

INDIVIDUAL INCOME TAX

(CONSENSUS FORECASTING GROUP)

THOMAS JONES, PH.D.
SEPTEMBER 25, 2023

Office of State Budget Director

Individual Income Tax Receipts History

(\$ millions, nominal)

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	IIT	% chg
FY19	4,544.7	-1.3
FY20	4,765.2	4.9
FY21	5,143.8	7.9
FY22	6,047.5	17.6
FY23	5,843.9	-3.4
Jul-23	431.5	4.4
Aug-23	423.6	1.4

Methodology

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Withholding = f(KY Wages and Salaries)

Range: 2001 Q1 to 2023 Q3

- * Seasonally Adjusted
- * First Differences
- * Corrected Serial Correlation
- * WITH history adjusted for FY23 legislation (90%)

Methodology cont.

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Declarations:

- * 3 Quarter MA
- * 10% of legislative adjustments

NetReturns:

- * 3 Quarter MA
- * 100% of PTE bill score

Fiduciary:

- * 3 Quarter MA

Legislative Adjustments

(\$ millions)

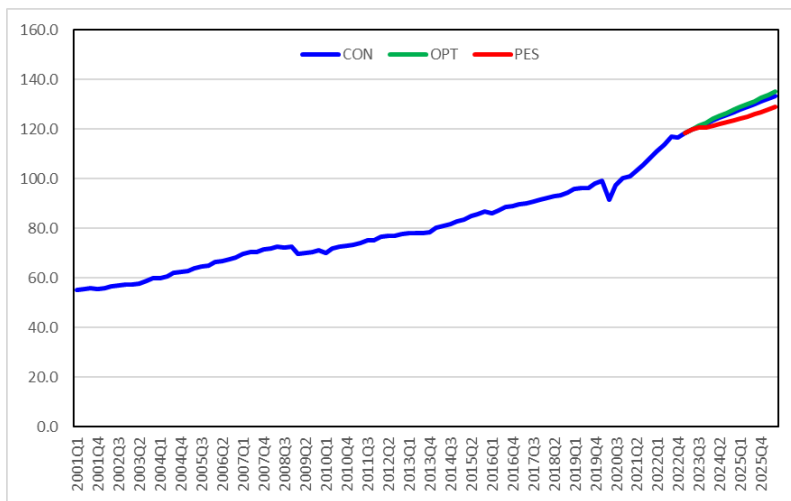
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	IIT	WITH	DECL
FY23	-\$345.2	-\$310.7	-\$34.5
FY24	-\$988.7	-\$889.8	-\$98.9
FY25	-\$1,301.6	-\$1,171.4	-\$130.2
FY26	-\$1,302.1	-\$1,171.9	-\$130.2

Kentucky Wages and Salaries

(\$ billions, SAAR)

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Withholding Forecasts

(\$ millions, nominal)

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	<u>CON</u>	<u>% chg</u>	<u>OPT</u>	<u>% chg</u>	<u>PES</u>	<u>% chg</u>
FY23	5,108.7	1.5	5,108.7	1.5	5,108.7	1.5
FY24	4,911.4	-3.9	4,926.8	-3.6	4,860.0	-4.9
FY25	4,808.1	-2.1	4,843.1	-1.7	4,691.1	-3.5
FY26	5,006.9	4.1	5,058.2	4.4	4,856.2	3.5

Declarations Forecast

(\$ millions, nominal)

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	<u>DECL</u>	<u>% chg</u>
FY21	611.1	16.7
FY22	792.2	29.6
FY23	634.5	-19.9
FY24	591.9	-6.7
FY25	587.2	-0.8
FY26	562.2	-4.3

Net Returns Forecast

(\$ millions, nominal)

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	<u>NETR</u>	<u>% chg</u>
FY20	-35.6	-75.1
FY21	3.3	NA
FY22	222.2	6,639.8
FY23	105.5	-52.5
FY24	97.4	-7.8
FY25	132.5	36.1
FY26	106.6	-19.5

Fiduciary Forecast

(\$ millions, nominal)

10

	<u>FID</u>	<u>% chg</u>
FY23	-5.7	-389.8
FY24	-0.3	-94.7
FY25	-0.1	-51.6
FY26	-0.9	480.9

IIT Forecasts

(\$ millions, nominal)

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	<u>CON</u>	<u>% chg</u>	<u>OPT</u>	<u>% chg</u>	<u>PES</u>	<u>% chg</u>
FY23	5,843.9	-3.4	5,843.9	-3.4	5,843.9	-3.4
FY24	5,600.4	-4.2	5,615.8	-3.9	5,549.0	-5.0
FY25	5,527.8	-1.3	5,562.7	-0.9	5,410.7	-2.5
FY26	5,674.9	2.7	5,726.2	2.9	5,524.2	2.1

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COAL SEVERANCE TAX

(CONSENSUS FORECASTING GROUP)

THOMAS JONES, PH.D.
SEPTEMBER 25, 2023

Office of State Budget Director

Coal Receipts History

(\$ millions, nominal)

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	<u>COAL</u>	<u>% chg</u>
FY20	58.8	-36.7
FY21	56.1	-4.7
FY22	70.7	26.0
FY23	96.6	36.7
Jul-23	7.8	1.0
Aug-23	6.7	22.2

Coal Severed Tons

(million tons)

14

	TONS	% chg
FY20	30.4	-28.4
FY21	20.4	-33.0
FY22	24.3	19.2
FY23	30.5	25.6

Coal Prices

\$ / ton

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DATE	CAP	NAP	IB	PRB	UB
08-11-23	66.25	52.50	50.00	14.30	32.50
08-18-23	70.00	52.50	50.00	14.30	32.50
08-25-23	70.00	52.50	50.00	14.30	32.50
09-01-23	70.00	54.10	50.00	14.30	32.35
09-08-23	70.00	54.10	50.00	14.30	32.35

