Analysis of Revenue Proposals

FY 2015-16 Executive Budget

IFO Independent Fiscal Office

April 23, 2015

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

INDEPENDENT FISCAL OFFICE

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April 23, 2015

The Honorable Members of the Pennsylvania General Assembly:

This document provides an analysis of the tax proposals included in the *2015-16 Executive Budget* released March 2015. The Independent Fiscal Office (IFO) publishes this report to fulfill its statutory duties as provided under 71 Pa.C.S. § 4104. The act requires that the IFO "provide an analysis, including economic impact, of all tax and revenue proposals submitted by the Governor or the Office of the Budget."

This analysis uses various data sources to derive estimates of the revenue proposals included in the budget. All data sources and methodologies used to derive those estimates are noted in the relevant sections of this document. The IFO would like to thank the various organizations that provided input to this analysis.

We welcome any questions or comments regarding the contents of this analysis, and those can be submitted to contact@ifo.state.pa.us.

Sincerely,

MATTHEW J. KNITTEL
Director

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Introduction

This report provides an analysis of the tax proposals included in the *2015-16 Executive Budget* released March 2015. The Independent Fiscal Office (IFO) publishes this report to fulfill its statutory duties as provided under 71 Pa.C.S. § 4104. The act requires that the IFO "provide an analysis, including economic impact, of all tax and revenue proposals submitted by the Governor or the Office of the Budget."

The report contains two sections. The first section provides a description of the various tax proposals included in the *2015-16 Executive Budget* and the corresponding impact on General Fund, school district property and certain local tax revenues over a five-year period. The section also includes a brief description of the relevant data sources and methodologies used to derive revenue estimates. The section ends with a table that illustrates how various transfers move monies between different funds, accounts and entities.

The second section distributes the new revenues to non-residents, the federal government and six groups of Pennsylvania residents stratified by income for fiscal year (FY) 2018-19. That fiscal year represents the first year in which all tax proposals should be fully phased-in. This type of analysis is commonly referred to as an incidence analysis and is used by state and federal governments to identify the individuals who bear the economic burden of the tax system.

As described in the budget, the new tax revenues generated by the proposals will be used to support spending for K-12 education, higher education, pension obligations, health care and other miscellaneous expenditures. Higher taxes generally reduce economic activity, but it is possible that the government spending supported by those revenues could offset some, all, or more than all of the negative economic impact. The net impact will depend on many factors, such as taxpayer response to tax rate and base changes, the share of new taxes exported to non-residents and the types of spending supported by the new revenues. A complete analysis would consider both tax and spending changes. This analysis does not attempt to quantify the net impact of tax and spending changes on statewide economic activity and is limited to the projected incidence of the tax changes.

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Revenue Impact

The *2015-16 Executive Budget* proposes substantive changes to cigarette, sales and use, personal income, property, corporate net income, bank shares and certain local taxes. It also proposes new tax levies on the severance of natural gas and other tobacco products (e.g., snuff). By FY 2019-20, the analysis projects that the proposals will increase net state and local tax revenues by $5.2 billion: $9.8 billion in tax increases offset by $4.6 billion of tax and rent relief. The analysis finds a significant net tax increase for non-residents, while the federal government absorbs a portion of net tax reductions. The subsections that follow provide further detail by tax source. The section concludes with a table that tracks revenue transfers across funds, accounts and entities.

Revenue Impact Summary

	Fiscal Years ($ millions)				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Tobacco	$523	$606	$588	$581	$575
Sales and Use - Rate	399	991	1,024	1,058	1,093
Sales and Use - Base	1,172	2,979	3,207	3,423	3,599
Personal Income	2,243	2,396	2,509	2,631	2,759
School Property Tax Relief	0	-2,732	-2,732	-2,732	-2,732
Philadelphia Tax Relief	0	-452	-452	-452	-452
Renter Relief	0	-369	-383	-396	-388
Corporate Net Income	-280	-599	-869	-1,000	-1,051
Bank Shares	397	147	155	164	173
Net Severance[1]	176	855	993	1,322	1,584
Total Revenues	**4,628**	**3,822**	**4,041**	**4,599**	**5,159**
Federal Offsets	236	-91	-170	-200	-201
Non-Residents	567	931	980	1,230	1,453
Pennsylvania Residents	3,826	2,983	3,230	3,569	3,907
Total Revenues	**4,628**	**3,822**	**4,041**	**4,599**	**5,159**

Note: Detail may not sum to total due to rounding and does not include transfers.
[1] Equal to new severance tax less existing impact fee ($225 million per annum) starting in FY 2016-17.

Tobacco Taxes

Proposal

The administration's proposal (1) eliminates the recently imposed $2.00 per pack tax on cigarettes sold in Philadelphia, (2) increases the statewide tax from 8 cents to 13 cents per cigarette (an increase from $1.60 to $2.60 per pack) and (3) imposes a new tax on other tobacco products equal to 40 percent of the purchase price charged to a tobacco retailer (i.e., the wholesale price). The proposal defines tobacco products as cigars, cigarillos, chewing tobacco and snuff, as well as other tobacco products. The fixed dollar amount of cigarette tax revenues transferred to the Children's Health Insurance Program and the Agricultural Conservation Easement Purchase Program remains unchanged. A floor tax is imposed on cigarette and tobacco product inventories existing as of the effective date of the tax increase/implementation.

Methodology

Cigarettes The revenue estimate assumes that (1) the tax rate increase is effective October 1, 2015 and (2) cigarette inventory subject to the floor tax is equal to one month of consumption. The estimate also assumes that the tax increase is fully passed forward to consumers, who have a price elasticity of -0.5. These assumptions imply that the projected 16 percent increase in the after-tax price of cigarettes reduces the number of taxable packs sold by 8 percent.

Other Tobacco Products The estimate uses data from the 2012 Economic Census for U.S. wholesalers (NAIC 424940), apportioned to Pennsylvania based on the 2007 Economic Census.[1] The newly taxable portion of tobacco product sales is estimated using the 2007 National Income Product Account (NIPA) product lines for Pennsylvania. The estimate assumes that the new tax is fully passed forward to consumers, who have a price elasticity of -0.5.

Revenue Impact

The proposal increases revenues by $606 million in FY 2016-17 (first full-year impact). The estimate includes gains in sales tax revenues, because sales tax is levied upon the after-tax price of cigarettes and other tobacco products. The net sales tax gain from the higher tobacco taxes is $17 million for FY 2016-17. New revenues then decline after that year, which is consistent with the long-term trend in cigarette sales.

	Tobacco Tax Revenues ($ millions)				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Cigarette	$419	$481	$461	$453	$446
Other Tobacco Products	104	126	127	128	129
Total	**523**	**606**	**588**	**581**	**575**

[1] Although 2012 Economic Census data are now available at the national level, state level data have not been released. Therefore, many of the estimates in this analysis use the 2012 U.S. Economic Census amounts for the U.S. and assume that Pennsylvania's share is the same as the state share from the full 2007 Economic Census.

Sales and Use Tax

Proposal

The administration's proposal (1) increases the sales and use tax (SUT) rate from 6.0 to 6.6 percent, (2) modifies the current bracket system used to impose SUT on the portion of the purchase price that is less than $1, (3) reduces the existing 1.0 percent vendor discount to a fixed dollar amount, (4) expands the SUT base to include many services and (5) eliminates exemptions for certain goods such as non-prescription drugs, flags, newspapers and magazines. The share of SUT revenue transferred to transportation funds remains unchanged and items such as food, clothing and prescription drugs remain exempt.

Methodology

The estimate assumes that (1) the rate increase, bracket change and base expansion are effective January 1, 2016, (2) revenue from the rate increase and base expansion affect collections beginning February 2016 and (3) the Public Transportation Assistance Fund (PTAF) and the Public Transportation Transfer Fund (PTTF) receive a windfall from higher SUT revenues.

Rate Increase The revenue estimate for the rate increase uses the IFO's most recent SUT baseline projection, adjusted to account for the higher tax rate. The estimate includes behavioral impacts (i.e., consumers reduce purchases at higher tax rates) and compliance factors (i.e., more incentive for tax avoidance at higher tax rates). The behavioral and compliance impacts reduce FY 2016-17 gross SUT revenues by roughly $90 million. Transfers to the PTAF and the PTTF increase by $212 million in FY 2016-17 due to the rate increase and base expansion.

Bracket Change The analysis uses the Department of Revenue's estimate for this provision.

Vendor Discount The current 1.0 percent discount for timely remittance of SUT collected by licensed vendors is set at $25 for monthly filers, $75 for quarterly filers and $150 for semi-annual filers. The estimate utilizes sales tax return data to recalculate the discount under the new parameters.

Base Expansion For most base expansion estimates for newly taxable services, national data from the 2012 Economic Census are apportioned to Pennsylvania based on the 2007 Economic Census. The computation then adds receipts from the 2012 non-employer statistics file published by the U.S. Census Bureau to account for independent contractors, certain sole proprietors and partnerships and other businesses not included in the Economic Census. The newly taxable portion of total receipts is estimated using the Input-Output tables from the U.S. Bureau of Economic Analysis and the 2007 National Income Product Account (NIPA) product lines for Pennsylvania. All items in the base expansion include reductions for behavioral and compliance effects. For newly taxable health care services, the analysis assumes that payments made by government entities are exempt from tax.

Revenue Impact

The proposal increases revenues by $4.0 billion in FY 2016-17 (first full-year impact). The estimates in the table represent gross amounts before any current or proposed transfers from SUT revenues.

