



Revenue Business Cycle Report

Office of the Legislative Fiscal Analyst | Governor's Office of Planning and Budget

Executive Summary

Each year, the Office of the Legislative Fiscal Analyst and the Governor's Office of Planning 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. During our analysis, we use two primary statistical models, the Hodrick-Prescott (HP) filter and a linear trend model. The HP filter removes cyclical business components in data to create a smoothed trend curve; however, this smoothing is sensitive to short-term fluctuations in the data which, in our case, means that we are shown far below the trend line due to higher-than-normal collections over the past couple years. In order to account for this, we also run linear models that are less sensitive to short-term effects and thus more realistic to what our expectations are.

For FY 2025, when using the HP filter, combined General and Income Tax Fund projections are below trend by \$359 million with FY 2026 projection being below trend by \$418.7 million. When using a linear trend model, FY 2025 projections are above trend by \$260 million with FY 2026 projections being above trend by \$128.2 million. For Federal Funds, the HP Filter FY 2025 projections are below trend by \$649.1 million and the FY 2026 projects are below trend by \$666.7 million. The Linear Model has FY 2025 Federal Funds projects below trend by \$161.4 million while the FY 2026 projections are below trend by \$398.9 million.

The FY 2025 and FY 2026 numbers appearing, on average, 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 changing consumer behavior related to the pandemic. 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 and by applying both a Hodrick-Prescott filter as well as finding each tax type's linear trend. This year, economists updated their analysis by applying a one-sided Hodrick-Prescott (HP) filter to the data, without the two consensus revenue estimate years included, using a lambda value of 100, then they forecasted the HP filter's trend two years forward. Previous years, economists used a two-sided HP filter with a lambda of 25 on data that included the 2 consensus revenue estimate years.



This new method of analysis should provide a more accurate trend as well as a more accurate comparison between the consensus estimates and the trend because the consensus estimates is not biasing the HP trend. 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. Higher lambda values produce flatter lines. After performing both the HP method and linear trend models, economists then compared the trends to FY 2025 and FY 2026 consensus revenue estimates.

The current economic environment 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. These aberrations are leading to larger-than-normal cycle components of the analysis, specifically effecting the Hodrick-Prescott filter's ability to track trends. A great example of these shifts affecting the HP filter's ability to track trends is the rate cuts on Income Tax. Both FY 2025 and FY 2026 are projected to be under trend, and part of that is because the HP filter is not accounting for the rate cuts from the last couple years. Additionally, as collections have remained higher, models begin to treat the higher numbers as a higher baseline, or trend, thus indicating that as we return to more normal growth and numbers are more in line with long-term trends, they are likely to be considered "below trend," instead of merely returning to a steady and consistent state. Thus, these results should be interpreted cautiously; assuming not all 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. However, it should be noted that linear trends may fail to capture structural changes and level shifts to the economy that occurred over the past few years, and therefore may not capture the true picture of where revenue would be in a sustainably growing economy. In reality, both the HP filter and the linear trends are just equations applied to the available revenue data and are thus only capturing part of the picture; however, working in tandem they can help inform whether economic shift are structural or consequence of the unique economic times.

General and Income Tax Fund Revenue

Economists calculate that, using an HP filter, FY 2025 General and Income Tax Fund projections are \$359 million under trend with FY 2026 projections at \$418.7 million under trend. Using a linear trend model, FY 2025 collections are projected to be \$260 million above trend and FY 2026 collections at \$128.2 million above trend.

Table 1 on page 3 summarizes HP filter trend and point estimates for each broad revenue source affecting the General and Income Tax Funds. Table 2 on page 4 summarizes the same information but using a linear trend model. Figure 1 and Figure 2 on page 5 break down the cycle component of General and Income Tax Fund revenue by revenue type with Figure 1



focusing on HP filter projections and Figure 2 focusing on linear model projections. Figures 3 through 12 provide a time-series view of select revenue types. In the line graphs, the yellow lines depict the HP trend, the green lines show actual and estimated revenue collections, and the gray lines show the linear trends.

