FY 2024 Revenue Volatility Report

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

Summary

The State of Utah sets rainy-day fund balance targets based upon revenue volatility. Volatility in both the General Fund and Income Tax Fund (Education Fund in the previous report) appeared to decrease as our economy grew steadily between 2017 and 2020. However, it has since increased due first to the COVID-19 pandemic and the resultant sharp but short economic downturn, then to policy interventions and the resultant extraordinary recovery and expansion that has ensued. Analysts anticipate the unusual circumstances that brought about this increased volatility will not remain ongoing and that it will decrease again.

As such, we recommend no changes to current rainy-day fund targets. Similarly, federal fund receipts' volatility has been heightened as well over the past three years. Such federal support is intended as countercyclical and as such should not influence rainy-day fund levels. Since the last volatility report in 2020, the legislature has made adequate progress toward reaching balance targets through appropriated deposits. As such, we do not recommend additional deposit mechanisms in this report.

Volatility of Major Revenue Sources

The State of Utah's two major revenue sources are the individual income tax and the state sales and use tax. The individual income tax ($6.43 billion in FY 2023), the primary revenue source for the Income Tax Fund ($7.43 billion in FY 2023), tends to be more volatile than the sales and use tax ($4.46 billion, including $1.19 billion in earmarks in FY 2023), the primary revenue source for the General Fund ($4.10 billion excluding earmarks in FY 2023). Of the state's other tax revenue sources, corporate taxes and severance taxes tend to be the most volatile, while excise taxes on gasoline, alcohol, cigarettes and tobacco, multichannel audio and video services, and insurance premiums are relatively more stable.

Volatility within Utah's General Fund and Income Tax Fund revenue sources is significantly correlated with the state's economic performance and the business cycle. Prior to the COVID-19 pandemic, volatility in both primary revenue sources was decreasing. The 2017 volatility report found that the state's aggregate revenue sources were becoming less volatile, and growth in General Fund and Income Tax Fund revenue sources generally approximated long-run averages the following years until the onset of the pandemic. With the arrival of COVID, the various government interventions in response, the brief but deep recession, and then the ensuing recovery and expansion, the last three years have reintroduced higher volatility into both revenue streams. However, the average percentage error in both major funds remains below the statutory reserve targets, and the current outlook, after a period of extremes, is for much more modest levels of variance.

Rainy-Day Funds

Budget reserve accounts (or "rainy-day funds") exist to provide flexibility in dealing with a revenue decline.

As of FY 2023 year-end transfers, the combined balance of the two main budget reserve accounts (General Fund Budget Reserve and Education Fund Budget Reserve) is $1.19 billion.

This amount corresponds to 10.2% of General Fund and Income Tax Fund appropriations for FY 2023. In addition, funds are set aside for Medicaid cost growth ($114 million), Disaster Recovery ($79 million) and Wildland Fire Suppression ($70 million). These accounts also receive year-end surplus transfers like other budget reserve accounts.

Tools for Managing the State Budget

The state has many tools for managing the budget, not just the rainy-day funds. These tools include the structure of the revenue system itself, the revenue estimating process, the revenue monitoring process, one-time solutions including non-lapsing balances, restricted fund balances, and deferrals; as well as ongoing "working rainy-day funds" through the capital budgeting process, revenue increases, and budget reprioritization. Balances in Utah's primary budget reserve accounts should be evaluated in the context of the state's entire fiscal toolkit and the major findings of the most recent stress testing analysis; for this reason, we include a discussion of stress testing buffers in this document.

Based on the results of the 2022 budget stress test, Utah's total budgetary reserves are sufficient to weather a severely adverse economic recession. Additionally, these reserves have been made even more sufficient to weather potential volatility since the stress test was conducted as a result of legislative action taken during the 2023 General Session.

Recommendations

LFA and GOPB recommend that the current automatic year-end surplus transfer targets of 11% of Income Tax Fund appropriations and 9% of General Fund appropriations are sufficient for the automatic transfer process. Because these automatic transfer targets are percentage-based, the dollar amount of the targets increases over time as appropriations increase, meaning the budget reserve accounts should continue to grow over time as year-end surpluses occur; this is precisely what has occurred since the last update to this report.

Though many sources of funding have been more volatile over the past three years, the circumstances which resulted in this heightened volatility are not anticipated to recur during the current forecast horizon. Regarding federal receipts, we do not recommend changing rainy-day fund targets for changes in federal fund volatility. These federal resources are intentionally volatile – acting as counter-cyclical interventions to stimulate a flagging economy. Finally, as policymakers have made significant progress toward hitting rainy-day fund balance targets in the last three years, we do not recommend additional deposit mechanisms in this report.

To the extent that policymakers desire to increase budget reserve account levels above the existing statutory percentages, they may continue to appropriate additional funds to budget reserve accounts.

I. Analysis

Statute (UCA Section 63J-1-205) requires the Legislative Fiscal Analyst and the Governor's Office of Planning and Budget to (a) prepare a revenue volatility report every three years meeting certain conditions, (b) identify the balances in two of the state's rainy-day funds, and (c) make recommendations on automatic transfers to the state's budget reserve accounts. Understanding fluctuations in the state's major revenue sources and the causes of revenue variability can benefit policymakers as they make budget and tax decisions.