	Sales and Use Tax Revenues ($ millions)				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Rate Increase	**$399**	**$991**	**$1,024**	**$1,058**	**$1,093**
Base Expansion - Goods					
Candy and Gum	34	86	94	101	106
Personal Hygiene	28	69	71	74	77
Newspapers and Magazines	12	31	33	34	35
Non-Prescription Drugs	58	147	153	160	168
Caskets and Burial Vaults	13	32	35	37	39
Textbooks	11	28	31	33	34
Flags and Catalogs	1	3	3	4	4
Base Expansion - Services					
Personal					
Dry Cleaning and Laundry	15	37	41	44	46
Personal Care	43	108	118	126	133
Funeral Parlor and Cremation	17	44	48	52	54
Other Personal (haircut, diet)	18	47	51	54	57
Parking Lots and Garages	20	50	54	58	61
Business					
Advertising and Public Research	2	5	5	5	6
Administrative	13	32	35	37	39
Recreation					
Amusement and Entertainment	116	295	320	343	361
Basic Cable	96	239	248	258	270
All Other Recreation	80	205	222	239	251
Health Services					
Nursing and Home Health Care	167	431	472	511	543
Social Assistance	35	90	98	105	111
Day Care	47	119	129	138	145
Professional					
Legal	65	165	179	192	201
Accounting, Auditing and Design	16	40	44	47	49
All Other Professional Services	17	44	48	51	54
Veterinary Fees	25	63	69	74	77
Investment Services	6	15	16	17	18
Agents and Promoters	18	45	49	52	55
Real Estate Agent and Related Services	78	198	215	231	242
Miscellaneous Services					
Scenic, Sightseeing and Towing	4	11	12	13	14
Waste Management and Remediation	44	112	122	130	137
Education - Meals and Activity Fees	57	142	148	154	160
Miscellaneous Items					
Various Provisions	2	6	6	7	7
Investment in Metal Bullion and Coins	5	12	12	12	12
Bracket / Rounding Change	-17	-41	-43	-44	-46
Cap on Vendor Discounts	28	70	73	75	78
Base Expansion	**1,172**	**2,979**	**3,207**	**3,423**	**3,599**
Total Gross Sales and Use	**1,571**	**3,969**	**4,231**	**4,482**	**4,691**

Personal Income Tax

Proposal

The administration's proposal (1) increases the personal income tax (PIT) rate from 3.07 to 3.70 percent, (2) increases eligible income from $6,500 to $8,700 for claimants who may receive 100 percent tax forgiveness under the special tax forgiveness provisions (SP) and (3) eliminates the exemption for Pennsylvania Lottery winnings.

Methodology

Rate Increase The revenue estimate for the PIT rate increase assumes that (1) the rate increase is effective July 1, 2015, (2) employers withhold tax at the higher tax rate immediately upon the effective date, (3) quarterly payments received after July 1st are remitted at the higher rate and (4) the PIT is imposed at a blended rate of 3.385 percent for tax year 2015.[2] All payments for tax year 2016 are subject to the full 3.70 percent rate. The estimate uses the IFO's most recent PIT baseline forecast, adjusted for the mid-year increase in the tax rate. The estimate includes minor reductions for behavioral and compliance effects in response to the higher tax rate, which reduce PIT revenues by roughly $60 million for FY 2016-17.

Expanded SP The estimate assumes that a single claimant with no dependents may report up to $8,700 in eligibility income (married claimants with no dependents may report up to $17,400) and still qualify for 100 percent tax forgiveness. Consistent with current law, each dependent adds an additional $9,500 to the income eligibility allowance, and each $250 increase in eligibility income reduces tax forgiveness by 10 percent. The estimate assumes that the expanded SP provisions are effective for tax year 2015. The estimate utilizes data from PIT returns and the U.S. Census Bureau's American Community Survey.

Lottery Winnings The estimate assumes that all Pennsylvania Lottery winnings claimed after June 30, 2015 are subject to tax at the 3.70 percent rate. Data on prizes paid are from the Pennsylvania Lottery.

Revenue Impact

The proposals increase PIT revenues by $2.4 billion in FY 2016-17 (first full-year impact). It is not clear whether newly qualified SP recipients will elect to reduce remittances or claim refunds. However, the net impact on the state's balance sheet is unaffected by this timing issue.

	Personal Income Tax ($ millions)				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Rate Increase[1]	$2,317	$2,476	$2,589	$2,711	$2,839
Tax Forgiveness[1]	-89	-98	-99	-100	-102
Lottery Winnings	15	18	19	20	22
Total	**2,243**	**2,396**	**2,509**	**2,631**	**2,759**

[1] Includes refunds. Excludes any new transfers from PIT revenues proposed in the budget.

[2] The blended rate is equal to the current PIT rate (3.07 percent) plus the new PIT rate (3.70 percent) divided by 2.

School District Property, Local Tax and Renter Relief

Proposal

The administration's proposal distributes $3.80 billion annually for school district property tax relief and Philadelphia tax relief beginning in FY 2016-17. The $3.80 billion distribution includes existing distributions of approximately $530 million for school district property tax relief and $86 million for Philadelphia wage tax relief. Therefore, the proposal represents $3.18 billion in new funds to be distributed as follows: (1) $2.73 billion for school district property tax reductions and (2) $452 million for Philadelphia cigarette, sales, wage and property tax reductions. The proposal also includes a provision that prohibits a school district from increasing its property tax millage rate if the district's unassigned fund balance is greater than 4 percent of its total expenditures.

A separate proposal authorizes payments to renters with household income of $50,000 or less. Each renter-occupied household that qualifies would be eligible for a $500 rent rebate. Household income would use the same definition as under the existing Property Tax / Rent Rebate program, which excludes one-half of Social Security and Railroad Retirement benefits. Households that receive a rent rebate under the existing rent rebate program (paid from the Lottery Fund) would not be eligible for the new rebate.

Methodology

The $3.80 billion in proposed tax relief (including both new and existing components) would be distributed by formula pursuant to draft legislation released by the administration. The draft legislation does not provide for an increase in the distribution; therefore, the analysis assumes that amount remains constant over the five-year horizon. The distribution is based on the formula currently used to distribute Act 1 tax relief. The variables in the formula would be updated to the most recent year for which data are available (generally FY 2012-13) and the minimum and maximum amounts that a school district could receive would be modified as well. As with the existing formula, the variables are locked in for a specific year and the amounts provided to school districts generally would not change over time. The provisions of the formula are described in the proposed statute, and this analysis uses the individual school district distributions published by the Pennsylvania Department of Education.

The estimated distribution for each school district was reduced by the amount of its current Act 1 allocation to determine the new funding under the proposal. That new funding was further broken down into components for homestead exclusions and millage reduction using school district-specific data as follows: (1) records extracted from the U.S. Census Bureau's Pennsylvania 2009-2013 5-year American Community Survey (ACS) Public-Use Microdata SAS file and (2) tables published by the U.S. Census Bureau from the 2009-2013 5-Year ACS. The analysis of records from the public-use file informed the estimates of the median property tax and homestead cap for each school district. The published tables informed the distribution of the number of homeowners and housing values by income range for each school district.

Homestead exclusions are capped at one-half of the median assessed value of homestead property in a school district. Over time, property tax growth will generally increase the value of the homestead cap. Therefore, the analysis assumes that the share of school district property tax relief that is delivered by homestead exclusion gradually increases over time. Millage reductions for a school district are the residual after deducting the homestead exclusions from the total distribution. Therefore, an increase in the relief delivered through the homestead exclusion reduces the relief delivered by millage reductions because the total amount of relief remains constant over time.

The proposed Philadelphia distributions were reduced by the current Act 1 allocation to arrive at the incremental Philadelphia funding under the proposal. Draft language specifies the use of the funds for cigarette tax elimination and sales, wage and property tax reductions. The analysis confirms the amounts estimated by the City of Philadelphia for these components.

The estimates for the renter rebate were derived from an analysis of renter-occupied households using records extracted from the U.S. Census Bureau's Pennsylvania 2013 1-year ACS Public-Use Microdata SAS files (household and person files). The incomes for the primary householder and spouse, if applicable, were analyzed for qualification under the program. The analysis incorporated the exclusion of one-half of Social Security benefits from the definition of income, and it adjusted eligibility based on the draft language that provides for full or partial disqualification of claimants who receive public assistance. The estimate is reduced by $98 million to account for households captured in the analysis which are currently receiving rent rebates through the Lottery Fund, and therefore ineligible for the new rebate. The adjustment is based on calendar year 2013 rent rebate data published by the Department of Revenue. After this adjustment, the analysis produces a baseline estimate of approximately $434 million annually.

The proposed statute authorizing the renter rebate does not adjust the income threshold for inflation; therefore, the analysis assumes that the baseline number of qualifying households will decline by 2 percent each year as incomes increase and more households exceed the $50,000 threshold. In addition, the analysis assumes that the participation rate for qualified households ramps up over time as they become aware of the program. Participation in the first year is estimated to be 85 percent, increasing to 95 percent by the third year. The final estimates reflect the assumptions for income and participation rate increases.

Revenue Impact

The proposal distributes $3.80 billion for school property tax and local tax relief annually. Of that amount, $3.18 billion would be for new distributions as follows: (1) $2.73 billion for school district property tax relief and (2) $452 million for Philadelphia tax relief. A separate proposal provides renter rebates that total $369 million in FY 2015-16 and $388 million by FY 2019-20.

