



Revenue Business Cycle Report



EXECUTIVE SUMMARY

Each year, the Office of the Legislative Fiscal Analyst and the Governor's Office of Performance and Budget compare tax revenue projections with historical trends. Lawmakers then determine how to allocate the projected revenue depending on whether the revenue can be counted upon into the future or whether it might be anomalous. For FY 2023, when using a Hodrick-Prescott (HP) filter, combined General and Income Tax Fund projections are above trend by \$391 million, whereas FY 2024 projections are \$323 million below trend. When using a linear trend model, FY 2023 projections are expected to be \$994 million above trend, whereas FY 2024 projections are expected to be nearly \$585 million above trend. Federal funds for the same periods are expected to be about \$38 million above trend for FY 2023 and about \$175 million below trend for FY 2024 using the HP filter; using a linear trend model, federal receipts are expected to be \$802 million above trend in FY 2023 and \$946 million above trend in FY 2024. The FY 2024 numbers appearing to be below trend when using the HP filter is indicative of anomalously high collections in both state and federal funds over the last few years, due in large part to federal stimulus and strong market forces; notably, FY 2022 income tax was approximately \$1 billion above trend. These high collections have driven up the calculated trends, such that next year's "below trend" numbers are in fact a return to a long-term normal trend. As such, economists also included linear trend lines in all the graphs, which better account for the abnormally high collections in recent years.

ANALYSIS

UCA [36-12-13](#) and [63J-1-201](#), require an annual review of the 15-year revenue trends associated with major tax types. Specifically, statute requires: a projection of estimated revenues by major tax type; 15-year trends for each major tax type; estimated receipts of federal funds; and 15-year trends for federal funds receipts.

Consistent with prior versions of this report and based on historical revenue figures, economists this year again identified a revenue trend that could have been expected absent any business cycle. They did so using a 15-year time series of collections by tax type. In performing the analysis, analysts applied a Hodrick-Prescott (HP) filter to the data using a lambda value of 25. HP filters smooth variable data over time and may capture cycles better than straight-line trends, although anomalous years of collections may influence HP results more so than in linear trends. The lambda value determines how flat or wavy an HP trendline might be. Lower lambda values produce flatter lines. After performing both the HP method and linear trend models, economists then compared the trends to FY 2023 and FY 2024 consensus revenue estimates.

The current economic moment is a particularly vexing time to conduct a trend/cycle analysis. Over the past few years, Utah has experienced record-breaking revenue collections in nearly all major tax types, due to a variety of factors, including significant federal stimulus, shifts in consumption habits, and hot markets for both stocks and housing. Income tax alone in FY 2022 was approximately \$1 billion above trend, due to extremely high final payments resulting from stock and housing market gains. These aberrations are leading to larger-than-normal cycle components of the analysis. Additionally, as collections have remained higher for longer than expected, models begin to treat the higher numbers as a higher baseline, or trend, thus indicating that numbers more in line with long-term trends are "below trend," instead of merely returning to a more steady and consistent state. Thus, these results should be interpreted cautiously; assuming not all of these shifts are indeed structural and long-term, future iterations of this analysis will lead to a more normalized trend. In the meantime, economists included linear trend lines in each graph, which may better represent the true long-term trend during this time of economic uncertainty.

GENERAL AND INCOME TAX FUND REVENUE

Economists calculate that, using the HP filter, \$391 million of projections is above trend for FY 2023 and \$323 million of projected General and Income Tax Fund revenue is below trend for FY 2024¹. Using a linear trend model, FY 2023 collections are projected to be \$994 million above trend, and FY 2024 collections are projected to be \$585 million above trend.

Table 1 on page 2 summarizes HP filter trend and point estimates for each broad revenue source affecting the General and Income Tax Funds. Table 2 on page 3 summarizes the same information but using a linear trend model. Figure 1 on page 4 breaks down the cycle component of General and Income Tax Fund revenue by revenue type. Figures 2 through 11 provide a time-series view of select revenue types. In the line graphs, the purple lines depict the HP trend, whereas the red lines show actual or estimated revenue collections, and the red hashed lines show the linear trends. In the bar graphs, the bars capture the estimated trend component of the relevant point estimate.