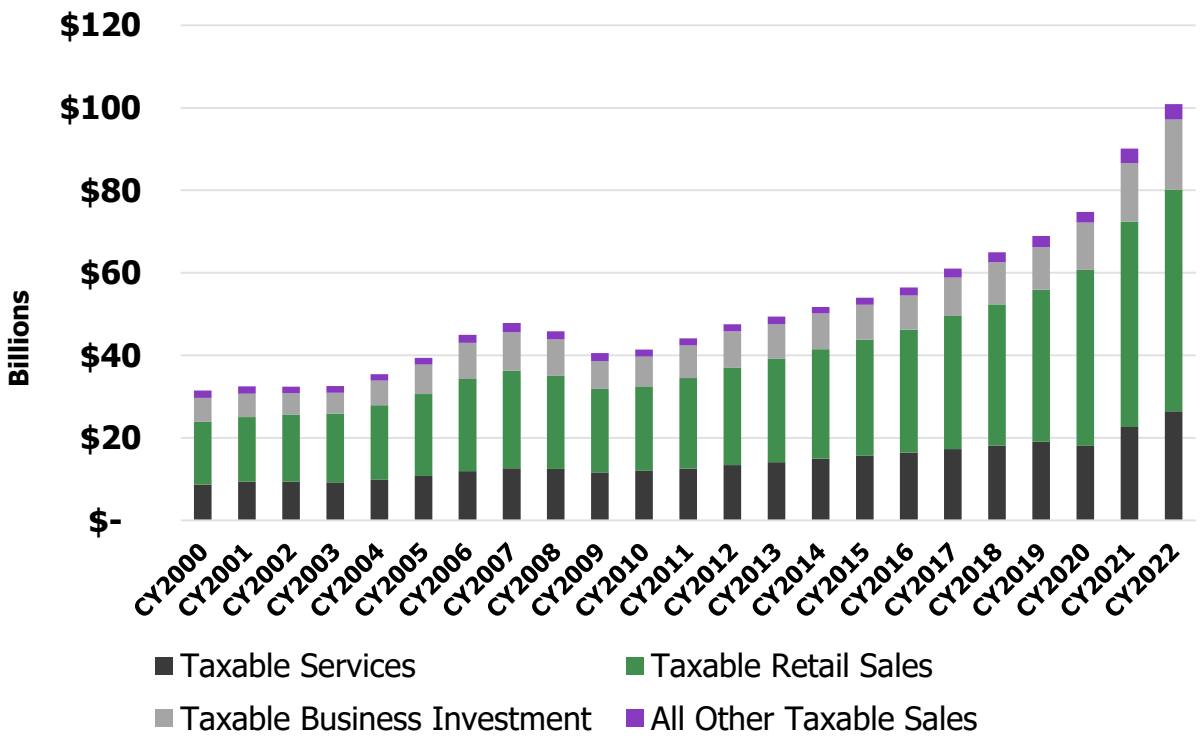
This report (a) highlights the volatility existing in the state's major revenue sources, (b) examines the causes of the volatility, (c) examines the state's budget management tools, and (d) explains the recommendation to maintain automatic year-end surplus transfers at the current percentages of appropriations.

Tax Base

For the purposes of this report, Utah's tax bases are the total amount of income or sales that are subject to sales and income taxes in Utah.

In FY 2024, the total sales tax base is estimated to be $102.3 billion.

FIGURE 1
Taxable Sales Base by Category

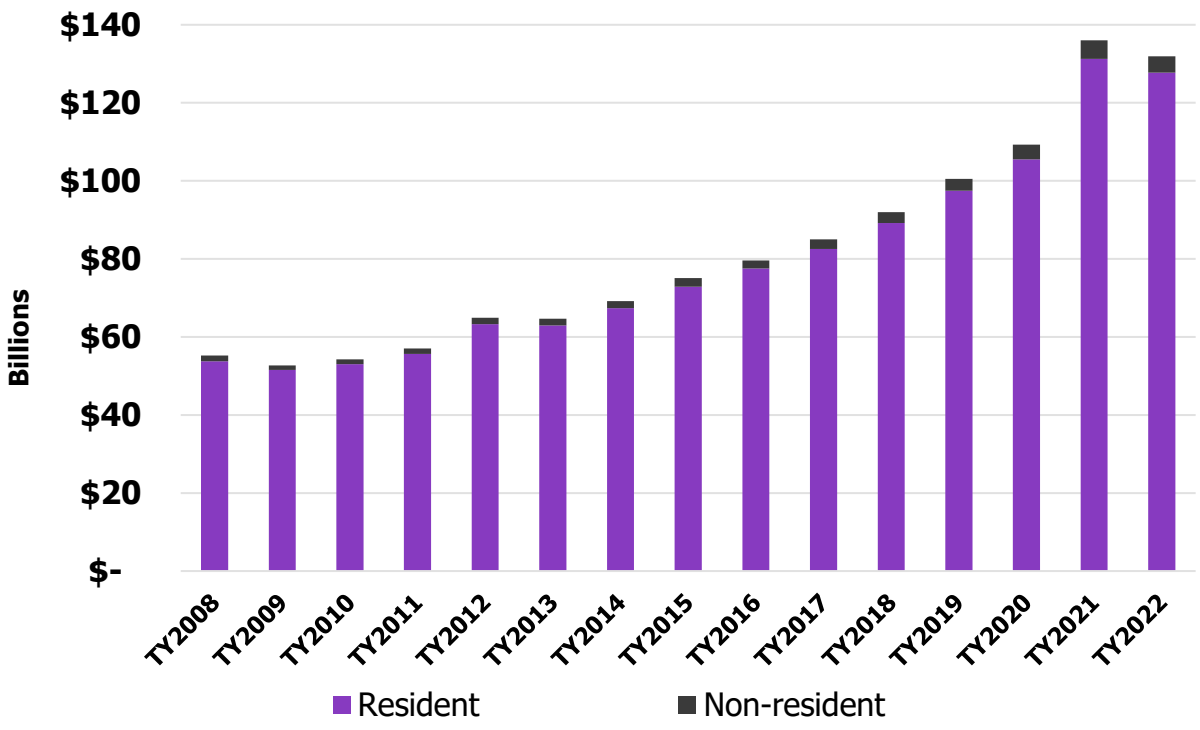


This figure is broken out into sub-bases that are taxed at different rates, including residential fuel ($2.2 billion), food ($11.4 billion), and other ($88.7 billion). Total taxable sales in Utah increased by approximately 220 percent between CY 2000 and CY 2022, with the largest growth in retail trade, followed by taxable services; see Figure 1 above.