	School District Property and Local Tax Relief ($ millions)				
	2015-16	2016-17	2017-18	2018-19	2019-20
Distributions for Tax Relief	$616	$3,800	$3,800	$3,800	$3,800
Less: Existing Tax Relief (Act 1)	-530	-530	-530	-530	-530
Less: Existing Phila. Wage (Act 1)	-86	-86	-86	-86	-86
New Tax Relief Distributions	**0**	**3,184**	**3,184**	**3,184**	**3,184**
Detail for New Distributions					
SD Property Tax - Homestead	0	-1,473	-1,506	-1,538	-1,570
SD Property Tax - Millage	0	-1,259	-1,226	-1,194	-1,162
School District Subtotal	**0**	**-2,732**	**-2,732**	**-2,732**	**-2,732**
New Philadelphia Tax Relief					
Cigarette Tax	0	-60	-60	-60	-60
Sales and Use Tax	0	-108	-108	-108	-108
Wage Tax	0	-196	-196	-196	-196
Property Tax	0	-88	-88	-88	-88
Philadelphia Subtotal	**0**	**-452**	**-452**	**-452**	**-452**
Total New Distributions	**0**	**-3,184**	**-3,184**	**-3,184**	**-3,184**
Renter Rebates	**0**	**-369**	**-383**	**-396**	**-388**
Total New Tax Relief	**0**	**-3,553**	**-3,567**	**-3,580**	**-3,572**

Corporate Net Income Tax

Proposal

The administration's proposal (1) reduces the corporate net income tax (CNIT) rate from 9.99 to 5.99 percent for tax years beginning on or after January 1, 2016, from 5.99 to 5.49 percent for tax years beginning on or after January 1, 2017, and from 5.49 to 4.99 percent for tax years beginning on or after January 1, 2018, (2) requires corporations that are members of a unitary business group to apportion their income via a combined annual report for tax purposes, a filing method commonly known as combined reporting and (3) reduces the permissible net operating loss deduction (NOLD) in a given tax year from the greater of $5 million or 30 percent of net income, to the greater of $3 million or 12.5 percent of net income.

Methodology

Rate Reduction The estimate uses the IFO's most recent CNIT baseline projection, adjusted for the proposed rate reduction. The estimate includes a behavioral impact that partially offsets the revenue loss due to the lower rate because corporations have less incentive to utilize profit shifting techniques that reduce the Pennsylvania corporate tax base when tax rates have been reduced by half.

Combined Reporting The estimate uses research from states that have implemented combined reporting during the previous decade and the 2004 Pennsylvania Business Tax Reform Commission study.[3] The studies suggest that combined reporting could increase revenues by roughly 8 to 12 percent. The Pennsylvania Business Tax Reform Commission study identified a much larger gain due to Pennsylvania's unique tax regime which may encourage and facilitate profit shifting. Compared to other states that have enacted combined reporting, the proposal could generate relatively more revenue due to the restriction on the unitary group NOLs that can be deducted in any year (next provision). The lower NOLD threshold is an integral part of the combined reporting provision.

NOLD Threshold Reduction The NOLD estimate uses the IFO's most recent NOLD baseline projection, adjusted for the lower dollar and income thresholds. The proposal is a reversion to tax law that was last effective for tax year 2008.

Revenue Impact

The proposal reduces CNIT revenues by $1.0 billion in FY 2018-19 (first full-year impact). The rate reduction estimate includes the impact from lower corporate refunds.

	Corporate Net Income Tax ($ millions)				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Rate Reduction	-$280	-$965	-$1,144	-$1,261	-$1,324
Combined Reporting & NOLDs	0	366	276	261	273
Total	**-280**	**-599**	**-869**	**-1,000**	**-1,051**

[3] For a summary of these studies, see "Corporate Tax Base Erosion: Analysis of Policy Options," Independent Fiscal Office (March 2013) at http://www.ifo.state.pa.us/Releases.cfm.

Bank Shares Tax

Proposal

The administration's proposal (1) increases the tax rate from 0.89 to 1.25 percent retroactive to January 1, 2014, (2) allows banks to choose between two apportionment methods for investment and trading activity and (3) clarifies the legislative language regarding the goodwill deduction.

Methodology

The revenue estimate relates only to the increase in the tax rate. The estimate for the rate increase uses the IFO's current bank shares tax forecast, adjusted to the higher tax rate. The proposed change in the tax rate is retroactive to January 1, 2014. Therefore, the FY 2015-16 revenue impact is relatively large because it reflects revenue gains from multiple tax years. The proposed change in the apportionment method for investment and trading activity is consistent with current taxpayer behavior and is already reflected in the IFO's official estimate for FY 2014-15 and future years. Revenue losses attributable to the clarification of the goodwill deduction are expected to be minimal.

Revenue Impact

The proposal increases revenues by $397 million for FY 2015-16, which includes the impact from the rate increase for tax years 2014 and 2015. After the initial year, the revenue impact grows at the same rate as the underlying tax base.

	Bank Shares Tax ($ millions)				
	2015-16	2016-17	2017-18	2018-19	2019-20
Tax Rate Increase	$397	$147	$155	$164	$173

Severance Tax

Proposal

The administration's proposal establishes a new tax on the severance of natural gas and natural gas liquids (NGLs) in the Commonwealth. The tax rate is 5 percent of the taxable value of natural gas and NGLs in addition to $0.047 per thousand cubic feet (mcf) of natural gas. Under the proposal, the Department of Revenue will publish a quarterly statewide average price for natural gas that will be used to determine the taxable value of gas extracted during the prior three months. The published, statewide average price shall not fall below a proposed statutory minimum of $2.97 per mcf for natural gas and $20 per barrel for NGLs.

Methodology

The estimate uses forecasts of the spot price of natural gas from four trading hubs located in Pennsylvania. The projected prices for each hub are weighted based on the volume of gas traded in the prior year to determine an average, quarterly regional price. The product of natural gas production estimates and the average quarterly price (minimum price of $2.97 per mcf) yields the taxable value of natural gas. The estimate deducts $225 million of impact fee revenues after FY 2015-16 to determine the incremental amount of tax generated.

Revenue Impact

The proposed severance tax takes effect on January 1, 2016 and is remitted on a monthly basis with a one quarter lag. As a result, only two months of revenues from calendar year 2016 are collected in FY 2015-16. Due to low regional prices, the estimate assumes that the minimum taxable price set in statute will be effective for calendar years 2016 and 2017. The price and production assumptions that motivate the five-year estimate are displayed on the next page.

The price forecast from Bentek Energy assumes that natural gas prices will increase through FY 2019-20, as more wells are connected to an expanding pipeline network that serves new markets in both the north and south. The Bentek Energy production forecast assumes strong production gains, and reflects modest IFO adjustments for (1) slower production growth in 2015 due to low regional prices and reduced drilling activity and (2) a reduction in output for 2016 due to the imposition of the new severance tax that is passed through to final consumers in the form of higher prices.

	Severance Tax ($ millions)				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Tax on Market Value	$133	$819	$937	$1,246	$1,492
Tax on Production Volume	42	255	274	291	306
Tax on Natural Gas Liquids	1	6	7	10	11
Less: Existing Impact Fee	0	-225	-225	-225	-225
Net Total	**176**	**855**	**993**	**1,322**	**1,584**

Note: Excludes any transfers from the new severance tax beyond the current impact fee.

Natural Gas Production, Price and Consumption Data									
	Calendar Year								
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
PA Natural Gas Production[1]	1,334	2,261	3,320	4,249	4,755	5,368	5,761	6,149	6,462
Average Annual Prices[2]									
Henry Hub	$4.14	$2.86	$3.91	$4.60	$2.69	$2.88	$3.53	$4.51	$5.23
Dominion South	4.26	2.88	3.68	3.42	1.74	2.01	2.74	3.83	4.59
Difference	-0.11	-0.02	0.23	1.17	0.95	0.86	0.78	0.68	0.64
Effective Taxable Price[3]					n.a.	2.97	2.97	3.84	4.55
Volume Delivered to PA Consumers[1]									
Residential	219	197	226	248					
Commercial	141	127	142	152					
Industrial	200	200	205	222					
Electric Power	306	394	359	391					
Total	**866**	**918**	**932**	**1,013**					

1 Billion cubic feet.
2 Dollars per thousand cubic feet (mcf), converted using Pennsylvania specific heat content data.
3 Dollars per thousand cubic feet (mcf), assumes minimum price effective for 2016 and 2017. For 2018 and 2019, the effective taxable price is equal to the weighted average across the four Pennsylvania trading hubs.

Source: Bentek Energy and U.S. Energy Information Administration.

Other Revenue Impacts

In addition to the taxes discussed in the previous subsections, the proposals contained in the *2015-16 Executive Budget* will affect other funds and tax revenues. The text that follows discusses those impacts.

Transfers to Transportation Funds

The administration's proposals do not adjust the normal transfers made from the General Fund to the Public Transportation Assistance Fund (PTAF) and the Public Transportation Trust Fund (PTTF) due to higher sales and use tax revenues. For FY 2016-17, those transfers will increase by $212 million. By FY 2019-20, projected transfers increase by $251 million.

Federal Income Tax

The administration's proposals increase total state tax revenues to facilitate local property tax and rent relief and higher spending levels. If regressive tobacco taxes are excluded, then the proposals reduce net taxes for most low-income residents, which is more than offset by higher taxes for high-income residents. Due to the distribution of the net tax change, some residents will remit less federal income tax because state property and personal income taxes are deductible for federal income tax purposes. Federal data show that the itemization and deduction of state and local taxes increases dramatically with higher income levels. For tax year 2012, only 6.5 percent of U.S. filers with federal adjusted gross income less than $25,000 elected to itemize those deductions. For filers who reported income between $75,000 and $100,000, somewhat less than two thirds (62.3 percent) itemized deductions. For filers who reported income above $250,000, nearly all itemized deductions (95.8 percent).