Methodology

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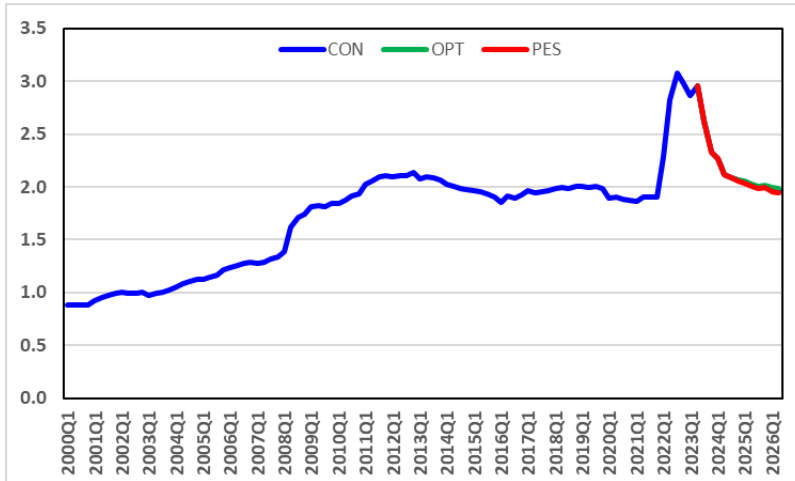
Coal Receipts = f(PPI Coal, West Texas Intermediate Price of Oil, Henry Hub Price of Natural Gas, US Personal Income)

- * Range: 2001 Q1 to 2023 Q3
- * Seasonally-Adjusted Variables
- * First Differences

Producer Price Index for Coal

(1982 = 1.00, SA)

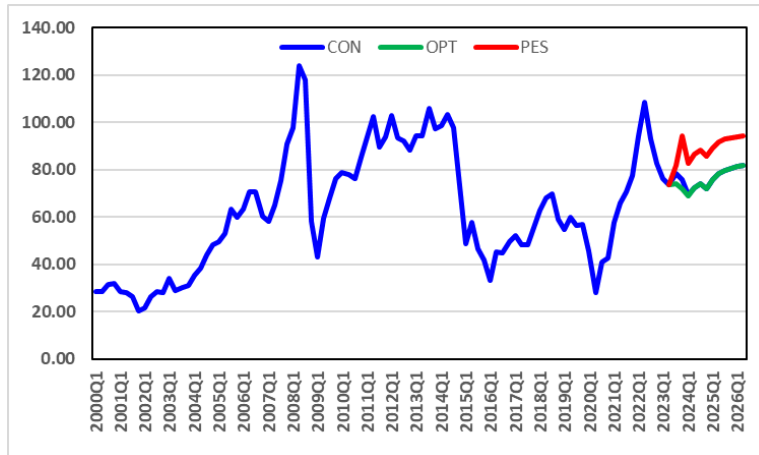
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Price of West Texas Intermediate Oil

(\$, nominal)

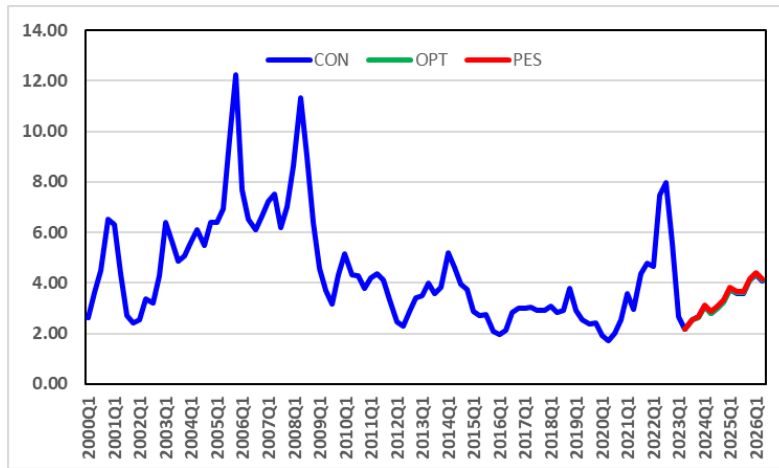
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Henry Hub Price of Natural Gas

(\$, nominal)

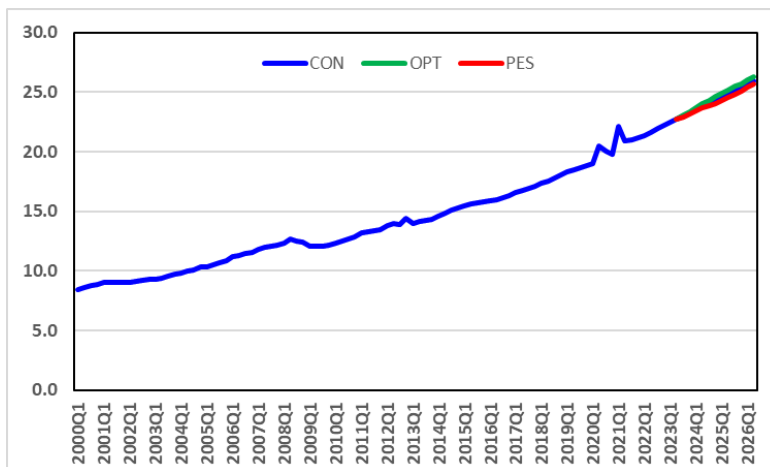
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US Personal Income

(\$ trillions, AR)

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Coal Forecasts

(\$ millions, nominal)

21

	<u>CON</u>	<u>% chg</u>	<u>OPT</u>	<u>% chg</u>	<u>PES</u>	<u>% chg</u>
FY23	96.6	36.7	96.6	36.7	96.6	36.7
FY24	81.4	-15.7	80.4	-16.8	83.5	-13.6
FY25	57.9	-28.9	56.4	-29.8	63.8	-23.5
FY26	49.4	-14.6	47.9	-15.0	55.0	-13.9

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SALES TAX

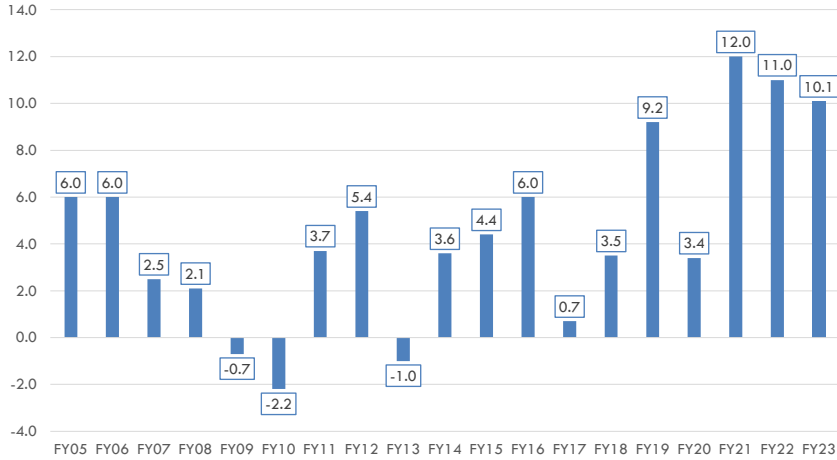
CONSENSUS FORECASTING GROUP

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GREG HARKENRIDER
SEPTEMBER 25, 2023