Table 1: Cycle/Trend Summary Using HP Filter (millions \$)

General Fund	FY 2025 Trend	FY 2025 Cycle	FY 2026 Trend	FY 2026 Cycle
Sales tax (GF only)	\$3,248.1	\$140.5	\$3,248.1 ¹	(\$102.0)
Cable tax	\$24.2	(\$4.2)	\$24.2	\$2.1
Liquor profits	\$141.2	(\$10.9)	\$149.1	(\$4.8)
Insurance premiums	\$210.3	\$14.7	\$220.4	(\$22.3)
Beer, cigarette, and tobacco	\$94.4	(\$10.3)	\$94.4	\$12.8
Oil and gas severance	\$28.0	\$7.1	\$29.1	\$7.0
Metal severance	\$6.0	\$1.9	\$6.0	\$2.2
Investment income	\$203.9	(\$19.2)	\$216.5	(\$90.1)
Other	\$92.1	\$23.5	\$92.6	\$25.0
Property/energy credit	(\$6.4)	(\$1.1)	(\$6.4)	(\$1.2)
Subtotal	\$4,041.6	\$142.0	\$4,073.8	\$176.7
Income Tax Fund				
Individual income tax	\$6,921.9	(\$453.1)	\$7,269.0	(\$494.1)
Corporate tax	\$942.9	(\$68.4)	\$998.0	(\$111.2)
Mineral production withholding	\$50.5	\$5.6	\$50.3	\$7.7
Escheats & other	\$79.9	\$14.9	\$83.8	\$2.1
Subtotal	\$7,995.1	(\$501.0)	\$8,401.1	(\$595.5)
Total, GF + ITF	\$12,036.7	(\$359.0)	\$12,474.9	(\$418.7)
Federal Funds	\$7,490.8	(\$649.1)	\$7,526.9	(\$666.7)

¹ The Sales Tax HP Filter varies by only a couple thousand dollars. This number is in millions, so the variation is lost



Table 2: Cycle/Trend Summary Using Linear Trend (millions \$)

General Fund	FY 2025 Trend	FY 2025 Cycle	FY 2026 Trend	FY 2026 Cycle
Sales tax (GF only)	\$3,146.1	\$242.5	\$3,270.2	(\$124.1)
Cable tax	\$26.3	(\$6.3)	\$26.3	\$0.1
Liquor profits	\$144.2	(\$14.0)	\$149.5	(\$5.3)
Insurance premiums	\$198.0	\$26.9	\$206.7	(\$8.7)
Beer, cigarette, and tobacco	\$107.1	(\$23.1)	\$107.5	(\$0.4)
Oil and gas severance	\$16.9	\$18.2	\$13.8	\$22.3
Metal severance	\$3.8	\$4.1	\$2.7	\$5.5
Investment income	\$134.8	\$49.9	\$145.6	(\$19.2)
Other	\$90.8	\$24.8	\$92.8	\$24.8
Property/energy credit	(\$6.1)	(\$1.4)	(\$6.1)	(\$1.5)
Subtotal	\$3,862.0	\$321.6	\$4,009.0	\$241.6
Income Tax Fund				
Individual income tax	\$6,600.3	(\$131.5)	\$6,914.1	(\$139.2)
Corporate tax	\$849.4	\$25.1	\$894.2	(\$7.4)
Mineral production withholding	\$41.4	\$14.7	\$42.7	\$15.3
Escheats & other	\$64.5	\$30.2	\$68.1	\$17.8
Subtotal	\$7,555.6	(\$61.5)	\$7,919.1	(\$113.5)
Total, GF + ITF	\$11,417.6	\$260.0	\$11,928.0	\$128.2
Federal Funds	\$7,003.1	(\$161.4)	\$7,259.1	(\$398.9)