TABLE 1: CYCLE/TREND USING HP FILTER

| Summary (millions \$) | | | | |
|--------------------------------|-------------------|------------------|-------------------|------------------|
| General Fund | FY 2023 Trend | FY 2023 Cycle | FY 2024 Trend | FY 2024 Cycle |
| Sales Tax (GF only) | \$3,151.5 | \$116.5 | \$3,399.1 | (\$9.1) |
| Cable Tax | \$26.7 | (\$0.5) | \$26.2 | (\$0.1) |
| Liquor Profits | \$139.6 | \$1.2 | \$145.3 | \$0.3 |
| Insurance Premiums | \$184.9 | \$3.7 | \$196.8 | (\$0.9) |
| Beer, Cigarette, and Tobacco | \$97.2 | (\$1.3) | \$93.7 | \$0.3 |
| Oil and Gas Severance | \$40.1 | \$18.3 | \$46.8 | \$3.0 |
| Metal Severance | \$8.4 | (\$0.8) | \$8.4 | \$0.8 |
| Investment Income | \$68.9 | \$26.2 | \$84.8 | \$17.8 |
| Other | \$104.2 | (\$7.0) | \$105.8 | (\$5.6) |
| Property/Energy Credit | (\$5.9) | (\$0.0) | (\$6.0) | \$0.0 |
| Subtotal | \$3,815.5 | \$156.2 | \$4,101.0 | \$6.5 |
| Income Tax Fund | | | | |
| Individual Income Tax | \$6,573.1 | \$207.9 | \$7,082.3 | (\$241.7) |
| Corporate Tax | \$786.4 | \$15.8 | \$848.3 | (\$89.4) |
| Mineral Production Withholding | \$42.7 | \$9.6 | \$48.5 | \$2.0 |
| Escheats & Other | \$38.4 | \$1.8 | \$41.0 | (\$0.1) |
| Subtotal | \$7,440.7 | \$235.0 | \$8,020.1 | (\$329.2) |
| Total, GF + ITF | \$11,256.2 | \$391.3 | \$12,121.0 | (\$322.7) |
| Federal Funds | \$7,576.1 | \$38.0 | \$8,235.6 | (\$174.5) |

¹ These figures do not include sales tax earmarks. To provide broader view, at the end of this report are two figures depicting the business cycle associated with total sales tax revenue.

TABLE 2: CYCLE/TREND USING LINEAR TREND

Summary (millions \$)

| General Fund | FY 2023 Trend | FY 2023 Cycle | FY 2024 Trend | FY 2024 Cycle |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Sales Tax (GF only) | \$2,955.6 | \$312.4 | \$3,092.7 | \$297.4 |
| Cable Tax | \$27.8 | (\$1.6) | \$27.8 | (\$1.8) |
| Liquor Profits | \$141.2 | (\$0.4) | \$147.4 | (\$1.8) |
| Insurance Premiums | \$178.9 | \$9.6 | \$187.9 | \$8.0 |
| Beer, Cigarette, and Tobacco | \$103.9 | (\$8.0) | \$103.3 | (\$9.2) |
| Oil and Gas Severance | \$28.0 | \$30.4 | \$25.6 | \$24.2 |
| Metal Severance | \$6.1 | \$1.5 | \$4.9 | \$4.3 |
| Investment Income | \$56.6 | \$38.5 | \$61.9 | \$40.6 |
| Other | \$102.2 | (\$5.1) | \$104.4 | (\$4.2) |
| Property/Energy Credit | (\$5.8) | (\$0.1) | (\$5.7) | (\$0.2) |
| Subtotal | \$3,594.6 | \$377.1 | \$3,750.2 | \$357.2 |
| Income Tax Fund | | | | |
| Individual Income Tax | \$6,254.0 | \$527.0 | \$6,612.1 | \$228.5 |
| Corporate Tax | \$732.5 | \$69.8 | \$776.2 | (\$17.4) |
| Mineral Production Withholding | \$36.2 | \$16.2 | \$37.4 | \$13.1 |
| Escheats & Other | \$36.2 | \$4.0 | \$37.5 | \$3.4 |
| Subtotal | \$7,058.8 | \$616.9 | \$7,463.2 | \$227.7 |
| Total, GF + ITF | \$10,653.4 | \$994.0 | \$11,213.4 | \$584.9 |
| Federal Funds | \$6,812.5 | \$801.6 | \$7,115.3 | \$945.7 |

FIGURE 1: REVENUE ABOVE OR BELOW TREND BY BROAD SOURCE FOR FY 2024 USING HP FILTER (THE CYCLE)

