Independent Fiscal Office

Official Revenue Estimate

Methodology

FY 2024-25

June 2024

Independent Fiscal Office

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INDEPENDENT FISCAL OFFICE

June 26, 2024

The Honorable Members of the Pennsylvania General Assembly:

This report accompanies the Independent Fiscal Office's publication entitled *Official Revenue Estimate: Fiscal Year 2024-25*. The report describes the methodologies used to produce the revenue estimates included in that publication.

Questions or comments regarding the contents of this report are welcome and can be submitted to contact@ifo.state.pa.us.

Sincerely,

Matthew J. Knittel
Director, Independent Fiscal Office

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Introduction

This document discusses the methodologies used by the Independent Fiscal Office (IFO) to forecast various tax and non-tax revenues. It contains three parts. The first part provides an overview of the general methods used by the IFO. The second part describes the derivation of Disposable Cash Income (DCI), a constructed income measure used to forecast certain tax revenues that rely on consumption, such as sales and use taxes and lottery purchases. The third part describes the specific models used to forecast major revenue sources. Historical revenue data used by the models described in the final section can be found at the IFO's website (www.ifo.state.pa.us) under the "Data" tab.

General Methods

The methods used to forecast tax revenues can be divided into three groups: (1) cash flow, (2) basic tax liability and (3) full tax liability. For each method, projections might be made on an annual or quarterly basis. The choice of periodicity depends on the time patterns of data and whether quarterly data allow regression models to exploit pertinent information that might be masked by aggregation to an annual basis.

All regression models described in this report use the SAS statistical software package. The software uses a maximum likelihood estimation procedure that corrects for the serial correlation and heteroskedasticity often encountered in time series regressions. For all regressions, diagnostic checks were performed to confirm that regression residuals were normally distributed, uncorrelated and had constant variance over time.

Cash Flow Method

Under the cash flow method, firms act as collection agents for the Commonwealth and remit weekly or monthly tax collections based on recent transactions. Payment rules are simple, and refunds are generally not paid because firms merely forward any taxes they collect. Revenues that use the cash flow method include cigarette, realty transfer, fuels, lottery and sales and use taxes. For these revenue sources, tax liability is not accrued over the calendar year. Instead, tax liability is triggered by the consumption of a particular good or service.

Basic Tax Liability Method

Under the basic tax liability method, firms accrue tax liability on a calendar year basis and remit payments based on their anticipated or actual liability. Those payments include two types of remittances: an estimated payment for the current calendar year and a final or "true-up" payment attributable to the prior calendar year. For revenues that use this method, the forecasting equations project calendar year tax liability, which is then converted into cash flows, taking into account any recent overpayments or "safe harbor" payment rules. Due to payment rules and the potential for overpayment of tax liability, cash flow patterns might temporarily diverge from the underlying pattern of actual tax liability. Revenues that use the basic tax liability method include gross receipts, bank shares and insurance premiums taxes.

Full Tax Liability Method

Under the full tax liability method, projections are made for some or all of the fields reported on the tax return. The models that use this method are more complex because (1) multiple forecasts may be required to project tax liability, (2) overpayments of tax liability are common and may be pushed forward as credits to future tax years and (3) tax liability must be converted into cash flows that could span multiple fiscal years. The personal income and corporate net income taxes use this method.

In general, tax return data used for personal and corporate net income tax projections are available with a two-year lag. For this exercise, the latest year of final data is tax year 2021. (For most taxpayers, the tax year and calendar year are the same. The exception is certain firms whose accounting year ends in a month other than December.) However, based on revenues received through May 2024, analysts can construct a fairly accurate estimate of tax year 2022 and 2023 liabilities. Projections of tax liability are then made for tax years 2024 and 2025 and converted into cash flows based on payment rules and historical monthly revenue data.

Pennsylvania Disposable Cash Income

Personal income and sales and use taxes comprise roughly 75% of General Fund tax revenues for non-recession years. These two revenue sources are linked because the decision to purchase taxable goods is a function of disposable income, while disposable income is simultaneously a function of total consumer and business purchases. Hence, the methodologies used to project these tax revenues should be linked in some manner, whether directly (such as a vector autoregression) or indirectly. The methodology used by the IFO models sales and use taxes as a function of Pennsylvania Disposable Cash Income (DCI) to capture that linkage.

Pennsylvania DCI is equal to Cash Income less Taxes. (See **Table 1**.) Cash Income includes all income earned, received or realized by Pennsylvania residents during the calendar year. The measure is different than state personal income reported by the U.S. Bureau of Economic Analysis in the National Income and Product Accounts because personal income is a measure of "economic" income. Economic income is an appropriate and consistent measure of overall welfare, but it is less useful for projecting tax revenues because it includes certain types of income that individuals cannot spend (e.g., accruals to pension funds and certain imputed income) and, therefore, would not affect consumption-related tax revenues such as sales and use, cigarettes and gaming or lottery purchases.