Figure 1: Revenue Above or Below Tend by Source for FY 2025 using HP Filter

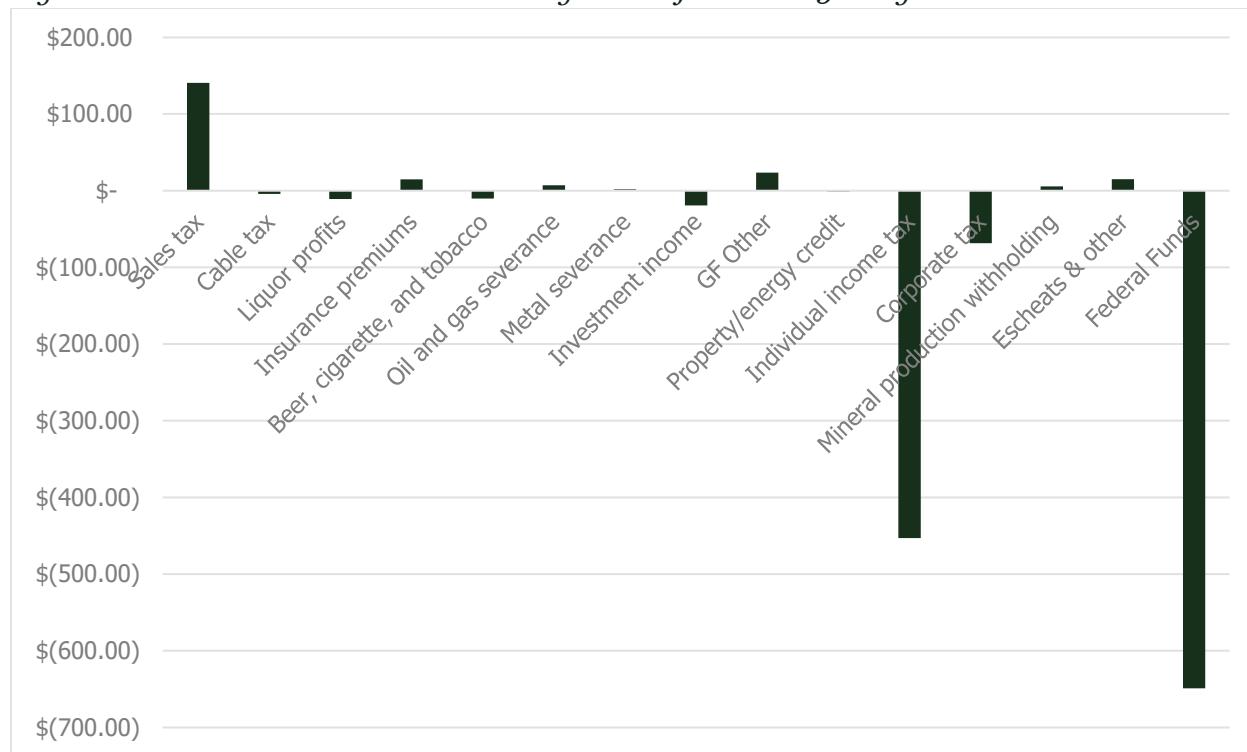


Figure 2: Revenue Above or Below Tend by Source for FY 2025 using Linear Trend Model

