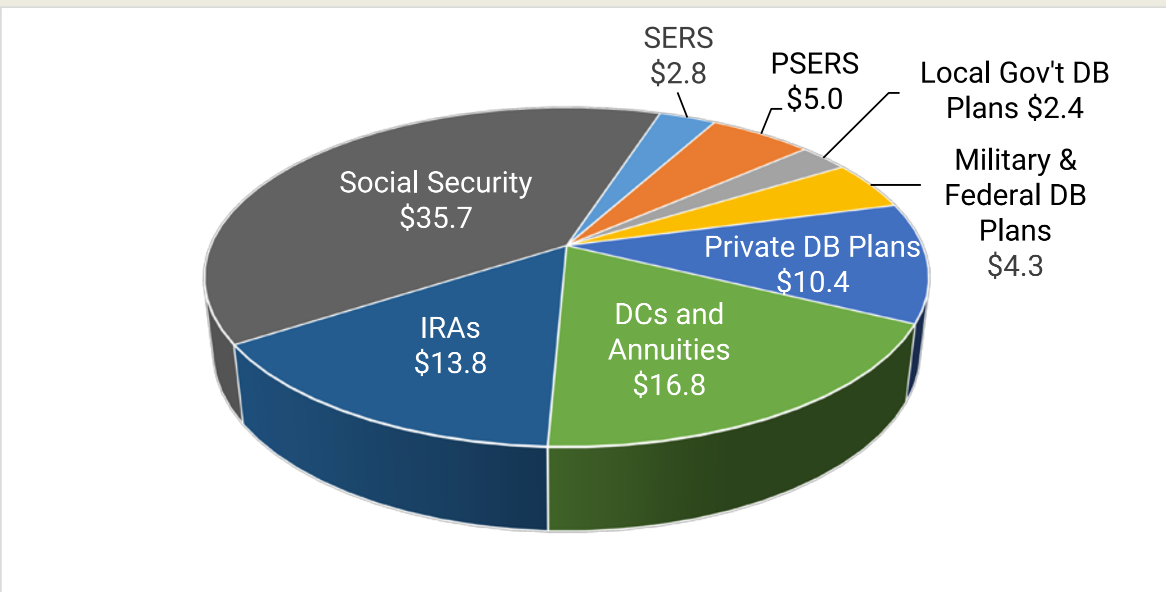
- Retirement income also outpaces economic growth as the number of residents over age 65 expands at an average rate of 2.7 percent per annum. The forecast assumes those retirees receive an annual cost-of-living-allowance of 2.4 percent for most years based on the Congressional Budget Office national economic forecast.

Over time, retirement and maintenance income will comprise a larger share of total Pennsylvania income. By 2020, the forecast projects that those income sources will comprise nearly 22 percent of income earned or received by Pennsylvania residents. That income will largely be unaffected by trends in the Pennsylvania economy.

Sources of Retirement Income

Retirement income will play a more prominent role in the Pennsylvania economy in the coming decade. Figure 3.3 provides additional detail on the sources of retirement income for 2015. By far, Social Security comprised the largest portion of retirement income (39.2 percent, excludes disability benefits). Data from the U.S. Social Security Administration show that 2.3 million residents received retirement or survivor benefits.

Figure 3.3
Sources of Pennsylvania Retirement Income - 2015



Note: figures in dollar billions.
Sources: U.S. Social Security Administration, U.S. Bureau of Economic Analysis, Internal Revenue Service and various other federal and state agencies. See the Appendix for further detail.

Income from defined contribution plans and annuities ($16.8 billion) was the next largest source of retirement income. The forecast projects that this income source will expand rapidly due to the retirement of Baby Boomers.

Withdrawals or disbursements from IRAs ($13.8 billion) was the third largest source of retirement income. For 2014, federal tax return data show that the average IRA withdrawal or disbursement reported on Pennsylvania tax returns was $15,275. Although individuals of any age could withdraw funds from an IRA, federal tax data show that filers age 55 or older reported the great majority (87.9 percent) of withdrawals.

Defined benefit (DB) plans comprise the remaining retirement income. Private plans ($10.4 billion) account for roughly half the total, while military and federal ($4.3 billion), PSERS ($5.0 billion, resident portion only, excludes lump sum disbursements), SERS ($2.8 billion, resident portion only) and local government ($2.4 billion) plans comprise the residual. The forecast projects moderate growth for most defined benefit plans. An exception is PSERS because the number of annuitants is projected to expand at an average rate of 2.5 percent per annum through 2020.

Regional Economic Comparison

Two common metrics that are used to compare state economic growth are real gross domestic product (GDP) and personal income. Personal income includes income that is earned or received (except capital gains), as well as certain accrued income (pension benefits) and imputed income (the rental value of a home). Personal income growth rates will typically exceed real GDP because the former includes the impact of inflation, while the latter does not.

Table 3.6
Regional Comparison - Average Annual Growth Rates

	Real GDP			Personal Income		
	2005-10	2010-15	*Decade*	2005-10	2010-15	*Decade*
Pennsylvania	0.7%	1.5%	*1.1%*	3.4%	3.6%	*3.5%*
Delaware	0.1	1.1	*0.6*	2.1	4.0	*3.1*
Maryland	1.3	1.0	*1.1*	3.6	3.1	*3.3*
Ohio	-1.0	2.2	*0.6*	2.4	3.8	*3.1*
New Jersey	-0.2	0.8	*0.3*	2.9	3.5	*3.2*
New York	1.3	1.2	*1.3*	3.3	4.4	*3.9*
Virginia	1.2	0.6	*0.9*	3.6	3.7	*3.6*
West Virginia	1.3	0.6	*1.0*	4.2	2.6	*3.4*
Region Average	0.6	1.2	*0.9*	3.2	3.8	*3.5*
U.S.	0.6	1.8	*1.2*	3.3	4.4	*3.8*

Source: U.S. Bureau of Economic Analysis.

The regional economic comparison reveals the following:

- For the past decade and most recent five-year period, the Pennsylvania economy expanded at roughly the same rate as the regional average.
- Both regional and Pennsylvania economic growth are somewhat lower than the U.S.
- Similar to Virginia, Pennsylvania had nearly identical average income growth during the boom and bust period (3.4 percent) and the modest recovery that followed (3.6 percent).

Personal Consumption Trends

Table 3.7 provides a snapshot for the categories of spending that comprise per capita personal consumption expenditures for the U.S. and Pennsylvania for 2000, 2010 and 2015. The amounts represent spending by households and non-profits on all goods and services purchased during the year. It does not include purchases by business (investment) or governments. Personal consumption expenditures comprise roughly two-thirds of total domestic spending and is a critical determinant of economic activity.

Table 3.7
Share of Per Capita Personal Consumption Expenditures

	United States			Pennsylvania		
	2000	2010	2015	2000	2010	2015
Healthcare	13.5%	16.6%	16.8%	14.9%	17.8%	18.4%
Housing and Utilities	17.7	18.7	18.2	15.5	16.1	16.1
Financial Services and Insurance	8.3	7.5	7.5	8.4	7.4	7.5
General Services	8.4	8.9	8.8	8.8	9.7	9.6
Food-Beverages at Home	8.0	7.7	7.3	8.0	7.6	7.0
Food Service and Accommodations	6.0	6.1	6.6	5.3	5.3	5.7
Clothing and Footwear	4.1	3.1	3.1	4.2	2.9	2.8
Motor Vehicles and Parts	5.3	3.4	3.8	5.1	3.4	3.8
Gasoline and Other Energy	2.7	3.3	2.5	2.6	3.4	2.6
Furnishings and Other Household	3.1	2.5	2.5	2.8	2.3	2.3
All Other	22.8	22.3	22.9	24.5	24.0	24.2
All Services	63.9	67.1	67.4	64.9	68.1	69.1
All Goods	36.1	32.9	32.6	35.1	31.9	30.9

Note: All Other includes other durable goods, other non-durable goods and recreation.
Source: U.S. Bureau of Economic Analysis, State Personal Consumption Expenditures.

The data show the following trends:

- For 2000 to 2015, U.S. and Pennsylvania spending trends are broadly similar. The share of personal consumption devoted to healthcare has increased significantly. For Pennsylvania, healthcare expenditures comprised 14.9 percent of expenditures in 2000, but 18.4 percent for 2015. (Note: Those amounts include "out of pocket" spending and expenditures by firms on behalf of employees covered under healthcare plans.)
- Consumer spending has shifted away from clothing, motor vehicles and food at home towards healthcare.
- Compared to the U.S., the share of healthcare expenditures for Pennsylvania was 1.6 percentage points higher in 2015. Spending on housing and utilities was 2.1 percentage points lower.
- The share of consumer spending on gasoline and other energy is largely unchanged since 2000.
- For Pennsylvania, the share of consumer spending on services, which are generally not subject to sales and use tax, has increased by 4.2 percentage points since 2000 and 1.0 percentage point since 2010.

Section 4: Revenue Outlook

For FY 2015-16, General Fund revenues totaled $30.9 billion. For FY 2016-17, the forecast projects General Fund revenues of $32.3 billion, a $1.4 billion (4.6 percent) increase over the prior fiscal year. (See Table 4.1.) The forecast projects that revenues will grow at an average rate of 3.3 percent per annum through FY 2021-22. Notable factors that will impact revenues include:

- Acts 39, 84 and 85 of 2016 dramatically impact General Fund revenues for FY 2016-17, adding $944 million to the estimate for that year. By FY 2021-22, the impact declines to a gain of $495 million.
- As the Baby Boom generation retires and the 65 or older age cohort expands, a larger share of personal income will be attributable to sources not subject to the personal income tax (e.g., pensions and Social Security). This age group also spends a higher share of their income on healthcare, prescription drugs and other items not subject to sales tax.
- The shift in spending patterns from taxable goods to non-taxable services will continue to erode the sales tax base over the next five years. The latest data from the U.S. Bureau of Economic Analysis show that expenditures on services comprised 69.1 percent of total Pennsylvania personal consumption in 2015, up from 66.5 percent in 2005.

Major sources of General Fund revenue include: personal income, sales and use, corporate net income, gross receipts, cigarette and realty transfer taxes. The text that follows provides a brief outlook for each of those taxes. The final subsection provides an overview of other revenue trends. Historical data for General Fund revenues can be found in the Appendix.

Table 4.1
General Fund Revenues

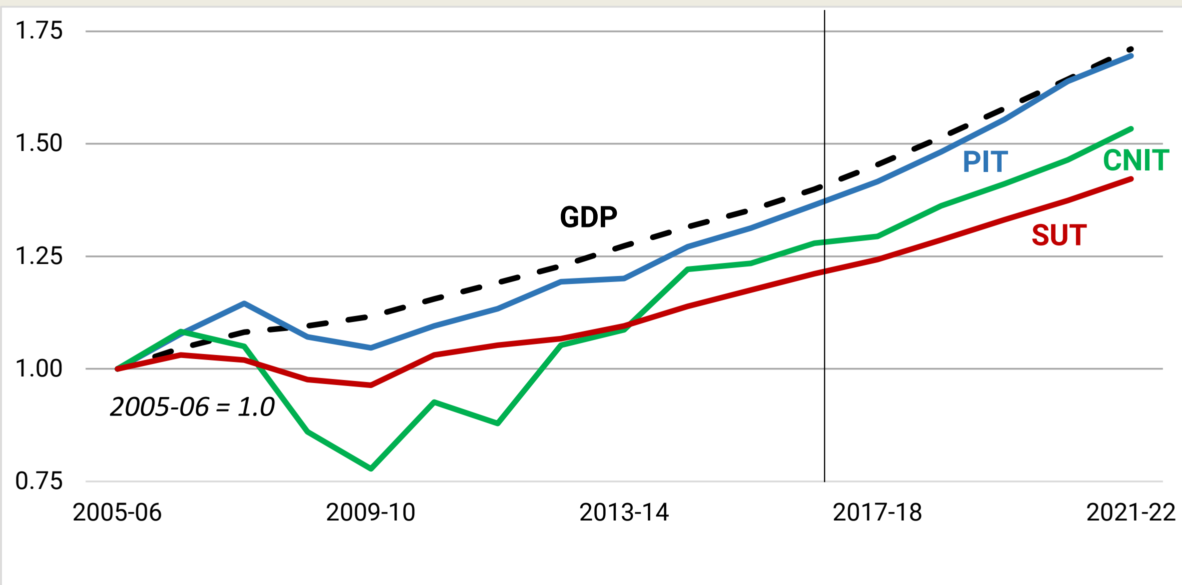
Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Personal Income	$12,506	$12,993	$13,489	$14,118	$14,799	$15,612	$16,149
Sales and Use	9,795	10,096	10,361	10,725	11,096	11,451	11,851
Corporate Income	2,842	2,945	2,980	3,135	3,248	3,372	3,530
Gross Receipts	1,305	1,278	1,265	1,273	1,282	1,290	1,299
Cigarette	912	1,301	1,292	1,250	1,207	1,167	1,127
Realty Transfer	482	491	516	542	567	597	633
All Other	3,060	3,206	3,069	3,134	3,180	3,270	3,347
Total	**30,902**	**32,311**	**32,971**	**34,176**	**35,379**	**36,758**	**37,936**
Growth Rate	1.0%	4.6%	2.0%	3.7%	3.5%	3.9%	3.2%

Note: figures in dollar millions.

Figure 4.1 displays cumulative growth rates for the state economy (nominal GDP), personal income, sales and use and corporate net income tax revenues. For the purpose of this comparison, FY 2005-06 is used as the base year and cumulative growth is computed from that year. The figure illustrates that two of the three largest revenue sources have failed to keep pace with the general expansion of the Pennsylvania economy. This simple comparison does not imply that tax revenues should grow at the same rate as the overall economy. The state GDP comparison merely provides a convenient benchmark to assess historical growth patterns.