The most complete report of the spendable or cash income of Pennsylvania residents appears on the annual federal income tax return. The IRS publishes those data on its website.[1] However, research shows that some income is not reported on federal tax returns due to reporting errors or non-compliance. Therefore, amounts reported on Pennsylvania federal income tax returns are adjusted to account for unreported income based on IRS "tax gap" studies.[2] The Cash Income measure also includes all taxable and non-taxable Social Security and other transfer payments made to Pennsylvania residents as reported by the Social Security Administration.

Table 1 decomposes Cash Income into six income categories: labor income (57% of total for 2024, includes residence adjustment), capital income (12%), business net income (10%), retirement income (9%) and transfer income (12%). The forecast projects that Cash Income will increase to $813.4 billion in 2024 (3.9% growth) and $846.4 billion in 2025 (4.1%).

Cash Income does not reflect mandatory taxes that must be remitted on income and property. Those taxes include federal, state and local income taxes; state and local property taxes; motor license fees and employee payroll taxes. Historical and projected taxes are listed at the bottom of Table 1. Federal income tax data are from the IRS. State income tax data are from the Pennsylvania Department of Revenue. Other tax

[1] See SOI Tax Stats – Historic Table 2 (IRS).

[2] The "tax gap" is the difference between actual collections and the amounts that should be remitted. The IRS defines the "net misreporting percentage" as the share of true income not reported. A recent tax gap study finds the following net misreporting percentages: wage income (1%), net capital gains (15%), dividends (5%), interest (1%), S corporation and partnership income (11%), sole proprietorship income (56%), pension income (3%) and social security income (11%). See "Federal Tax Compliance Research: Tax Gap Estimates for Tax Years 2014–2016" (IRS, August 2022). These adjustments are also made by the U.S. Bureau of Economic Analysis for the corresponding elements of personal income.

data are from the U.S. Census Bureau or the U.S. Social Security Administration (payroll taxes).[3,4]

The forecast projects that federal, state and local income, property and payroll taxes of Pennsylvania residents will total $159.3 billion (4.4%) for 2024 and $165.8 billion (4.1%) for 2025. Due to the high level of uncertainty, the forecast assumes that federal income tax cuts scheduled to expire at the end of 2025 are extended. The IFO will revisit that assumption over the next year as potential changes to federal tax policy become more clear. Based on estimates published by the U.S. Joint Committee on Taxation, the estimated federal income tax increase for state residents is approximately $13 billion for tax year 2026.

The deduction of Taxes from Cash Income yields Disposable Cash Income. That series provides the most complete measure of income that is available for spending or consumption. The forecast projects that DCI will increase to $654.1 billion (3.8%) in 2024 and $680.6 billion (4.1%) in 2025.

Table 1
Pennsylvania Disposable Cash Income

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Type of Income										
Wages and Salaries	$339.3	$354.1	$353.5	$379.8	$409.0	$431.6	$449.3	$466.9	$485.7	$505.2
Capital Income										
Capital Gains	36.1	29.5	43.4	72.4	46.3	48.6	50.9	52.7	54.2	56.3
Dividends	11.9	12.2	12.2	14.2	15.2	15.5	16.5	17.4	18.3	19.1
Interest-Rent-Royalty	24.0	24.3	23.9	26.7	33.5	29.3	30.3	31.3	31.6	32.6
Business Net Income	55.5	58.1	53.2	73.3	75.1	75.9	79.4	83.1	86.6	90.0
Pensions and Savings	58.5	62.3	61.6	69.6	73.3	76.5	79.3	82.3	85.3	88.3
Government Transfers										
Social Security	46.2	48.7	50.6	52.1	56.3	63.2	67.2	71.0	74.4	77.9
Income Maintenance	19.8	19.8	74.8	72.6	29.0	27.3	25.2	25.8	26.5	27.1
Residence Adjustment	10.9	11.6	12.6	13.4	14.0	14.8	15.4	16.0	16.6	17.3
Cash Income	**602.2**	**620.7**	**685.9**	**774.0**	**751.8**	**782.6**	**813.4**	**846.4**	**879.2**	**913.8**
Growth Rate	5.2%	3.1%	10.5%	12.9%	-2.9%	4.1%	3.9%	4.1%	3.9%	3.9%
Taxes										
Federal Income	58.0	58.5	61.6	77.3	72.1	72.9	76.4	79.6	82.9	86.3
State: Income, Property, Motor	39.6	40.9	41.3	44.3	47.0	48.2	50.1	52.2	54.2	56.3
Employee Payroll (OASDI and HI)	25.0	26.0	26.0	27.8	29.9	31.5	32.8	34.0	35.4	36.7
Less: Total Taxes	**122.6**	**125.4**	**128.9**	**149.4**	**149.0**	**152.6**	**159.3**	**165.8**	**172.5**	**179.3**
Growth Rate	0.5%	2.3%	2.8%	16.0%	-0.3%	2.4%	4.4%	4.1%	4.0%	4.0%
Disposable Cash Income	**479.6**	**495.3**	**557.0**	**624.6**	**602.8**	**630.0**	**654.1**	**680.6**	**706.7**	**734.5**
Growth Rate	6.4%	3.3%	12.4%	12.1%	-3.5%	4.5%	3.8%	4.1%	3.8%	3.9%

Note: Figures in dollar billions. Calendar year data. Federal income taxes are on a cash flow basis. Business Net Income includes S corporations, partnerships, sole proprietors and independent contractors.
Source: Historical data are from IRS Statistics of Income Division, U.S. Census Bureau and Social Security Administration. Projections are from the IFO.