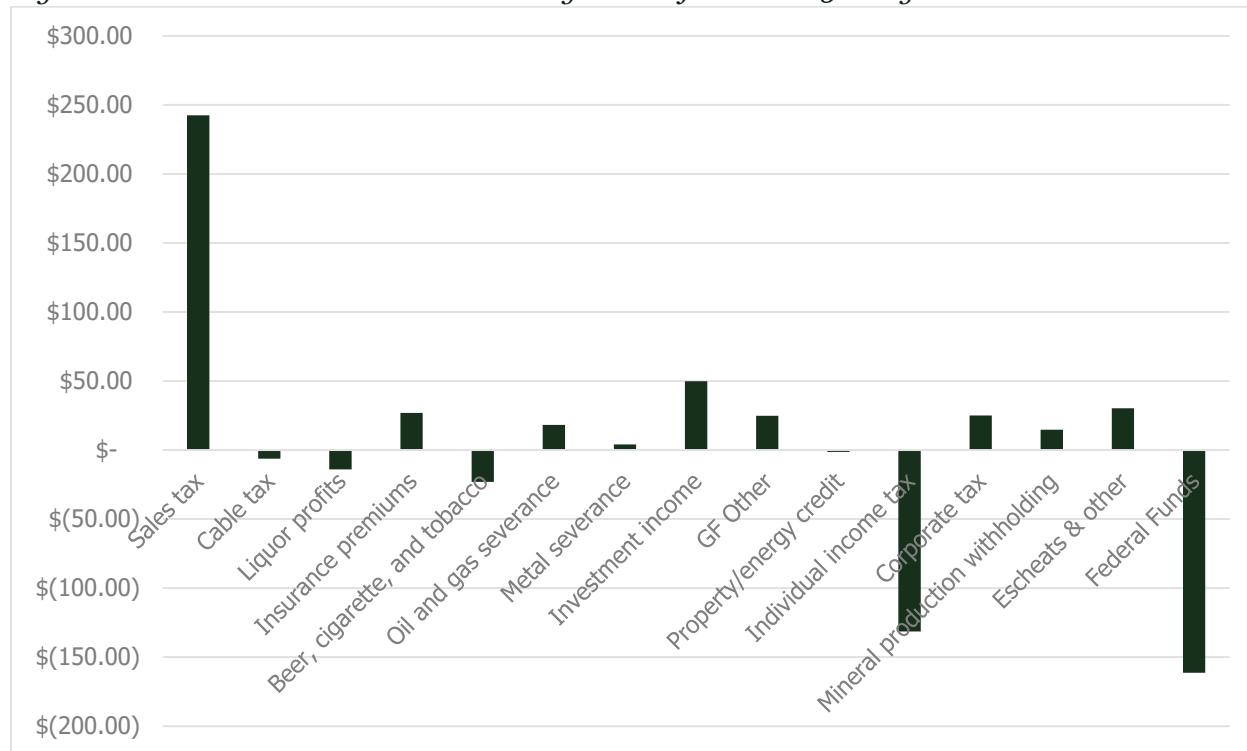




Figure 3: GF/ITF Revenue History and Associated Trend

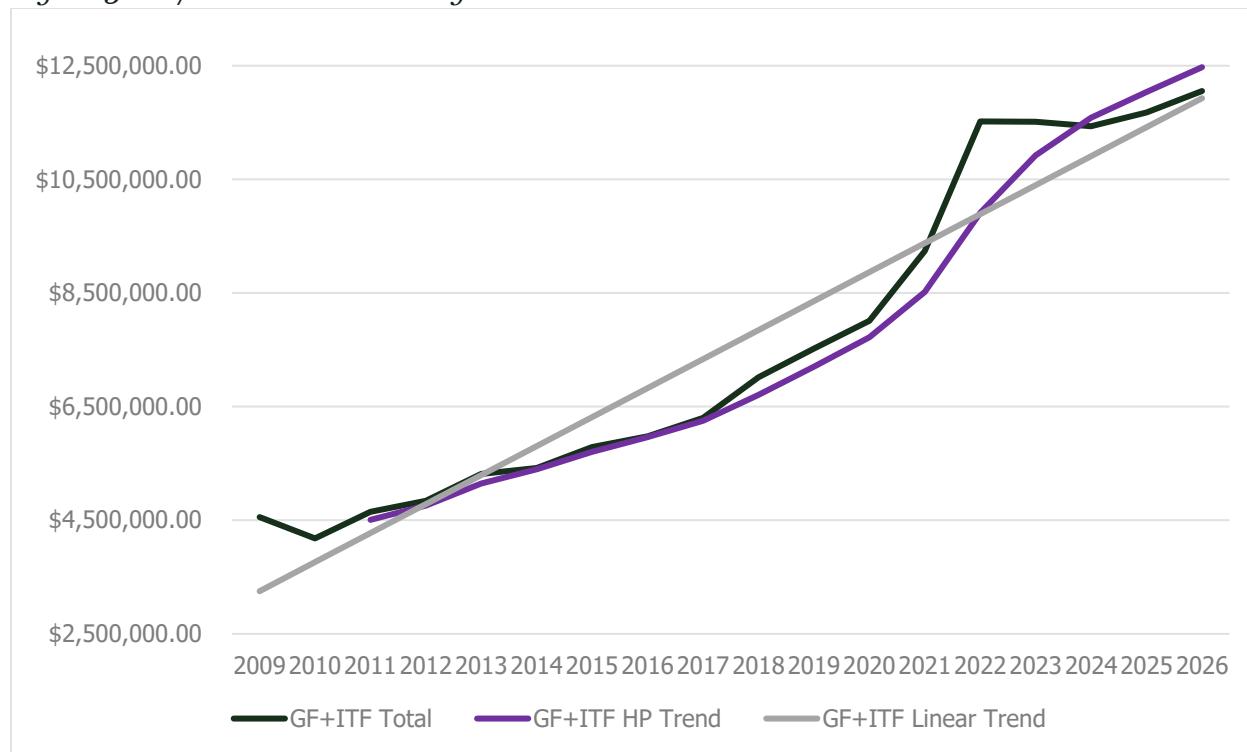