The personal income tax (PIT) tracks closest to statewide economic growth because wages drive most PIT remittances (withholding) and also comprise nearly half of the economic activity included in state GDP. In FY 2008-09 and FY 2009-10, revenues declined due to the severe housing and financial recession. Through the current fiscal year, PIT revenues have nearly expanded at the same rate as the state economy. The forecast assumes that PIT growth will slightly outpace GDP growth due to the absence of a recession. Under those conditions, certain components of the PIT base (business profits, capital gains and dividends) will expand more quickly than the overall economy. The projected increase in interest rates also motivates strong growth of interest income.

Figure 4.1
Cumulative Growth of Largest Tax Revenue Sources and State GDP



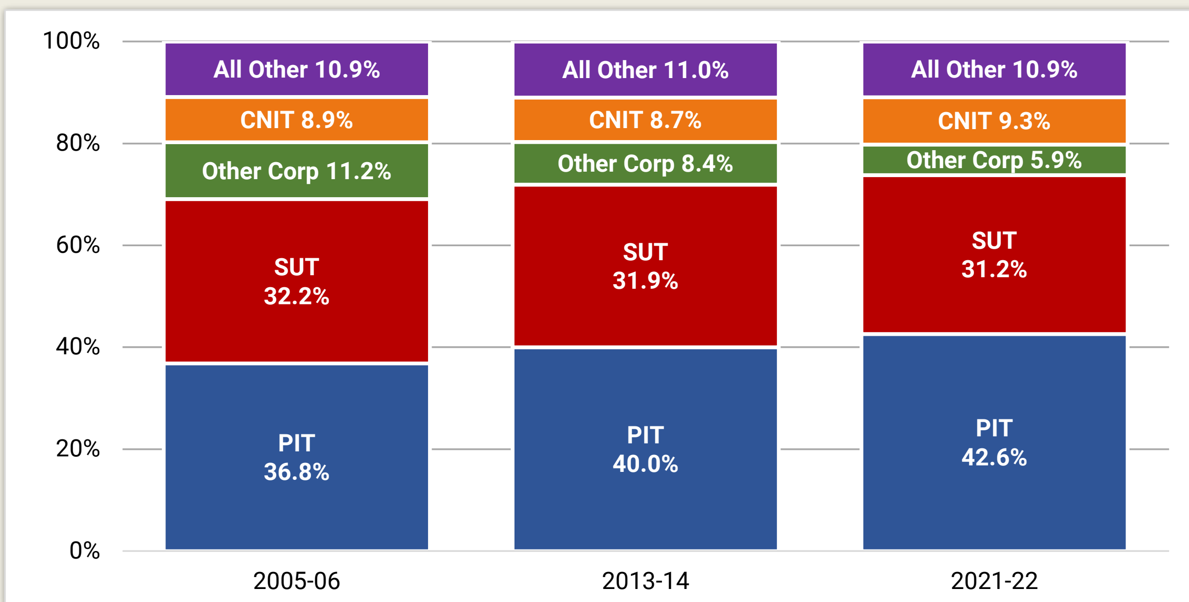
Note: Acts 84 and 85 of 2016 expand the SUT base to include digital downloads, reduce the vendor discount and create a new transfer to the CFA that reduces post-transfer General Fund SUT revenues. The net impact of those changes is included in Figure 4.1 and increases SUT General Fund revenues by roughly $60 million in FY 2016-17, but reduces revenues by $10 to $20 million in future years.
Source: Historical state GDP data from U.S. Bureau of Economic Analysis. Forecasts by IFO.

The sales and use tax (SUT) base has slowly eroded across all years. Spending patterns have gradually shifted towards non-taxable goods and services, partly due to the aging Pennsylvania population. The forecast assumes that trend will continue.

Corporate net income tax (CNIT) revenues achieved a historic peak in FY 2006-07 due to the U.S. expansion related to the housing and financial boom. For 2006, national economic profits comprised a record share of the economy (11.9 percent of GDP). A profits contraction then ensued, and CNIT revenues did not fully recover until FY 2013-14, as national profits comprised another record share of the U.S. economy (12.4 percent of GDP in 2014). The forecast projects that CNIT revenues will expand at a rate slightly lower (3.7 percent) than state GDP (4.0 percent) through FY 2021-22.

Figure 4.2 displays the composition of General Fund revenues at eight-year intervals from FY 2005-06 through FY 2021-22. The SUT and CNIT revenue sources largely maintain their share of General Fund revenues over the time period, while the share generated by the PIT increases to 42.6 percent in FY 2021-22, up from 36.8 percent in FY 2005-06. The increase in the PIT share is offset by declines in the share of revenue generated by the "Other Corp" (capital stock, gross receipts, insurance premiums and bank shares) category, due to the elimination of the capital stock and franchise tax and the modest growth of gross receipts tax revenues.

Figure 4.2
Composition of General Fund Revenues



Source: Forecasts and calculations by IFO.

Personal Income Tax

The Commonwealth levies a 3.07 percent personal income tax (PIT) on resident and non-resident individuals, estates and trusts and pass-through business entities. Eight income categories comprise taxable income: (1) compensation for labor services (e.g., wages, salaries, options and bonuses), (2) net profits from business operations, (3) net capital gains, (4) rent and royalty income, (5) dividends, (6) interest, (7) gambling and lottery proceeds and (8) gains or income distributed from estates or trusts. Losses may only be used to offset gains within the same class of income.

The forecast projects that PIT revenues will grow at an average rate of 4.4 percent per annum from FY 2016-17 to FY 2021-22. Withholding revenues expand at a slower rate (4.0 percent) than non-withholding (5.8 percent). Withholding revenues track very closely with wages as explained in the Economic Outlook section of this report. The forecast includes strong growth in FY 2020-21 withholding payments due to the unusual occurrence of 53 weekly due dates (Wednesdays) in that fiscal year. This strength is reversed in FY 2021-22, as the number of due dates returns to normal. The growth rate for non-withholding revenue rebounds in FY 2016-17 (6.4 percent), after weak collections in FY 2015-16 (2.6 percent).

Table 4.2
Personal Income Tax Revenue

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Withholding	$9,391	$9,680	$10,018	$10,429	$10,857	$11,421	$11,753
Quarterly	1,773	1,810	1,917	2,034	2,177	2,309	2,424
Annuals	1,342	1,503	1,554	1,656	1,765	1,881	1,973
Total Revenue	**12,506**	**12,993**	**13,489**	**14,118**	**14,799**	**15,612**	**16,149**
Growth Rate	3.3%	3.9%	3.8%	4.7%	4.8%	5.5%	3.4%

Note: figures in dollar millions.

Sales and Use Tax

The Commonwealth levies a 6.0 percent sales and use tax on the retail sale of tangible personal property and certain services. Acts 39, 84 and 85 of 2016 modify the sales tax, and major changes include an expansion of the tax base to include digital downloads, a cap on the vendor discount and transfers to the Commonwealth Financing Authority (CFA) to service debt (a portion of which was previously appropriated under the Department of Community and Economic Development). Including these changes, sales and use tax revenues are projected to grow at an average rate of 3.3 percent per annum from FY 2016-17 to FY 2021-22.

Non-motor vehicle revenues will expand at a rate of 3.3 percent per annum during the forecast period. The changes from Acts 39, 84 and 85 are expected to generate $59.5 million in revenues for FY 2016-17. For FY 2021-22, these changes will reduce revenues by $18.2 million, as transfers to the CFA increase due to growing debt service related to the Commonwealth's partial reimbursement of school district construction and renovation costs (commonly known as PlanCon).

Motor vehicle collections expand at an average rate of 3.0 percent per annum during the forecast period. After reaching record levels in 2015, U.S. car sales are expected to be flat or experience a slight decline in the forecast. This trend appears to hold for Pennsylvania, as revenues have declined by 2.2 percent from July through October over the same period in the prior year.

Table 4.3
Sales and Use Tax Revenue

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Non-Motor	$8,448	$8,729	$8,965	$9,288	$9,613	$9,921	$10,268
Motor	1,347	1,367	1,396	1,437	1,483	1,530	1,583
Total Revenue	**9,795**	**10,096**	**10,361**	**10,725**	**11,096**	**11,451**	**11,851**
Growth Rate	3.2%	3.1%	2.6%	3.5%	3.5%	3.2%	3.5%

Note: figures in dollar millions.

Corporate Net Income Tax

The Commonwealth levies a flat 9.99 percent tax on the net income of corporations with nexus in Pennsylvania. Pass through entities such as S corporations, partnerships and sole proprietorships are not subject to the tax. Banks, savings institutions, insurance companies and non-profits are also exempt from the corporate net income tax (CNIT).

The forecast projects that CNIT revenues will expand at an average rate of 3.7 percent per annum. Several factors impact revenue growth over the forecast period:

- Unused depreciation deductions will restrain CNIT liabilities due to Pennsylvania's treatment of federal 50 percent bonus depreciation. The forecast assumes that federal 50 percent bonus depreciation is extended indefinitely.
- The elimination of the capital stock and franchise tax (CSFT) for tax year 2016 results in the transfer of a portion of unused CSFT credits to CNIT. Those credits reduce CNIT revenues in FY 2016-17 and FY 2017-18.
- After several years of national profits comprising an unusually high share of U.S. GDP, profits started to revert to a more typical share of the economy in 2015. The forecast assumes that profits will comprise a smaller share of the national economy over the next five years.

Table 4.4
Corporate Net Income Tax Revenue

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Total Revenue	**$2,842**	**$2,945**	**$2,980**	**$3,135**	**$3,248**	**$3,372**	**$3,530**
Growth Rate	1.1%	3.6%	1.2%	5.2%	3.6%	3.8%	4.7%

Note: figures in dollar millions.

Gross Receipts Tax

The gross receipts tax (GRT) is primarily levied on gross receipts from sales of electricity (59 mills) and telecommunications services (50 mills) within Pennsylvania. In FY 2015-16, electricity and telecommunications comprised roughly 69 and 31 percent of tax collections, respectively.

The GRT forecast continues to be restrained by (1) modest overall growth in electric liabilities (0.8 percent per annum) related to ongoing advances in energy efficient technologies and low natural gas prices and (2) the long-term decline of the telecommunications tax base. Total GRT collections are projected to increase at an average rate of 0.3 percent per annum over the forecast period.

Table 4.5
Gross Receipts Tax Revenue

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Total Revenue	**$1,305**	**$1,278**	**$1,265**	**$1,273**	**$1,282**	**$1,290**	**$1,299**
Growth Rate	3.4%	-2.1%	-1.0%	0.6%	0.7%	0.7%	0.7%

Note: figures in dollar millions.

Realty Transfer Tax

The Commonwealth levies a 1.0 percent realty transfer tax (RTT) on the actual consideration or price of real property or contracted-for improvements to property transferred by deed, instrument, lease or other writing. After several years of double-digit increases in RTT collections, revenue growth has started to decelerate. The forecast projects that RTT revenues will expand at an average rate of 5.2 percent per annum from FY 2016-17 to FY 2021-22.

Beginning in FY 2016-17, RTT revenues are affected by 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 capped at $25 million annually. For FY 2016-17, the transfer was $12.7 million.

Table 4.6
Realty Transfer Tax Revenue

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Total Revenue	**$482**	**$491**	**$516**	**$542**	**$567**	**$597**	**$633**
Growth Rate	16.4%	2.0%	4.9%	5.1%	4.7%	5.1%	6.1%

Note: figures in dollar millions.

Cigarette Tax

The state cigarette tax increased from 8 cents to 13 cents per cigarette (from $1.60 to $2.60 per pack of 20 cigarettes) effective August 1, 2016. The tax increase, along with the associated floor tax (due October 31, 2016), is projected to generate $412.5 million in new tax revenue for FY 2016-17. The forecast projects that cigarette tax revenues will decline at an average rate of 3.4 percent per annum from FY 2017-18 (first full year at the higher tax rate) through FY 2021-22.

The existing cigarette tax transfer to the Agricultural Conservation Easement Purchase Fund increases from $20.5 million to $25.5 beginning in FY 2016-17. Revenues are also affected by a new transfer to the Local Cigarette Tax Fund beginning in FY 2017-18. This annual transfer (occurs in July) was authorized under Act 84 of 2016 and is based on Philadelphia cigarette tax collections in the prior fiscal year. The transfer reduces General Fund cigarette tax revenues by $0.4 million in FY 2017-18 and grows to $6.9 million in FY 2021-22.

Table 4.7
Cigarette Tax Revenue

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Total Revenue	**$912**	**$1,301**	**$1,292**	**$1,250**	**$1,207**	**$1,167**	**$1,127**
Growth Rate	-1.7%	42.8%	-0.8%	-3.3%	-3.4%	-3.3%	-3.5%

Note: figures in dollar millions.

Other Revenue Trends

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

- Act 84 of 2016 authorized a tax amnesty for the period April 21, 2017 through June 19, 2017. This program is expected to generate additional General Fund revenues of $100 million in FY 2016-17 and reduce revenues by $10 million in FY 2017-18. The impact of the tax amnesty is reflected in the forecast of most major General Fund tax types.
- The expansion of existing tax credits and the creation of new credits under Acts 84 and 85 of 2016 are expected to reduce General Fund revenues by $45.5 million annually beginning in FY 2017-18. The impact of the new/expanded tax credits is incorporated across applicable tax types (depending on the credit) over the forecast period.