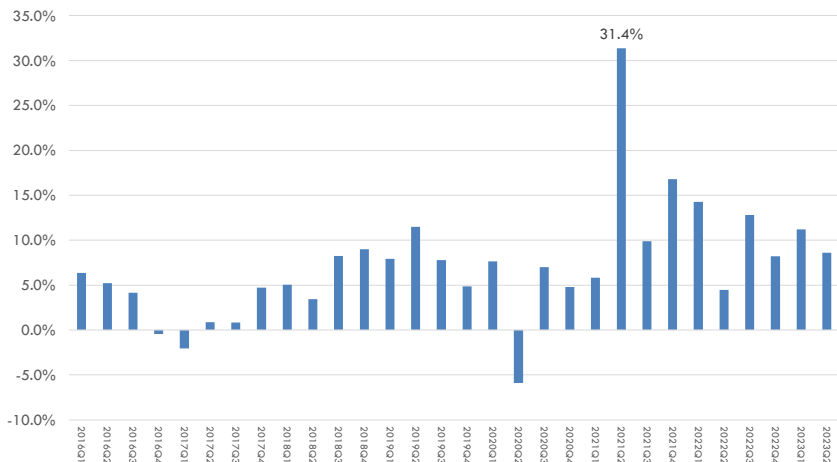
Sales Tax Growth Rates

(Percentage Change, FY05 through FY23)



Historical Quarterly Sales Tax Growth

(Calendar year quarters, Percentage changes)



Recent Sales Tax Estimates

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- Underestimated the sales tax for two consecutive years (FY21 grew 12.0% and FY22 grew 11.0%)
- Overestimated the sales tax in December 2022 (FY23)
 - Used the Optimistic Forecast
 - Relatively weak receipts in FY23 Q2 and FY23 Q4
- Continued composite forecasting for the sales tax
- Time series models have performed better in-sample during the high-growth years, but ...
- Receipts are beginning to soften relative to the recent past
- Structural models predicted the softening

Model Specifications, Sales Tax

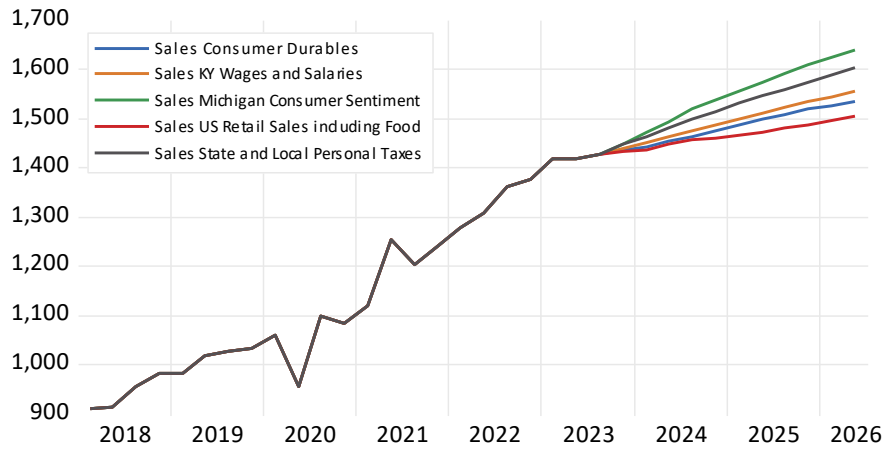
26

- Time Series for Estimation: 2010q1 to 2023q3
 - Have data back to 1990q1
 - Estimated September to make FY24Q1 historical
- All models use seasonally-adjusted data
- Arima 7,1,1 {AR (1,3,7); 1st difference; MA (1)}
- VAR (Sales and KY Personal Income)
- Structural Models – Blend of these 5 models
 - SRTAFS_0 (Nominal Retail Sales);
 - JSCMICH (Consumer Sentiment Index)
 - TXPGSL (State and Local Personal Taxes)
 - CDO (Consumer Durables)
 - KYWS (Kentucky Wages and salaries)

Sales Tax Structural Models September 2023

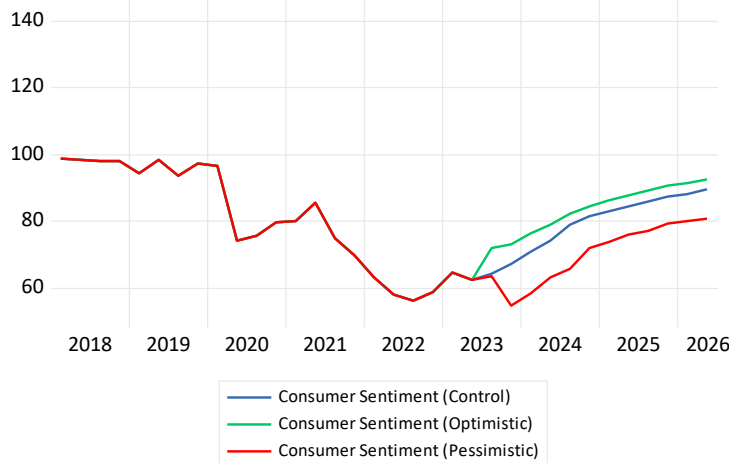
(Control Scenario, Quarterly, Millions \$)

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University of Michigan Consumer Sentiment Index

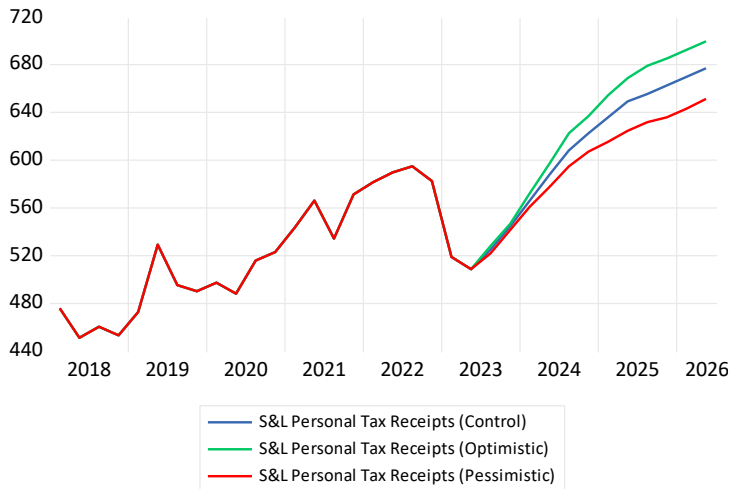
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State and Local Personal Tax Receipts