The sales tax base has remained fairly consistent over the past three years. However, pending a constitutional amendment, legislation was passed during the 2023 General Session which would repeal the state portion of the sales tax imposed on grocery food. This change would become effective in calendar year 2025.

Utah's income base, total resident and non-resident taxable income prior to tax credits, was nearly $132 billion in TY 2022. Between TY 2008 and TY 2022, the income base grew nearly 139 percent. Figure 2 below shows this growth, categorized by resident and non-resident status.

FIGURE 2
Utah Taxable Income by Resident Status



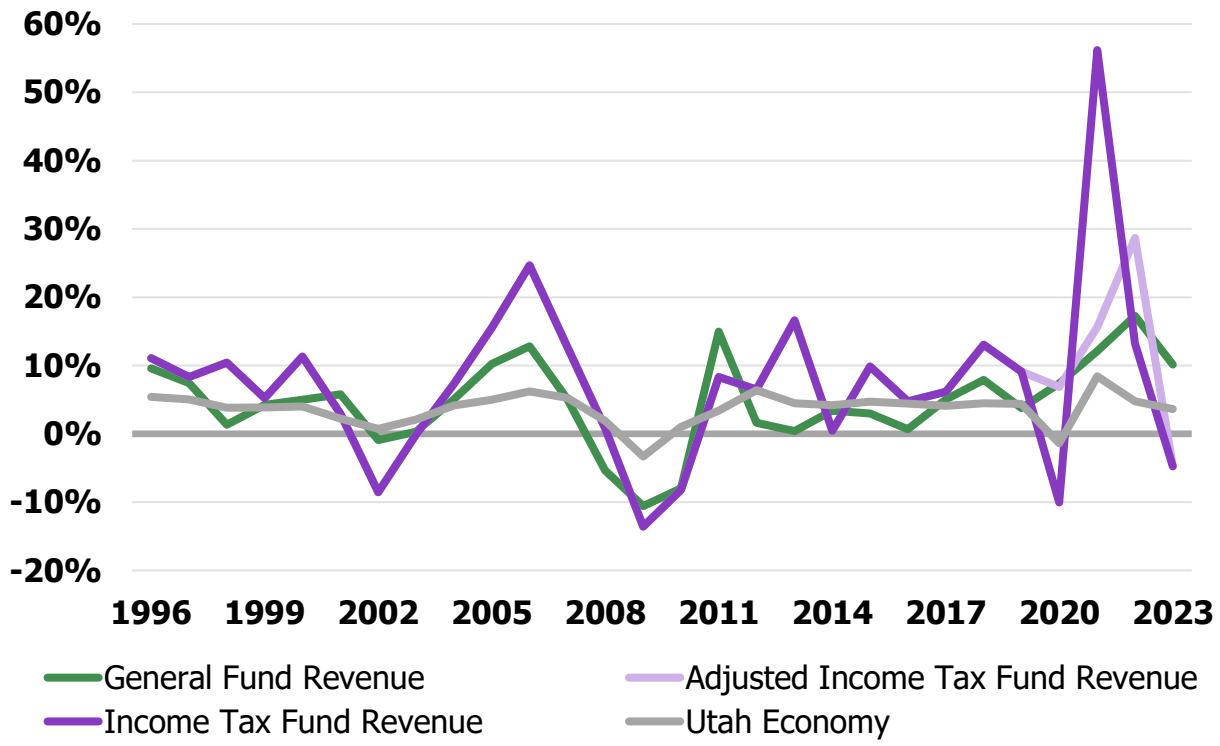
The income base can be categorized broadly as being composed of two parts, which, though they are not treated any differently for tax purposes, can behave quite differently year to year: wage income and non-wage income. Owing to the stable and growing labor force in the state, the wage component of income, which makes up the larger share of overall income, is itself fairly stable year to year. Due to the ups and downs of the housing market and financial markets in particular, non-wage income is considerably more variable over time.

Although the portion of income attributable to non-residents is much smaller than that of residents, as a percentage of total income it has grown somewhat over the past few years. Further, the rapid and widespread adoption of remote work and the in migration of high-wage remote workers in the wake of the pandemic has likely been an additional factor in Utah's evolving income base.

Volatility in Major Revenue Sources

The individual income tax and state sales and use tax ("sales tax") are Utah's largest state revenue streams. The individual income tax is more volatile than the sales tax. Because of this, the Income Tax Fund ("ITF"), which receives individual income tax revenues, is more volatile than the General Fund, which receives sales tax revenues. Figure 3 below illustrates year-over-year change in General Fund revenue sources, Income Tax Fund revenue sources, and the Utah economy as measured by the Federal Reserve's coincident index for Utah. Additionally, Adjusted Income Tax Fund revenue sources are also shown, which accounts for the filing deadline shift which resulted in a significant portion of collections appearing in FY 2021 which would have otherwise been reflected in FY 2020.

FIGURE 3
Year-Over-Year Change in General and Income Tax Fund Revenue Sources



As shown in Figure 3, volatility within Utah's General Fund and Income Tax Fund revenue sources is significantly correlated with the state's economic performance and the business cycle. To evaluate the volatility of these funding sources over the most recent three-year period (corresponding to the three-year cycle of this report), Figures 4 and 5 overlay the average year-over-year (YoY) growth rates and standard deviation within each series.