- License, fee and miscellaneous revenues include a transfer of $200 million from the Pennsylvania Professional Liability Joint Underwriting Association in FY 2016-17, a $50 million slot machine license fee in FY 2017-18 and a $24.8 million table games fee in FY 2018-19.
- The liquor store profits forecast reflects increased revenues associated with liquor modernization provisions enacted during the summer of 2016. These changes will increase the transfer of liquor store profits by $41.8 million in FY 2016-17 and the impact declines slightly to $36.9 million by FY 2021-22. The IFO's liquor modernization estimate was not updated for this report.
- The Neighborhood Improvement Zone (NIZ) and City Revitalization and Improvement Zone (CRIZ) programs have a growing impact on the minor and repealed category during the forecast period. These programs reduce collections by $49.8 million in FY 2016-17, and the negative impact grows to $84.8 million by FY 2021-22.

Table 4.8
Other General Fund Revenue Sources

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Accelerated Deposits	$2	$0	$0	$0	$0	$0	$0
Capital Stock & Fran.	151	15	0	0	0	0	0
Utility Property	39	41	43	44	46	48	50
Insurance Premiums	465	431	443	455	467	479	492
Financial Institutions	330	359	368	379	391	403	415
Other Tobacco Products	0	45	63	65	66	68	70
Malt Beverage	25	25	23	23	23	23	23
Liquor	348	372	394	412	432	452	473
Inheritance Tax	962	999	1,000	1,007	1,033	1,066	1,093
Table Games	100	123	124	127	118	123	128
Minor and Repealed	-5	-35	-39	-47	-54	-62	-65
Liquor Store Profits	100	142	155	156	157	155	137
Licenses, Fees & Misc.	472	614	420	435	423	435	449
Fines, Penalties & Int.	72	75	76	78	79	81	82
Total Revenue	**3,060**	**3,206**	**3,069**	**3,134**	**3,180**	**3,270**	**3,347**
Growth Rate	-14.5%	4.8%	-4.3%	2.1%	1.5%	2.8%	2.4%

Note: figures in dollar millions.

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Section 5: Expenditure Outlook

For FY 2016-17, total General Fund appropriations are $31.5 billion, a 4.7 percent increase over FY 2015-16. The text in this section uses the terms expenditure and appropriation interchangeably. However, the spending authority granted to a particular department or agency need not equal actual expenditures for that year. Unused spending authority is reflected as a lapse and will reduce (increase) any budget shortfall (surplus). Lapses are discussed further in the next section.

Table 5.1
General Fund Expenditures by Agency

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Agency							
Human Services	$11,516	$11,982	$13,013	$13,720	$14,412	$15,209	$15,881
Education[1]	12,103	12,801	13,324	13,945	14,459	14,810	15,172
Corrections	2,235	2,387	2,473	2,543	2,631	2,720	2,806
Treasury	1,177	1,164	1,272	1,363	1,398	1,460	1,519
State Police	246	257	310	386	459	533	605
All Other	2,850	2,943	3,050	3,193	3,295	3,399	3,503
Total Expenditures	**30,127**	**31,535**	**33,443**	**35,151**	**36,655**	**38,131**	**39,486**
DHS Supplemental[2]	0	388	406	426	446	467	489
Growth Rates							
Human Services	1.4%	4.1%	8.6%	5.4%	5.0%	5.5%	4.4%
Education[1]	4.7	5.8	4.1	4.7	3.7	2.4	2.4
Corrections	4.7	6.8	3.6	2.8	3.5	3.4	3.2
Treasury	2.9	-1.1	9.3	7.1	2.6	4.4	4.0
State Police	-37.2	4.5	20.6	24.5	19.0	16.1	13.5
All Other	11.5	3.3	3.6	4.7	3.2	3.2	3.0
Total Expenditures	**3.3**	**4.7**	**6.0**	**5.1**	**4.3**	**4.0**	**3.6**
DHS Supplemental[2]	n.a.	n.a.	4.8	4.8	4.8	4.7	4.7

Note: figures in dollar millions.

[1] Includes the State System of Higher Education and Thaddeus Stevens College of Technology.

[2] Identified in the Department of Human Services (DHS) rebudget, but not yet appropriated or proposed.

From FY 2016-17 to FY 2021-22, General Fund expenditures increase at an average rate of 4.6 percent per annum. That forecast excludes a potential supplemental appropriation for the Department of Human Services (DHS) of $388 million that was identified in the agency's FY 2016-17 rebudget. For this report, that amount is itemized but not included in the agency totals. The potential supplemental is forecast through FY 2021-22 based on the relevant program extrapolators. Additional detail can be found in the DHS subsection.

The overall trends are driven by DHS and Education, as those two agencies comprise nearly four-fifths of total General Fund expenditures. (See Table 5.1.) Three factors motivate the trends in total expenditures:

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

Table 5.2 provides detail based on expenditure category. Notable trends include:

- Pension contribution growth decelerates dramatically after FY 2017-18.
- Long-Term Living expands rapidly due to growth in the 60 or older age cohort and reduced support from the Lottery Fund.
- Pre-K-12 expenditures grow modestly due to contraction of the school age population.
- Due to a cap on funds transferred from the Motor License Fund (MLF) under Act 85 of 2016, the General Fund must support additional funding for the State Police. The impact of the funding shift is termed "MLF funding shift" in Table 5.2.

Table 5.2
General Fund Expenditures by Category

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Expenditure Type							
Personnel							
Wages[1]	$2,441	$2,614	$2,684	$2,796	$2,894	$2,995	$3,100
Pensions - SERS	665	787	879	901	929	955	968
Pensions - PSERS	1,719	2,064	2,316	2,479	2,627	2,686	2,752
Retiree Health Benefits	452	436	459	485	512	540	570
Healthcare Benefits[2]	652	605	627	652	678	705	733
Pre-K-12 Education	8,994	9,313	9,560	9,983	10,310	10,558	10,804
Medical Assistance	4,955	4,997	5,653	5,978	6,316	6,754	7,050
Long-Term Living	1,847	1,944	2,132	2,312	2,473	2,629	2,801
Intellectual Disability	1,520	1,595	1,658	1,726	1,796	1,869	1,945
Other Human Services	2,429	2,646	2,728	2,827	2,916	3,010	3,105
Debt Service	1,128	1,111	1,219	1,309	1,343	1,403	1,460
MLF Funding Shift[3]	0	0	40	105	168	232	294
All Other	3,325	3,422	3,487	3,599	3,694	3,795	3,904
Total Expenditures	**30,127**	**31,535**	**33,443**	**35,151**	**36,655**	**38,131**	**39,486**
DHS Supplemental[4]	0	388	406	426	446	467	489
Growth Rates							
Personnel							
Wages[1]		7.1%	2.7%	4.1%	3.5%	3.5%	3.5%
Pensions - SERS		18.4	11.6	2.5	3.2	2.8	1.3
Pensions - PSERS		20.1	12.2	7.0	6.0	2.3	2.4
Retiree Health Benefits		-3.6	5.3	5.5	5.6	5.5	5.5
Healthcare Benefits[2]		-7.1	3.6	4.0	4.0	4.0	3.9
Pre-K-12 Education		3.5	2.6	4.4	3.3	2.4	2.3
Medical Assistance		0.9	13.1	5.7	5.7	6.9	4.4
Long-Term Living		5.3	9.7	8.5	6.9	6.3	6.5
Intellectual Disability		4.9	4.0	4.1	4.1	4.1	4.1
Other Human Services		8.9	3.1	3.6	3.2	3.2	3.2
Debt Service		-1.4	9.7	7.4	2.6	4.5	4.1
MLF Funding Shift[3]		n.a.	n.a.	163.4	60.2	37.8	26.9
All Other		2.9	1.9	3.2	2.6	2.7	2.9
Total Expenditures		**4.7**	**6.1**	**5.1**	**4.3**	**4.0**	**3.6**
DHS Supplemental[4]		n.a.	4.8	4.8	4.8	4.7	4.7

Note: figures in dollar millions.
[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] Act 85 of 2016 limits State Police funding from the Motor License Fund (MLF). The analysis assumes that the General Fund absorbs the reduction from the MLF.
[4] Identified in the DHS rebudget, but not yet appropriated or proposed.

Table 5.3
Annual Change in Expenditures: Cost-to-Carry, Required and Discretionary

Fiscal Year	17-18	18-19	19-20	20-21	21-22
Certain Human Services[1]	$943	$620	$606	$705	$583
All Corrections[2]	46	63	76	78	80
All Probation and Parole[2]	7	8	7	7	7
MLF Funding Shift	40	65	63	64	62
General Fund Debt	108	90	34	60	57
All Pension Contributions	343	185	176	85	78
PlanCon[3]	20	115	85	0	-5
Cost-to-Carry	**1,507**	**1,147**	**1,047**	**999**	**863**
Other Human Services	72	82	81	86	87
Other State Police	8	9	8	9	9
Other Compensation	44	56	48	50	52
Required	**124**	**147**	**137**	**145**	**148**
Discretionary	**277**	**414**	**320**	**332**	**343**
Total Change	**1,908**	**1,708**	**1,505**	**1,476**	**1,354**

Note: figures in dollar millions.

[1] Includes Medical Assistance, Attendant Care, Services to Persons with Disabilities, Intellectual Disabilities, Home and Community-Based Services, Long-Term Care, CHIP, County Child Welfare, Supplemental Grants, Medicare Drug Program and Autism Services.

[2] Excludes pensions. Those amounts are included in the pension line item below.

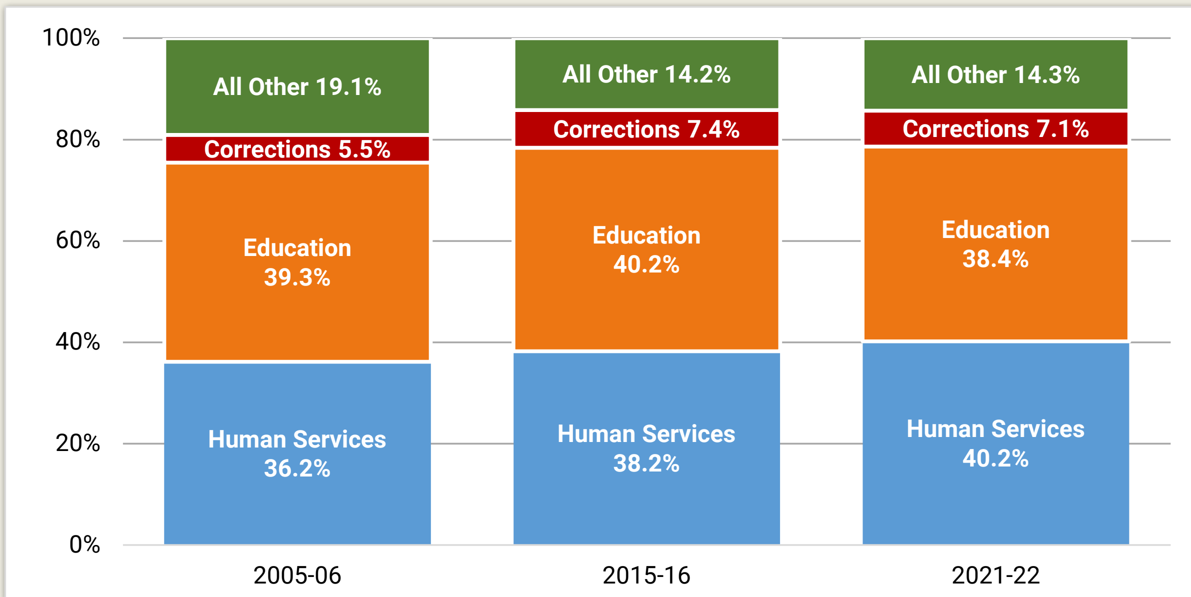
[3] Formerly the authority rentals and sinking fund requirements line item.

Table 5.3 decomposes the annual increase in expenditures into three categories: (1) cost-to-carry, (2) required and (3) discretionary. The cost-to-carry concept represents increases in funding for programs or line items that must be funded due to state or federal law, debt obligations or the care of individuals under the jurisdiction of an agency. For the purpose of this report, the following agencies or expenditures are included: (1) most programs administered by DHS, (2) the Department of Corrections, (3) the Board of Probation and Parole, (4) the MLF funding shift (which would yield a cut in services if excluded), (5) General Fund debt service, (6) pension contributions and (7) PlanCon debt service. The analysis projects that the cost-to-carry expenditures will comprise two-thirds of the increase in General Fund expenditures for most years.

The second category of expenditures are required expenditures. Policymakers exercise some control over this category, but it is likely that these agencies and programs would receive future funding increases. Required expenditures include all remaining DHS and State Police expenditures (including compensation) and wage and healthcare benefits across all other agencies. The analysis projects that the required expenditures will comprise roughly 10 percent of the increase in General Fund expenditures.

The final category is discretionary expenditures. This category includes the basic and special education subsidies, as well as funds for non-personnel expenses such as office supplies, rent, utilities, furniture, computers and travel. Policymakers exercise considerable discretion over these items. The forecast generally assumes those expenditures will grow with inflation. The analysis projects that the required expenditures will comprise roughly 25 percent of the increase in General Fund expenditures.

Figure 5.1
Composition of General Fund Expenditures



Source: Historical data from the Executive Budget (various years). Forecasts and calculations by IFO.

Figure 5.1 displays the changing composition of General Fund expenditures for FY 2005-06 (decade earlier), FY 2015-16 (latest actual) and FY 2021-22 (final forecast year). Over the past ten years, the share of General Fund expenditures for DHS and Corrections increased by 2.0 and 1.9 percentage points, respectively. Moving to FY 2021-22, the forecast projects that the share of General Fund expenditures for DHS programs will increase by 2 percentage points, while Corrections declines slightly.

The continued increase in DHS funding is driven by technical factors and economic and demographic projections. Table 5.4 lists the economic and demographic forecasts used to extrapolate General Fund expenditures from the FY 2016-17 base year through FY 2021-22. 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). Many factors could cause actual expenditures to deviate from the projections. For example, expenditures need not receive any adjustment for inflation; that determination will be made by policymakers.