[3] All taxes are displayed on a cash flow basis (when they are remitted) as opposed to a liability basis (as they are accrued).
[4] See "Annual Statistical Supplement, 2023" (U.S. Social Security Administration).

General Fund Methodologies

Corporate Net Income Tax

Corporate Net Income Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$2,879	$3,398	$2,827	$4,424	$5,323	$6,143	$5,654	$5,425
Growth Rate	4.6%	18.0%	-16.8%	56.5%	20.3%	15.4%	-8.0%	-4.1%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 7.99% for tax year 2025 and declines by 0.5 percentage point each tax year until it reaches 4.99% in 2031.

Base

The tax is levied on federal taxable income, modified by certain additions (e.g., federal "bonus" depreciation) and subtractions (e.g., foreign income). Firms that file a consolidated federal income tax return must report on a separate company basis for Pennsylvania corporate net income tax (CNIT) purposes. Multistate firms apportion net income using market-based sourcing rules and a 100% sales factor.

Transfers

None.

Exemptions

All pass-through business entities (S corporations, partnerships and sole proprietors) and non-profit corporations are exempt from CNIT. Limited liability companies that elect to be taxed as partnerships for federal tax purposes are also exempt from tax. Banks, savings and loan agencies and insurance companies remit other corporate levies in lieu of the CNIT.

Methodology

The CNIT model is a simplified full tax liability model. The model uses the latest corporate payment data to assign estimated and final payments to the tax year from which they originate. Total payments by tax year are then extrapolated to future years using the growth in (national) domestic profits of non-financial corporations. The base tax year from which this extrapolation is made is currently tax year 2023. The model then converts tax liability to fiscal year cash flows based on historical payment patterns.

Gross Receipts Tax

Gross Receipts Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$1,150	$1,250	$1,104	$990	$1,022	$1,181	$1,390	$1,230
Growth Rate	-6.6%	8.7%	-11.7%	-10.3%	3.3%	15.5%	17.7%	-11.5%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 59 mills for electric light, water power and hydroelectric companies, and 50 mills for telecommunications and transportation companies.

Base

The tax is levied on gross receipts from certain sales.

Transfers

Revenues are net of the 0.25 mill transfer to the Alternative Fuels Incentive Grant Fund.

Exemptions

Gross receipts (1) of public utilities owned or operated by a municipality to the extent the receipts are derived from business conducted within the municipality, (2) derived from the sale of electricity by an electric light company which are attributable to the recovery of purchased energy costs, clean-up costs and investment write-off costs due to damage to a nuclear-generating facility or (3) of electric cooperatives, are exempt from tax.

Methodology

The gross receipts tax (GRT) forecast utilizes a basic tax liability model. The model projects tax year receipts for three sectors: electric, telecommunications and transportation using historical trends and related economic data. Tax year receipts are then broken out into fiscal year receipts based on historical splits between estimated and regular payments. Price and sales data from the U.S. Energy Information Administration are used to inform trends in current year tax liability.

Insurance Premiums Tax

Insurance Premiums Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$451	$444	$474	$452	$482	$522	$542	$570
Growth Rate	4.0%	-1.5%	6.6%	-4.6%	6.8%	8.2%	3.9%	5.0%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 2% on gross premiums (along with any applicable retaliatory tax), 3% on surplus lines insurance and 5% on marine insurance.[5]

Base

The tax is imposed on gross premiums of domestic and foreign insurance companies with business transactions in Pennsylvania. Gross premiums are considered to be premiums, premium deposits or assessments. For marine insurance companies, underwriting profits are taxed in lieu of premiums. The surplus lines insurance tax is imposed on the insured party instead of the insurance company.

Transfers

Effective July 1, 2022, General Fund revenues are net of (1) a transfer of 8.5% or $85 million (whichever is greater) to the Fire Insurance Tax Fund (FITF) and (2) a transfer of 38% or $345 million (whichever is greater) to the Municipal Pension Aid Fund (MPAF). Prior to fiscal year (FY) 2022-23, taxes paid by foreign fire companies were deposited directly into the FITF, and taxes paid by foreign casualty companies were deposited directly into the MPAF.

Exemptions

Purely mutual beneficial associations, nonprofit hospitals and medical associations are exempt from tax. Additionally, canceled policies, premiums for reinsurance, annuity considerations and dividends, earnings of participating members in mutual or stock insurance companies and premiums written by automobile insurance companies for extraordinary medical benefit coverage are exempt from tax.

Methodology

The forecast utilizes a basic tax liability model to project estimated, regular and other payments by tax year. Tax year liabilities are adjusted for the application of Innovate PA and Pennsylvania Life and Health Insurance Guaranty Association (PLHIGA) tax credits and converted to fiscal year cash collections based on historical data.