Figures 6 and 7 depict the absolute percentage error and three-year mean absolute percentage error (MAPE) associated with a one-year lag linear regression model for each series. The rationale behind the selection of a single-year lag model to explain volatility follows from the standard analytical question, "How well does the prior period predict or explain the following period?".

Note that the Income Tax Fund data shown in Figures 5 and 7 reflect the filing-deadline-adjusted collections. Points shown in contrasting colors indicate amounts which are based on the latest consensus revenue forecast.

FIGURE 4
Central Tendency of General Fund Revenue Sources Year-Over-Year Growth

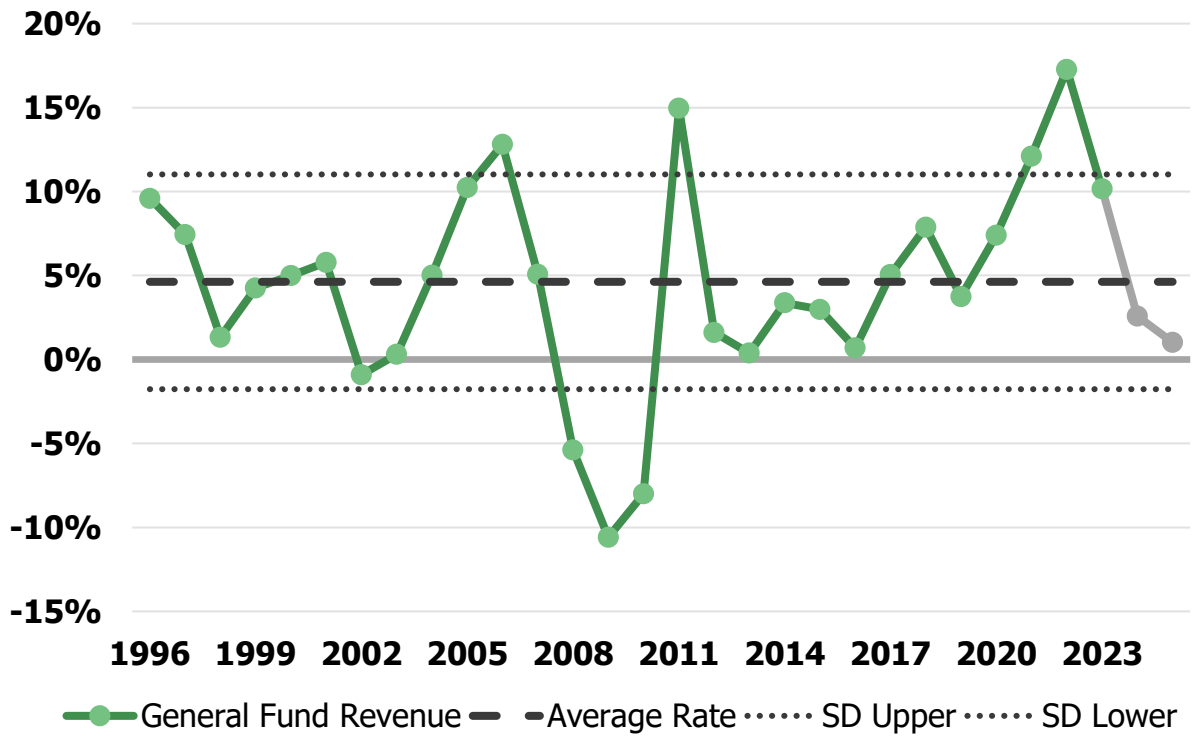
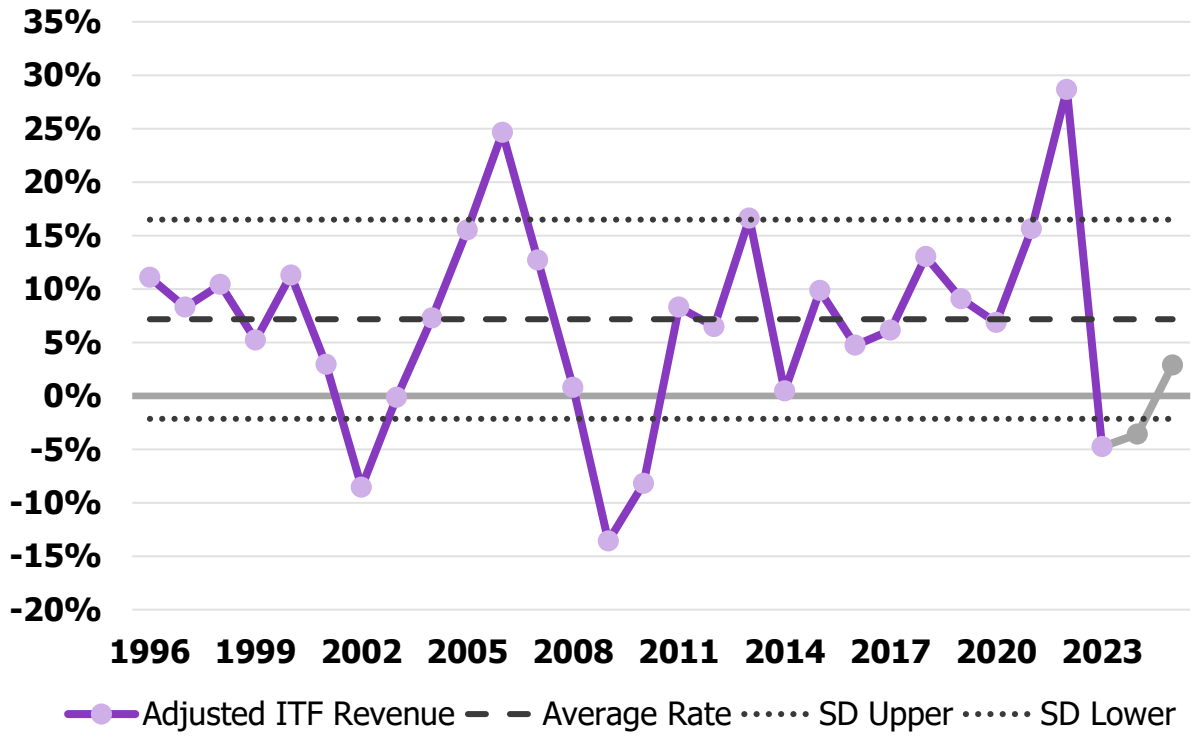