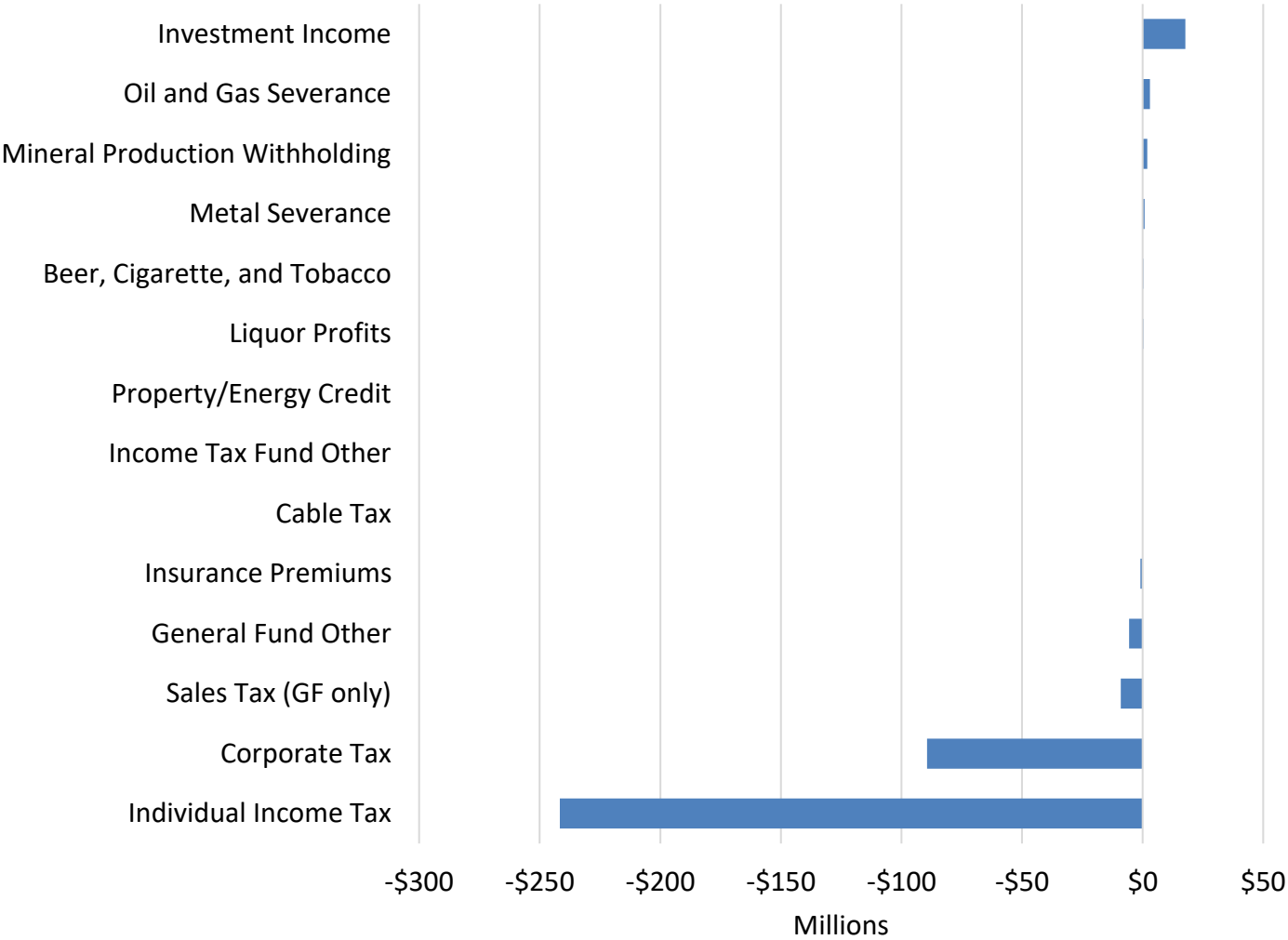


FIGURE 2: GF/ITF REVENUE HISTORY AND ASSOCIATED TREND

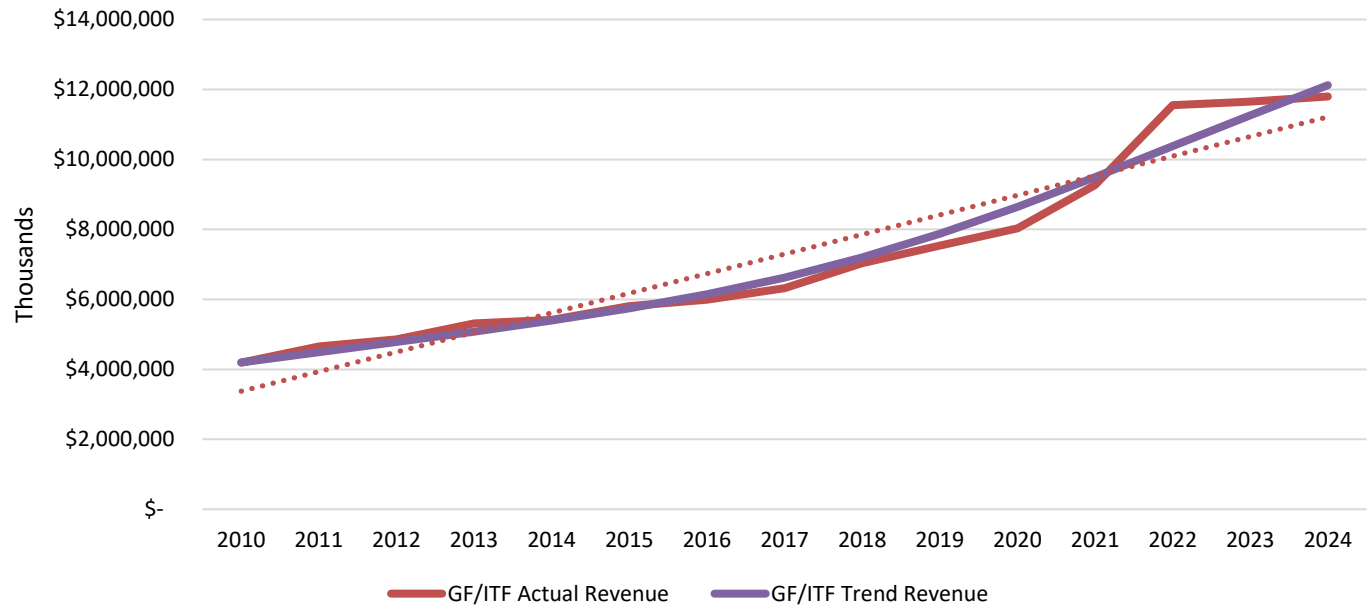


FIGURE 3: GF/ITF ABOVE/BELOW TREND REVENUE



The following Figures 4 and 5 captures the business cycle and trend of total sales tax revenue². The HP filter suggests that total sales tax will be \$168 million above trend in FY 2023 and \$18.5 million below trend in FY 2024. The linear trend model suggests that total sales tax will be \$419 million above trend in FY 2023 and \$375 million above trend in FY 2024.