Figure 4: GF Revenue History and Associated Trend

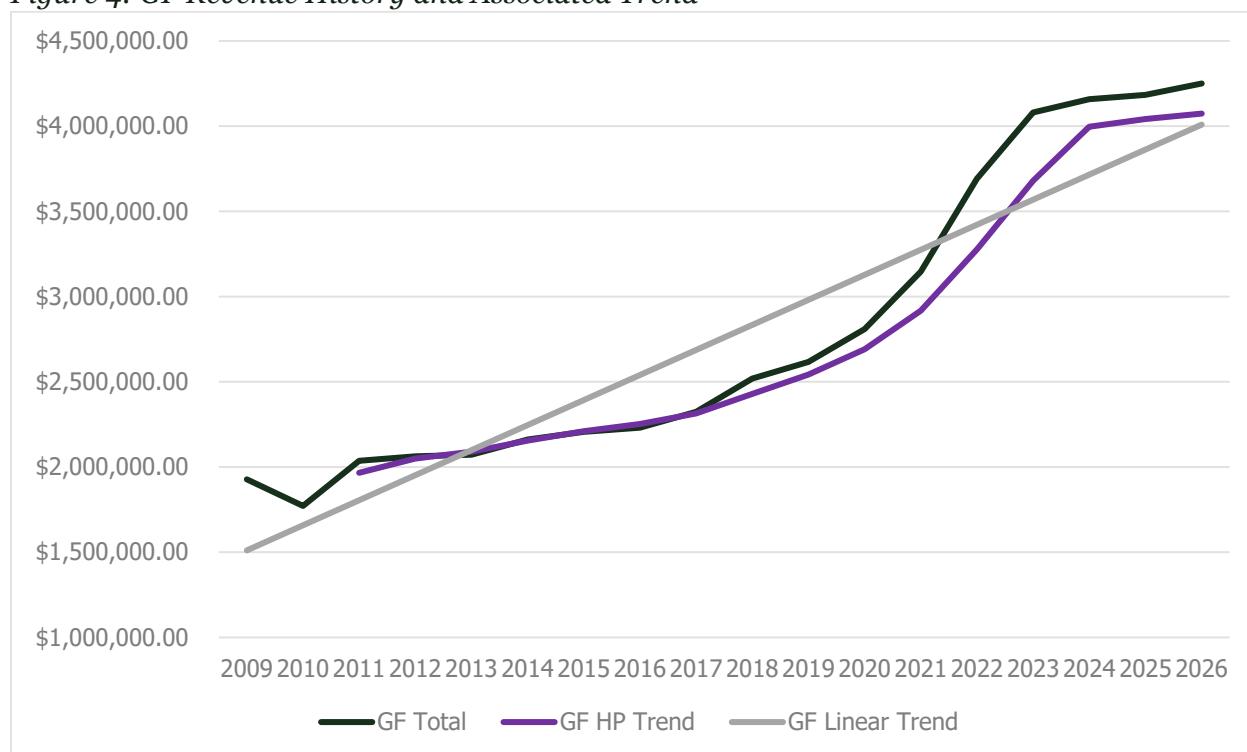