FIGURE 5
Central Tendency of Income Tax Fund Revenue Sources Year-Over-Year Growth



As seen in Figures 4 and 5, recent growth rates in General Fund and Income Tax Fund revenue sources have been generally above the long-run averages (i.e., 4.6% average growth in General Fund sources and 7.2% in Income Tax Fund sources), except in the case of the most recent historical year for the ITF. Indeed, the high growth rates seen since the last update to this report have shifted those average rates higher. Further, recent year growth rates have been at or well beyond the first standard deviation limits shown for each series, meaning those rates were outside of the "typical" based on historical data. Similar to the shift in the averages, these recent years' growth rates have also had the effect of shifting out or widening those standard deviations since the prior report.

FIGURE 6
General Fund Revenue Sources Model Error and Three-Year Interval Model Error

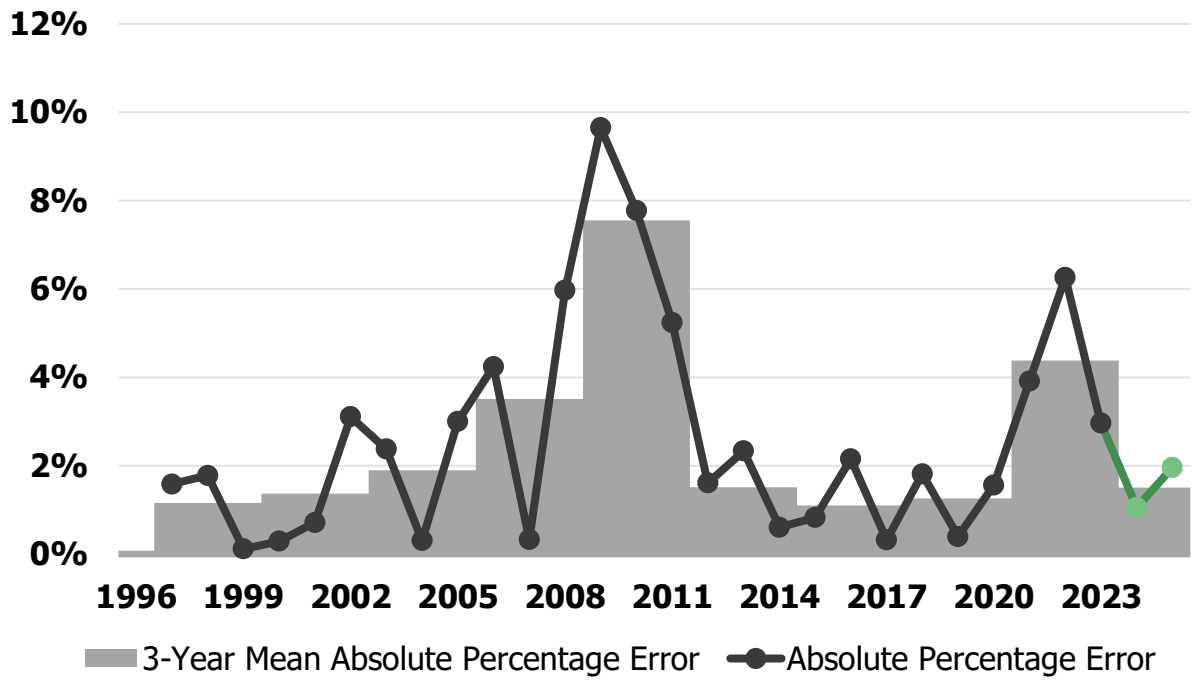
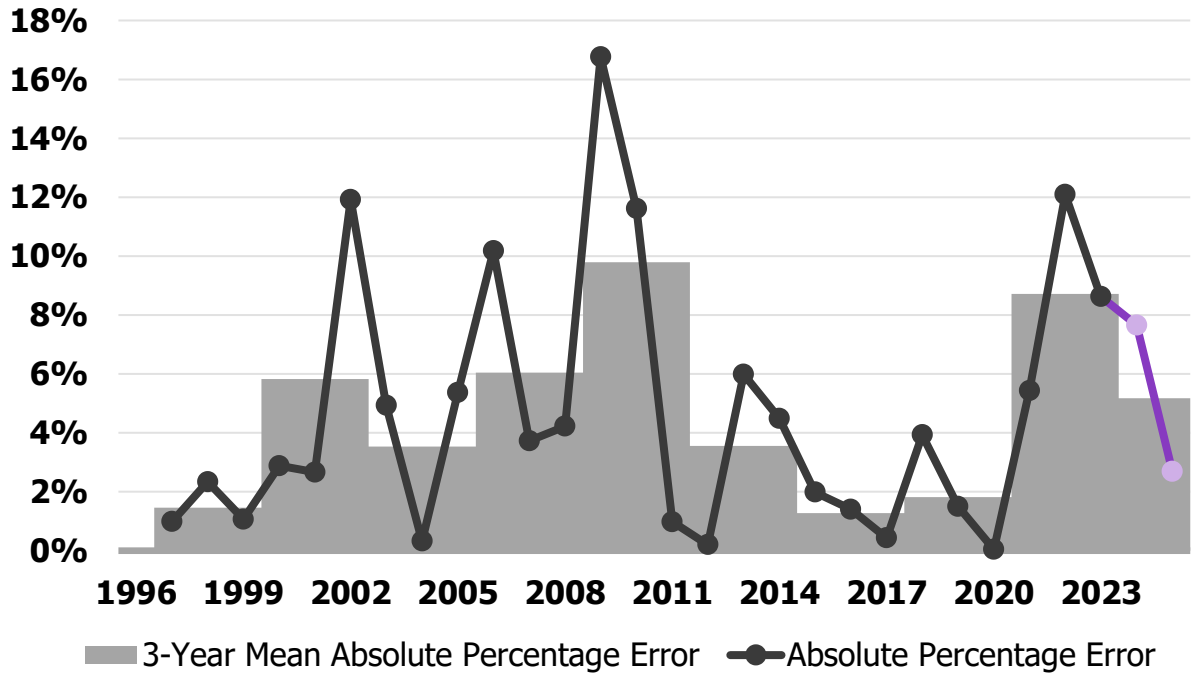