Table 5.4
General Fund Expenditure Extrapolators

Fiscal Year	17-18	18-19	19-20	20-21	21-22
Demographic Groups					
Age 5 to 14	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Age 20 to 24	0.1	0.4	0.7	1.0	1.3
Age 20 to 64	-0.3	-0.3	-0.3	-0.2	-0.2
Age 65 and Older	2.8	2.8	2.8	2.7	2.7
All Residents	0.4	0.4	0.4	0.4	0.4
Personnel Expenses					
Wages[1]	3.0%	4.0%	3.0%	3.0%	3.0%
Pensions - SERS[2]	7.5	-1.5	-0.3	-0.7	-2.1
Retiree Healthcare[3]	5.0	5.2	5.3	5.3	5.3
Healthcare Benefits[3]	3.3	3.7	3.7	3.7	3.7
Non-Personnel Expenses	1.8%	2.2%	2.2%	2.2%	2.2%

[1] Includes average turnover factor, but excludes increases due to growth in complement.
[2] Growth in employer contribution rates only.
[3] Excludes increases due to growth in complement.
Source: Demographic projections from the Pennsylvania State Data Center. Other forecasts by IFO.

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

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 factor based on data published by the Office of Administration (not shown). For all 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 all agencies (3.75 percent per annum). When combined, the two factors yield an annual growth rate of roughly 3.0 percent for most years. (See Table 5.4.)

The State Employees' Retirement System (SERS) pension extrapolator represents the mandatory increase in pension contributions based on statute. 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 the assumed growth in the state complement (0.4 percent per annum).

Based on recent historical trends, the forecast assumes that healthcare inflation exceeds general inflation by 1.5 to 2.0 percentage points. The retiree healthcare extrapolator includes an inflationary increase for healthcare costs and growth in the number of retirees who are eligible to receive benefits. Data from SERS and the Office of Administration suggest that the number of eligible retirees could increase by 1.0 to 1.5 percent per annum. The average growth rate over the forecast window (5.2 percent) is consistent with average growth rates for the last five budget years.

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 a relevant inflation measure. Two exceptions are the basic and special education subsidies. For those amounts, the relevant extrapolator is 2.8 percent, which represents an average pay increase (3.75 percent per annum), a general turnover factor (-0.75 percent) and a demographic component (-0.2 percent).

The pages that follow provide additional detail for pensions, and the Departments of Human Services, Education, Corrections, Treasury and the State Police.

Pensions

Mandated employer contributions for state employee and school employee pensions will consume a growing share of General Fund expenditures through FY 2021-22. Payments to SERS and the Public School Employees' Retirement System (PSERS) are projected to increase from $2.4 billion (7.9 percent of appropriations) in FY 2015-16 to $3.7 billion (9.4 percent) by FY 2021-22.

Pension contribution projections are based on (1) the underlying rate of change applied to personnel costs of the employer and (2) the ratio of the employer contribution rate in the forecast year to the rate in the preceding year. The Commonwealth reimburses school districts for a portion of their employer contributions, and the PSERS projection represents the state share (56.2 percent for FY 2015-16).

Table 5.5 displays the most recent publicly available estimates for employer contribution rates for the two pension systems. Table 5.6 displays estimates for SERS and PSERS contributions.

Table 5.5
Employer Contribution Rates

Fiscal Year	Employer Rate[1] SERS	Employer Rate[1] PSERS	% Growth in Rate SERS	% Growth in Rate PSERS
2013-14	16.00	16.93	43.7%	42.9%
2014-15	20.50	21.40	39.1	37.0
2015-16	25.00	25.84	28.1	26.4
2016-17	29.50	30.03	18.0	16.2
2017-18	31.70	32.23	7.5	7.3
2018-19	31.21	33.27	-1.5	3.2
2019-20	31.11	34.20	-0.3	2.8
2020-21	30.89	33.51	-0.7	-2.0
2021-22	30.24	33.51	-2.1	0.0

[1] Expressed as a percentage of payroll.
Sources: Rates are from various reports released by SERS and PSERS.

The SERS projections in Table 5.6 represent only the amounts paid from General Fund appropriations. In addition to appropriations, state agencies use other sources such as augmentations, federal funds and transfers from other state funds to make employer contributions. For FY 2015-16, agencies making employer contributions from General Fund appropriations made additional contributions of $241 million from those other sources. 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.

Table 5.6
Employer Pension Contributions - State General Fund Share

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
SERS[1]	$665	$787	$879	$901	$929	$955	$968
PSERS	1,719	2,064	2,316	2,479	2,627	2,686	2,752
Total	**2,384**	**2,851**	**3,194**	**3,380**	**3,556**	**3,641**	**3,719**
Growth Rate	41.1%	20.1%	12.2%	7.0%	6.0%	2.3%	2.4%

Note: figures in dollar millions.
[1] Excludes any pension expenses related to the Motor License Fund shift to the General Fund.

Human Services

The Department of Human Services (DHS) provides access to medical and other services to the Commonwealth's most vulnerable residents. Budgeted FY 2016-17 expenditures of $36.6 billion are supported by the General Fund ($12.0 billion; 32.8 percent), state special funds and augmenting revenues ($3.2 billion; 8.7 percent) and federal funds ($21.4 billon; 58.5 percent). General Fund appropriations are the primary focus of the analysis, and in many cases, these appropriations fluctuate in response to the availability of funds from the other sources. For example, the General Fund picks up the difference if a special fund, such as the Lottery Fund or Tobacco Settlement Fund, cannot maintain its current level of support.

For FY 2016-17, General Fund appropriations of $12.0 billion increased by $467 million (4.1 percent) from the prior fiscal year. The DHS expenditure projections generally assume that (1) service populations expand from the base year based on the relevant demographic forecast and (2) the average cost to supply services grows with a relevant inflation factor. As discussed in this subsection, adjustments also are made for factors that will affect expenditures in the forecast period. By FY 2021-22, the forecast projects that General Fund expenditures will increase to $15.9 billion, an average increase of 5.8 percent per annum. Table 5.7 provides additional details.

In addition to the amount appropriated for FY 2016-17, DHS has identified programs that may require additional appropriations beyond the level contained in the adopted budget.[1] The department's rebudget identified potential shortfalls in funding for the following appropriations: Mental Health Services, Medical Assistance Fee-for-Service, Capitation and Workers with Disabilities, Home and Community-Based Services, Long-Term Care, Long-Term Managed Care and Attendant Care. The potential funding gaps identified by the department total $388 million for FY 2016-17, and the magnitude of the shortfalls may require supplemental appropriations, increased funding from federal or special fund sources or various cost containment measures. The analysis does not include the potential supplemental appropriations in the baseline, but Table 5.7 displays the amounts for FY 2016-17 and extrapolations for future fiscal years.

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, 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 categories. These program categories comprise almost three-quarters of the department's General Fund expenditures, and the forecast projects that they will increase at an average rate of 6.7 percent per annum through FY 2021-

[1] Every fiscal year, after the enactment of the General Appropriations Act, each agency conducts a "rebudget" in which it reviews the amounts appropriated and specifies the use of the funds.

22. The basic components of the forecast are identified in the following bullets. Additional factors that affect expenditure projections for FY 2017-18 and beyond are discussed in the paragraphs that follow.

- The projections assume costs per enrollee will increase by 3.6 percent in FY 2017-18 and 3.7 percent in all other years. These rates correspond to the rate of healthcare inflation.
- Increases in the service population track the Commonwealth's growth in total population (0.4 percent per annum) for MA and Intellectual Disabilities programs; and the age 60 or older population (2.7 percent per annum) for LTL programs.

Appropriations from the Lottery and Tobacco Settlement funds supplement General Fund expenditures for the MA and LTL program groups. These appropriations are held constant in the forecast, except when they result in a negative fund balance based on the forecast for the respective fund. In such cases, DHS appropriations are reduced to maintain a positive fund balance, and the General Fund absorbs the difference. For FY 2017-18, DHS appropriations from the Lottery Fund decline by $50 million from the prior year, and the appropriations decline by an additional $55 million by FY 2021-22. No adjustments were made to the appropriations from the Tobacco Settlement Fund. The Appendix contains additional information regarding the relevant special fund forecasts.

The analysis includes the impact of Medicaid expansion on General Fund appropriations. The baseline incorporates net savings from the transfer of previously 100 percent state-funded General Assistance (GA) recipients to MA, paid entirely with enhanced federal matching funds. However, beginning with calendar year 2017, the Commonwealth will be responsible for 5 percent of the costs from enrollees newly eligible under Medicaid expansion (former GA recipients and others), and the greater part of the impact from that change will be experienced in FY 2017-18. The state share gradually increases to 10 percent by 2020 and remains at that level in future years. The MA forecast includes the projected impact on General Fund appropriations from a phase down of the enhanced federal matching rate for Medicaid expansion.[2]

In addition to the impact of special funds and Medicaid expansion, projected FY 2017-18 DHS expenditures also include significant increases in state funding for:

- Medicare Part B premiums for individuals eligible for both Medicare and Medicaid (dual eligibles). Federal statute contains a "hold-harmless" provision limiting Part B premium increases for beneficiaries who pay their premiums with Social Security benefits. Increases for those individuals are limited to the Social Security cost-of-living adjustment, which is 0.3 percent for

[2] The applicable enhanced federal matching rates are as follows: 100 percent for calendar years 2015 and 2016, 95 percent for 2017, 94 percent for 2018, 93 percent for 2019 and 90 percent for 2020 and thereafter.

2017, and the lost premium revenue is recouped from the non-hold-harmless beneficiaries. As a result, premiums increase significantly for such individuals, including those who have their premiums paid by state Medicaid programs.

- The cost-sharing payment (clawback) to the federal government for Medicare Part D prescription drug coverage of dual eligibles.
- Replacement of one-time revenues received in FY 2016-17 associated with the overlap of collections from the repealed Medicaid Managed Care Organization (MCO) gross receipts tax and the newly enacted MCO assessment.

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 2022), but the analysis assumes that they are extended. The forecast further assumes that the augmenting facility assessments and MCO per-member assessment, along with the corresponding federal matching revenues, supply the same share of funding for total DHS expenditures as supplied in the base year.

Table 5.7
General Fund Expenditures - Department of Human Services

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Wages[1]	$349	$410	$424	$444	$460	$476	$493
Pensions	126	139	155	159	165	169	171
Retiree Healthcare	94	95	100	106	112	118	125
Healthcare Benefits[2]	196	157	162	169	176	183	191
All Other							
Medical Assistance	4,955	4,997	5,653	5,978	6,316	6,754	7,050
Long-Term Living	1,847	1,944	2,132	2,312	2,473	2,629	2,801
Intellectual Disabilities	1,520	1,595	1,658	1,726	1,796	1,869	1,945
Human Services Programs	1,027	1,224	1,267	1,322	1,366	1,411	1,458
Mental Health	654	673	698	726	754	785	815
Child Development	452	433	440	448	455	464	472
Income Maintenance	206	217	222	228	234	240	247
Human Services Support	75	88	90	93	95	98	101
Children's Health Insurance	15	10	11	11	12	12	12
Total	**11,516**	**11,982**	**13,013**	**13,720**	**14,412**	**15,209**	**15,881**
Growth Rate	1.4%	4.1%	8.6%	5.4%	5.0%	5.5%	4.4%
DHS Supplemental[3]	$0	$388	$406	$426	$446	$467	$489
Growth Rate	n.a.	n.a.	4.8%	4.8%	4.8%	4.7%	4.7%

Note: figures in dollar millions.

[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] Identified in the DHS rebudget, but not yet appropriated or proposed.

Education

The Pennsylvania Department of Education (PDE) provides resources, support and oversight to the state's 500 school districts to help schools meet the needs of the Commonwealth's public, private and non-public school students. Based on demographic trends for the school-age population, the forecast assumes that the number of public school students will decline from 1.73 million in FY 2015-16 to 1.70 million by FY 2021-22. (See Table 5.8.) Holding the ratio of public school students to staff constant (14.5), the total number of public school staff is also projected to fall from 146,700 in FY 2015-16 to 143,800 in FY 2021-22.

Table 5.8
Pennsylvania K-12 Enrollments and Staff Projections

School Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Traditional Public Schools[1]	1,598.7	1,592.5	1,587.3	1,582.2	1,576.8	1,571.1	1,565.1
Charter Schools	132.9	134.2	134.2	133.8	133.3	132.8	132.3
Total Public Schools[2]	**1,731.6**	**1,726.7**	**1,721.5**	**1,715.9**	**1,710.1**	**1,703.9**	**1,697.4**
Growth Rate	-0.5%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Administrative	7.1	7.1	7.1	7.1	7.1	7.0	7.0
Teachers	119.8	119.4	119.1	118.7	118.3	117.9	117.4
Coordinators	15.6	15.6	15.6	15.5	15.5	15.4	15.3
Other	8.0	8.0	7.9	7.9	7.9	7.9	7.8
Total Public School Staff[3]	**146.7**	**146.2**	**145.8**	**145.3**	**144.8**	**144.3**	**143.8**
Pupil / Teacher Ratio[4]	14.5	14.5	14.5	14.5	14.5	14.5	14.5

Note: thousands of students or staff.

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

[2] Excludes roughly 220,000 students in non-public schools in which tuition is paid privately.

[3] Detail does not sum to total due to individuals who appear in more than one category.

[4] Public school students and teachers only.

Source: FY 2015-16 from the Department of Education. Projections by IFO.

For FY 2016-17, base year appropriations are $12.8 billion, a $698 million (5.8 percent) increase from the prior fiscal year. The forecast separates appropriations into two primary categories that follow. (See Table 5.9.)