FIGURE 4: TOTAL SALES TAX REVENUE HISTORY AND ASSOCIATED TREND

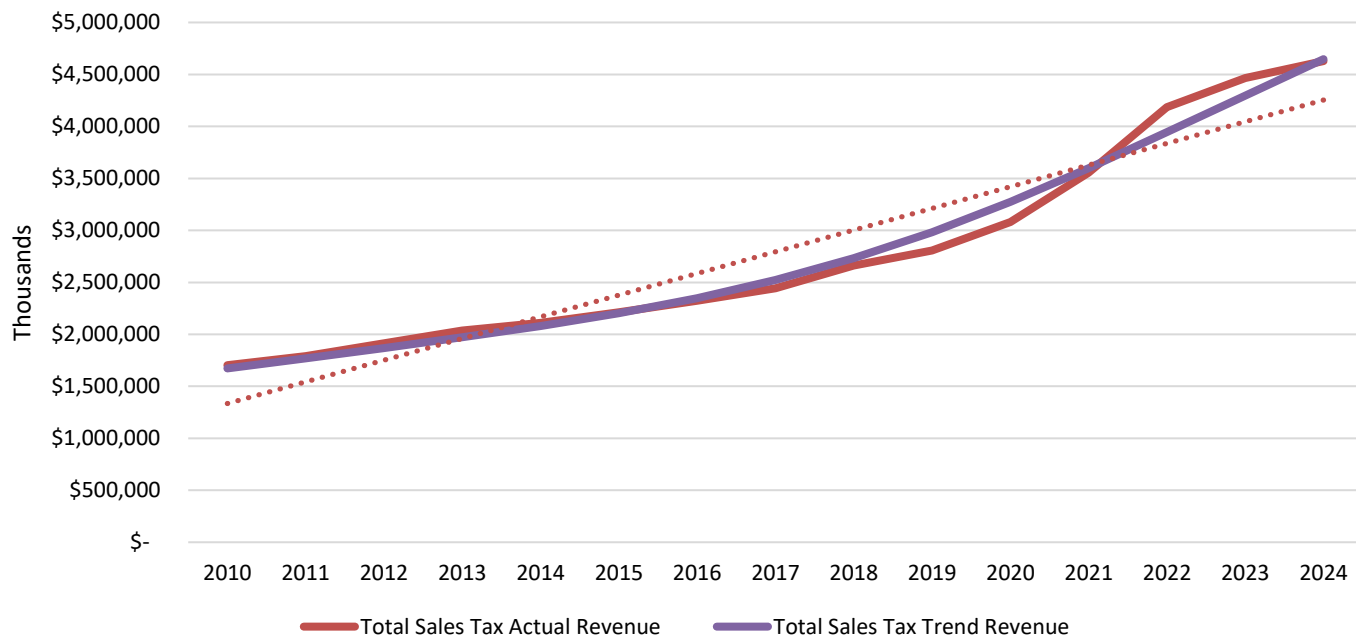
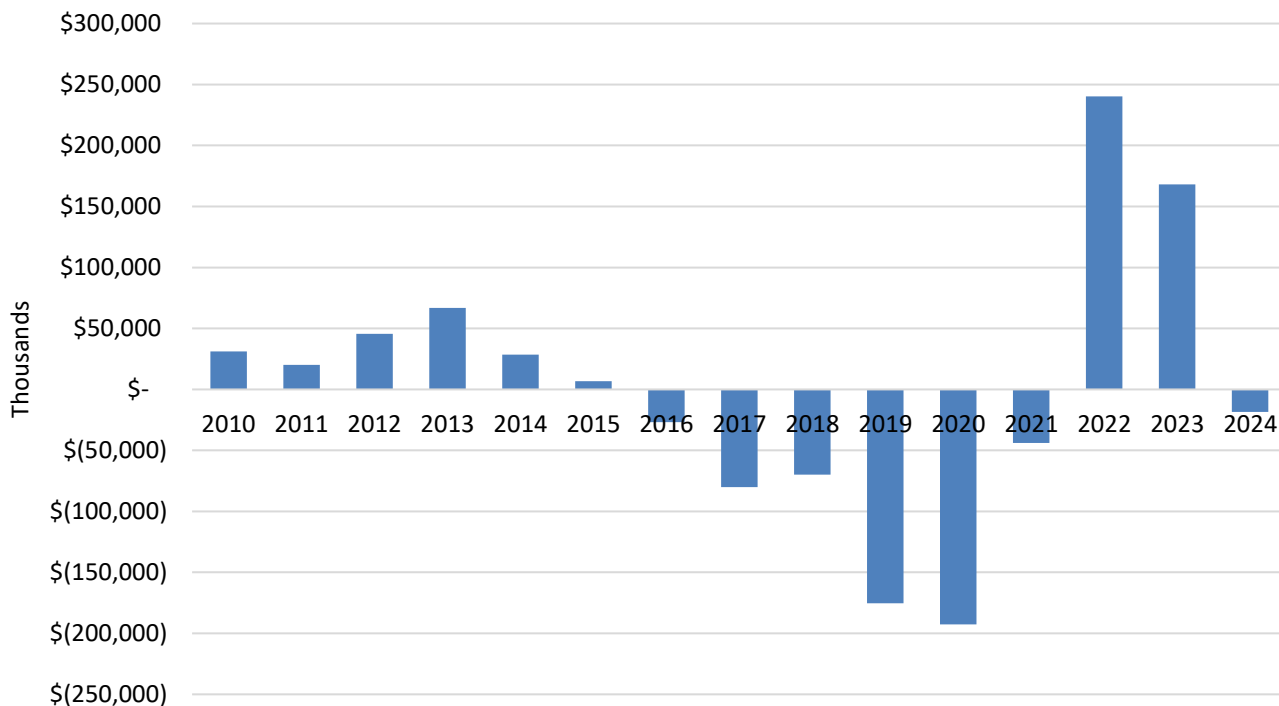