FIGURE 7
Income Tax Fund Revenue Sources Model Error and Three-Year Interval Model Error



Figures 6 and 7 demonstrate that the year-to-year stability, and by extension the predictability, of General Fund and Income Tax Fund revenue sources was increasing in the mid-2010s, as the economy stabilized and grew steadily following the Great Recession. However, the COVID-19 economic downturn and associated federal responses to it have resulted in an increase in model percentage error in the most recent periods. Such error arises whenever a "turning point" occurs, such as when entering and exiting a recession, when the conditions of the immediate past differ significantly, typically directionally as well, from those at present and into the immediate future.

While the volatilities of the General Fund and Income Tax Fund have, in aggregate, been quite high over the last three years, the behavior within individual revenue sources is often more variable, even during more stable periods. This is not unexpected and is not necessarily something that can, or should, be avoided. Like a well-diversified investment portfolio, the diversity of revenue sources to the state usually has the effect of reducing the aggregate volatility overall.

Among many other outcomes unique to the pandemic, with regards to diversification, the effect of the pandemic was unique in that it caused not only large swings in collections but also relatively greater uniformity in those swings across revenue sources, effectively negating the smoothing that diversification would otherwise induce. Further, it should be recognized that state policy choices surrounding tax collections (the imposition of new taxes, changing tax rates or adjusting the tax base) or the allocation of current collections (earmarking) can influence overall revenue stability and availability. These concepts are further examined for specific General Fund and Income Tax Fund sources below.

General Fund Revenue

Economic sources of volatility in General Fund revenues include various factors such as population growth and migration, inflation, interest rates and credit market conditions, oil and natural gas production, metals prices and mining activity, insurance premiums, alcohol and tobacco product consumption, and changing technologies among numerous other sources of state and national economic instability.

The impact of broad economic factors such as these are perhaps most notable in unrestricted sales tax collections, shown in Figure 8, in the run-up to, and during, the years that span the Great Recession when collections fell sharply to historically low levels as a result. Likewise, though in the opposite direction, the unprecedented magnitude of federal stimulus support in response to the COVID-19 pandemic along with changes in consumer behavior towards greater goods consumption helped to buoy sales tax revenue to similarly unprecedented levels of growth in fiscal years 2021 and 2022.

FIGURE 8
Central Tendency of Unrestricted State Sales Tax Revenue Year-Over-Year Growth