Based on the tax incidence results from the next section, the analysis finds that the proposals could reduce total federal individual income taxes by $200 to $225 million per annum. That result is driven by the fact that high-income residents will realize a net tax increase as higher personal income taxes more than offset property tax relief. By contrast, low-income residents who realize a net tax reduction from lower property taxes are much less likely to itemize, and hence, their federal income tax liability would be unaffected by the tax changes.

Federal income taxes remitted by business entities and owners will also change under the proposals. State corporate net income, local property and bank shares tax are deductible from federal corporate income tax returns. For most corporations that receive a tax cut due to the lower corporate tax rate or local property tax relief, federal income taxes will increase to offset roughly one-third (35 percent, or the federal corporate income tax rate) of the tax cut. By contrast, federal income tax liability for banks will fall and offset roughly one-third of the tax increase. For owners of pass through businesses (i.e., sole proprietors, partnerships and S corporations), the net impact will depend on the interaction of the personal income tax increase, property tax cut and marginal tax rate of the owner.

These federal income tax offsets are illustrated in the next section. The offsets do not directly impact the amount of state or local tax revenues that will be collected under the proposals. Rather, the federal offsets impact the tax incidence of the proposals because the federal government essentially subsidizes state and local governments via the deduction of those taxes from the federal income tax return. However, the federal offsets would impact overall economic activity since they affect the total taxes paid by individuals.

This analysis does not attempt to quantify those impacts, and they would likely be minor compared to the direct revenue and economic impact of the proposals.

Local Sales and Use Tax

Due to the expansion of the sales tax base, the proposals will increase local sales tax revenues for Allegheny and Philadelphia counties. For FY 2016-17, the analysis projects that Allegheny revenues will increase by $57 million and Philadelphia by $86 million.[4]

[4] Philadelphia would use $108 million in property tax reduction allocations to compensate for the mandated 0.6 percentage point reduction in the sales tax rate for the current and expanded tax base.

Transfers Between Funds and Accounts

The proposals outlined in the *2015-16 Executive Budget* implement a mix of tax increases, tax cuts and transfers between funds and accounts. The revenue impacts of the tax changes are detailed in the preceding subsections. This subsection provides detail for the movement of monies between new and existing special funds and restricted accounts. The administration's proposal creates two new restricted accounts to facilitate implementation of their policy objectives. First, it creates the Property Tax and Rent Rebate Restricted Account to receive transfers from the personal income tax for subsequent transfer to the Property Tax Relief Fund. Ultimately, those funds will be used to provide for renter rebates, school district property tax relief and Philadelphia tax relief. Second, it creates the Public School Employees Retirement Restricted Account to facilitate the shift of the appropriation covering the Commonwealth's share of public school employee employer contributions out of the General Fund. The new account will receive transfers from the sales and use tax for subsequent payment to school districts. The proposal also makes other transfers, such as transfers that move revenues from the proposed severance tax to various funds and accounts to replace the current impact fee and finance new economic development programs. This table provides a broad overview of transfers to facilitate analysis of the movement of monies between new and existing funds and accounts. It can be used to complement the revenue impact analysis in the first section of the report.

		Fiscal Years ($ millions)				
	Notes	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
General Fund						
PIT Transfer to PT/RR Restricted Account	A	-$2,140	-$4,596	-$3,666	-$3,631	-$3,631
Transfer PSERS Appropriation to Restricted Account	B	1,750	2,064	2,269	2,416	2,555
SUT Transfer to School Emp. Ret. Restr. Account	C	-1,750	-2,247	-2,180	-2,289	-2,424
Severance Tax Transfer(s)	D	-10	-250	-265	-290	-290
SUT Transfer to Public Transportation Funds	E	-84	-212	-226	-240	-251
Property Tax / Rent Rebate Restricted Account						
Transfer from General Fund (Personal Income Tax)	A	2,140	4,596	3,666	3,631	3,631
Transfer to Property Tax Relief Fund	F	0	-3,631	-3,631	-3,631	-3,631
Transfer to Property Tax Relief Fund	G	-35	-35	-35	0	0
School Employees Retirement Restricted Acct.						
Transfer PSERS Appropriation from General Fund	B	-1,750	-2,064	-2,269	-2,416	-2,555
State PSERS Employer Contrib. Savings from POB	B1	0	0	89	127	131
Transfer from General Fund (Sales and Use Tax)	C	1,750	2,247	2,180	2,289	2,424
Transfer from State Stores Fund	H	0	80	0	0	0
Supplemental State Share SD Reimbursement		0	-80	0	0	0
Transfer to Debt Service & Sinking Acct for POB	I	0	-183	0	0	0
Property Tax Relief Fund						
Transfer from PT/RR Restricted Account	F	0	3,631	3,631	3,631	3,631
Transfer from PT/RR Restricted Account	G	35	35	35	0	0
Transfer to PA Gaming ED&TF	G	-35	-35	-35	0	0
Transfer(s) for Tax Relief	J	0	-3,184	-3,184	-3,184	-3,184
Renter Rebates		0	-369	-383	-396	-388

	Notes	Fiscal Years ($ millions) 2015-16	2016-17	2017-18	2018-19	2019-20
School Districts and Philadelphia						
Transfer(s) from Property Tax Relief Fund	J	0	3,184	3,184	3,184	3,184
School Property Tax Relief		0	-2,732	-2,732	-2,732	-2,732
Philadelphia Tax Relief		0	-452	-452	-452	-452
PA Gaming Economic Development & Tourism Fund						
Transfer from Property Tax Relief Fund	G	35	35	35	0	0
Public Transportation Funds (PTAF & PTTF)						
Transfer of SUT to Public Transportation Assist. Fund	E	15	38	40	42	44
Transfer of SUT to Public Transportation Trust Fund	E	69	175	186	197	206
Var. Severance Tax-Related Funds, Accts & Programs						
Allocation/Transfer of Severance Tax from Gen. Fund	D	10	250	265	290	290
Impact Fee Payments to Counties and Municipalities		0	-114	-114	-114	-114
H.A.R.E. Fund Distributions to Counties		0	-10	-10	-10	-10
County Conservation Districts		0	-8	-8	-8	-8
Fish & Boat Commission		0	-1	-1	-1	-1
Department of Environmental Protection		0	-6	-6	-6	-6
Pennsylvania Emergency Management Agency		0	-1	-1	-1	-1
State Fire Commissioner		0	-1	-1	-1	-1
Department of Transportation		0	-1	-1	-1	-1
Public Utility Commission		0	-1	-1	-1	-1
Commonwealth Financing Authority Grants		0	-16	-16	-16	-16
Environmental Stewardship Fund		0	-8	-8	-8	-8
Highway Bridge Improvement Restr. Account		0	-21	-21	-21	-21
Comm. Financing Authority H2O Program		0	-10	-10	-10	-10
PA Infrastructure Investment Authority		0	-10	-10	-10	-10
County Recreation / Conservation		0	-12	-12	-12	-12
Hazardous Sites Cleanup Fund		0	-5	-5	-5	-5
Well Plugging Account		-5	-5	-5	-5	-5
DEP Protection Operations		-5	-5	-5	-5	-5
Economic Development Restricted Account		0	-15	-30	-55	-55
State Stores Fund						
Transfer to School Employees Ret. Restr. Account	H	0	-80	0	0	0
Transfer to Debt Service & Sinking Acct for POB	K	0	0	-185	-185	-185
Debt Service and Sinking Fund Account for POB						
Transfer from School Employees Ret. Restr. Acct	I	0	183	0	0	0
Transfer from State Stores Fund	K	0	0	185	185	185
Debt Service Payments		0	-183	-185	-185	-185

See table notes on next page.

Notes for previous table.

A. Transfers of personal income tax to the restricted account will be based on a certification by the Secretary of the Budget. The amount for each fiscal year represents the administration's estimate. These transfers are not included in the revenue impacts reported in the personal income tax subsection.

B. The transfer of the appropriation for the state share of PSERS employer contributions will create a savings to the General Fund and a cost to the restricted account. The amount for each fiscal year is the estimated state share of PSERS employer contributions without any savings attributable to a pension obligation bond.

B1. This line is the reduction (savings) in the state share of PSERS employer contributions attributable to a pension obligation bond. The estimates of savings were provided by the Office of the Budget.

C. Transfers of sales and use tax to the restricted account will be based on a certification by the Secretary of the Budget. For FY 2016-17 the transfer includes $183 million to pay debt service on the proposed pension obligation bond. This amount is the administration's estimate. These transfers are not included in the revenue impacts reported in the sales and use tax subsection.

D. Includes transfers from the severance tax to: (1) replace the impact fee distributions for state agencies and local governments and (2) fund economic development and other programs. The revenue impacts reported in the severance tax subsection include the transfer of $225 million annually to replace the current impact fee. The transfer of $10 million in FY 2015-16 and transfers in excess of $225 million annually for FY 2016-17 and thereafter are not reflected in the revenue impacts. The estimated transfer amounts were provided by the Office of the Budget.

E. The sales and use tax rate increase and base expansion will increase the existing transfers to the two public transportation funds. This line represents the IFO's estimate for amount of the increase.

F. This line itemizes the portion of the transfer of personal income tax (via the Property Tax and Rent Rebate Restricted Account) that will be used for school district property tax relief, Philadelphia tax relief and renter rebates.

G. This line itemizes the portion of the transfer of personal income tax that will ultimately be transferred to the PA Gaming Economic Development and Tourism Fund.

H. This line records the amount specified in draft legislation to be transferred from the State Stores Fund to enhance FY 2016-17 state reimbursements to school districts for PSERS employer contributions.