Pre-Kindergarten through Grade 12

Most education expenditures (roughly 89 percent) are dedicated for Pre-K-12 purposes. These expenditures include the basic education and special education subsidies, the state share of school employees' retirement contributions, pupil transportation, school employees' Social Security, Ready to Learn Block Grant, Early Intervention, PlanCon expenditures and other miscellaneous expenditures. Demographic projections from the Pennsylvania State Data Center show that the 5-14 year age cohort will contract by 0.3 percent per annum through FY 2021-22. Despite this contraction, Pre-K-12 expenditures expand at a relatively quick pace (3.6 percent per annum), due to strong growth in school employees' retirement contributions (5.9 percent per annum) and the likely reinstatement of a PlanCon appropriation.[3] The basic education and special education subsidies expand at a rate of 2.9 percent per annum to maintain a current level of service.

Post-Secondary

Post-secondary expenditures include state-owned and state-related universities, community colleges and Thaddeus Stevens College of Technology. For the base year, these expenditures comprise roughly 10 percent of total expenditures by PDE. To maintain a constant level of service, the forecast assumes that school enrollment grows at the same rate as the 20-24 year age cohort (i.e., relative to the base year, a constant share of that age cohort attends a post-secondary institution). The forecast also assumes that underlying costs grow at the same rate as inflation. Through FY 2021-22, post-secondary expenditures increase at an average rate of 2.5 percent per annum.

[3] Formerly the "authority rentals and sinking fund requirements" line item, the PlanCon appropriation provides funds to reimburse school districts for school construction costs. The PlanCon appropriation also supports roughly $10 million in annual charter school lease reimbursements and that amount is included in future years.

Table 5.9
General Fund Expenditures - Department of Education

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Pre-K through Grade 12							
Basic Education Subsidy	$5,695	$5,895	$6,058	$6,281	$6,446	$6,614	$6,785
School Employees' Retirement	1,719	2,064	2,316	2,479	2,627	2,686	2,752
Special Education Subsidy	1,077	1,097	1,127	1,169	1,199	1,231	1,262
Pupil Transportation	549	549	557	568	578	589	600
School Employees' Social Sec.	437	492	501	512	525	538	551
Ready To Learn Block Grant	250	250	254	258	263	268	273
Early Intervention	242	252	255	258	262	267	272
PlanCon[1]	0	0	20	135	220	220	215
All Other[2]	749	782	793	807	822	837	852
Total Pre-K through Grade 12	**10,717**	**11,381**	**11,880**	**12,467**	**12,942**	**13,249**	**13,561**
Post-Secondary							
State-Related Universities	549	562	572	585	600	618	637
Community Colleges[3]	278	284	289	295	303	312	322
SSHE-State Universities	433	444	452	462	474	488	504
Thaddeus Stevens Coll. of Tech.	13	13	13	14	14	15	15
Other Post-Secondary	2	3	3	4	4	4	4
Total Post-Secondary	**1,276**	**1,307**	**1,329**	**1,359**	**1,395**	**1,436**	**1,482**
General Government Operations	22	24	25	26	27	28	29
Libraries[4]	62	62	64	65	67	69	70
All Other	26	26	27	28	28	29	30
Grand Total	**12,103**	**12,801**	**13,324**	**13,945**	**14,459**	**14,810**	**15,172**
Growth Rate	4.7%	5.8%	4.1%	4.7%	3.7%	2.4%	2.4%

Note: figures in dollar millions.

[1] Prior to FY 2015-16, PlanCon was the "authority rentals and sinking fund requirements" line item. The line item did not receive funds in FY 2015-16 and FY 2016-17.

[2] Includes Pre-K Counts, special education-approved private schools, services to nonpublic schools, nonpublic and charter school pupil transportation and other miscellaneous line items.

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

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

Corrections

The Department of Corrections (DOC) provides for the care and supervision of all offenders under its jurisdiction and facilitates their re-entry into society. Table 5.10 displays a time series of the inmates under the jurisdiction of the DOC and parolees under the supervision of the Board of Probation and Parole. Prior to 2011, the rapid expansion of the inmate population led to structural and data-driven changes implemented by the Justice Reinvestment Initiative. The initiative diverted technical parole violators (TPVs) from state prisons to contracted county jails and community corrections centers. Since implementation of the initiative in 2012, the inmate population has contracted at a rate of 0.7 percent per annum, while the parolee population expanded at a rate of 3.6 percent per annum due to the shifting of inmates between the two agencies.

The Justice Reinvestment Initiative restrained costs due to the large cost differential between inmates and parolees. For FY 2016-17, the average cost of an inmate is $48,200 (includes all costs, including indirect costs and overhead), more than ten times the average amount for a parolee ($4,200). For FY 2016-17 to FY 2021-22, the DOC baseline forecast projects continued inmate contraction at an average rate of 0.8 percent per annum. However, for this analysis, the IFO utilized the upper bound of that projection and assumes that the inmate population remains flat, while the parolee population increases by 1.0 percent per annum.

The DOC appropriations can be separated into five general categories: General Government Operations (1.5 percent of total appropriations in FY 2016-17), Medical Care (10.8 percent), Inmate Education and Training (1.9 percent), State Correctional Institutions (85.4 percent) and a transfer to the Justice Reinvestment Fund (0.4 percent).

Table 5.10
Populations - Department of Corrections and Board of Probation and Parole

	2011	2012	2013	2014	2015	2016	2017	2018
Inmate Population	51,638	51,184	51,512	50,756	49,914	49,809	49,508	49,131
Annual Change	317	-454	328	-756	-842	-105	-301	-377
Percent Change	0.6%	-0.9%	0.6%	-1.5%	-1.7%	-0.2%	-0.6%	-0.8%
Parolee Population	34,745	35,982	37,971	39,726	41,226	41,500	42,039	42,618
Annual Change	2,367	1,237	1,989	1,755	1,500	274	539	579
Percent Change	7.3%	3.6%	5.5%	4.6%	3.8%	0.7%	1.3%	1.4%

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

From FY 2015-16 to FY 2016-17, DOC expenditures increased by $153 million (6.8 percent). Most of that increase (87.0 percent) is attributable to wages and pensions in the State Correctional Institutions category, due to existing wage contracts and proposed additions to complement.

From FY 2016-17 to FY 2021-22, the forecast projects that expenditures will grow by 3.3 percent per annum to maintain current services. The wage forecast (3.2 percent per annum) expands at a rate consistent with projected wage increases and reduced overtime costs from filling vacant positions. The pension forecast (4.3 percent) grows with wages and the increase in the SERS contribution rate.

Contributions to retiree healthcare (5.2 percent) and healthcare benefits (3.6 percent) reflect assumed healthcare inflation. Medical Care costs for inmates are projected to grow at a rate of 3.6 percent per annum. Most Medical Care costs (roughly 92 percent) are related to medical, mental and dental services and drugs. Therefore, the analysis uses the healthcare extrapolator and the inmate population to project that item. The All Other category includes miscellaneous spending such as utilities, food, supplies and inmate payroll. The forecast assumes that the transfer to the Justice Reinvestment Initiative expires in FY 2018-19.

Table 5.11
General Fund Expenditures - Department of Corrections

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Wages[1]	$1,049	$1,131	$1,149	$1,190	$1,233	$1,278	$1,323
Pensions	272	328	368	375	387	398	404
Retiree Healthcare	166	147	155	163	172	181	190
Healthcare Benefits[2]	226	237	245	254	263	273	283
Medical Care	135	146	151	157	163	169	175
All Other	386	398	406	404	413	422	431
Total	**2,235**	**2,387**	**2,473**	**2,543**	**2,631**	**2,720**	**2,806**
Growth Rate	4.7%	6.8%	3.6%	2.8%	3.5%	3.4%	3.2%

Note: figures in dollar millions.

[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.

Treasury

The Pennsylvania Department of Treasury is responsible for the receipt and disbursement of funds on behalf of the Commonwealth, as well as the deposit, investment and safe keeping of monies and securities belonging to the state of Pennsylvania. Treasury invests those funds in pooled money accounts, bonds and various securities. Treasury also manages debt issuances on behalf of the Commonwealth, in order to provide funding for long-term budget projects and to meet short-term cash flow needs.

Debt Issuances

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 any of the various 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 how the borrowed funds will be used. This subsection discusses debt financed with General Fund revenue.

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.

Table 5.12
Debt Service Payments

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Projected Bond Issues[1]	n.a.	$1,209	$1,271	$1,241	$1,257	$1,216	$1,233
New Debt Service[2]	n.a.	27	122	204	296	390	484
Existing Debt Service[3]	n.a.	1,085	1,097	1,105	1,047	1,013	976
Total Debt Service	**$1,128**	**1,111**	**1,219**	**1,309**	**1,343**	**1,403**	**1,460**
Growth Rate	n.a.	-1.4%	9.7%	7.4%	2.6%	4.5%	4.1%

Note: figures in dollar millions.

[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 in or before August 2016 and is adjusted to account for General Fund debt service payments that originate from non-General Fund sources.

[3] Debt service related to bonds issued in or before August 2016 and adjusted to account for General Fund debt service payments that originate from non-General Fund sources.

Bond Ratings

The debt service obligations created by bond issuances are the primary determinant of Treasury's budget, as approximately 95 percent of its General Fund expenditures are used for that purpose. The amount of debt service associated 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.

Although Pennsylvania's bond ratings have held steady over the short-term, certain maturities in the three most recent bond issues required underwriting from a municipal bond insurance policy to make those maturities more desirable to investors. As an indication that Pennsylvania's financial situation may finally be showing signs of improvement, Moody's officially revised Pennsylvania's rating outlook from negative to stable in August 2016. They indicate that the revision acknowledges Pennsylvania's progress toward improved funding of pension liabilities and more "solvable" budget gaps, while noting that the current Pennsylvania bond rating is already below the median for a U.S. state.

Table 5.13
Pennsylvania Bond Ratings

	Assigned Ratings		
Bond Issue	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-
Current Rating	**Aa3**	**AA-**	**AA-**

[1] Certain maturities were insured by a municipal bond insurance policy and therefore received a higher rating by 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).

Forecast

Table 5.14 details baseline debt service projections for the Department of Treasury. These projections assume current levels of capital project funding for the buildings and structures category, a continued reduction in borrowing related to the Redevelopment Assistance Capital Projects program and rising interest rates over the forecast period. The interest rate assumptions are related to an anticipated overall rise in interest rates over the forecast period and do not include any additional increases related to a reduction in the Commonwealth's debt rating. A sensitivity analysis suggests that an interest rate that is 0.5 percentage points higher than the baseline rate beginning with bonds issued in FY 2016-17 would increase borrowing costs by roughly $1 billion over the next 20 years (through FY 2036-37). The impact of any change is linear, so that an increase of 1.0 percentage point would raise costs by roughly $2 billion. Total Treasury expenditures are projected to increase from $1.2 billion in FY 2016-17 to $1.5 billion in FY 2021-22, an increase of 5.6 percent per annum.

Table 5.14
General Fund Expenditures - Department of Treasury

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Wages[1]	$14	$14	$14	$15	$16	$16	$17
Pensions	5	5	6	6	6	6	6
Retiree Healthcare	4	4	4	4	5	5	5
Healthcare Benefits[2]	7	7	7	7	7	8	8
Debt Service	1,128	1,111	1,219	1,309	1,343	1,403	1,460
All Other	20	23	22	21	22	22	23
Total	**1,177**	**1,164**	**1,272**	**1,363**	**1,398**	**1,460**	**1,519**
Growth Rate	2.9%	-1.1%	9.2%	7.1%	2.6%	4.4%	4.0%

Note: figures in dollar millions.

[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.

State Police

The State Police promotes traffic safety, investigates crime and reduces criminal activity. The agency also provides investigative assistance and support services to all law enforcement agencies within the Commonwealth. Most funding for the State Police is provided through the General Fund and Motor License Fund (MLF). Act 85 of 2016 instituted a series of caps on the amount of funding that the MLF can provide to the State Police. For FY 2016-17, there is no impact; however, in FY 2017-18, the MLF appropriation to the State Police is capped at $801.7 million (the FY 2016-17 amount). Beginning in FY 2018-19, that amount is reduced by 4.0 percentage points each fiscal year until FY 2026-27. After that year, the cap is set at $500 million per year. Due to the caps, the forecast shows a significant increase in General Fund expenditures since the fund must absorb future cost increases and also provide replacement funds previously supplied by the MLF. State Police expenditures grow at an average rate of 3.9 percent per annum prior to the shift in funding from the MLF to the General Fund. Table 5.15 displays the impact of Act 85 on the General Fund beginning in FY 2017-18.

Table 5.15
General Fund Expenditures - State Police

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Wages[1]	$113	$113	$117	$122	$126	$130	$134
Pensions	41	48	53	55	56	58	59
Retiree Healthcare	32	35	37	40	42	44	47
Healthcare Benefits[2]	28	29	30	31	32	34	35
All Other	31	32	33	34	35	36	36
Sub-Total	**246**	**257**	**270**	**281**	**291**	**301**	**311**
Growth Rate	11.2%	4.5%	5.1%	4.0%	3.6%	3.5%	3.2%
MLF Funding Shift[3]	$0	$0	$40	$105	$168	$232	$294
Grand Total	**$246**	**$257**	**$310**	**$386**	**$459**	**$533**	**$605**
Growth Rate	11.2%	4.5%	20.6%	24.5%	19.0%	16.1%	13.5%

Note: figures in dollar millions.