Figure 5: ITF Revenue History and Associated Trend

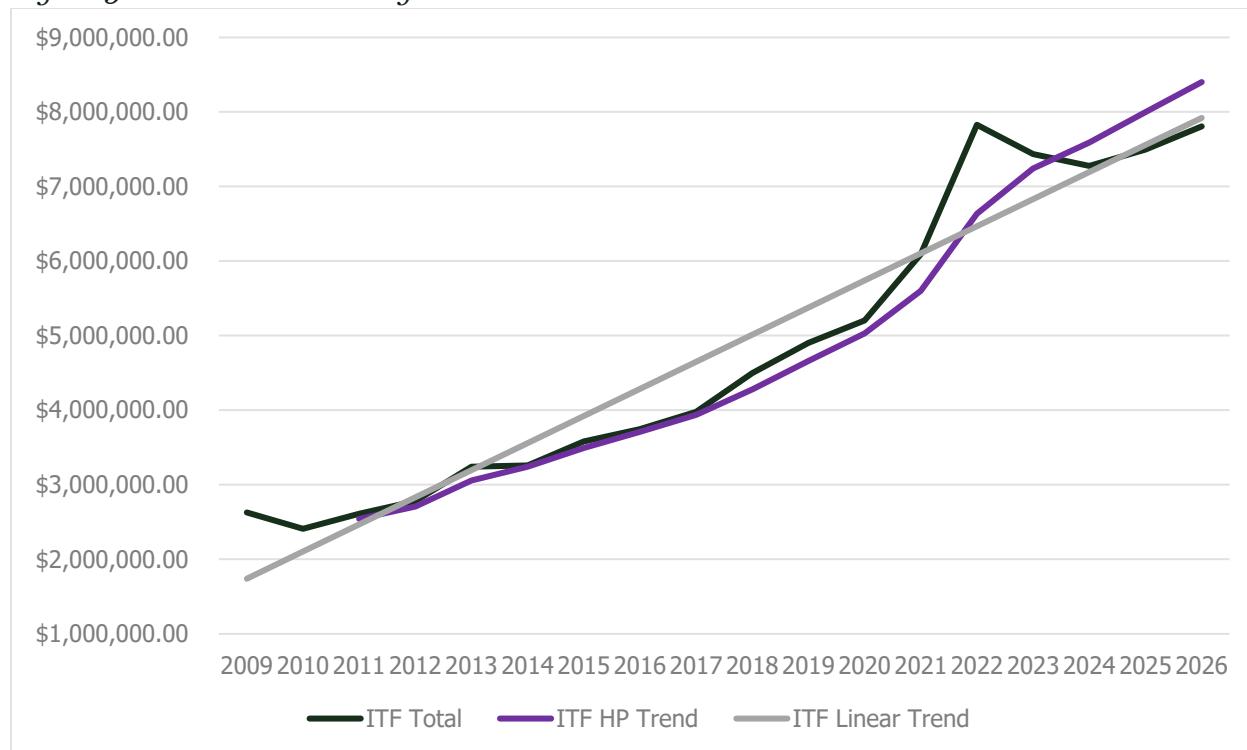
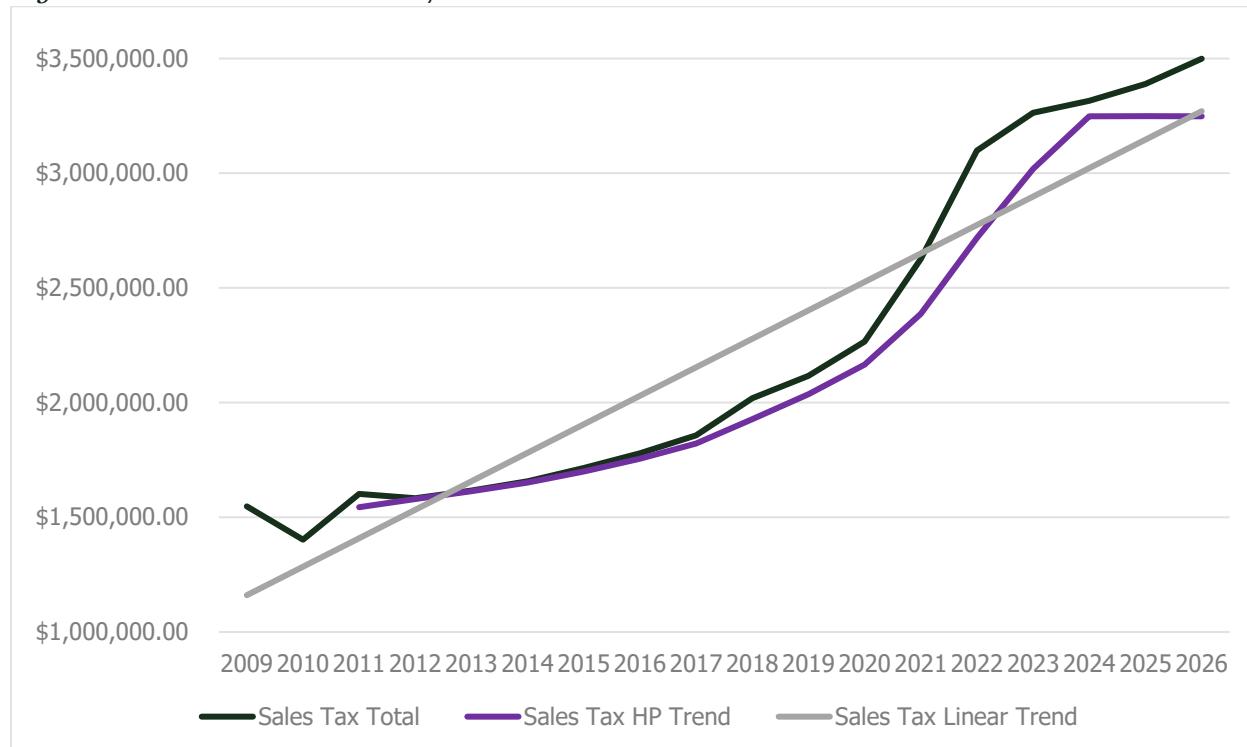