[5] A retaliatory tax is imposed on companies incorporated in other states that impose a higher burden on Pennsylvania companies doing business there.

Financial Institution Taxes

Financial Institution Taxes Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$371	$380	$393	$423	$449	$366	$401	$408
Growth Rate	15.1%	2.4%	3.4%	7.7%	6.2%	-18.6%	9.7%	1.7%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 0.95% for banks and trust companies, and 11.5% for mutual thrift institutions.

Base

The tax on banks and trust companies is levied on the (apportioned) value of capital stock shares as of January 1. The tax on mutual thrift institutions is levied on net income.

Transfers

None.

Exemptions

Shares held by tax-exempt entities and credit unions are not subject to tax.

Methodology

The bank and trust company tax forecast utilizes a structural model, which incorporates the growth of bank equity capital and recent revenue collections. Values for 2025 are informed by year-to-date stock market performance for Pennsylvania banks. The tax rate increased from 0.89% to 0.95% effective January 1, 2017.

The mutual thrift institution tax forecast utilizes state GDP to predict future tax liabilities from recent revenue collections. Tax year payments are converted to fiscal year receipts based on the historical split between estimated and regular payments.

Sales and Use Tax

Sales and Use Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Non-Motor	$8,989	$9,616	$9,453	$10,987	$12,076	$12,640	$12,931	$13,232
Motor	1,393	1,484	1,365	1,848	1,838	1,384	1,345	1,374
Total	**10,381**	**11,100**	**10,818**	**12,835**	**13,914**	**14,024**	**14,276**	**14,606**
Growth Rate	3.8%	6.9%	-2.5%	18.6%	8.4%	0.8%	1.8%	2.3%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 6%.

Base

The tax is levied upon the retail sale of tangible personal property and certain services. Use tax is levied upon tangible personal property and taxable services purchased outside the Commonwealth but used therein if tax was not paid at time of purchase. A hotel occupancy tax is levied upon room rentals of less than 30 days by the same person.

Transfers

General Fund tax revenues are net of (1) a transfer of 0.947% to the Public Transportation Assistance Fund and (2) a transfer of 4.4% to the Public Transportation Trust Fund beginning in FY 2007-08. An additional transfer to the Public Transportation Trust Fund began in FY 2022-23. This transfer is based on the greater of: (1) the ratio of $450 million to FY 2020-21 sales tax receipts multiplied by current year sales tax receipts or (2) $450 million. Beginning in FY 2016-17 and thereafter, transfers are made to the Commonwealth Financing Authority for debt service payments. The amount and timing of the transfers are determined by the State Treasurer and Secretary of the Budget. For FY 2023-24, this transfer totaled $187 million.

Exemptions

Major exemptions include: food (ready-to-eat food is not exempt), most footwear and clothing, textbooks, prescription and non-prescription drugs, sales for resale and residential heating fuels. All government and non-profit purchases are also exempt.

Methodology

The sales and use tax model is a quarterly cash flow model with two components: non-motor vehicle and motor vehicle. Most non-motor sales and use taxes are remitted monthly, based on actual collections from the prior month and anticipated collections for the current month. For motor vehicle purchases, the sales tax remittance occurs when the application for title is made.

Quarterly non-motor vehicle and motor vehicle collections are projected based on (1) the observed growth rate for the latest quarter of actual collections, (2) the year-over-year growth rate of total Cash Income and (3) adjusted to reflect economic impacts not included in Cash Income (e.g., used excess savings from federal stimulus programs, consumer stress due to past inflation now embedded in prices, etc.). Model projections are gross of any transfers, which are deducted from projections to derive net flows to the General Fund.

Cigarette Tax

Cigarette Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$1,198	$1,119	$924	$964	$874	$773	$665	$600
Growth Rate	-5.0%	-6.6%	-17.4%	4.3%	-9.3%	-11.6%	-13.9%	-9.9%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

Effective August 1, 2016, the tax rate is 13 cents per cigarette or $2.60 per pack (20 cigarettes per pack).

Base

The tax is imposed per cigarette or little cigar weighing less than 4 lbs. per thousand. The tax base is restrained due to a federal law change that increased the legal age to purchase tobacco products from 18 to 21 in December 2019.

Transfers

Annual transfers of $30.730 million and $25.485 million are made to the Children's Health Insurance Program (CHIP) and the Agricultural Conservation Easement Purchase (ACEP) Fund, respectively. Additionally, a $115.3 million transfer to the Tobacco Settlement Fund (TSF) was first authorized in April 2020 and is expected to occur annually moving forward. For any fiscal year in which the revenue deposited into the Local Cigarette Tax Fund (Philadelphia cigarette tax) is less than $58 million, an amount equal to $58 million less actual fiscal year collections will be transferred from General Fund cigarette tax revenues to the Local Cigarette Tax Fund by July 15 following the end of the fiscal year. The first transfer occurred in July 2017 and the amount for July 2024 is projected to be $39.5 million.

Exemptions

Exemptions include sales to veterans' organizations if cigarettes are purchased for gratuitous issue to veteran patients in federal, state or state-aided hospitals, sales to voluntary unincorporated organizations of military forces personnel and sales to retail dealers located in Veterans' Administration hospitals for sales to patients.