[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] 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 2.5 to 3.5 percent per annum over the forecast window. Notable assumptions across agencies include:

- Appropriations to the Department of Conservation and Natural Resources (DCNR) reflect a shift from reliance on the Oil and Gas Lease Fund to the General Fund. DCNR's General Fund appropriation in FY 2016-17 is $106.9 million, and its appropriation from the Oil and Gas Lease Fund is a $50.0 million executive authorization. Appropriations from the General Fund in the previous fiscal year were $62.3 million, and from the Oil and Gas Lease Fund were $62.0 million, plus a $50.0 million executive authorization.
- Beginning in FY 2018-19, the sum transferred from the Pennsylvania Professional Liability Joint Underwriting Association ($200 million) must be repaid over a five-year period. Act 85 of 2016 does not specify the amount that must be repaid in each fiscal year. The forecast assumes that five equal payments of $40 million will be made during the repayment period.

Table 5.16
General Fund Expenditures - All Other Agencies

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
PHEAA	$314	$321	$327	$334	$343	$353	$364
Judiciary	342	356	372	384	397	410	423
Legislature	325	365	381	396	409	423	436
Community & Economic Dev.	224	146	149	153	158	162	166
Health	209	215	222	229	235	242	249
Revenue	170	179	185	191	197	204	210
Executive Offices	169	184	190	197	202	209	215
Probation & Parole	167	176	186	194	202	210	218
Environmental Protection	143	148	155	161	166	171	177
Agriculture	137	144	148	152	156	160	165
General Services	125	119	123	128	132	136	140
Military & Veterans Affairs	129	146	152	157	162	168	173
DCNR[1]	62	107	113	119	124	130	135
Joint Underwriting Association[2]	0	0	0	40	40	40	40
All Others	334	337	348	360	371	382	393
Total	**2,850**	**2,943**	**3,050**	**3,193**	**3,295**	**3,399**	**3,503**
Growth Rate	11.5%	3.3%	3.6%	4.7%	3.2%	3.2%	3.0%

Note: figures in dollar millions.
[1] Department of Conservation and Natural Resources.
[2] Loan repayment to the Pennsylvania Professional Liability Joint Underwriting Association.

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Section 6: Fiscal Outlook

The data and analysis presented in this report facilitate an assessment of the Commonwealth's fiscal outlook over the next five fiscal years. Previous sections discussed demographic and economic trends that are relevant to the outlook. The report uses those trends to make projections of revenues and expenditures on the basis of current law and policy. This section combines those projections to identify any long-term structural surplus or deficit. A structural imbalance implies that the imbalance remains after unusual economic conditions or other factors (e.g., one-time revenue transfers) are no longer relevant. By definition, a structural imbalance cannot be eliminated by temporary measures.

The Commonwealth has operated with a long-term structural imbalance in the General Fund for several years, largely due to the 2008-09 recession and the tepid recovery. In past budgets, these imbalances were addressed by a mix of policy choices that included revenue increases, transfers and accelerations, expenditure reductions, shifts and deferrals as well as increased reliance on special funds and federal funds. Many of these actions provided substantial relief, but the relief was temporary and did not resolve the underlying imbalance.

Despite the enactment of recurring revenues, the FY 2016-17 budget package generally continues prior practices by structuring the revenue enhancements and savings to address the near-term imbalance. Table 6.1 reveals that the package is expected to generate nearly $1.1 billion to address the deficit in FY 2016-17. However, the impact is short-term, and it does not materially affect the fiscal imbalance over the long-run.

The long-term fiscal impact of the budget package is muted because the new revenues and savings decline each year until they reach only $41 million in FY 2021-22, a cumulative drop of -$1.0 billion. The largest year-to-year declines occur in FYs 2017-18 (-$403 million) and 2018-19 (-$244 million). This result occurs because of the way the package was structured:

- Much of the revenue enhancement is derived from short-term or non-recurring, measures such as tax amnesty, liquor modernization (e.g., license fees and auctions), casino license fees and a loan from the Joint Underwriting Association (JUA). These revenue sources have their greatest impact in FY 2016-17.
- The largest permanent revenue gain is the cigarette tax increase, a revenue source that exhibits a long-term trend decline.

- Measures such as the JUA and school construction (PlanCon) borrowing produce savings for FY 2016-17, but increase costs in future fiscal years when repayments begin.
- A multi-year shift in funding sources occurs as the State Police increasingly relies on the General Fund due to new statutory limits on the amount of funding that can be obtained from the Motor License Fund.

Table 6.1
Impact of Policy Choices on Balance Sheet

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Tax Law Changes[1]	$0	$674	$723	$723	$699	$695	$674
One-time Revenues[2]	0	386	40	25	0	0	0
Reduced DCED Expenditures[3]	0	95	95	95	95	95	95
Revenue Enhancements/Savings	**0**	**1,155**	**858**	**843**	**794**	**791**	**770**
MLF Funding Shift	0	0	-40	-105	-168	-232	-294
Loan Repayment[4]	0	0	0	-40	-40	-40	-40
PlanCon Appropriation	0	0	-20	-135	-220	-220	-215
CFA Transfer from General Fund[5]	0	-95	-142	-151	-155	-177	-180
Revenue Reductions/Spending	**0**	**-95**	**-202**	**-431**	**-583**	**-669**	**-729**
Net Impact on Balance Sheet	**0**	**1,059**	**656**	**412**	**211**	**122**	**41**

Note: figures in dollar millions.
[1] Includes tax law changes enacted under Acts 39, 84 and 85 of 2016. Excludes Commonwealth Financing Authority (CFA) transfers and one-time revenues detailed below.
[2] Includes one-time transfers and loans enacted under Acts 39, 84 and 85 of 2016, settlements and casino license fees.
[3] Reduction in DCED expenditures due to dedicated General Fund transfer for CFA debt service.
[4] Repayment of the $200 million FY 2016-17 loan from the Pennsylvania Professional Liability Joint Underwriting Association.
[5] Includes funding for debt service related to the CFA and PlanCon.

Table 6.2 shows a current year balance of -$524 million based on net revenues of $30.9 billion, expenditures of $31.5 billion and lapses of $75 million. The following factors are relevant to a discussion of the current year imbalance:

- The gross revenue estimate in this analysis is $466 million lower than the official estimate certified upon enactment of the FY 2016-17 budget. The IFO's published estimate (June 2016) was $266 million lower than the certified number, and the current estimate subtracts an additional $200 million based on fiscal year-to-date collections.
- The refund reserve increases by $125 million compared to the prior year based on refund activity in the first four months of the current fiscal year and the last eight months of the prior fiscal year.

- Potential supplemental appropriations of $388 million for Department of Human Services programs are noted, but are not included in the analysis.

For FY 2017-18, the imbalance grows to -$1.7 billion as net revenues increase by $660 million and expenditures grow by $1.9 billion. The increased expenditures are motivated by pension contributions and higher costs for the Department of Human Services (DHS). Additional details are as follows:

- Cost-to-carry and required expenditures (see Table 5.3 on page 38) increase by $1.6 billion, motivated by a $1.0 billion increase for DHS non-pension expenditures in the Medical Assistance and Long-Term Living program areas.[4]
- Department of Corrections non-pension expenditures increase by $46 million.
- Pension contributions increase by $343 million.
- Debt service for general obligation debt increases by $108 million.
- Discretionary expenditures, including non-pension pre-K-12 expenditures and agency operating costs, increase by $277 million.

Table 6.2
General Fund Balance Sheet

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Beginning Balance[1]	$257	$2	--	--	--	--	--
Current Year Revenues	30,902	32,311	$32,971	$34,176	$35,379	$36,758	$37,936
Less Refund Reserve	-1,250	-1,375	-1,375	-1,380	-1,425	-1,475	-1,530
Net Revenue	29,652	30,936	31,596	32,796	33,954	35,283	36,406
State Expenditures[2]	-30,127	-31,535	-33,443	-35,151	-36,655	-38,131	-39,486
Current Year Balance	-476	-599	-1,846	-2,355	-2,701	-2,849	-3,080
Adjustment for Lapses[3]	221	75	100	100	100	100	100
Preliminary Ending Balance	**2**	**-524**	**-1,746**	**-2,255**	**-2,601**	**-2,749**	**-2,980**

Note: figures in dollar millions.
[1] Includes adjustments. Beginning balance omitted for FY 2017-18 and thereafter.
[2] Based on appropriations and executive authorizations.
[3] Current year lapses plus prior year lapses.

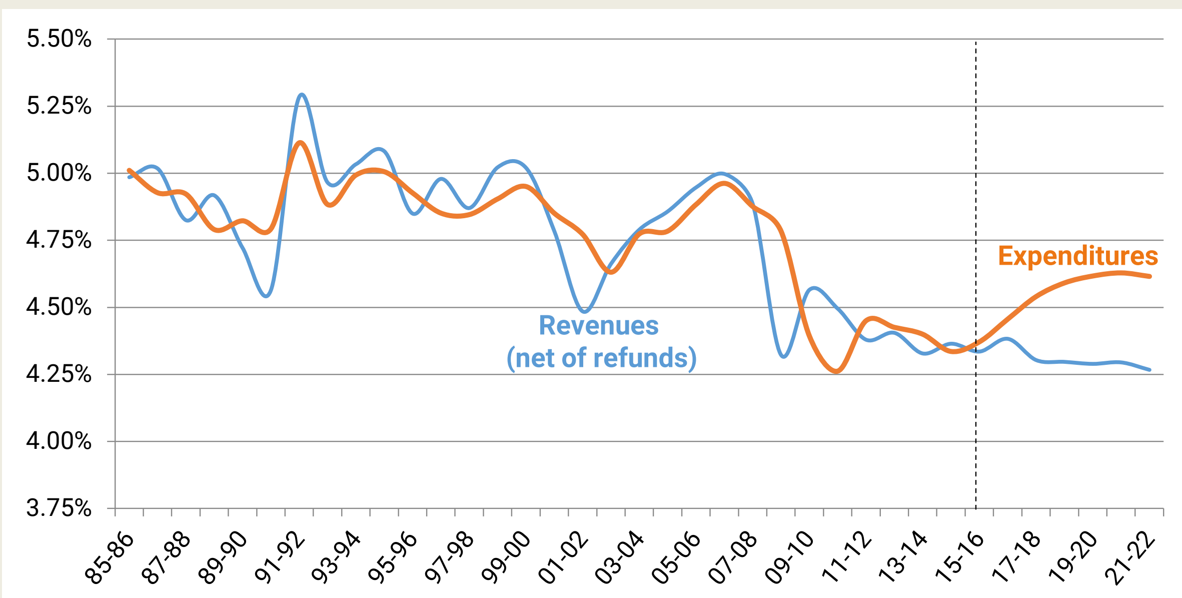
[4] These increases are driven by healthcare inflation, a higher state share of costs for enrollees under Medicaid expansion, reduced capacity in the Lottery Fund to support DHS appropriations, replacement of non-recurring receipts from the prior year, and a surge in state payments related to Medicare Parts B and D.

The potential disparity between revenues and expenditures increases to -$2.3 billion in FY 2018-19 and reaches -$3.0 billion by the end of the forecast. After FY 2018-19, expenditures increase at an average rate of 4.0 percent per annum and net revenues increase at an average rate of 3.5 percent. The disparity is characterized as potential due to the Commonwealth's balanced budget requirement. Each year, state officials consider changes in law or policy to bring the budget into balance. The size of the projected disparity reflects the difficult choices that policymakers will confront in future budgets.

A useful convention to depict long-term budget trends is to display General Fund revenues and expenditures relative to the total size of the Pennsylvania economy. Figure 6.1 displays actual and projected revenues and expenditures as a share of the state economy (nominal gross domestic product) from FY 1985-86 to FY 2021-22. The share for both revenues and expenditures declined dramatically with the 2008-09 recession, and they have not returned to their previous share of the economy. The five-year outlook projects a continuation of this long-term decline, motivated by past policy choices and demographic trends.

The projected imbalance for the current fiscal year (-$524 million) may not occur because policymakers have many ways in which they could address the imbalance. If policymakers adopt temporary measures, then the long-term imbalance would be largely unaffected. If they enact permanent changes to revenue or spending levels, then those changes would have implications for all future years.

Figure 6.1
General Fund Revenues and Expenditures as a Share of State GDP



Appendix

Demographics

Table A.1
Pennsylvania Population Projections 2015 to 2025

Age	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
0-4	715	709	704	699	695	692	689	688	687	687	687
5-9	736	735	734	732	729	726	723	719	715	710	704
10-14	760	757	754	751	749	747	745	743	741	740	738
15-19	830	850	866	880	890	898	902	903	901	896	888
20-24	853	851	851	853	858	866	875	887	902	919	938
25-29	863	839	818	802	790	781	777	777	780	788	799
30-34	800	830	853	870	880	884	881	872	857	835	806
35-39	740	751	763	775	789	803	818	834	851	869	888
40-44	759	749	743	739	739	742	749	758	771	787	806
45-49	842	819	800	783	769	757	749	743	740	740	742
50-54	932	908	886	864	843	824	806	788	772	757	743
55-59	952	947	941	932	921	907	892	873	853	830	804
60-64	840	864	883	898	908	913	915	911	903	891	874
65-69	697	717	737	755	773	790	806	822	836	850	862
70-74	500	531	561	588	614	638	659	679	697	713	727
75-79	367	375	386	400	415	433	453	475	500	527	556
80-84	283	281	281	282	286	292	299	308	319	332	347
85+	334	336	339	342	345	348	351	355	358	362	365
Total	**12,803**	**12,850**	**12,898**	**12,946**	**12,994**	**13,041**	**13,088**	**13,135**	**13,182**	**13,229**	**13,276**

Note: thousands of residents.
Source: Pennsylvania State Data Center.