I. This line itemizes the transfer for pension obligation bond debt service in FY 2016-17. The funding originates with the sales and use tax (see note C).

J. This line includes the amount transferred to: (1) school districts for additional property tax relief and (2) Philadelphia tax relief. It represents new funding only and it excludes existing relief under Act 1.

K. This line itemizes the transfer for debt service on the proposed pension obligation bond. The amount is based on the administration's draft legislation.

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Economic Impact

The analysis finds that the administration's proposals will increase net state and local tax revenues by \$5.2 billion by FY 2019-20. Those new funds will be used to support additional spending on various priorities identified in the Executive Budget. The proposals implement substantive changes to the current tax system and they will have disparate impacts across the Commonwealth based on a resident's income level, consumption patterns and school district of residence.

The economic impact analysis focuses on the incidence of the tax changes. An incidence analysis attributes tax changes to the individuals who benefit or bear the burden of the change, as opposed to the entities that bear the legal obligation to remit tax. For example, some businesses have a legal obligation to remit sales tax and corporate net income tax. However, business entities cannot bear the economic incidence of a tax; they pass it forward to consumers (prices), or backwards to workers (wages) or capital owners (dividends and capital gains to shareholders).

The incidence analysis of the various revenue proposals proceeds in two steps. First, the analysis determines the amount of tax that is exported to non-residents or absorbed/offset by the federal government (if applicable). The residual amount affects state residents, and those amounts are distributed across six income groups: (1) less than \$25,000; (2) \$25,000 to \$49,999, (3) \$50,000 to \$74,999, (4) \$75,000 to \$99,999, (5) \$100,000 to \$249,999 and (6) \$250,000 or more. The analysis distributes tax changes across those six groups for FY 2018-19. That fiscal year largely corresponds to activity from calendar year 2018 for many tax sources, and it is the first calendar year that all proposals should be fully phased-in. Calendar year 2018 is also the first year in which the natural gas price forecast exceeds the statutory minimum price (\$2.97 per mcf). Finally, that year represents a fully phased-in SUT base expansion as firms newly subject to tax largely reach their long-term compliance rate and the Department of Revenue has hired sufficient personnel to enforce the broader tax base.

It should be emphasized that an incidence analysis reflects long-term outcomes that may not be reached for many years. The incidence results reflect tax burdens after workers, consumers, capital owners and firms have fully adjusted to the tax change. For some of the tax changes analyzed, that outcome may not effectively occur until some time after FY 2018-19.

Similar to the format used in the previous section, this section discusses the incidence for each tax source. The section begins with a description of the Pennsylvania income distribution used for this analysis and the data sources used to inform other distributions.

Pennsylvania Income Distribution

The incidence analysis begins with the income distribution of Pennsylvania residents. Many data sources could be used to determine that distribution. Potential data sources include state tax return data from the Department of Revenue, IRS federal income tax return data, and tabulations from the U.S. Census Bureau's American Community Survey (ACS) or Consumer Expenditure Survey (CES). This analysis uses total income reported to the IRS on federal income tax returns because that source provides the broadest income measure that is also broken out into income groups. The measure also facilitates adjustments to income that are not reported for legal (e.g., non-taxable Social Security income) or other reasons (e.g., underreporting income).

The base income measure is total income reported by Pennsylvania residents on IRS Form 1040.[5] That income includes wages, interest, rents, dividends, business income, unemployment compensation, capital gains, certain pensions and annuities, IRA distributions and certain Social Security income. The analysis then adds non-taxable pension and annuity income, non-taxable Social Security, non-taxable interest and benefits received through the Supplemental Nutrition Assistance Program (SNAP).[6] Negative amounts that represent unused net operating losses from prior years are removed. Income is further modified for amounts unreported based on IRS audit studies from tax year 2006.[7] For tax year 2012, this measure yields the following Pennsylvania income distribution across the six groups: less than $25,000 (10.4 percent of total income); $25,000 to $49,999 (14.0 percent), $50,000 to $74,999 (13.4 percent); $75,000 to $99,999 (12.0 percent); $100,000 to $249,999 (25.2 percent) and $250,000 or more (25.0 percent).

The analysis then ages that distribution to 2018 based on the growth rates of the income sources that comprise total Pennsylvania income. Total income is projected to grow by 24.7 percent. Because the income group thresholds are not indexed, the share of income for lower groups declines and the income generally migrates to the top group. For 2018, the respective income shares are as follows (same order as above): 9.5 percent, 12.4 percent, 11.5 percent, 9.9 percent, 25.2 percent and 31.6 percent.

The change in the Pennsylvania income distribution serves as a base to adjust other distributions used in this analysis from the year that relevant data are available (generally 2012 or 2013) to 2018. For example, the distribution of sales and use tax changes is based on data from the CES for 2013. Those data are extrapolated to 2018, based on patterns from the change in the Pennsylvania income distribution. By 2018, residents at the top end of the income distribution should comprise a larger share of total consumption because they will also comprise a larger share of the income distribution. However, the upward shift of the consumption distribution would be more modest because wealthier individuals tend to spend a lower proportion of their income. Similar adjustments are made to other distributions that must be extrapolated to 2018 to facilitate the apportionment of changes in tobacco, property and various local taxes.

[5] These data can be found at http://www.irs.gov/uac/SOI-Tax-Stats-Historic-Table-2.
[6] This income base is very similar to the one used in the Minnesota Department of Revenue's tax incidence study. See "2015 Minnesota Tax Incidence Study," Minnesota Department of Revenue (March 2015) at http://www.revenue.state.mn.us/research_stats/research_reports/2015/2015_tax_incidence_study_links.pdf.
[7] See "Tax Gap for Tax Year 2006" at http://www.irs.gov/pub/newsroom/overview_tax_gap_2006.pdf.

Tobacco Taxes

The analysis projects that the administration's proposal will increase cigarette tax revenues by $453 million and other tobacco revenues by $128 million by FY 2018-19. These figures include $17 million of sales tax revenue that will result from higher tobacco taxes. State tax incidence studies assume that non-residents remit 2 (Texas) to 5 (Minnesota) percent of state cigarette tax revenues, and this analysis assumes that non-residents will remit 5 percent of the tobacco tax increase.[8]

The distribution of new tobacco tax revenues across income groups uses data from the U.S. Consumer Expenditure Survey (CES).[9] Those data show that consumers with income less than $25,000 comprise nearly one quarter of total spending on tobacco products. By contrast, consumers with income greater than $250,000 comprise roughly 4 percent of total spending on tobacco products.

The CES data illustrate the regressive nature of tobacco taxes. Lower-income residents spend a much higher proportion of their disposable income on tobacco products. For the U.S., the data show that the average consumer with income under $25,000 spends roughly 2 percent of their income on tobacco products. By comparison, the average consumer with income over $150,000 spends roughly 0.1 percent on tobacco products.

	Cigarette Tax		**Other Tobacco Tax**	
	Share	**$ millions**	**Share**	**$ millions**
Total Impact	**100.0%**	**$453**	**100.0%**	**$128**
Non-Residents	5.0	23	5.0	6
Residents	95.0	431	95.0	121
Income Range				
$0 - $24,999	22.8	98	22.8	28
$25,000 - $49,999	27.0	116	27.0	33
$50,000 - $74,999	16.9	73	16.9	20
$75,000 - $99,999	14.4	62	14.4	17
$100,000 - $249,999	14.1	61	14.1	17
$250,000 +	4.8	21	4.8	6
Total Resident Impact	**100.0**	**431**	**100.0**	**121**

[8] See "2015 Minnesota Tax Incidence Study," Minnesota Department of Revenue (March 2015) at http://www.revenue.state.mn.us/research_stats/research_reports/2015/2015_tax_incidence_study_links.pdf and "Tax Exemptions and Tax Incidence," Texas Comptroller of Public Accounts (March 2015) at http://www.texastransparency.org/.State_Finance/Budget_Finance/Reports/Tax_Exemptions_and_Incidence.

[9] See http://www.bls.gov/cex.

Sales and Use Tax

The analysis projects that the administration's proposal will increase sales and use tax revenues by $1.1 billion due to the rate increase and $3.4 billion due to base expansion by FY 2018-19 (after transfers). State tax incidence studies from Texas (21.0 percent of tax exported), Wisconsin (8.6 percent), Maine (11.0 percent) and Minnesota (21.0 percent) assume that roughly 10 to 20 percent of sales and use taxes under a typical tax base that excludes most services are exported to non-residents.[10] Non-residents may remit sales tax due to tourism or commuting into a state. Moreover, other research finds that nearly 40 percent of Pennsylvania sales taxes may be attributable to purchases by business entities.[11] Those entities may push the tax forward into the final retail price and export the goods to other states. This analysis assumes that 15 percent of current sales and use tax is effectively exported to non-residents.

The tax incidence for the rate increase uses published tabulations of Pennsylvania sales tax remittances by NAIC and national data from the CES. For example, tax data suggest that roughly one-tenth of total sales tax collections is attributable to food purchased away from home. The analysis assumes that share remains constant, so that approximately one-tenth of revenues from the rate increase are assumed to be due to those purchases. The analysis then uses expenditure data from the CES to distribute additional tax revenues across the six income groups.

The tax incidence for the base expansion differs from the rate increase because most base expansion revenue is due to the taxation of services. In general, a lower proportion of those new tax revenues would be attributable to non-residents. The analysis assumes that a smaller share (5 percent) of new revenues from base expansion is from non-residents. Exceptions include the following: meal and activity fees at higher education institutions (35 percent non-resident), basic cable television (residents only), day care (residents only) and entertainment (10 percent non-resident).