Methodology

Collections for FY 2023-24 are based on revenues for the first 11 months of the current fiscal year. Base consumption for FY 2024-25 is projected to revert to historical patterns. The projected tax base is then converted to a cash estimate by adjusting to the current cigarette tax rate. The estimate is then reduced to account for the impact of the applicable annual transfers.

Other Tobacco Taxes

Other Tobacco Taxes Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$119	$130	$127	$135	$149	$153	$146	$150
Growth Rate	42.0%	9.1%	-2.0%	6.0%	10.8%	2.1%	-4.1%	2.4%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 55 cents per ounce of smokeless, pipe or roll-your-own tobacco. The tax is imposed at a rate of 40% of the wholesale price of e-cigarette products.

Base

The tax is imposed per ounce of smokeless, pipe and roll-your-own tobacco products and on the wholesale price of e-cigarettes (vapor-producing devices and liquid cartridges). The tax base is restrained due to a federal law change that increased the legal age to purchase tobacco products from 18 to 21 in December 2019.

Transfers

None.

Exemptions

Products exported for sale outside the Commonwealth are exempt from the other tobacco products tax.

Methodology

Collections for FY 2023-24 are based on revenues for the first 11 months of the current fiscal year. The projection for FY 2024-25 is based on the change in the consumer price index for all urban consumers (CPI-U) for other tobacco products.

Malt Beverage Tax

Malt Beverage Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$24	$24	$23	$23	$22	$22	$21	$21
Growth Rate	-1.1%	-2.4%	-1.6%	0.4%	-3.4%	-0.2%	-4.6%	0.0%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is two-thirds cents per half pint or eight fluid ounces. In larger quantities, the rate is one cent per pint or 16 fluid ounces. The rate has remained constant since 1947.

Base

The malt beverage tax is levied upon malt or brewed beverages manufactured and sold for use in Pennsylvania or manufactured outside of Pennsylvania but sold for importation and use in Pennsylvania.

Transfers/Exemptions

None.

Methodology

The malt beverage tax forecast assumes flat revenue collections. Beginning in FY 2017-18, revenues are reduced by $2 million for the reinstated Brewers' Tax Credit.

Liquor Tax

Liquor Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$372	$382	$366	$416	$431	$451	$451	$465
Growth Rate	2.7%	2.8%	-4.2%	13.7%	3.7%	4.5%	0.1%	3.0%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 18% of the net retail purchase, which includes the wholesale cost of the product, plus any mark-up, handling charge and federal tax.

Base

The tax is levied upon all liquors sold by the Liquor Control Board.

Transfers/Exemptions

None.

Methodology

The liquor tax forecast is a structural model based on a growth rate that takes into account recent trends in revenue collections.

Personal Income Tax

Personal Income Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Withheld	$10,037	$10,444	$10,543	$10,838	$12,026	$12,644	$13,195	$13,707
Non-withheld	3,362	3,652	2,292	5,445	6,099	4,984	4,619	4,772
Total	**13,399**	**14,096**	**12,835**	**16,283**	**18,126**	**17,628**	**17,814**	**18,479**
Growth Rate	5.8%	5.2%	-8.9%	26.9%	11.3%	-2.7%	1.1%	3.7%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 3.07%.

Base

The tax is levied upon the taxable income of 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, bonuses), (2) net business profits, (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 category of income.

Transfers

Beginning in FY 2019-20, $13 million is transferred annually for debt service payments related to the lease of the Farm Show Complex. Beginning in FY 2022-23, $45 million is transferred annually to the Election Integrity Restricted Account.

Exemptions

Major exemptions include: qualified distributions from certain savings plans (e.g., 401k and Individual Retirement Accounts), pensions, all gains from sales of principal residences, contributions made to Health Savings Accounts and Archer Medical Accounts, any payments made by employers on behalf of employees for health or life insurance, life insurance proceeds, unemployment compensation, worker's compensation, compensation for certain military service and most educational grants and scholarships.

Methodology

The personal income tax (PIT) model is a full tax liability model that projects values for each of the eight income categories that comprise taxable income. The model makes projections from the latest year that tax data are available (preliminary 2022 data) through 2025 and then applies the single tax rate to total projected taxable income to determine calendar year tax liability. Tax liability is then converted into payments on a fiscal year cash flow basis.

Tax return data show that wage-salary income comprises the majority of Pennsylvania personal taxable income (approximately 76%), while business net income (12%) and dividends, capital gains, interest and other taxable income sources (12% combined) comprise the residual amount. Tax on wage and salary income is largely remitted through employer withholding. Tax on business net income, rents, estate income and other types of non-wage income are remitted through quarterly estimated payments (roughly 55% of non-withheld income) and the April final payment (45% of non-withheld income).

Although finalized tax return data are not yet available for 2023, revenues through May 2024 may be used to estimate tax liabilities through that year. Taxable compensation (generally wages) that will be reported on tax returns can be predicted accurately based on the very high correlation between withholding remittances and reported wage income. For non-wage income, estimated and annual payment data can inform the level of income that will be reported, but not the composition of that income (e.g., net business profits versus capital gains), so judgment must be used to estimate the composition of this type of income. Once the model establishes taxable income and payments for the appropriate tax years, the various income categories can be projected based on the economic forecast.