(Billions of Dollars, Annual Rate, BEA)

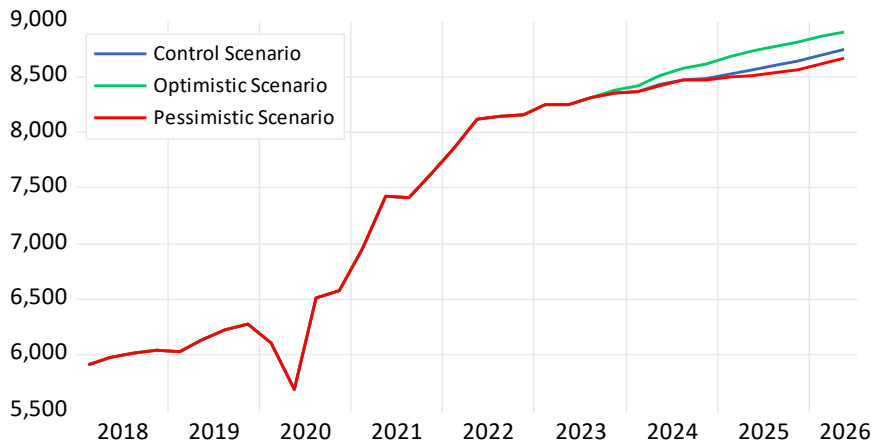
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Retail Sales – Including Food Service

(Billions of Dollars, Annual Rate, BEA)

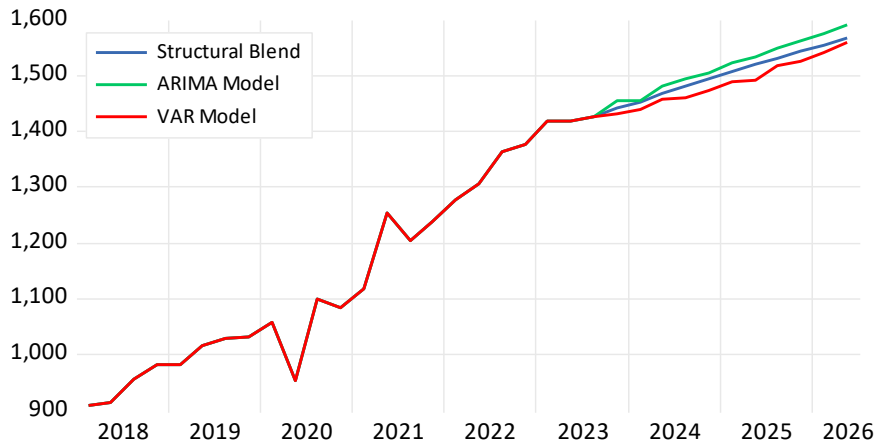
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Sales Tax Final Blending Models September 2023

(Control Scenario, Millions \$)

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Sales Tax Projections

(Millions \$)

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Fiscal Year	Control	Optimistic	Pessimistic
FY 2024	\$5,788.3 3.8%	\$5,826.3 4.5%	\$5,753.2 3.2%
FY 2025	\$5,990.9 3.5%	\$6,036.7 3.6%	\$5,910.4 2.7%
FY 2026	\$6,207.7 3.6%	\$6,241.0 3.4%	\$6,103.7 3.3%

Notes concerning C-O-P scenarios

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- Given the similarities between the structural variables in the control, optimistic, and pessimistic scenarios, the range between estimates is relatively small
- Did not use add factors to adjust the scenarios to be more reflective of the best and worst outcomes
- Time series models are somewhat incapable of producing differences between scenarios, so adjusted the weights in OPT and PESS to emphasize upper and lower risk factor

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MAJOR BUSINESS TAX FORECAST

(CONSENSUS FORECASTING GROUP)

GENE ZAPARANICK-BROWN

SEPTEMBER 25, 2023

Office of State Budget Director

Major Business Taxes— Actual v. Estimate

Millions \$

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	Actual	Estimate	Diff (\$)	Diff (%)
FY22	\$1,186.6	\$970.5	\$216.1	22.2%
FY23	\$1,221.6	\$1,279.0	-\$57.4	-4.5%

Major Business Taxes History

FY12-FY23

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Major Business Taxes - Notes

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- Large increase in receipts in FY22 and FY23
- Difficult to pinpoint the reasons why revenues surged
 - Strong economy
 - Repeal of Bank Franchise tax
 - Financial institutions taxed under CIT
 - Estimated to increase revenues by \$59.0M
 - 2018 and 2019 tax law changes:

Major Business Taxes – Notes

continued

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- Broadly speaking, five areas of the corporation income tax law were changed which affected revenue collections:
 - Tax rates,
 - Apportionment of income and sourcing of sales,
 - IRC updates,
 - Group filing methods and NOL provisions, and
 - Tax credits.

Major Business Taxes – Notes

continued

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□ Fiscal impacts, as discussed earlier:

□ FY24 -\$48.0M

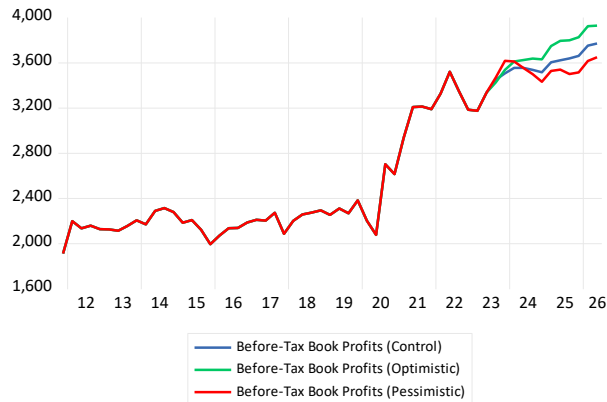
□ FY25 -\$48.0M

□ FY26 -\$48.0M

US Corporate Profits, Before Tax

(Billions \$, S&P IHS Global)

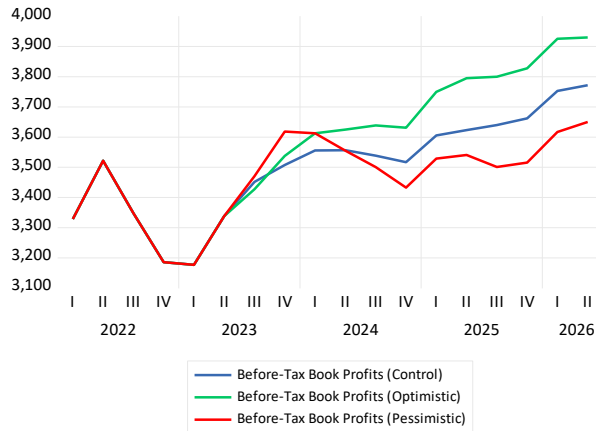
40



US Corporate Profits, Before Tax

(Billions \$, S&P IHS Global)