The tax incidence for the sales tax base expansion uses distributions from the CES, vintaged to 2018. The analysis makes the following assumptions to distribute major, new tax revenues across the six income groups:

- basic cable service uses the share of consumer units or households in each income group and assumes that those reporting income less than $5,000 do not have cable service;
- real estate service (i.e., broker commissions) uses the share of Pennsylvania homeowners in each income group from U.S. Census data, with adjustments for more expensive home purchases by higher income groups;
- education, entertainment, personal and veterinary services use CES expenditure data for those specific categories;

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[10] See supra note 7. See "Wisconsin Tax Incidence Study," Wisconsin Department of Revenue (December 2014) at http://www.revenue.wi.gov/ra/txinci04.html and "Exporting State and Local Taxes: An Application to the State of Maine," Matthew Murray (October 2006) at http://growsmartmaine.org/pdfs/exportingtaxes.pdf.

[11] See "Sales Taxation of Business Inputs," Council on State Taxation (January 2005) at http://www.ncsl.org/documents/standcomm/sccomfc/Business-Inputs-Study.pdf. That share is similar to other states referenced by this study, which suggests a similar share of sales tax could be exported.

- healthcare and social assistance use CES expenditure data on total spending less expenditures for food, housing and clothing;[12]
- newly taxable goods (non-prescription drugs, personal healthcare products) and legal, waste remediation and all other items use CES expenditure data on total spending less expenditures for food, housing, clothing and healthcare.

The distributions for goods, legal, waste remediation, home healthcare and nursing homes use very broad metrics to distribute the tax change across income groups because specific data are not available for those categories. However, the broad metrics (with appropriate adjustments) should provide a reasonable approximation of the spending shares across the groups. The broad measures exclude items that clearly remain non-taxable or are already taxed, so that an overstatement for one base expansion item for a particular income group is likely offset by an understatement in other categories.

It is noted that the distribution of the tax increase for home healthcare and nursing homes/assisted living may not provide an accurate representation of tax incidence due to three factors. First, elderly consumers may report very low income, but they may have significant wealth that can be used to finance purchases. Hence, the income distribution may not accurately reflect their ability to pay tax. Second, low-income elderly consumers may have immediate family who effectively purchase the services, and those individuals may actually bear the burden of the new tax. Third, a high proportion of those services will be exempt from tax because they are purchased by a government entity. Data do not exist that provide income profiles purely for consumers who pay out of pocket or through private insurance. For these reasons, the analysis uses a general distribution for those services.

	Base Expansion		Rate Increase	
	Share	$ millions	Share	$ millions
Total Impact	**100.0%**	**$3,423**	**100.0%**	**$1,058**
Non-Residents	6.8	216	15.0	159
Residents	93.2	3,207	85.0	899
Income Range				
$0 - $24,999	8.6	275	10.3	93
$25,000 - $49,999	14.6	468	16.5	148
$50,000 - $74,999	14.7	472	15.0	135
$75,000 - $99,999	12.5	400	12.4	112
$100,000 - $249,999	31.8	1,021	29.2	262
$250,000 +	17.8	571	16.7	150
Total Resident Impact	**100.0**	**3,207**	**100.0**	**899**

[12] This distribution is adjusted for the impact of the Affordable Care Act. The 2013 CES data show significant expenditures on health insurance for those with income less than $10,000. The analysis assumes those amounts will be reduced due to the federal provision of healthcare.

Personal Income Tax

The analysis projects that the administration's proposals will increase net personal income tax (PIT) revenues by $2.6 billion in FY 2018-19. Personal income tax data for tax year 2012 show that 6 percent of tax liability was attributable to non-residents. The analysis assumes that share remains constant for tax year 2018.

The PIT proposal increases the tax rate by the same percentage (20.5 percent) for all income groups. However, many low-income residents realize a tax reduction or a smaller relative tax increase due to the higher tax forgiveness thresholds. Overall, the higher thresholds make the PIT slightly more progressive.

The PIT incidence estimates include the net reduction in federal personal income taxes due to the higher deductions of net state and local property and income taxes by high-income residents. The analysis assumes that this federal offset reduces federal income tax liability by $225 million for FY 2018-19. That amount is deducted from the $100,000 to $249,999 income group ($25 million) and the highest income group ($200 million). Alternatively, those impacts could have been included with the respective property and income tax changes and not netted against one another. However, the net impact would not change.

	Rate Increase + Lottery[1]		**Increase in SP[1]**	
	Share	**$ millions**	**Share**	**$ millions**
Total Impact	**100.0%**	**$2,731**	**100.0%**	**-$100**
Federal Offset	n.a.[2]	225	0.0	0
Non-Residents	6.0	164	0.0	0
Residents	94.0	2,342[2]	100.0	-100
Income Range				
$0 - $24,999	3.9	99	70.0	-70
$25,000 - $49,999	11.5	296	26.0	-26
$50,000 - $74,999	12.0	307	4.0	-4
$75,000 - $99,999	10.4	268	0.0	0
$100,000 - $249,999	28.7	713	0.0	0
$250,000 +	33.5	658	0.0	0
Total Resident Impact	**100.0**	**2,342[2]**	**100.0**	**-100**

[1] Amounts are net of refunds.
[2] Deducts a federal offset of $225 million due to the net impact of higher state personal income taxes and lower local property taxes. Offset distributed to highest income group ($200 million) and second highest ($25 million). Federal offset not reflected in percentage distributions because the offset only applies to two income groups.

School District Property Tax

The analysis projects that the administration's proposal will reduce school property taxes by $2.73 billion in FY 2018-19. The funds received by school districts will be used for both homestead exclusions and millage reductions. The portion allocated to millage reductions will flow to residential and commercial and industrial (non-residential) properties. The non-residential reductions will flow to both corporate and non-corporate business entities.

The amounts allocated by the proposal to each school district were distributed between homestead and millage reductions based on an analysis of (1) records extracted from the U.S. Census Bureau's Pennsylvania 2009-2013 5-year American Community Survey (ACS) Public-Use Microdata SAS file and (2) tables published by the U.S. Census Bureau from the 2009-2013 5-Year ACS. Millage reductions were divided between residential and non-residential properties using data from the State Tax Equalization Board.

Homestead The analysis projects that the administration's proposal will reduce school property taxes via the homestead exclusion by $1.54 billion in FY 2018-19. Tables from the 2009-2013 5-Year ACS published by the U.S. Census Bureau reveal the distribution of owner-occupied properties by income range for each school district. The homestead exclusion provides the same amount to each qualified property; therefore, the distribution of homestead tax relief within a school district is proportionate to the number of owner-occupied households within each income class in the district. The statewide distribution is an aggregation of the results computed for each individual district based on the amount of funding, and the share devoted to homestead exclusions, in that district.

Residential Millage The analysis projects that the administration's proposal will reduce school property taxes via millage reductions for residential property by $753 million in FY 2018-19. Tables from the 2009-2013 5-Year ACS published by the U.S. Census Bureau reveal the distribution of the values of owner-occupied properties by income range for each school district. The distribution of residential tax relief by millage reduction generally will follow the distribution of housing values of owner-occupied properties across income ranges. The statewide distribution is an aggregation of the results computed for each individual school district. Some districts will not receive sufficient funding to reduce millage; therefore, the statewide income distribution of millage reductions is weighted towards the distribution of housing values in districts that will reduce millage. As a result, the lower income ranges receive a greater share of the overall relief than would be projected using only a statewide income distribution of housing values.

Non-Residential Millage; Corporate The analysis projects that the administration's proposal will reduce school property taxes via millage reductions for corporate non-residential property by $220 million in FY 2018-19. This amount is assumed to be one-half of the total non-residential millage reductions. The federal offset (amount absorbed by the increase in federal income taxes due to lower deductions) is estimated to be 35 percent, which is the top marginal rate for corporations. After the offset, the analysis assumes that 34 percent of the tax cut accrues to non-residents and 31 percent to residents. The amount that accrues to residents is distributed based on a weighted average distribution for those to whom the business will pass the tax cut: consumers (60 percent), workers (7 percent) and shareholders (33 percent).

Non-Residential Millage; Non-Corporate The analysis projects that the administration's proposal will reduce school property taxes via millage reductions for non-corporate, non-residential property by $220 million in FY 2018-19. This amount is assumed to be one-half of the total non-residential millage reduction. The federal offset (amount absorbed by the increase in federal income taxes due to lower deductions) is assumed to be 25 percent. Pennsylvania tax data reveal that 14 percent of business income flows to non-residents, so that (100 percent less 25 percent) times 14 percent flows out of the state. The residual two-thirds remains in the state. The analysis distributes the remainder based on the distribution of business income that will be reported in 2018.

	Homestead Exclusion		Millage Reduction - Residential	
	Share	**$ millions**	**Share**	**$ millions**
Total Impact	**100.0%**	**-$1,538**	**100.0%**	**-$753**
Federal Offset[1]	0.0	0	0.0	0
Non-Residents	0.0	0	0.0	0
Residents	100.0	-1,538	100.0	-753
Income Range				
$0 - $24,999	10.8	-166	12.8	-96
$25,000 - $49,999	18.1	-278	23.3	-176
$50,000 - $74,999	17.7	-272	19.9	-150
$75,000 - $99,999	14.7	-226	14.9	-112
$100,000 - $249,999	30.8	-474	21.0	-158
$250,000 +	7.9	-122	8.1	-61
Total Resident Impact	**100.0**	**-1,538**	**100.0**	**-753**

	Millage Reduction Non-Residential; Corporate		Millage Reduction Non-Residential; Non-Corporate	
	Share	**$ millions**	**Share**	**$ millions**
Total Impact	**100.0%**	**-$220**	**100.0%**	**-$220**
Federal Offset	35.0	-77	25.0	-55
Non-Residents	34.0	-75	11.0	-24
Residents	31.0	-68	64.0	-141
Income Range				
$0 - $24,999	9.0	-6	3.7	-5
$25,000 - $49,999	12.6	-9	6.6	-9
$50,000 - $74,999	11.6	-8	5.9	-8
$75,000 - $99,999	9.6	-7	5.3	-7
$100,000 - $249,999	24.9	-17	22.3	-31
$250,000 +	32.3	-22	56.2	-79
Total Resident Impact	**100.0**	**-68**	**100.0**	**-141**

[1] The federal offset for lower property taxes paid by individuals is included with the personal income tax distribution.