Figure 6 captures the business cycle and trend of sales tax revenue². The HP filter suggests that sales tax will be \$140.5 million above trend in FY 2025 and \$102 million below trend in FY 2026. The linear trend model suggests that sales tax will be \$242.5 million above trend in FY 2025 and \$124.1 million below trend in FY 2026.

Figure 6: Total Sales Tax Above/Below Trend Revenue



² Unrestricted Sales Tax Revenue deposited into the GF after earmarks



Figure 7 captures 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 \$453.1 million below trend in FY 2025 and \$494.1 million below trend in FY 2026. The linear trend model suggests that individual income tax will be \$131.5 million below trend in FY 2025 and \$139.2 million below trend in FY 2026.

Figure 7: Individual Income Tax Revenue History and Associated Trend

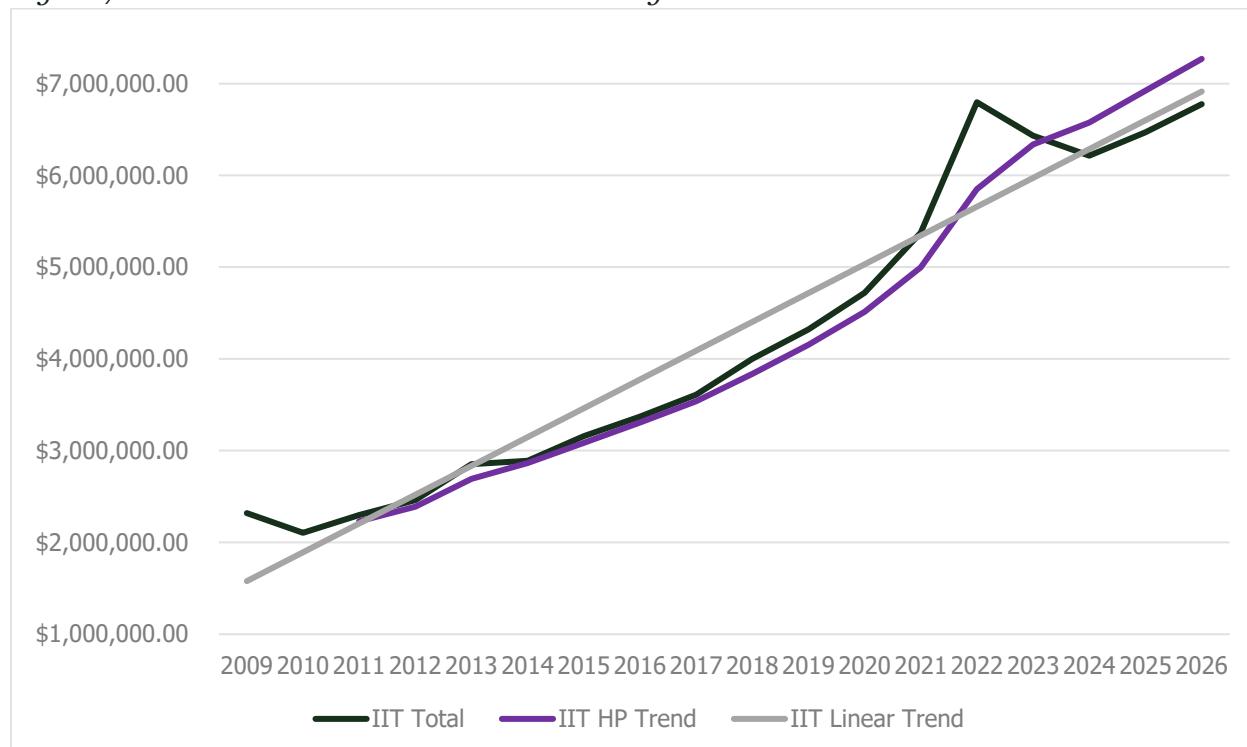
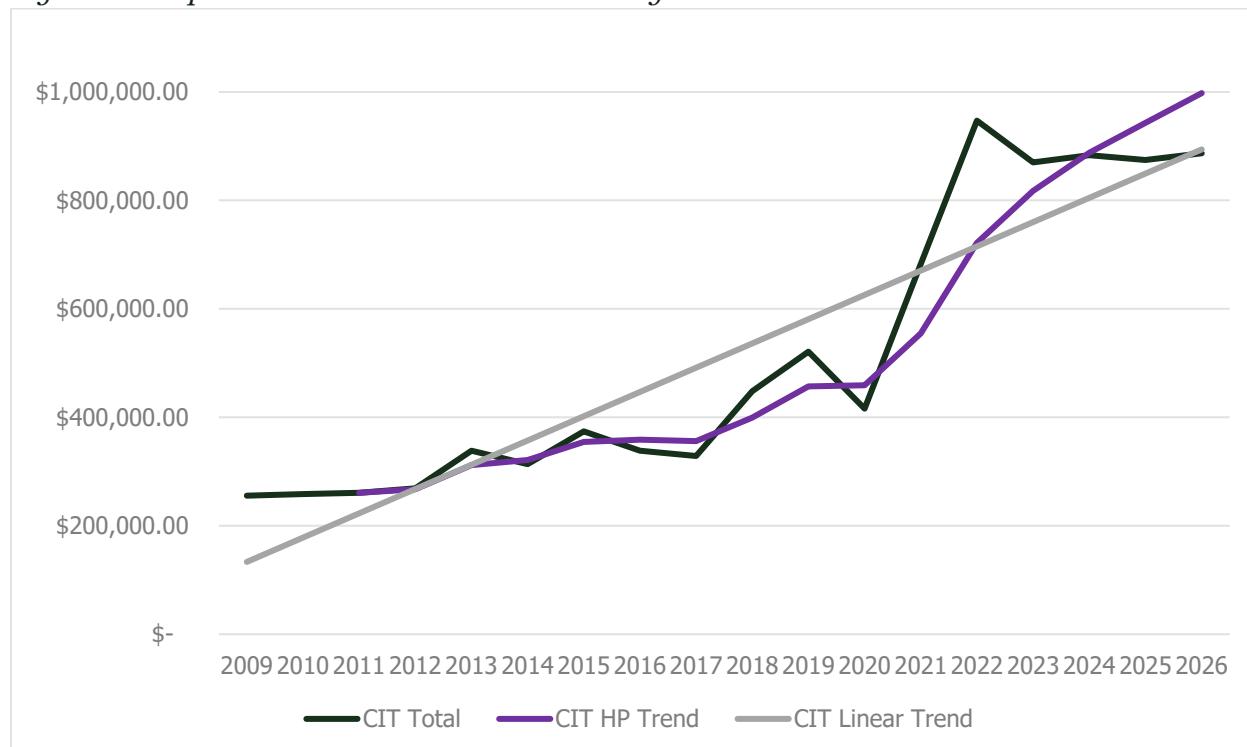