41



Major Business Taxes Forecast

Millions \$

42

Fiscal Year	Control	Optimistic	Pessimistic
FY 2023	\$1,221.6 3.0%	\$1,221.6 3.0%	\$1,221.6 3.0%
FY 2024	\$1,365.1 11.7%	\$1,381.9 13.1%	\$1,388.8 13.7%
FY 2025	\$1,430.7 4.8%	\$1,498.8 8.5%	\$1,394.6 0.4%
FY 2026	\$1,524.5 6.6%	\$1,608.8 7.3%	\$1,454.9 4.3%

PROPERTY TAX FORECAST

(CONSENSUS FORECASTING GROUP)

GENE ZAPARANICK-BROWN

SEPTEMBER 25, 2023

Office of State Budget Director

Property Tax— Actual v. Estimate, FY22

(\$ millions)

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	Actual	Estimate	Diff (\$)	Diff (%)
REAL	325.3	330.5	-5.2	-1.6%
TANGIBLE	124.4	128.7	-4.3	-3.3%
MOTOR VEHICLE	179.2	130.2	49.0	37.6%
DELINQUENT	6.2	6.5	-0.3	-4.6%
OM TANGIBLE	11.3	10.5	0.8	7.6%
PUBLIC SERVICE	74.6	70.5	4.1	5.8%
OTHER	<u>2.9</u>	<u>2.3</u>	<u>0.6</u>	<u>26.1%</u>
TOTAL PROPERTY	723.9	679.2	44.7	6.6%

Property Tax– Actual v. Estimate, FY23

(\$ millions)

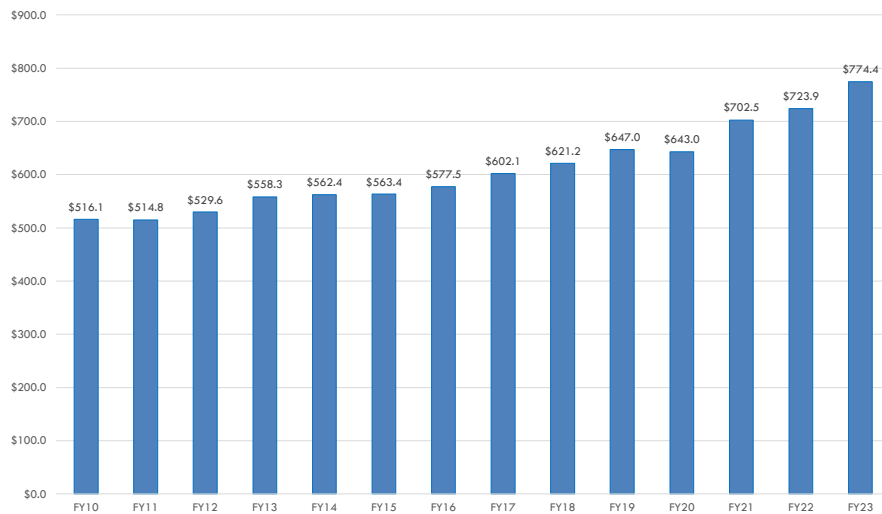
45

	Actual	Estimate	Diff (\$)	Diff (%)
REAL	338.8	336.7	2.1	0.6%
TANGIBLE	136.6	127.8	8.8	6.9%
MOTOR VEHICLE	197.5	197.1	0.4	0.2%
DELINQUENT	6.6	7.1	-0.5	-7.0%
OM TANGIBLE	10.6	10.5	0.1	1.0%
PUBLIC SERVICE	80.9	77.2	3.7	4.8%
OTHER	<u>3.4</u>	<u>3.0</u>	<u>0.4</u>	<u>13.3%</u>
TOTAL PROPERTY	774.4	759.4	15.0	2.0%

Total Property Tax Revenue

FY10-FY23

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Real Property

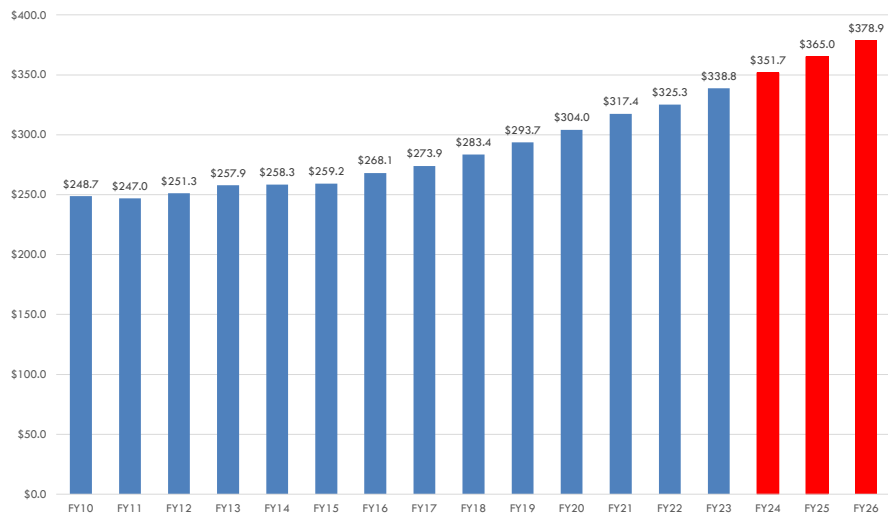
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- Assessed by PVA at 100% of fair cash value as of January 1
 - ▣ Residential, Commercial and Farm
 - ▣ Exemptions for elderly and disabled
 - \$46,350 for Tax Years 2023 and 2024
- HB 44 (1979) limits revenue growth to 4 percent annually
 - ▣ 2023 Rate is 11.4 cents per \$100 of assessed value
- Majority of collections received November – January