	School District Property Tax – Total	
	Share	**$ millions**
Total Impact	**100.0%**	**-$2,732**
Federal Offset	4.8	-132
Non-Residents	3.6	-99
Residents	91.5	-2,501
Income Range		
$0 - $24,999	11.0	-274
$25,000 - $49,999	18.9	-472
$50,000 - $74,999	17.5	-438
$75,000 - $99,999	14.1	-352
$100,000 - $249,999	27.2	-680
$250,000 +	11.3	-284
Total Resident Impact	**100.0**	**-2,501**

Renter Rebate

The analysis projects that the administration's proposal will provide $396 million towards renter rebates in FY 2018-19. The income distribution of the renter rebates uses an analysis of data extracted from the U.S. Census Bureau's Pennsylvania 2013 1-year American Community Survey Public-Use Microdata SAS files (household and person files). The distribution adjusts for the value of renter rebates currently provided through the Lottery Fund. Those rebates are assumed to be paid to households earning less than $25,000 annually because the maximum eligibility income is $15,000. The exclusion of one-half of Social Security benefits from the definition of income for eligibility purposes will result in a small share of the renter rebates being received by households with total income greater than the $50,000 threshold defined in statute.

	Renter Rebate	
	Share	**$ millions**
Total Impact	**100.0%**	**-$396**
Non-Residents	0.0	-0
Residents	100.0	-396
Income Range		
$0 - $24,999	51.1	-202
$25,000 - $49,999	46.8	-185
$50,000 - $74,999	2.1	-8
$75,000 - $99,999	0.0	0
$100,000 - $249,999	0.0	0
$250,000 +	0.0	0
Total Resident Impact	**100.0**	**-396**

Philadelphia Tax Relief

The analysis projects that Philadelphia will receive $452 million in FY 2018-19 as reimbursement for certain tax eliminations and reductions. The income distribution for Philadelphia's allocation is equal to the sum of the distributions for each tax eliminated or reduced as specified in the proposal. For the purpose of this analysis, the income distributions are based on the reimbursement provided to the city, not necessarily the impact of the reductions or repeals on taxpayers.

Cigarette

The analysis projects that the administration's proposal will provide Philadelphia with $60 million in FY 2018-19 to offset repeal of the local cigarette tax. The analysis assumes that the income distribution for the repeal mirrors the income distribution for the increase in the state cigarette tax.

Sales

The analysis projects that the administration's proposal will provide Philadelphia with $108 million in FY 2018-19 to offset the 0.6 percentage point reduction in the rate of the local sales tax. The analysis uses the same income distribution as used for the state sales tax base expansion.

Resident Wages

The analysis projects that the administration's proposal will provide Philadelphia with $120 million in FY 2018-19 to offset reductions in wage tax for residents. The resident share of the wage tax reduction is based on 2013 data from Philadelphia's comprehensive annual financial report that indicates 61 percent of income subject to the wage tax is reported by residents. The income distribution of the tax relief is based on the distribution of wages and net profits of Philadelphia residents reported on the 2012 state personal income tax returns, vintaged to 2018.

Non-Resident Wages

The analysis projects that the administration's proposal will provide Philadelphia with $76 million in FY 2018-19 to offset reductions in wage tax for non-residents. The non-resident share of the wage tax reduction is 100 less 61 or 39 percent of income subject to the wage tax. The analysis estimates that 34 percent of Philadelphia non-resident wages are earned by out-of-state residents based on 2000 Census data that reveals the share of non-residents who work in Philadelphia and commute from other states. The remaining 66 percent of Philadelphia non-resident wages are attributable to residents of other Pennsylvania counties and are distributed based on taxable compensation for residents of Bucks, Chester, Delaware and Montgomery Counties as reported on 2012 state personal income tax returns, vintaged to 2018.

Property

The analysis projects that the administration's proposal will provide Philadelphia with $88 million in FY 2018-19 to offset property tax reductions provided through the homestead exclusions. Tables from the 2009-2013 5-Year American Community Survey published by the U.S. Census Bureau reveal the distribution of owner-occupied properties by income range for Philadelphia.

	Cigarette Tax		Sales Tax	
	Share	$ millions	Share	$ millions
Total Impact	**100.0%**	**-$60**	**100.0%**	**-$108**
Non-Residents	5.0	-3	15.0	-16
Residents	95.0	-57	85.0	-92
Income Range				
$0-$24,999	22.8	-13	8.6	-8
$25,000 - $49,999	27.0	-15	14.6	-13
$50,000 - $74,999	16.9	-10	14.7	-14
$75,000 - $99,999	14.4	-8	12.5	-11
$100,000 - $249,999	14.1	-8	31.8	-29
$250,000 +	4.8	-3	17.8	-16
Total Resident Impact	**100.0**	**-57**	**100.0**	**-92**

	Resident Wage Tax		Non-Resident Wage Tax	
	Share	$ millions	Share	$ millions
Total Impact	**100.0%**	**-$120**	**100.0%**	**-$76**
Federal Offset[1]	0.0	0	0.0	0
Non-Residents	0.0	0	34.3	-26
Residents	100.0	-120	65.7	-50
Income Range				
$0-$24,999	11.0	-13	3.4	-2
$25,000 - $49,999	19.9	-24	7.7	-4
$50,000 - $74,999	15.6	-19	8.4	-4
$75,000 - $99,999	10.8	-13	8.5	-4
$100,000 - $249,999	23.4	-28	37.2	-19
$250,000 +	19.3	-23	34.8	-17
Total Resident Impact	**100.0**	**-120**	**100.0**	**-50**

[1] The federal offset for lower local wage taxes paid by individuals is included with the personal income tax distribution.

	Property Tax		Total Philadelphia	
	Share	$ millions	Share	$ millions
Total Impact	**100.0%**	**-$88**	**100.0%**	**-$452**
Federal Offset[1]	0.0	0	0.0	0
Non-Residents	0.0	0	10.0	-45
Residents	100.0	-88	90.0	-407
Income Range				
$0-$24,999	24.7	-22	14.1	-58
$25,000 - $49,999	23.3	-21	18.9	-77
$50,000 - $74,999	17.1	-15	15.0	-61
$75,000 - $99,999	12.4	-11	11.7	-48
$100,000 - $249,999	18.0	-16	24.5	-100
$250,000 +	4.5	-4	15.6	-64
Total Resident Impact	**100.0**	**-88**	**100.0**	**-407**

[1] The federal offset for lower local wage taxes paid by individuals is included with the personal income tax distribution.

Corporate Net Income Tax

The analysis projects that the proposal will reduce corporate net income tax (CNIT) revenues by $1.3 billion due to the rate reduction and increase revenues by $261 million due to combined reporting and the lower net operating loss deduction thresholds by FY 2018-19. The determination of the tax incidence for CNIT proceeds in three steps. First, the analysis determines how the Pennsylvania effective tax rate differs from a nationwide average. Second, the analysis establishes the share of the net tax cut that is exported, offset by the federal government or remains in the state. Finally, the analysis determines how the tax cut will manifest itself: passed forward to consumers (prices) or back to capital owners (dividends and capital gains) or employees (wages).

The identification of CNIT incidence is difficult, and studies have not reached definitive conclusions. At the national level, the Congressional Budget Office assumes that 75 percent of any federal CNIT change will be borne by owners of capital and 25 percent by their employees. The U.S. Treasury Department uses an 82 percent (owners) and 18 percent (workers) split. However, those splits are national changes that affect capital across all states and will not be representative of a change in a particular state.

This analysis relies on the approach used by the Minnesota and Wisconsin tax incidence models. In particular, the Minnesota model is widely recognized as a comprehensive model that provides a reasonable approximation of state CNIT incidence within a broader national context. Similar to that study, this analysis assumes that capital will migrate to the state where it earns the highest after-tax return and therefore the relative state tax rate matters compared to other states, as well as the national average rate.

The CNIT analysis must also include the impact of the federal income tax offset. State corporate income taxes are deductible from federal corporate net income. Hence, if Pennsylvania CNIT falls by $1 billion, the net after-tax profits of the firm only change by $650 million because the federal deduction for state CNIT falls by $1 billion and federal income tax falls by $1 billion times 35 percent (federal corporate income tax rate) or $350 million. In this manner, the federal government effectively absorbs some of the benefit of the tax cut.

The first parameter to determine is how the effective corporate tax rate in Pennsylvania differs from a national average. To the extent those rates are the same, the tax will fall entirely on the owners of capital because it cannot be avoided by moving to a different state. To compute the average national tax rate, the analysis uses various data sources to establish that the national average state and local corporate income rate is approximately 7.5 percent.[13] By comparison, the Pennsylvania statutory rate is 9.99 percent.[14] Similar to the Minnesota tax incidence study, this analysis assumes that capital owners across the U.S. would bear the burden of the average national tax, since it cannot be avoided through relocation. By contrast, the share that exceeds the national average would be borne by consumers that purchase the firm's products or workers who produce those products.