Figure 8 captures the business cycle associated with corporate income tax. The FY 2020 and FY 2021 numbers are adjusted to account for the income tax filing shift. The HP filter suggests that corporate income tax will be \$68.4 million below trend in FY 2025 and \$111.2 million below trend in FY 2026. The linear trend model suggests that corporate income tax will be \$25.1 million above trend in FY 2025 and \$7.4 million below trend in FY 2026.

Figure 8: Corporate Income Tax Revenue History and Associated Trend





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 2025, Utah is expected to receive approximately \$6.8 billion in federal funds, and in FY 2026, Utah is expected to receive approximately \$6.86 billion in federal funds. Major programs funded by federal funds include Medicaid, public education programs and school lunches, transportation projects, the Supplemental Nutrition Assistance Program, and Temporary Assistance for Needy Families.

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 federal programs will respond to changes in the economy. When using a Hodrick-Prescott filter, it is estimated that Utah's receipt of federal funds in FY 2025 will be about \$649.1 million below trend and about \$666.7 million below trend in FY 2026. 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 2025 and FY 2026 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 FY 2025 will be \$161.4 million below trend and about \$398.9 million below trend in FY 2026. Figures 9 captures the business cycle associated with federal funds.

Figure 9: Federal Funds Revenue History and Associated Trend