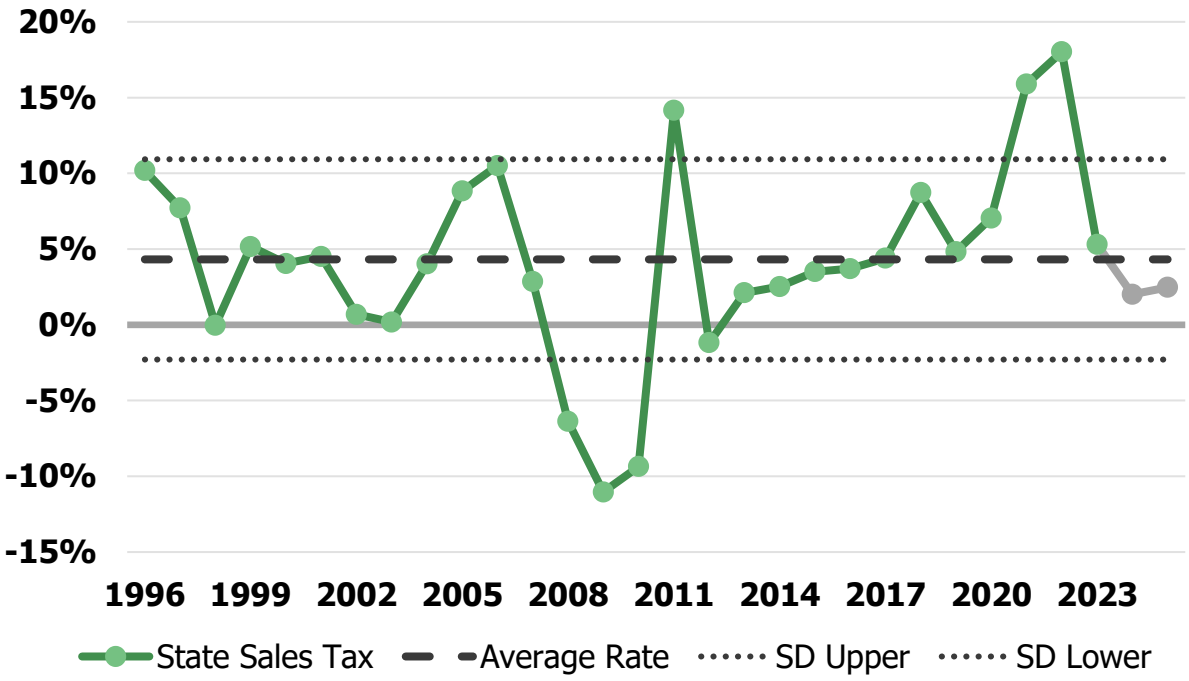
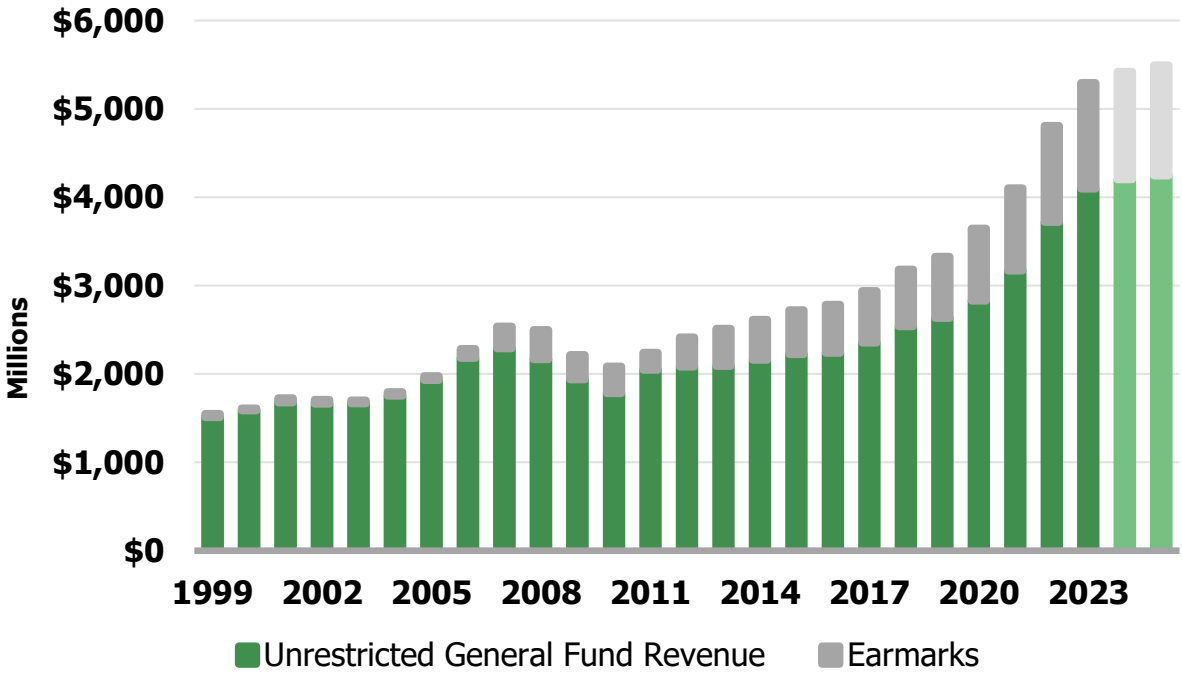


FIGURE 9
Sales Tax Earmarks and General Fund Levels



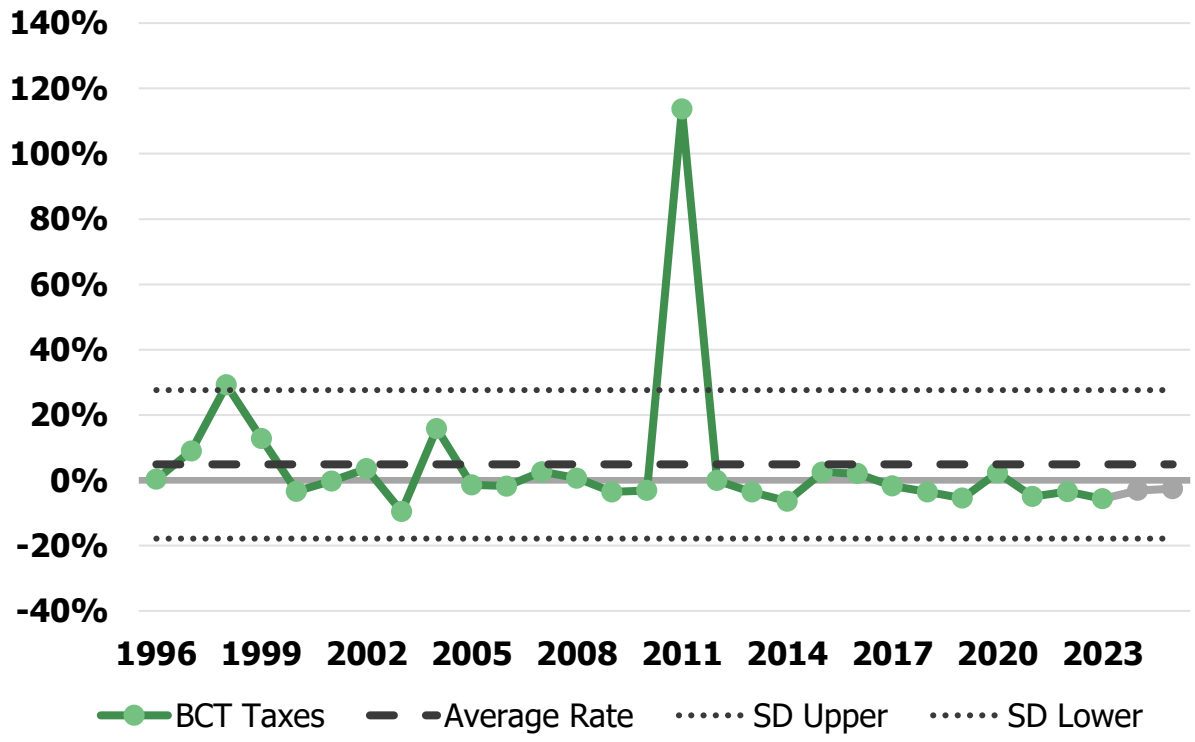
Figures 9, 10, and 11 show additional examples of economic and policy-induced volatility on tax revenues from sales, cigarette, tobacco and beer, and severance taxes.