Estimation of PIT Income Sources

The PIT model has two components based on income type and manner of remittance: wage income (withholding) and non-wage income (estimated and annual payments).

Wage Income: The growth rate of wages-salaries from the economic forecast is used as an extrapolator to predict future withholding remittances and taxable compensation.

Non-Wage Income: To predict non-wage income and the resulting estimated and final payments, the model projects all non-wage income categories separately for each tax year. All regressions use annual data and the same historical time period (1997-2022).[6] The forecast uses the methodologies listed below to inform the liabilities associated with each of the income categories reported on the Pennsylvania tax return.

- Net Business Income: A regression model that uses the log of business net income as the dependent variable and the log of state GDP as the primary independent variable.
- Net Capital Gains (Including Sale of Property) and Dividends: The forecast assumes that both series return to levels that are more in line with a historical share of state GDP. Values for 2024 are informed by year-to-date stock market performance and corporate profit growth.
- Interest Income: Interest income is primarily a function of state GDP and the average growth rates of the three-month treasury bill, the one-year treasury bill and the five-year treasury note.
- Rents, Royalties, Patents and Copyrights: The model assumes that the overall growth in royalty payments tracks with the projected growth in market value of natural gas production. The yearly growth rates of the residual income (i.e., rents, patents and copyrights) is extrapolated based on the current forecast of state GDP.
- Estates and Trusts and Gambling and Lottery Earnings: These income categories are extrapolated based on the current forecast of state GDP.

Tax Year Payments into Fiscal Year Cash Flow

After calculating the total payments for each tax year, the model then converts this payment stream into a fiscal year cash flow based on recent years of remittance data. The model utilizes adjustments to account for: (1) the split between estimated and final payments for non-wage income, (2) the typical withholding, quarterly and annual payment pattern for non-recession years and (3) the impact of various tax law changes.

[6] Only preliminary data are available for 2022.

Realty Transfer Tax

Realty Transfer Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$514	$534	$498	$640	$847	$644	$537	$594
Growth Rate	7.6%	3.8%	-6.8%	28.6%	32.3%	-24.0%	-16.6%	10.7%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 1%, customarily divided equally between buyer and seller.

Base

The tax is levied upon the actual consideration or price of real property and contracted-for improvements to property transferred by deed, instrument, lease or other writing. The tax is due upon the presentation of the document for recording, or 30 days after the acceptance of the document, whichever comes first. The tax is remitted to the county recorder of deeds and forwarded to the Commonwealth.

Transfers

General Fund tax revenues are net of a 15% transfer to the Keystone Recreation, Park and Conservation Fund. Beginning July 2023, revenues equal to the lesser of (1) $60 million or (2) 40% of the difference between revenues collected in the prior fiscal year and $447.5 million are transferred annually to the Housing Affordability and Rehabilitation Fund. The FY 2024-25 transfer is projected to be $60 million.

Exemptions

Government entities are exempt from the tax, as are certain transfers among family members, family farms, religious organizations, nonprofit industrial development agencies, volunteer organizations and transfers between shareholders and partners. The exempt status of one party does not relieve other parties from the full amount of tax due.

Methodology

The realty transfer tax projection uses a cash flow model and forecasts revenues based on trends in the residential housing market. Projections for U.S. median existing home price and existing home sales from S&P Global are used to inform the forecast. Although the model does not directly incorporate an economic variable to represent the business portion of the tax base, it is assumed that revenues for that portion closely correlate with residential sales.

Inheritance Tax

Inheritance Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$1,019	$1,054	$1,082	$1,346	$1,550	$1,524	$1,639	$1,693
Growth Rate	4.2%	3.4%	2.7%	24.3%	15.2%	-1.7%	7.5%	3.3%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is based on the beneficiary's relationship to the decedent. Transfers of property to lineal heirs are taxed at 4.5%, transfers to siblings are taxed at 12% and transfers to all other persons (excluding spouses and certain parents) are taxed at 15%. The tax must be paid within nine months following the decedent's death, with a discount of 5% allowed if paid within three months.

Base

The value of property at the time of the decedent's death, as well as the value of certain transfers made during the decedent's lifetime.

Transfers

None.

Exemptions

Property transferred to a spouse or to a parent from a child under 21 years of age is exempt from the tax. Additionally, transfers to governmental entities, veteran organizations, charitable or fraternal organizations and transfers of family farms and equipment for the business of agriculture are exempt.

Methodology

The regression uses a log transformation with fiscal year inheritance tax revenues as the dependent variable and nominal national GDP and the S&P 500 Index as the independent variables. The regression also includes a dummy variable for the former estate tax.[7] The regression uses historical data from FY 1988-89 through FY 2023-24. The estimate for FY 2023-24 is based on collections for the first 11 months of the fiscal year.