FIGURE 5: TOTAL SALES TAX ABOVE/BELOW TREND REVENUE



² Total sales tax means sales tax deposited in the General Fund and sales tax earmarks.

The following Figures 6 and 7 look at the business cycle associated with individual income tax. The FY 2020 and FY 2021 numbers are adjusted to account for the income tax filing shift. The HP filter suggests that individual income tax will be \$208 million above trend in FY 2023 and \$242 million below trend in FY 2024. The linear trend model suggests that individual income tax will be \$527 million above trend in FY 2023 and \$229 million above trend in FY 2024.

FIGURE 6: INDIVIDUAL INCOME TAX REVENUE HISTORY AND ASSOCIATED TREND

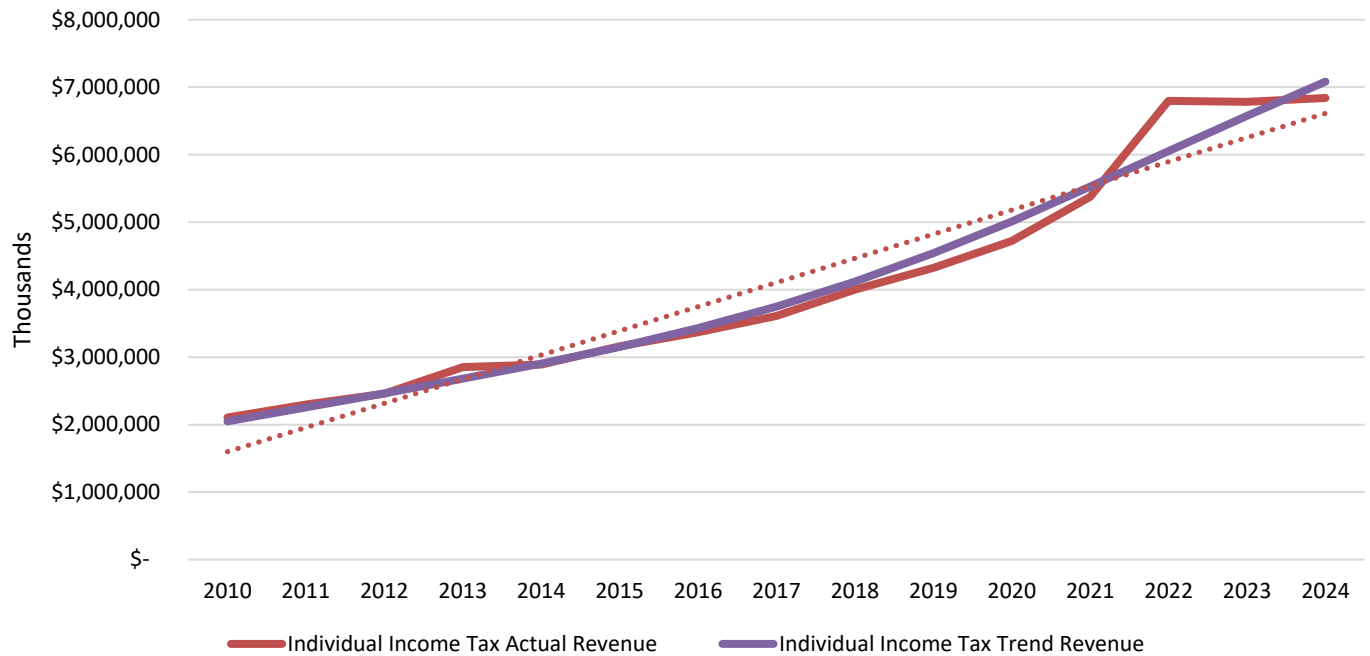
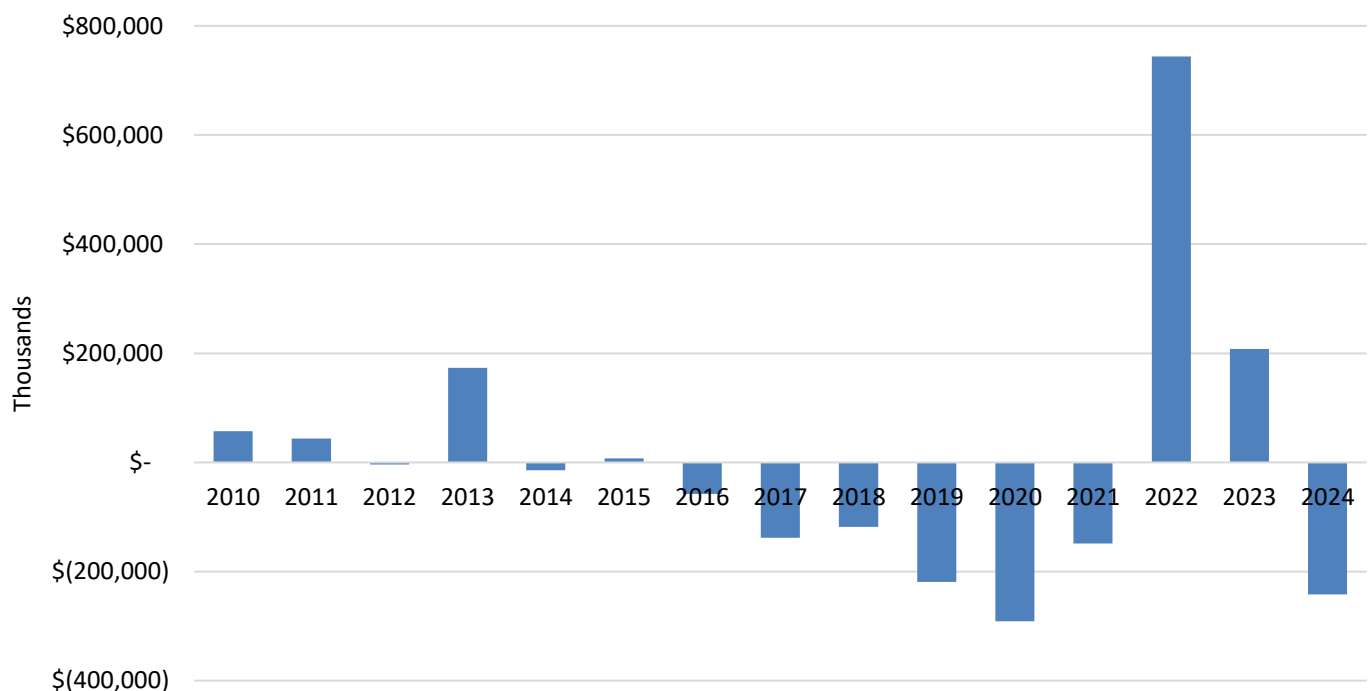


FIGURE 7: INDIVIDUAL INCOME TAX ABOVE/BELOW TREND REVENUE



The following Figures 8 and 9 look at the business cycle associated with corporate income tax. The FY 2020 and FY 2021 numbers are adjusted to account for the income tax filing shift. The HP filter suggests that corporate income tax will be \$15.8 million above trend in FY 2023 and \$89.4 million below trend in FY 2024. The linear trend model suggests that corporate income tax will be \$69.8 million above trend in FY 2023 and \$17.4 million below trend in FY 2024.