[13] The computations use federal corporate tax return data from the IRS to compute the tax base. The tax base represents the domestic profits of non-financial firms. The numerator is equal to total state and local corporate net income tax revenues for FY 2012-13 as tabulated by the U.S. Census Bureau.

[14] Several attributes of the Pennsylvania CNIT will raise or lower the effective tax rate from 9.99 percent. For example, the single-factor sales apportionment formula would reduce the effective rate, while the restrictions on net operating loss deductions increase it. Non-compliance would also lower the effective tax rate, but the analysis assumes that non-compliance occurs proportionately across all states, so that no advantage is gained through relocation.

The administration's proposal reduces the CNIT rate to 4.99 percent, a reduction of 5.0 percentage points. If the national average rate does not change, then capital owners would realize roughly (9.99 – 7.5) / 5.0 or 50 percent of the benefit from rate reduction after the federal offset. Hence, the share that accrues to capital owners is equal to (100 percent less 35 percent) times 50 percent or 32.5 percent. Similar to the Minnesota study, this analysis assumes that 10 percent of that amount (3.3 percent of total) accrues to Pennsylvania residents in their capacity as corporate shareholders.[15] Those amounts are distributed based on the share of dividend income across the six income groups because those amounts should generally reflect the distribution of capital ownership.

The residual amounts (32.5 percent) accrue to Pennsylvania consumers and workers. Those amounts are distributed based on wage and consumer purchase distributions. The distribution used in the table below reflects a weighted average across Pennsylvania consumers, workers and capital owners.

	Rate Reduction		Combined Reporting - NOLDS	
	Share	**$ millions**	**Share**	**$ millions**
Total Impact	**100.0%**	**-$1,261**	**100.0%**	**$261**
Federal Offset	35.0	-441	35.0	91
Non-Residents	34.2	-432	34.2	89
Residents	30.8	-388	30.8	80
Income Range				
$0 - $24,999	8.2	-32	8.2	7
$25,000 - $49,999	14.5	-56	14.5	12
$50,000 - $74,999	13.4	-52	13.4	11
$75,000 - $99,999	11.2	-44	11.2	9
$100,000 - $249,999	28.3	-110	28.3	23
$250,000 +	24.4	-95	24.4	20
Total Resident Impact	**100.0**	**-388**	**100.0**	**80**

15 An alternative methodology simply assumes that the share of the tax change that remains in the state is equal to Pennsylvania's share of the U.S. population, which in theory is representative of state resident's share of total capital ownership. This method is used by the Wisconsin tax incidence study.

Bank Shares Tax

The analysis projects that the proposal will increase bank shares tax revenues by $164 million for FY 2018-19. The distribution uses data reported in the recent "Act 52 of 2013 Bank Shares Tax Reform Report" published by the Department of Revenue. That report shows that Pennsylvania banks comprised roughly one-half of total 2014 tax liability and reported a total apportionment factor of 26.4 percent (receipts only). Out-of-state banks also comprised one-half of liability, but reported an average apportionment factor of 1.8 percent. The overall apportionment factor weighted by share of tax liability is 14.2 percent, and the analysis assumes that same share of the tax increase remains in the state and is borne by Pennsylvania residents. After the federal offset (35 percent), the effective share falls to 9.2 percent. The distribution across income groups is the same as the distribution used for corporate net income tax.

	Bank Shares Tax	
	Share	**$ millions**
Total Impact	**100.0%**	**$164**
Federal Offset	35.0	57
Non-Residents	55.8	91
Residents	9.2	15
Income Range		
$0 - $24,999	8.2	1
$25,000 - $49,999	14.5	2
$50,000 - $74,999	13.4	2
$75,000 - $99,999	11.2	2
$100,000 - $249,999	28.3	4
$250,000 +	24.4	4
Total Resident Impact	**100.0**	**15**

Severance Tax

The analysis projects that the proposal will increase severance tax revenues by $1.58 billion in FY 2018-19. The proposal reserves $225 million annually of new severance tax revenues to reimburse local units for the amounts they would have received under the impact fee. Therefore, the net amount to be allocated across income groups is $1.32 billion.

The severance tax table from the previous section (page 14) shows total Pennsylvania production of 4.2 trillion cubic feet and consumption of 1.0 trillion cubic feet. The analysis assumes that Pennsylvania residential, commercial, industrial and utility consumption will comprise one fifth of total production, and residual production will be exported to consumers who reside in other states. Tax incidence studies generally assume that existing severance taxes are completely passed forward to final consumers, most of whom reside in other states. For example, the annual Tax Foundation incidence study aggregates all severance taxes across states and allocates them based on the state's share of relevant energy consumption.[16] The Minnesota tax incidence study assumes that 90 percent of the severance tax on taconite is exported, while Texas assumes that roughly two-thirds of their oil and natural gas severance taxes are exported.

The analysis assumes that producers will be able to pass the tax forward to consumers once a market equilibrium has been established. This assumption is used for gas consumed in Pennsylvania and amounts exported. It is possible that some tax might be passed back to leaseholders too. However, that possible outcome would not alter the general incidence results. It merely alters the incidence distribution for the portion of the tax that is borne by Pennsylvania residents (lease holders versus consumers).

Consumption data show that residential consumers (24 percent) and electricity producers (39 percent) comprise nearly two-thirds of natural gas consumption. The analysis uses data from the Census Bureau that tabulates amounts spent on those services by Pennsylvania residential natural gas and electricity consumers across the six income groups. Those distributions are combined into a single weighted average distribution. Assuming that the tax is passed forward to consumers, the data suggest that the tax is regressive because lower income individuals spend a higher proportion of their income on utilities.

	Net Severance Tax	
	Share	**$ millions**
Total Impact	**100.0%**	**$1,322**
Non-Residents	80.0	1,058
Residents	20.0	264
Income Range		
$0 - $24,999	16.6	44
$25,000 - $49,999	21.3	56
$50,000 - $74,999	17.6	47
$75,000 - $99,999	13.0	34
$100,000 - $249,999	22.7	60
$250,000 +	8.7	23
Total Resident Impact	**100.0**	**264**

16 See "Tax Foundation State-Local Tax Burden Estimates," Tax Foundation Working Paper No. 10 (April 2014) at http://taxfoundation.org/article/tax-foundation-state-local-tax-burden-estimates-overview-methodology.

Tax Incidence Summary

Based on the methodologies discussed in the previous subsections, the analysis finds that high-income residents will bear most of the economic incidence of tax changes that are not exported to non-residents or offset by the federal tax system. (See table below.) The top two income groups with income above $100,000 bear nearly two-thirds of the tax incidence. By contrast, those with income below $50,000 bear roughly one-tenth of the tax incidence.

The analysis finds a net tax increase for all groups, including a small net increase for the lowest income group. Despite significant property tax and rent relief, the low-income group realizes increases in tobacco and sales taxes, and modest increases in personal income and severance tax through higher utility prices. For the highest income group, property tax relief is offset by higher sales and personal income taxes. For that income group, the personal income tax amount ($658 million) includes a federal income tax offset of $200 million.

Summary of Tax Incidence for Pennsylvania Residents, FY 2018-19

	Income Ranges						
	<$25,000	**$25,000-$49,999**	**$50,000-$74,999**	**$75,000-$99,999**	**$100,000-$250,000**	**>$250,000**	**Total**
Tobacco	$126	$149	$93	$80	$78	$26	$552
Sales and Use	367	616	606	512	1,283	721	4,107
Personal Income	29	270	303	268	713	658	2,242
School Property	-274	-472	-438	-352	-680	-284	-2,501
Philadelphia Relief	-58	-77	-61	-48	-100	-64	-407
Renter Rebate	-202	-185	-8	0	0	0	-396
Corporate Net Income	-25	-45	-41	-35	-87	-75	-308
Bank Shares	1	2	2	2	4	4	15
Net Severance	44	56	47	34	60	23	264
Total	**8**	**316**	**503**	**461**	**1,271**	**1,009**	**3,569**

Note: Dollar amounts are in millions.

The analysis also finds that the proposed tax changes make the tax system considerably more progressive. In a progressive tax system, an individual's average tax rate increases with the level of income. Another way to gauge the impact on progressivity is to examine the incremental tax change relative to total income. If the change makes the tax system more progressive, then the ratio of the tax change to total income will also increase with the level of income.

For the lowest income group, the ratio of tax incidence to income is 0.0 percent. The ratio increases to 0.9 percent for the fifth highest group, then declines to 0.6 percent for the highest income group. That result is mainly due to the high level of savings for that group, which is less sensitive to changes in the sales tax rate or base expansion. A slightly different result occurs if tobacco taxes are excluded from the ratio. Under that scenario, the tax incidence for the lowest income group is negative, and the ratio for the second lowest group falls by half. By contrast, the ratio for higher income groups is largely unaffected. This alternative scenario demonstrates the regressivity of tobacco taxes.

Tax Incidence as a Share of Total Income, FY 2018-19

	All Tax Changes		Exclude Tobacco Taxes	
Income Range	**Dollar Change**	**Share Income**	**Dollar Change**	**Share Income**
$0 - $24,999	$8	0.0%	-$118	-0.2%
$25,000 - $49,999	316	0.5	167	0.2
$50,000 - $74,999	503	0.8	409	0.6
$75,000 - $99,999	461	0.8	382	0.7
$100,000 - $249,999	1,271	0.9	1,194	0.9
$250,000 +	1,009	0.6	983	0.6
Total	**3,569**	**0.6**	**3,017**	**0.5**

Note: Dollar amounts are in millions.