[7] The estate tax was a pick-up tax that allowed Pennsylvania to absorb the maximum credit for state inheritance and estate taxes permitted under federal law. The Pennsylvania estate tax was equal to the difference between the state taxes paid and the maximum federal credit. The American Taxpayer Relief Act of 2012 extended the deduction for the estate tax but did not reintroduce the credit.

Gaming Taxes

Gaming Taxes Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$123	$132	$143	$242	$308	$365	$372	$381
Growth Rate	2.0%	7.0%	8.6%	69.1%	27.3%	18.6%	1.9%	2.4%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The table games tax rate is 14%. An additional 34% tax is levied on fully automated electronic gaming tables. A tax rate of 15% is imposed on fantasy contests, 14% on iGaming (table games only), 42% on video gaming terminals (VGTs) and 34% on sports betting.

Base

The tax is generally levied upon the gross revenue of licensed gaming entities. The base includes the total cash received from contest fees, game play and rake collected, less cash paid out to fund prizes distributed to players as a result of a win, including funds used to purchase annuities and personal property distributed as prizes.

Transfers/Exemptions

None.

Methodology

The FY 2023-24 estimate is based on current trends and historical collection patterns through May 2024. The FY 2024-25 estimate is based on historical collection patterns.

Motor License Fund Methodologies

Motor Licenses and Fees

Motor Licenses and Fees Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Veh. Reg. & Titling	$776	$730	$747	$854	$829	$829	$949	$953
Reg. Other States	139	139	155	173	156	179	212	201
Operators' Licenses	68	72	46	80	91	63	79	64
REAL ID	0	5	27	9	21	13	8	5
Other Misc.	27	10	-53	2	-3	0	0	2
Spec. Hauling Permit	37	37	32	32	33	35	36	36
Total	**1,046**	**992**	**954**	**1,151**	**1,127**	**1,118**	**1,283**	**1,261**
Growth Rate	4.5%	-5.1%	-3.9%	20.7%	-2.2%	-0.8%	14.8%	-1.7%

Note: Figures in dollar millions. Years are fiscal year ending.

Rates

Act 89 of 2013 increased many of the fees imposed by Title 75 and tied future increases to the rate of inflation. In general, fees are adjusted on July 1 of any calendar year ending in an odd number. The adjustment is based on the percentage change in the consumer price index for all urban consumers (CPI-U) for the 24-month period ending on January 31 prior to the increase. Therefore, there is no increase effective July 1, 2024.

Vehicle Registration Fees: Fees vary depending on the vehicle type and weight. Two of the most common fees are passenger cars at $45 and motorcycles at $24. Registration fees for trucks and truck tractors range from $77 to $2,764 (depending on weight).

Registration Fees Received from Other States/International Registration Plan (IRP): Proportional registration fee of trucks and other large commercial vehicles that travel over state lines.[8]

Operators' License Fees: Varies depending on type and length of license. Two common fees are the four-year license renewal at $39.50 and the four-year commercial license renewal at $108.50.

Special Hauling Permit Fees: Fees are equal to a base amount of $43 or $93 (depending on width) plus a factor for weight and miles traveled (4 cents multiplied by weight in tons and total miles traveled).

REAL ID: The one-time fee to upgrade an operator's license to a REAL ID is $30.

[8] It is proportional based on the miles traveled in each state or province (Canada). For example, if a truck that weighs 80,000 lbs. drives 25% of its total miles in Pennsylvania, Pennsylvania would receive 25% of the normal Pennsylvania registration fee for that truck.

Base

Vehicle Registration Fees: Most are annual per vehicle.

Registration Fees Received from Other States/IRP: Annually per truck or large commercial vehicle, based on the proportion of miles driven in Pennsylvania in the previous one-year period.

Operators' License Fees: Fee paid by all individuals who are residents of Pennsylvania and operate a motor vehicle. Most fees are generated by four-year licenses.

Special Hauling Permit Fees: Operators that move certain loads or vehicles (e.g., oversized or overweight) over Pennsylvania roads.

REAL ID: Pennsylvania residents that opt to upgrade their current operator's license to a REAL ID.

Transfers

A portion of the registration fee for trucks exceeding 26,000 lbs. is deposited into the Highway Bridge Improvement Restricted Account. The amount placed in this account ranges from $72 to $180 per registration depending on truck weight.

Exemptions

Exemptions from vehicle registration fees include certain farm equipment, golf carts, mobile homes, vehicles moved solely by human or animal power and certain construction equipment. Exemptions from commercial operator license fees include military personnel who operate commercial vehicles for military purposes, firefighters or emergency squad members who operate various emergency vehicles and drivers operating farm equipment.

Methodology

The FY 2023-24 estimates are based on year-to-date collections projected through the end of the current fiscal year. The FY 2024-25 estimates utilize structural models based on historical collection patterns. Operators' license revenue contains a small four-year cyclical component.