Real Property Tax Forecast

Millions \$

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Tangible Property

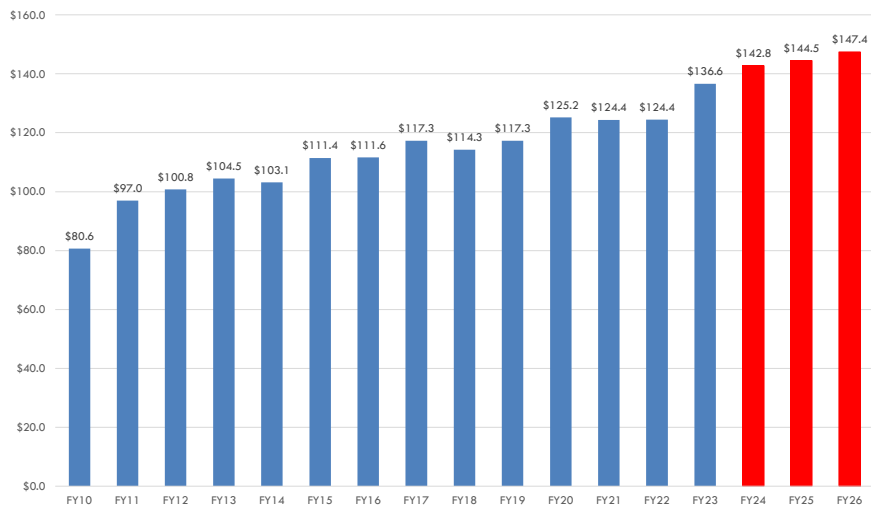
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- Self assessed
- State rates range from 0.1 cents to 45 cents per \$100 of assessed value
 - ▣ Tangible
 - Business furniture & fixtures, construction equipment, computer equipment, manufacturing machinery, inventory
 - ▣ Telecom property
 - ▣ Commercial watercraft
 - ▣ Apportioned vehicles

Tangible Property Tax Forecast

Millions \$

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Motor Vehicle Property Tax

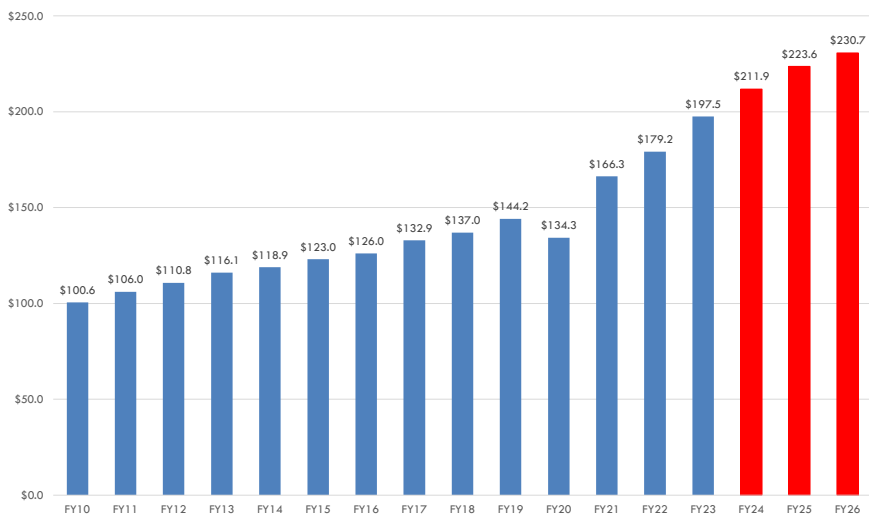
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- State rate is 45 cents per \$100 of assessed value
- Historic vehicles taxed at 25 cents
 - ▣ 25-years old but not used for general transportation
- Paid in owner's birth month
- Personal watercraft
 - ▣ Personal boats, fishing boats, house boats, jet skis, sail boats

Motor Vehicle Property Tax Forecast

Millions \$

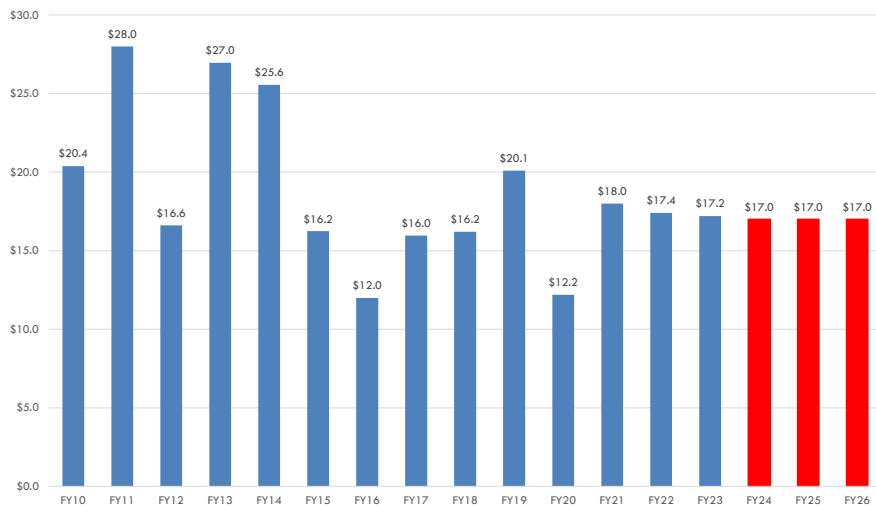
52



Omitted & Delinquent Property Tax Forecast

Millions \$

53



Public Service Company Tax

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- Businesses providing services to the public under regulated conditions imposed by a governmental unit
 - ▣ Gas, water and electric utilities, railroads, electric co-ops, etc.
- Office of Property Valuation (DOR) determines the fair cash value of the operating property (real estate, tangible and franchise) as a unit
- Apportion the unit value to Kentucky

Public Service Company Tax Forecast

Millions \$

55



Property Tax Forecast

FY24 – FY26

56

	FY23		FY24		FY25		FY26	
	Actual	%Chg	Estimate	%Chg	Estimate	%Chg	Estimate	%Chg
REAL	338.8	4.1	351.7	3.8	365.0	3.8	378.9	3.8
TANGIBLE	136.6	9.8	142.8	4.5	144.5	1.2	147.4	2.0
MOTOR VEHICLE	197.5	10.2	211.9	7.3	223.6	5.5	230.7	3.2
DELINQUENT	6.6	7.7	6.0	-9.7	6.0	0.0	6.0	0.0
OMITTED TANGIBLE	10.6	-6.1	11.0	4.1	11.0	0.0	11.0	0.0
PUBLIC SERVICE	80.9	8.4	81.8	1.1	83.6	2.2	84.4	1.0
OTHER	<u>3.4</u>	<u>18.2</u>	<u>3.4</u>	<u>-1.1</u>	<u>3.5</u>	<u>2.9</u>	<u>3.5</u>	<u>0.0</u>
TOTAL	774.4	7.0	808.6	4.4	837.2	3.5	861.9	3.0