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 percentage points. 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 percentage points, 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 2.2 percentage points.
- Regional inflation, as 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 wages grow 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 supplied by the Pennsylvania State Data Center. The primary 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 previous decade, the Pennsylvania economy generated an average of 40,000 to 50,000 new jobs per year for non-recession years. The forecast assumes that trend continues through 2022. 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, but general recovery since that point. This trend is also consistent with the assumption of higher labor force participation rates, which was discussed in the economics chapter of this report.

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 2015, the average worker produced $107,400 of output or production. The forecast assumes that labor productivity accelerates in 2016 and 2017 and reverts to a historical rate of growth of roughly 1.1 to 1.2 percent per annum. That level and trend is consistent with the national economic forecast published by the CBO in August 2016. Typically, Pennsylvania worker productivity lags the U.S. by a small amount.

The employment and worker productivity forecasts yield real economic growth of roughly 2.0 percent per annum. That rate is somewhat stronger than recent historical years, but it is consistent with the U.S. forecasts issued by the CBO and IHS Economics. Those forecasts assume average U.S. economic growth of 2.0 to 2.3 percent per annum for 2016 through 2022. Historically, the Pennsylvania economy has expanded at a rate that is approximately 0.3 to 0.5 percentage points lower than the nation. That differential is largely driven by slower demographic growth in Pennsylvania.

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 2.3 percent per annum from 2016 to 2022. The average regional rate used by this report is slightly lower (2.1 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 1.2 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 3.2 percent per annum. If employment expands by 0.8 percent per annum, then total wages paid to all workers will increase by the product of those growth rates, or roughly 4.0 percent per annum. Similar to the other forecasts, Pennsylvania wages and salaries expand at a somewhat slower pace than the CBO national forecast (4.1 percent) of total wages.

Data Sources

Various sources were used to construct the Current Income measure referenced in the economics section of this report. These sources are noted below, as well as the many sources used to derive the estimate of Pennsylvania retirement income. Further detail regarding the Pennsylvania Current Income metric can be found in the Independent Fiscal Office's release entitled *Revenue Estimate Methodology* (June 2016).

Wages and Salaries - Data are from the U.S. Bureau of Economic Analysis Table SA4: http://www.bea.gov/regional/index.htm. Includes the resident adjustment for individuals who live in the state, but work in another state.

All Capital Income - Data are from the federal tax returns filed by Pennsylvania residents: https://www.irs.gov/uac/SOI-Tax-Stats-Historic-Table-2. Capital income includes dividends, interest (taxable and tax-exempt), rents, royalties, estates and trusts and capital gains. All amounts are grossed up for non-compliance based on IRS compliance studies.

Business Net Income - Data are from the federal tax returns filed by Pennsylvania residents: https://www.irs.gov/uac/SOI-Tax-Stats-Historic-Table-2. Business net income includes the net income of sole proprietors (file a federal Schedule C, includes independent contractors), partnerships and S corporations. Amounts do not include unused net operating losses carried forward from previous years. All amounts are grossed up for non-compliance based on IRS compliance studies.

Retirement Income - Data are from various sources. SERS data are from the annual actuarial report: http://sers.pa.gov/newsroom_facts.aspx. Figures exclude 10 percent of payments that are paid to individuals who do not reside in the state. PSERS data are from the annual actuarial report: http://www.psers.state.pa.us/content/publications/financial/cafr/cafr15/2015%20CAFR%20-%20Actuarial%20Section.pdf.

Figures exclude lump sum withdrawals (assumed to be rolled over to an IRA) and 9 percent of benefit payments that are paid to individuals who do not reside in the state. Military pensions are from the Department of Defense: http://actuary.defense.gov/. Federal pensions are from the Office of Personnel Management: http://catalog.data.gov/dataset/fiscal-year-employee-and-survivor-annuitants-by-geographic-distribution. Local pensions are from the U.S. Census Bureau, Annual Survey of Public Pensions: https://www.census.gov/govs/retire/. Private defined pensions are from the U.S. Bureau of Economic Analysis, National Income and Product Tables 7.20 through 7.25. Exact figures are not available for individual states. The analysis assumes that the Pennsylvania share is equal to the share of Pennsylvania taxable pension amounts reported on federal tax returns (4.2 percent for 2014). Defined contribution plans use the same data source, tables and methodology, as well as information from the Investment Company Institute. The analysis assumes that Pennsylvania is 4.2 percent of the national total and that rollovers to IRAs comprise roughly two-fifths (40 percent) of the total benefit payouts reported, and hence, are not counted as income in that year.[5] Annuities are assumed to equal 10 percent of total defined benefit and defined contribution income based on retirement asset data published by the Investment Company Institute. Individual retirement account data are from federal tax returns and include a gross up for non-compliance and non-filers.

Income Maintenance - Data are from two sources. Data for Social Security (retirement and disability) benefits are from the U.S. Social Security Administration Annual Statistical Supplement: https://www.ssa.gov/policy/docs/statcomps/supplement/. Data for all other income (veterans' benefits, unemployment compensation, Supplemental Nutrition Assistance Program, Earned Income Tax Credit, Supplemental Security Income, Worker's Compensation and railroad retirement benefits) are from the U.S. Bureau of Economic Analysis, regional data, Table SA35: http://www.bea.gov/regional/index.htm.

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[5] This assumption is based upon the paper by Saeblehaus and Weiner, "Disposition of Lump-Sum Pension Distributions: Evidence from Tax Returns," National Tax Journal, Volume 52, No.3 (September 1999).

Table A.2
Pennsylvania Economic Variables

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Payroll Employment[1]	5,800	5,616	5,621	5,686	5,726	5,741	5,788	5,837	5,881	5,931	5,980	6,028	6,075	6,120	6,166
Change		-184	5	65	40	15	48	49	44	50	49	48	47	46	46
Growth Rate		-3.2%	0.1%	1.2%	0.7%	0.3%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Residents: Age 20 to 69[1]	8,006	8,074	8,130	8,188	8,228	8,243	8,263	8,278	8,276	8,274	8,272	8,270	8,268	8,267	8,266
Employ / Population	72.5%	69.6%	69.1%	69.4%	69.6%	69.6%	70.1%	70.5%	71.1%	71.7%	72.3%	72.9%	73.5%	74.0%	74.6%
Real Output per Worker[1]	99.6	101.1	103.4	103.6	104.0	105.0	106.5	107.4	108.3	109.5	110.8	112.1	113.3	114.6	115.9
Growth Rate		1.5%	2.3%	0.2%	0.4%	0.9%	1.4%	0.8%	0.9%	1.1%	1.1%	1.2%	1.2%	1.1%	1.1%
Real GDP[2]	577.9	567.8	581.3	589.3	595.7	602.8	616.4	626.7	637.1	649.6	662.5	675.5	688.5	701.3	714.4
Growth Rate		-1.8%	2.4%	1.4%	1.1%	1.2%	2.3%	1.7%	1.7%	2.0%	2.0%	2.0%	1.9%	1.9%	1.9%
Philadelphia CPI-U	224.1	223.3	227.7	233.8	238.1	240.9	244.1	243.9	245.3	249.0	254.2	259.8	265.5	271.4	277.4
Growth Rate		-0.4%	2.0%	2.7%	1.8%	1.2%	1.3%	-0.1%	0.6%	1.5%	2.1%	2.2%	2.2%	2.2%	2.2%
Wages-Salaries[2]	260.3	254.5	259.8	270.0	280.1	285.3	296.5	308.2	316.5	327.1	340.2	354.2	368.6	383.4	398.7
Growth Rate		-2.2%	2.1%	3.9%	3.7%	1.8%	3.9%	4.0%	2.7%	3.3%	4.0%	4.1%	4.1%	4.0%	4.0%
Average Wage[1]	44.9	45.3	46.2	47.5	48.9	49.7	51.2	52.8	53.8	55.1	56.9	58.8	60.7	62.6	64.7
Growth Rate		1.0%	2.0%	2.7%	3.0%	1.6%	3.1%	3.1%	1.9%	2.5%	3.2%	3.3%	3.3%	3.2%	3.2%

[1] Thousands of units or dollars.
[2] Billions of dollars.

Revenues

Table A.3
General Fund Revenues

FY Ending	Amounts ($ millions) Corporate Net Income	Other Corporate	Sales and Use	Personal Income	All Other	General Fund	Regional CPI-U (levels)	Nominal State GDP ($ billions)
1996	$1,626	$2,113	$5,682	$5,374	$1,543	$16,339	160.7	$333.8
1997	1,697	2,212	6,037	5,746	1,629	17,321	165.0	347.5
1998	1,703	2,295	6,152	6,236	1,736	18,123	167.2	364.0
1999	1,725	2,363	6,606	6,684	1,850	19,227	169.8	381.1
2000	1,860	2,333	7,018	7,066	1,980	20,257	174.4	399.6
2001	1,603	2,260	7,204	7,492	2,003	20,562	179.1	418.8
2002	1,419	2,183	7,293	7,139	2,027	20,060	182.7	434.3
2003	1,397	2,354	7,520	7,106	2,938	21,315	187.0	449.5
2004	1,678	2,673	7,729	7,734	3,015	22,828	192.1	470.2
2005	1,921	2,830	8,000	8,747	2,810	24,309	200.6	493.5
2006	2,302	2,888	8,334	9,524	2,806	25,854	208.5	517.5
2007	2,493	2,984	8,591	10,262	3,121	27,449	214.1	541.5
2008	2,418	3,040	8,497	10,908	3,066	27,928	221.1	559.6
2009	1,980	2,854	8,136	10,199	2,361	25,530	223.1	567.0
2010	1,791	2,788	8,029	9,969	5,071	27,648	226.1	578.0
2011	2,132	2,761	8,590	10,436	3,579	27,497	230.3	597.8
2012	2,022	2,941	8,772	10,801	3,141	27,678	236.0	616.9
2013	2,423	2,766	8,894	11,371	3,192	28,647	239.9	635.8
2014	2,502	2,397	9,130	11,437	3,142	28,607	242.5	658.9
2015	2,811	2,305	9,493	12,107	3,875	30,593	244.1	680.8
2016	2,842	2,295	9,795	12,506	3,463	30,902	244.7	700.1
2017	2,945	2,124	10,096	12,993	4,153	32,311	247.2	724.2
2018	2,980	2,119	10,361	13,489	4,022	32,971	251.6	752.6
2019	3,135	2,151	10,725	14,118	4,046	34,176	257.0	783.9
2020	3,248	2,185	11,096	14,799	4,050	35,379	262.7	816.8
2021	3,372	2,220	11,451	15,612	4,103	36,758	268.5	850.5
2022	3,530	2,256	11,851	16,149	4,149	37,936	274.4	885.4
Average Annual Growth Rates								
1996 to 2006	3.5%	3.2%	3.9%	5.9%	6.2%	4.7%	2.6%	4.5%
2006 to 2016	2.1%	-2.3%	1.6%	2.8%	2.1%	1.8%	1.6%	3.1%
2016 to 2022	3.7%	-0.3%	3.2%	4.4%	3.1%	3.5%	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	Corrections	Treasury	All Other	General Fund	Regional CPI-U (levels)	Nominal State GDP ($ billions)
1996	$6,963	$5,319	$827	$472	$2,582	$16,163	160.7	$333.8
1997	7,027	5,363	894	586	2,596	16,467	165.0	347.5
1998	7,214	5,553	977	649	2,838	17,230	167.2	364.0
1999	7,511	5,853	1,042	788	3,069	18,263	169.8	381.1
2000	7,640	6,189	1,130	656	3,680	19,295	174.4	399.6
2001	8,041	6,480	1,161	414	3,766	19,862	179.1	418.8
2002	8,277	6,669	1,151	586	3,747	20,429	182.7	434.3
2003	8,509	6,530	1,247	393	3,721	20,400	187.0	449.5
2004	8,754	7,440	1,299	713	3,680	21,885	192.1	470.2
2005	9,407	7,886	1,331	450	3,980	23,054	200.6	493.5
2006	9,687	8,918	1,358	769	3,933	24,665	208.5	517.5
2007	10,461	9,304	1,420	900	4,212	26,298	214.1	541.5
2008	11,060	8,617	1,600	923	4,768	26,968	221.1	559.6
2009 [2]	11,273	8,590	1,606	955	4,660	27,084	223.1	567.0
2010 [2]	10,588	8,577	1,593	976	3,209	24,942	226.1	578.0
2011 [2]	10,455	8,780	1,663	1,023	3,146	25,067	230.3	597.8
2012	10,491	10,495	1,856	1,090	3,097	27,031	236.0	616.9
2013	10,967	10,623	1,867	1,139	3,122	27,717	239.9	635.8
2014	11,114	11,045	1,998	1,117	3,121	28,395	242.5	658.9
2015	11,564	11,362	2,134	1,144	3,069	29,200	244.1	680.8
2016	12,103	11,516	2,235	1,177	3,096	30,127	244.7	700.1
2017	12,801	11,982	2,387	1,164	3,199	31,535	247.2	724.2
2018	13,324	13,013	2,473	1,272	3,360	33,443	251.6	752.6
2019	13,945	13,720	2,543	1,363	3,579	35,151	257.0	783.9
2020	14,459	14,412	2,631	1,398	3,754	36,655	262.7	816.8
2021	14,810	15,209	2,720	1,460	3,932	38,131	268.5	850.5
2022	15,172	15,881	2,806	1,519	4,108	39,486	274.4	885.4
Average Annual Growth Rates								
1996 to 2006	3.4%	5.3%	5.1%	5.0%	4.3%	4.3%	2.6%	4.5%
2006 to 2016	2.3%	2.6%	5.1%	4.4%	-2.4%	2.0%	1.6%	3.1%
2016 to 2022	3.8%	5.5%	3.9%	4.3%	4.8%	4.6%	1.9%	4.0%

[1] Includes State System of Higher Education and Thaddeus Stevens College of Technology.
[2] Excludes expenditures supported by federal funds provided under the American Recovery and Reinvestment Act of 2009 (ARRA). The excluded ARRA amounts are: $1.2 billion (FY 2008-09), $2.7 billion (FY 2009-10) and $3.1 billion (FY 2010-11).
Source: Executive Budget, various years. Projections by IFO.