Oil Company Franchise Tax

Oil Company Franchise Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$1,018	$1,006	$931	$905	$950	$953	$957	$931
Growth Rate	12.7%	-1.2%	-7.4%	-2.9%	5.0%	0.4%	0.4%	-2.7%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate is 153.5 mills for liquid fuels (gasoline) and 208.5 mills for fuels (diesel) applied to the average wholesale price (AWP) of gasoline and diesel fuel in the prior calendar year and expressed on a cents-per-gallon basis. Beginning with CY 2017 and thereafter, the minimum AWP is $2.99 per gallon. For the 12-month period ending September 30, 2023, the Pennsylvania Department of Revenue determined the actual AWP to be $2.84 per gallon. As a result, effective January 1, 2024, the tax rates for gasoline and diesel are 45.9 and 62.4 cents per gallon, respectively. The FY 2024-25 estimates assume that the AWP used to compute the CY 2025 tax rates remains below the $2.99 minimum and that the tax rates remain unchanged.

Base

The tax is imposed on a cents-per-gallon basis on all liquid fuels and fuels as defined by statute.

Transfers

57 mills (roughly 17.0 cents per gallon at the current AWP) is deposited into the Motor License Fund as unrestricted revenue. Beginning in FY 2015-16, $35 million of the unrestricted portion of the tax is transferred to the Multimodal Transportation Fund annually. The remaining portion of the tax reflects restricted receipts and is deposited into various restricted revenue accounts, distributed to municipalities, etc. The projections listed above correspond to unrestricted receipts that remain in the Motor License Fund.

Exemptions

Exemptions include fuel that is delivered to: the federal government, the Commonwealth, a political subdivision, a volunteer fire or ambulance company, volunteer rescue squad, a second class county port authority or a nonpublic nonprofit school. The tax is also not imposed on fuel used in aircraft or aircraft engines.[9]

Methodology

The FY 2023-24 oil company franchise tax (OCFT) estimate is based on year-to-date collections projected through the end of the fiscal year. FY 2024-25 collections are estimated by applying the appropriate tax rates to projections of gasoline and diesel fuel consumption.

[9] Aviation gasoline and jet fuel are taxed separately, and revenue is deposited into a restricted revenue account.

Act 89 Oil Company Franchise Tax

Act 89 Oil Company Franchise Tax Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$679	$682	$635	$616	$646	$644	$650	$632
Growth Rate	-5.4%	0.4%	-6.8%	-3.0%	4.8%	-0.2%	0.9%	-2.8%

Note: Figures in dollar millions. Years are fiscal year ending.

Rate

The tax rate was 41 mills effective January 1, 2017 and 39 mills effective January 1, 2018. The rate is applied to the AWP of gasoline and diesel fuel in the prior calendar year and expressed on a cents-per-gallon basis. The AWP is a minimum of $2.99 per gallon effective January 1, 2017. For the 12-month period ending September 30, 2023, the Pennsylvania Department of Revenue determined the actual AWP to be $2.84 per gallon. Therefore, the current rate is 11.7 cents per gallon. The FY 2024-25 estimates assume that the AWP used to compute the CY 2025 tax rates remains below the $2.99 minimum and that the tax rate remains unchanged.

Base

The tax is imposed on a cents-per-gallon basis on all liquid fuels (gasoline) and fuels (diesel) as defined by statute.

Transfers

Tax revenue is deposited into the Motor License Fund and 4.17% of the tax is transferred to the Liquid Fuels Tax Fund. The projections shown in the table only reflect the unrestricted portion of the tax.

Exemptions

Exemptions include fuel that is delivered to: the federal government, the Commonwealth, a political subdivision, a volunteer fire or ambulance company, volunteer rescue squad, a second class county port authority or a nonpublic nonprofit school. The tax is also not imposed on fuel used in aircraft or aircraft engines.[10]

Methodology

The FY 2023-24 Act 89 OCFT estimate is based on year-to-date collections projected through the end of the fiscal year. Collections for FY 2024-25 are estimated by applying the appropriate tax rates to projections of gasoline and diesel fuel consumption.

[10] Aviation gasoline and jet fuel are taxed separately, and revenue is deposited into a restricted revenue account.

Lottery Fund Methodology

Lottery Fund Net Revenues

Lottery Fund Revenues Historical and Projected Revenues

	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	$1,789	$1,931	$1,944	$2,007	$1,968	$2,119	$2,080	$2,181
Growth Rate	4.7%	7.9%	0.7%	3.2%	-1.9%	7.7%	-1.8%	4.9%

Note: figures in dollar millions. Years are fiscal year ending.

Products

The Pennsylvania Lottery sells terminal-based and instant ticket games at roughly 10,000 retail locations across the Commonwealth. Beginning in 2018, players can access online lotto games through the iLottery platform.

Methodology

The Lottery Fund projection uses different modeling techniques for each product type and combines the results to project total sales. The Lottery projection for FY 2023-24 is based on year-to-date data through May 2024. The forecast for FY 2024-25 assumes a return to sales growth rates slightly below historical patterns due to recent weakness in overall Lottery sales. In addition, the forecast for FY 2024-25 projects prizes and commissions as a share of total ticket sales consistent with payouts in recent years and includes an annual transfer from the Gaming Fund of $204.0 million in FY 2024-25.[11]

[11] The transfer amount is from the 2024-25 Governor's Executive Budget.