CIGARETTE TAX

CONSENSUS FORECASTING GROUP

GREG HARKENRIDER

SEPTEMBER 25, 2022

Office of State Budget Director

Cigarette Trends

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FY 2020	FY2021	FY2022	FY2023
0.4%	-1.4%	-7.3%	-7.8%

- FY21 cigarette tax revenue was 1.4% lower than FY20
- FY22 cigarette tax revenue was down 7.3%
- FY23 saw a steepening of the downward trend to -7.8%
- Higher vendor's compensation of 1.5 cents per pack began in FY23 (Negative 3.4 million estimated fiscal impact)
- Prices are rising / discounts abating on many cigarette brands
- Not a monthly return, so payments for stamps can be irregular
- Is there a limit to the downward trend?
- Forecast does not call for improvement in this account

Cigarette Tax Forecast

(Millions \$)

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Fiscal Year	Control
FY 2024	\$275.3 -8.0%
FY 2025	\$254.7 -7.5%
FY 2026	\$239.4 -6.0%

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KENTUCKY LOTTERY CONSENSUS FORECASTING GROUP

GREG HARKENRIDER

SEPTEMBER 25, 2023

Office of State Budget Director

Lottery Trends

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- FY23 sales total sales were \$1.84 billion
 - ▣ Nominal growth of \$164.5 million, or 9.8%
 - ▣ Continue to innovate in order to bring competitive products to the market
- Scratch-off ticket sales were \$943.5 million, down 2.1% from FY22
- Draw games sales were \$503.5 million in FY23, up 3.4% from FY22
 - ▣ Mainly growth in the multi-state jackpot games
 - ▣ Several big jackpots accumulated in FY23
- iLottery Instant Play sales were \$394.0 million in FY23
 - ▣ Up \$167.9 million, or 74.3%, over FY22
 - ▣ Higher prize expense on these games – higher percentage payout to players relative to any other lottery product

Explanation of Lottery Forecast for FY24

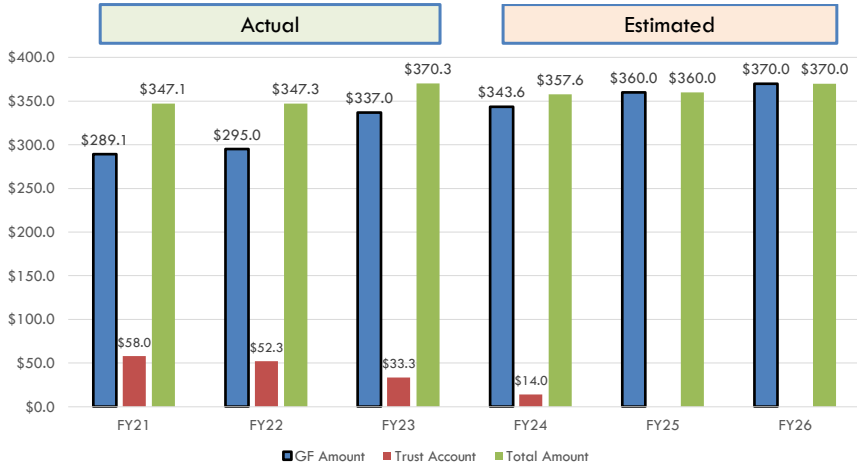
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- Budget Bill Language (HB1 2022 Regular Session):
 - ▣ If lottery receipts received by the Commonwealth, excluding any unclaimed prize money received, exceed
 - \$292,000,000 in fiscal year 2022;
 - \$333,974,700 in fiscal year 2023;
 - or \$340,574,700 in fiscal year 2024
 - ▣ Then the first \$3,000,000 of excess funds in each fiscal year shall be transferred to the Kentucky Higher Education Assistance Authority and appropriated in accordance with KRS 154A.130(4)(b)
 - ▣ Any additional excess shall be transferred to a trust and agency account and shall not be expended or appropriated without the express authority of the General Assembly.

Kentucky Lottery Dividend Payments

(Millions \$)

63

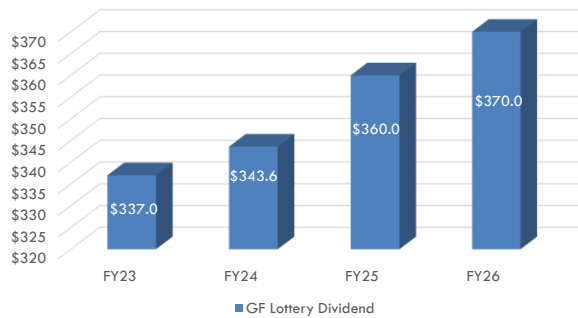


Kentucky General Fund Lottery Forecast

(\$ millions)

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FY2024	FY2025	FY26
\$343.6	\$360.0	\$370.0



MISCELLANEOUS “OTHER” TAXES

(CONSENSUS FORECASTING GROUP)

GREG HARKENRIDER

SEPTEMBER 25, 2023

Office of State Budget Director

Other General Fund Revenues

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- The “Other” category of revenues contains roughly 60 accounts that are not otherwise classified in the major accounts
- Insurance premiums taxes, alcohol taxes, telecommunication taxes, inheritance taxes, and abandoned property receipts are the five largest ongoing accounts
 - ▣ Pari-Mutuel taxes will surpass abandoned property in the forecast
 - ▣ Income on investments was \$150.5 million in FY23
- Many of these revenue sources are estimated with annual data instead of quarterly data given the irregular collection cycles
- No optimistic and pessimistic estimates for the other taxes

Other General Fund Revenues

67

- Other Revenues exceeded the official estimate in FY23 by \$88.1 million
- Two revenue sources accounted for the entire excess revenue amount
 - ▣ Income on investments (\$150.5 million in FY23, \$0.6 million in FY22)
 - FY23 forecasted amount was \$67.5 million (**\$83.0 million over** the forecast)
 - ▣ Ride sharing tax (\$15.8 million in FY23)
 - FY23 estimated fiscal impact was \$7.9 million (**\$7.9 million over** the estimate)
- Other revenue sources that outperformed
 - ▣ Insurance premiums (\$196.0 million in FY23, \$167.3 million in FY22)
 - FY23 forecasted amount was \$188.7 million (\$7.3 million over the forecast)
 - ▣ Legal Settlements brought in \$16.0 million
 - FY23 forecasted amount was \$5.5 million (\$9.5 million over the forecast)