Table A.5
Total Executive Agencies Authorized Complement

	Fiscal Year Ending						Change
	2010	2011	2012	2013	2014	2015	10-15
Human Services	18,197	17,858	17,048	16,898	16,721	17,032	-1,165
Corrections	16,215	16,180	16,157	15,965	15,925	15,959	-256
Transportation	11,876	11,876	11,876	11,876	11,883	11,883	7
State Police	6,359	6,359	6,378	6,514	6,531	6,561	202
Labor and Industry	5,790	5,764	5,948	5,916	5,898	5,902	112
Liquor Control Board	3,276	3,276	3,276	3,276	3,270	3,270	-6
Environmental Protection	2,835	2,839	2,770	2,770	2,708	2,681	-154
Military and Veterans Affairs	2,336	2,312	2,236	2,218	2,226	2,226	-110
Revenue	2,128	2,128	2,128	2,012	2,001	2,046	-82
Executive Offices	2,106	2,066	2,042	1,887	1,789	1,733	-373
Health	1,582	1,529	1,495	1,395	1,336	1,316	-266
Conservation & Natural Res.	1,362	1,389	1,389	1,383	1,403	1,406	44
Probation and Parole Board	1,173	1,173	1,228	1,244	1,264	1,300	127
General Services	1,246	1,138	1,061	999	1,003	954	-292
Game Commission	698	698	708	708	708	714	16
Agriculture	612	604	596	594	592	596	-16
Education	603	590	544	551	535	529	-74
Public Utility Commission	519	519	532	520	520	503	-16
State	531	523	506	499	496	497	-34
Fish & Boat Commission	432	432	432	432	432	432	0
School Employees Retire. Syst.	310	310	310	314	314	316	6
Comm. and Economic Develop.	343	320	294	315	307	302	-41
Insurance	334	317	309	289	273	272	-62
Historical & Museum Com.	212	200	218	210	210	210	-2
All Others[1]	1,108	1,073	1,102	1,135	1,127	1,127	19
Total	**82,183**	**81,473**	**80,583**	**79,920**	**79,472**	**79,748**	**-2,435**
Total PA Employment (000s)[2]	5,594	5,664	5,711	5,731	5,757	5,814	220
State Complement Share	1.47%	1.44%	1.41%	1.39%	1.38%	1.38%	n.a.

[1] All Other includes: Banking and Securities, Emergency Management Agency, Civil Service Commission, Department of Aging, Securities Commission, Governor's Office, Milk Marketing Board, Municipal Employes' Retirement, Infrastructure Investment Authority, Environmental Hearing Board, Lt. Governor's Office, Drug & Alcohol Programs and SERS.

[2] Total Pennsylvania employment is the average payroll employment over each fiscal year.

Source: Executive Budget (various years) and U.S. Bureau of Labor Statistics.

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.

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.6 displays a history and forecast for special funds that augment General Fund expenditures. The use of special funds peaked in FY 2014-15.

Table A.6
Other Fund Disbursements to the General Fund

Fiscal Year	Lottery[1]	Tobacco[2]	Oil & Gas[3]	Total
2006-07	$249	$170	$4	$423
2007-08	249	206	4	459
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	364	137	978
2015-16	310	284	96	690
2016-17	308	291	50	649
2017-18	258	291	50	599
2018-19	223	291	50	564
2019-20	213	291	50	554
2020-21	213	291	50	554
2021-22	203	291	50	544

Note: figures in dollar millions.

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

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

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

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 2017-18 through FY 2021-

22. These forecasts inform the projection of General Fund appropriations found in the 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 both General and Lottery Fund appropriations. Lottery monies fund most of the budget for the Department of Aging, and it does not receive any General Fund appropriations.

For FY 2015-16, Lottery Fund net revenues ($1.877 billion) slightly exceeded expenditures ($1.866 billion). The low beginning balance ($15 million) and the maintenance of the $75 million reserve for that year resulted in an ending balance of $26 million. (See Table A.7.) Going forward, the low ending balance and modest net revenue growth will limit the ability of the Lottery Fund to supplement General Fund appropriations for DHS programs (discussed later).

Gross ticket sales are projected to grow at an average rate of 2.9 percent per annum for FY 2016-17 through FY 2021-22:

- Instant ticket sales grow by 3.8 percent per annum, based on trends in disposable current income and the 18 or older population, who may legally purchase tickets.
- Multi-state lottery sales grow by 2.9 percent per annum based on demographic and income trends.
- All other game (in-state lottery, numbers and raffle) sales decline by 0.3 percent per annum. Numbers games are projected to decline by 2.3 percent per annum, while in-state lottery sales are projected to increase by 3.7 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 2.3 percent per annum from FY 2016-17 to FY 2021-22. It assumes that a $75 million balance sheet reserve is eliminated for FY 2016-17 and thereafter in order to maintain a balance in the fund.

The forecast also reflects the following assumptions:

- Expenditures that are funded through disbursements from the Lottery Fund, with the exception of those for DHS, are based on the growth in the relevant service populations and an inflationary adjustment.
- Appropriations for DHS are held flat, with the exception of Medical Assistance – Long-Term Care, which is adjusted as necessary to maintain a small

fund balance. Reductions in this line item are absorbed by the General Fund.

The forecast projects that total appropriations will increase by 1.6 percent per annum from FY 2016-17 through FY 2021-22. The department details are as follows:

- Department of Aging appropriations grow by 3.3 percent per annum. Those revenues are earmarked for general operations (2.6 percent per annum), PENNCARE (5.0 percent), Pre-Admissions Assessment (5.0 percent), Caregiver Support (5.0 percent), Alzheimer's Outreach (5.0 percent), Pharmaceutical Assistance Fund (0.0 percent) and grants for senior centers (5.0 percent). The Pharmaceutical Assistance Fund forecast is assumed to remain flat, while other programs are projected based on trends for the 65 or older age cohort or the total population and the CPI-U.
- Department of Revenue appropriations grow by 2.6 percent per annum. Approximately two-thirds of appropriations are used for administrative and advertising expenses, vendor commissions and the payment of prize monies (5.1 percent per annum). The forecast projects that those operational costs grow in line with total game sales, but at a slightly faster pace as a somewhat larger share of prize payouts are made by the department, and not by retailers. The remainder is earmarked for the Property Tax Rent Rebate (PTRR) program for general operations and rebate claims (-2.3 percent). The PTRR forecast declines due to the program's statutorily set income eligibility. As incomes rise over time, more households will exceed the income limits.
- Department of Transportation appropriations grow by 5.0 percent per annum. The revenues are earmarked for the Older Pennsylvanians Shared Ride program and a transfer to the Public Transportation Trust Fund. The forecast for those transfers is based on the change in the CPI-U and the growth of the 65 or older age cohort.
- The residual funds available to support DHS appropriations decline by 8.0 percent per annum. The Home and Community-Based Services and Medical Assistance - Transportation Services programs are held flat. The projections for Medical Assistance - Long-Term Care decline based on the availability of Lottery Funds after other program costs are taken into account. Reductions in this line item are absorbed by the General Fund.

Table A.7
Lottery Fund Balance Sheet

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Beginning Balance	$15	$26	$41	$12	$11	$13	$8
Reserve from Prior Year	75	75	0	0	0	0	0
Total	**90**	**101**	**41**	**12**	**11**	**13**	**8**
Gross Ticket Sales	4,135	4,212	4,361	4,484	4,611	4,740	4,869
Less Field Paid Prizes & Comm.	-2,459	-2,514	-2,606	-2,689	-2,775	-2,862	-2,948
Transfers, Earnings and Lapses[1]	201	149	148	146	145	145	145
Net Revenue	**1,877**	**1,847**	**1,903**	**1,941**	**1,981**	**2,023**	**2,066**
Funds Available	**1,967**	**1,948**	**1,944**	**1,953**	**1,992**	**2,036**	**2,074**
Aging	531	574	592	611	631	652	674
Human Services	310	308	258	223	213	213	203
Revenue	843	846	894	911	928	946	963
Transportation	182	179	188	197	207	217	228
Total Expenditures	**1,866**	**1,907**	**1,932**	**1,942**	**1,979**	**2,028**	**2,068**
Current Year Reserve	**-75**	**0**	**0**	**0**	**0**	**0**	**0**
Ending Balance	**26**	**41**	**12**	**11**	**13**	**8**	**6**

Note: figures in dollar millions.

[1] Includes a prior year lapse of $23.4 million for FY 2015-16.

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 2015-16, revenues ($340 million) exceed expenditures ($313 million), which increased the fund balance from $108 million at the beginning of the fiscal year to an estimated $135 million at the end of the year.

Tobacco Settlement Fund revenue projections for FY 2017-18 through FY 2021-22 are based on the schedule of annual payments to Pennsylvania included in the Master Settlement Agreement. Revenues include gross settlements and strategic contribution payments. The last strategic contribution payment is expected to be received in the spring of 2017, and the annual payments are expected to increase by approximately 12 percent beginning in 2018.

The expenditure forecast reflects the following assumptions:

- The FY 2016-17 transfer of $29 million from the Tobacco Settlement Fund to the General Fund will not be repeated in future fiscal years.
- The Department of Health increases are based on the FY 2016-17 percentage allocations of receipts for the Tobacco Use, Prevention and Cessation and the Health Research line items.
- The Department of Human Services is held flat at FY 2016-17 levels through FY 2021-22 based on the projected fund balance.

Table A.8
Tobacco Settlement Fund Balance Sheet[1]

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Beginning Balance	**$108**	**$136**	**$88**	**$78**	**$67**	**$57**	**$46**
Gross Settlements	318	309	346	346	346	346	346
Strategic Contributions	22	21	0	0	0	0	0
Interest[2]	0	0	0	0	0	0	0
Total Revenues	**340**	**330**	**346**	**346**	**346**	**346**	**346**
Funds Available	**448**	**466**	**434**	**424**	**413**	**403**	**392**
Executive Offices	0	29	0	0	0	0	0
Community & Economic Dev.	3	3	3	3	3	3	3
Health	26	56	63	63	63	63	63
Human Services	284	291	291	291	291	291	291
Total Expenditures	**313**	**379**	**357**	**357**	**357**	**357**	**357**
Ending Balance	**135**	**87**	**77**	**67**	**56**	**46**	**35**

Note: figures in dollar millions.
[1] Excludes federal funds.
[2] Amount less than $500,000.

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. Disbursements 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 2015-16, expenditures ($121 million, including commitments) exceeded revenues ($72 million), which reduced the fund balance from $62 million at the beginning of the fiscal year to $14 million at the end of the year. The decline in the fund balance results from a decline in royalty revenue and on DCNR's reliance on the OGLF to support its expenditures.

For FY 2016-17, General Fund appropriations ($107 million) supplied the majority of DCNR funding and no appropriations to the department were made from the OGLF. The $50 million executive authorization for DCNR provided in Section 1603–E of the Fiscal Code and the statutory transfers to (1) the Environmental Stewardship Fund ($20 million) and (2) the Hazardous Sites Cleanup Fund ($5 million) are the only expenditures from the fund. The amounts of the transfers were reduced for FY 2016-17 by Act 85 of 2016. Based on revenues of $75 million, the fund balance is projected to be $14 million at the end of the fiscal year.

The forecast projects that royalty revenues will remain low in the near-term, but eventually return to a level closer to the historical baseline. The reduction in royalty revenues is due to the dramatic reduction in the price of natural gas in recent years. Industry analysts have extended their projections of low prices until at least 2018, and possibly later. Several scheduled pipeline expansions have been delayed or cancelled, extending the market oversupply in relation to accessible demand. The forecast assumes that the price will remain depressed until additional pipeline capacity becomes available near the end of the decade.

The revenue projection uses a combination of data provided by DCNR, the Department of Environmental Protection and BENTEK Energy. Royalties are forecasted using expected trends in price, production, and pipeline capacity through the forecast horizon, with adjustments to reflect actual prices received from sales of the 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 executive authorization of up to $50 million annually for DCNR, (2) a transfer to the Environmental Stewardship Fund of $20 million for FY 2016-17 and $35 million for FY 2017-18 and thereafter, and (3) a transfer to the Hazardous Sites Cleanup Fund of $5 million for FY 2016-17 and $15 million for FY 2017-18 and thereafter.
- Under current law, at least $100 million of available funds are needed each fiscal year to meet the obligations of the OGLF. No appropriations are assumed to be made from the OGLF to DCNR, and negative fund balances suggest future policy decisions regarding potential reductions in (1) the $50 million executive authorization or (2) the amount of the statutory transfers.

Table A.9
Oil and Gas Lease Fund Balance Sheet

Fiscal Year	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Beginning Balance	**$62**	**$14**	**$14**	**-$4**	**-$10**	**-$3**	**$19**
Rents, Royalties and Interest	72	75	82	94	107	122	139
Total Revenues	**72**	**75**	**82**	**94**	**107**	**122**	**139**
Funds Available	**134**	**89**	**96**	**90**	**97**	**119**	**158**
DCNR[1]	96	50	50	50	50	50	50
Transfers to Other Funds	25	25	50	50	50	50	50
Total Disbursements	**121**	**75**	**100**	**100**	**100**	**100**	**100**
Ending Balance	**14**	**14**	**-4**	**-10**	**-3**	**19**	**58**

Note: figures in dollar millions.

[1] Department of Conservation and Natural Resources.