FIGURE 8: CORPORATE TAX REVENUE HISTORY AND ASSOCIATED TREND

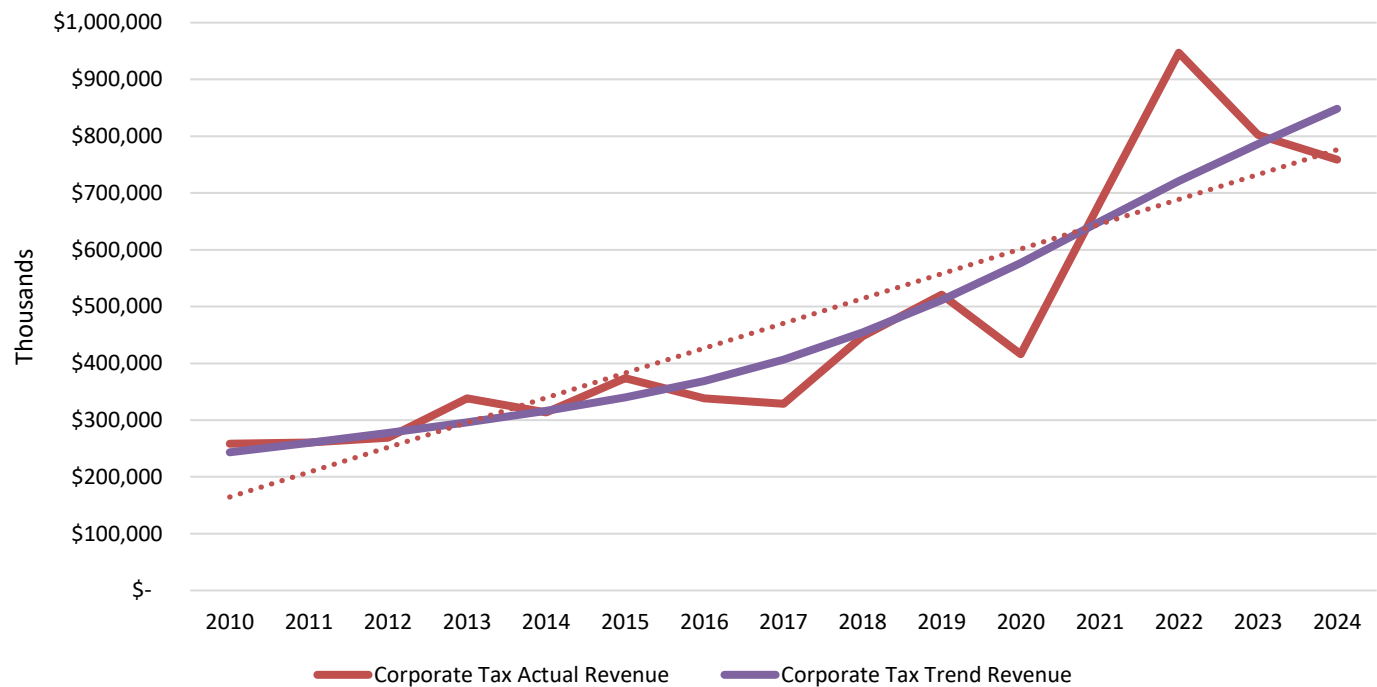
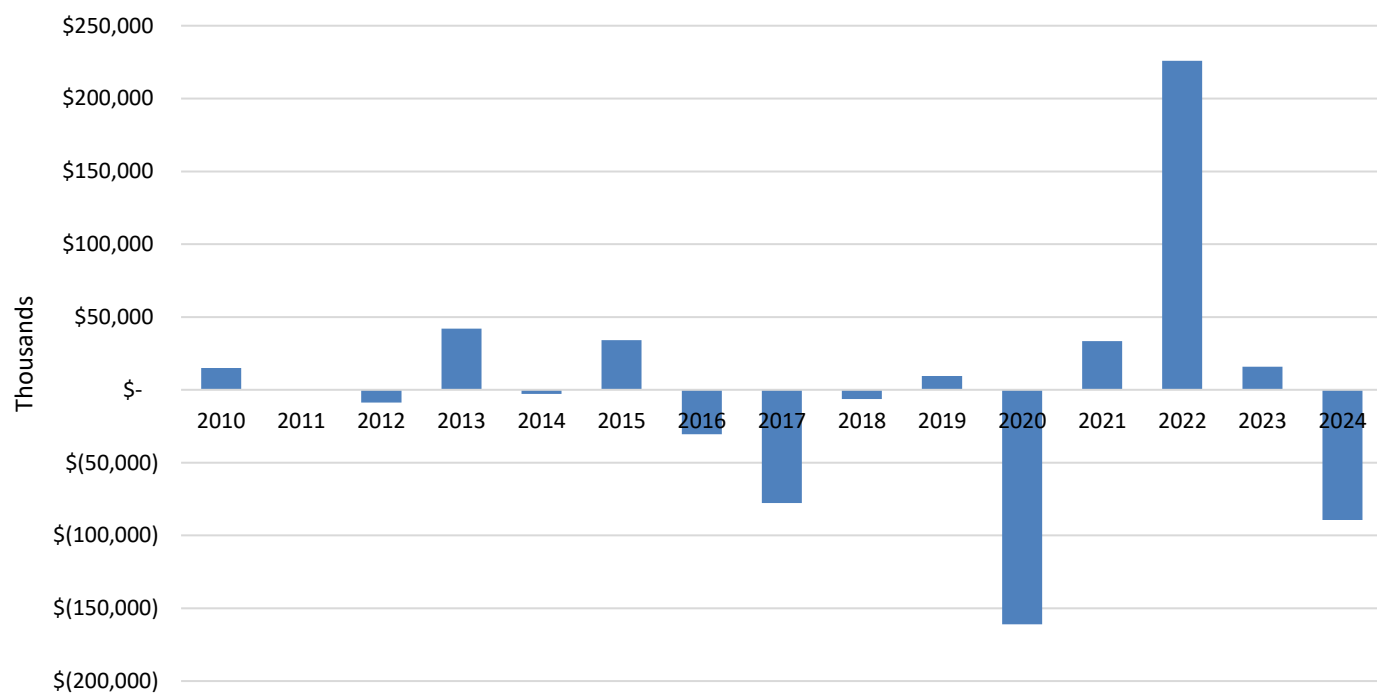


FIGURE 9: CORPORATE TAX ABOVE/BELOW TREND REVENUE



FEDERAL FUNDS

Statute ([UCA Section 63J-1-205](#)) also requires that the revenue volatility report consider federal funding included in the state budget and discuss any projected changes in the amount or value of federal funding.