Forecast for Income on Investments

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- Income from investments, while not a perennial source of significant income, recorded receipts of \$150.5 million in FY23
- The dramatic increase on the income on investments stems from prior year surpluses that were deposited into the State's "Rainy Day Fund"
- That fund is invested in a short-term pool that have benefited from increased interest rate on short-term investment instruments

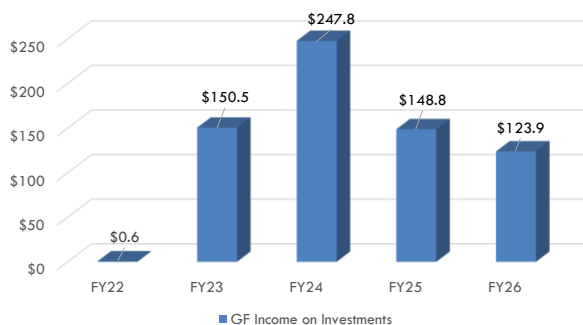
Income on Investments

- Income from Investments has two major components:
 - ▣ Investable balances (Average monthly balances)
 - General Fund component of the short-term pool
 - Higher balances in FY24 compared to FY23
 - Declining in FY25 and held constant in FY26
 - The investable balances change throughout the course of a fiscal year (hence, a monthly forecast)
 - ▣ Interest rates used to determine income from investing the General Fund component of the short-term pool
 - Higher rates in FY24 than in FY23
 - Declining rates in FY25 and FY26

Income on Investments Forecast

(Millions \$)

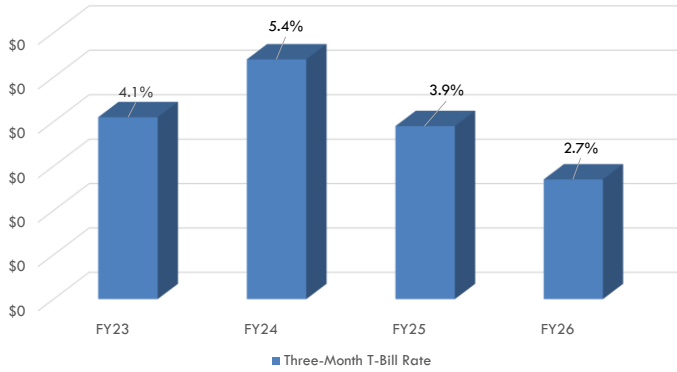
FY24	FY25	FY26
\$247.8	\$148.8	\$123.9



Three-Month Treasury Bills

(S&P IHS Global, Percentage Yield)

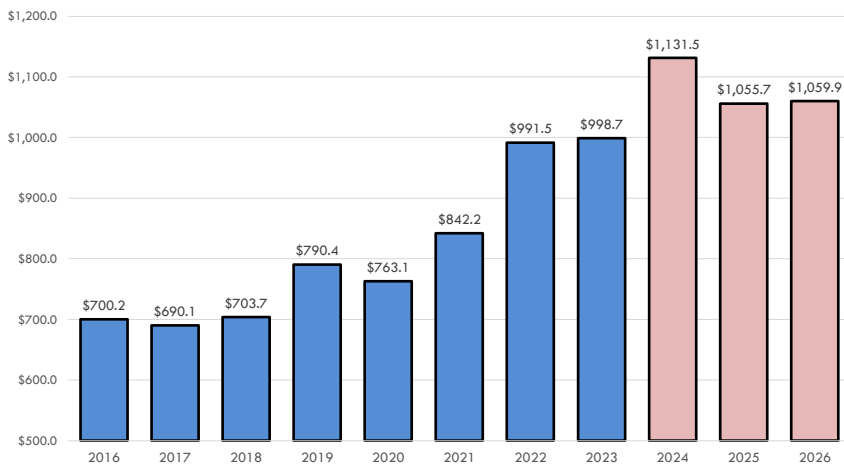
71



“Other” Receipts Forecast

(Millions \$)

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GENERAL FUND REMARKS

(CONSENSUS FORECASTING GROUP)

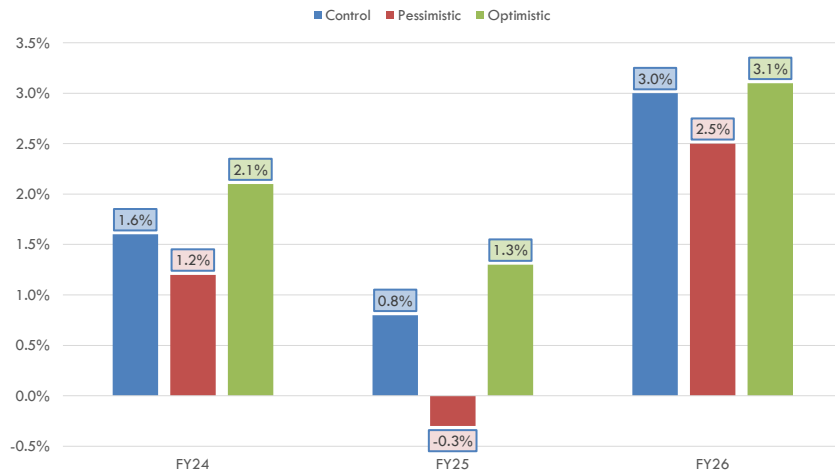
GREG HARKENRIDER

SEPTEMBER 25, 2023

Office of State Budget Director

Percentage Growth, All Scenarios

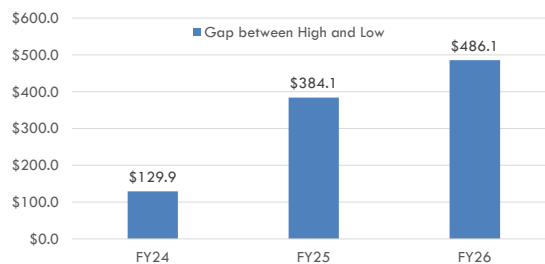
74



Implied Variation Among Scenarios

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	Pessimistic	Control	Optimistic
FY24	\$15,333.5	\$15,394.2	\$15,463.4
FY25	\$15,278.1	\$15,514.9	\$15,662.2
FY26	\$15,669.0	\$15,987.7	\$16,155.1



Explanation of the Variation between C-O-P

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- Taxes with Alternative Scenarios
 - ▣ Individual Income Tax
 - ▣ Sales and Use Tax
 - ▣ Major Business Taxes
- No Alternative Scenarios for the Remaining Revenue Sources
 - ▣ Not fitting models using structural equations with a forecast from either MAK or S&P IHS Global
 - ▣ Best point estimates (e.g., Property Tax and Income on Investments)