In FY 2024, Utah is expected to receive approximately \$8.1 billion in federal funds, which is approximately 29% of the total budget. Major programs funded by federal funds include Medicaid (\$3.7 billion in FY 2023), public education programs and school lunches (\$904 million in FY 2023), transportation projects (\$510 million in FY 2023), the Supplemental Nutrition Assistance Program (\$416 million in FY 2023), and Temporary Assistance for Needy Families (\$71 million in FY 2023).

While the concept of normalizing and evaluating funding flows against 15-year trends has been statutorily popularized in recent years, it is difficult to estimate changes in federal funding with precision because it is uncertain what actions Congress will take with the federal budget or exactly how entitlement programs will respond to changes in the economy. Additionally, anomalies in federal funding, such as the sharp increase in federal funds in FY 2020 and FY 2021 due to the COVID-19 pandemic, can have dramatic effects on trendlines. Senate Bill 209, “Budgeting Revisions,” of the 2017 General Session requires the Governor’s proposed budget to the Legislature to include a projection of 15-year trends of federal funds receipts. Numerous statistically acceptable methods for calculating the trend of a time-series exist and final “over/under” trend determinations are very sensitive to the methods selected. When using a Hodrick-Prescott filter to decompose the 15-year timeseries of federal funds, it is estimated that Utah’s receipt of federal funds in FY 2023 will be about \$38 million above trend and about \$175 million below trend in FY 2024. As discussed previously, the sensitivity of the Hodrick-Prescott model begins to pick up on the anomalous increases in federal funding in FY 2020 and FY 2021, thus indicating that FY 2024 federal fund receipts, which will likely begin to normalize, will be below the now-inflated trend. When using a linear trend, the model estimates that federal funds revenue in FY 2023 will be \$802 million above trend and FY 2024 receipts will be \$946 million above trend.

The following Figures 10 and 11 look at the business cycle associated with federal funds.

FIGURE 10: FEDERAL FUNDS REVENUE HISTORY AND ASSOCIATED TREND

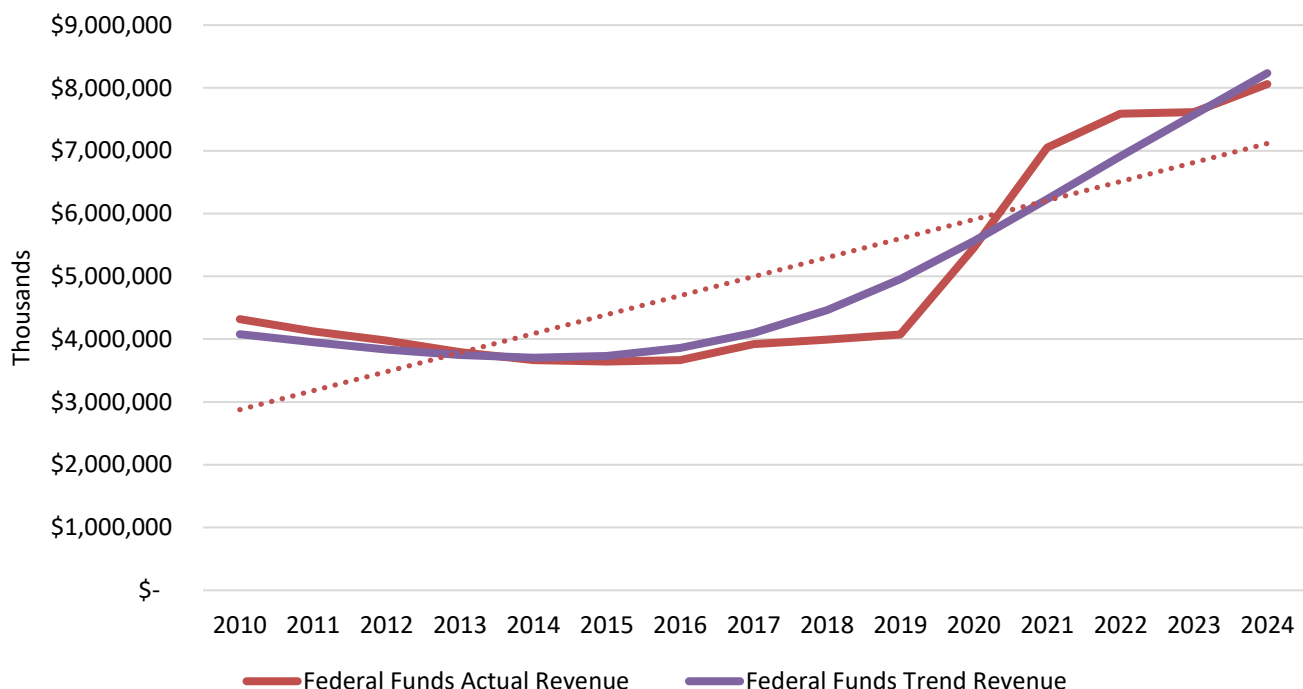


FIGURE 11: FEDERAL FUNDS ABOVE/BELOW TREND REVENUE