Earmarks can be a source of policy-induced volatility and have grown in proportion significantly over most of the last decade (as shown in grey in Figure 9), from the single digits as a percentage of total state sales tax collections up to approximately 27% of collections most recently.

Beer, cigarette, and tobacco tax revenues are generally more stable, though declining, sources of funding to the state. However, this stable, though declining description is reflective of the underlying tax base but is not entirely consistent with the actual tax collections, as shown in Figure 10. This spike in YoY growth was the result of a tax rate increase on cigarettes in 2010, leading to the more than doubling of collections shown for the following year.

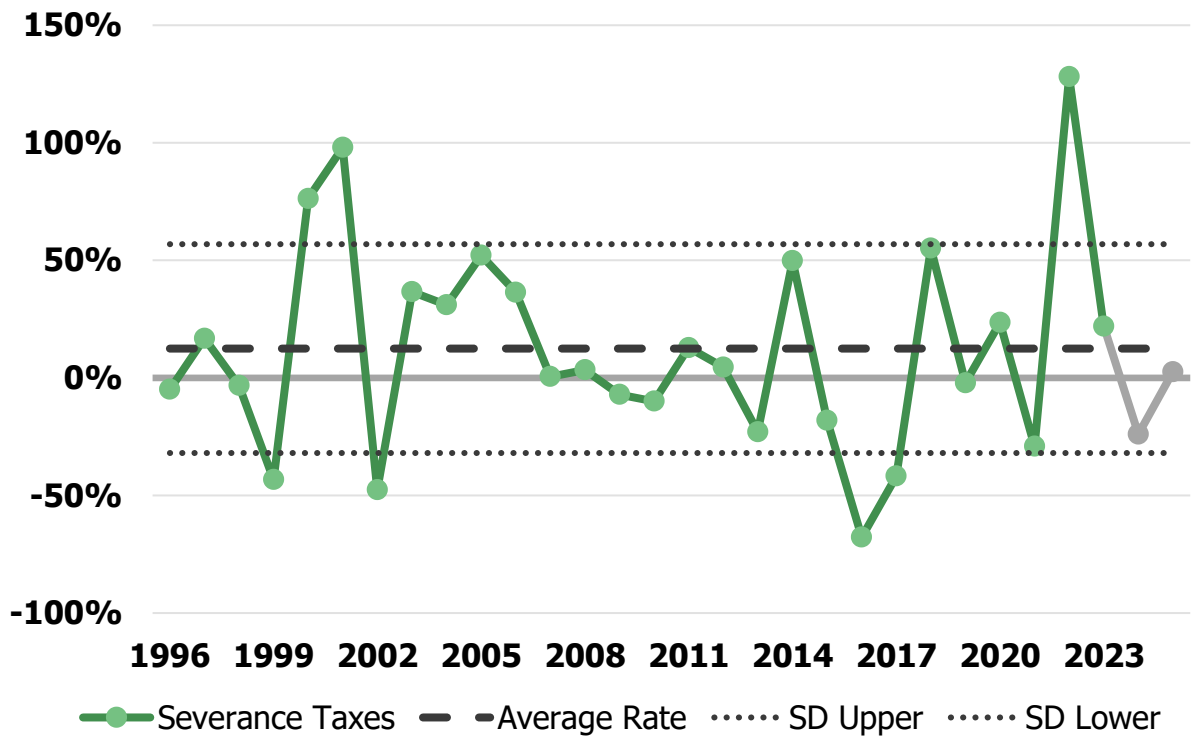
In both of these cases, the policy choices (changes to earmarks and to tax rates) induced volatility which, in addition to the component of volatility that is solely attributable to the underlying economic factors, has further contributed to the overall level of volatility seen.

FIGURE 10
Central Tendency of Beer, Cigarette, & Tobacco Tax Revenue Year-Over-Year Growth



Though severance taxes have also experienced some impactful policy changes over time, most notably with respect to earmarks, collections have varied widely year to year due mostly to exposure to the highly volatile prices in oil, gas, and metals markets. These volatile forces are rooted in global commodities exchanges which are, generally speaking, beyond the scope of in-state activity's ability to influence.

FIGURE 11
Central Tendency of Severance Tax Revenue Year-Over-Year Growth



Income Tax Fund Revenue

The primary sources of revenue for the Income Tax Fund are the individual income tax and corporate income tax. Figures 12 and 13 depict these series' year-over-year growth rates and show that the corporate income tax is more volatile than the individual income tax. Both revenue sources are more volatile than the economy in general, though. This is primarily a consequence of relatively high volatility in financial and housing markets, leading to highly variable capital gains and other sources of non-wage income, which can "overpower" in a sense, the relatively more stable wage component of income.

State-specific policy induced volatility affecting Income Tax Fund Revenue over the past three years has primarily come from the succession of rate decreases, lowering the flat rate applied to both individual and corporate income from 4.95% to 4.85% in tax year 2022 and most recently to 4.65% for tax year 2023 forward. However, the broader economic forces that have influenced income over this period have likely been the more significant factor in overall volatility.

FIGURE 12
Central Tendency of Individual Income Tax Year-Over-Year Growth

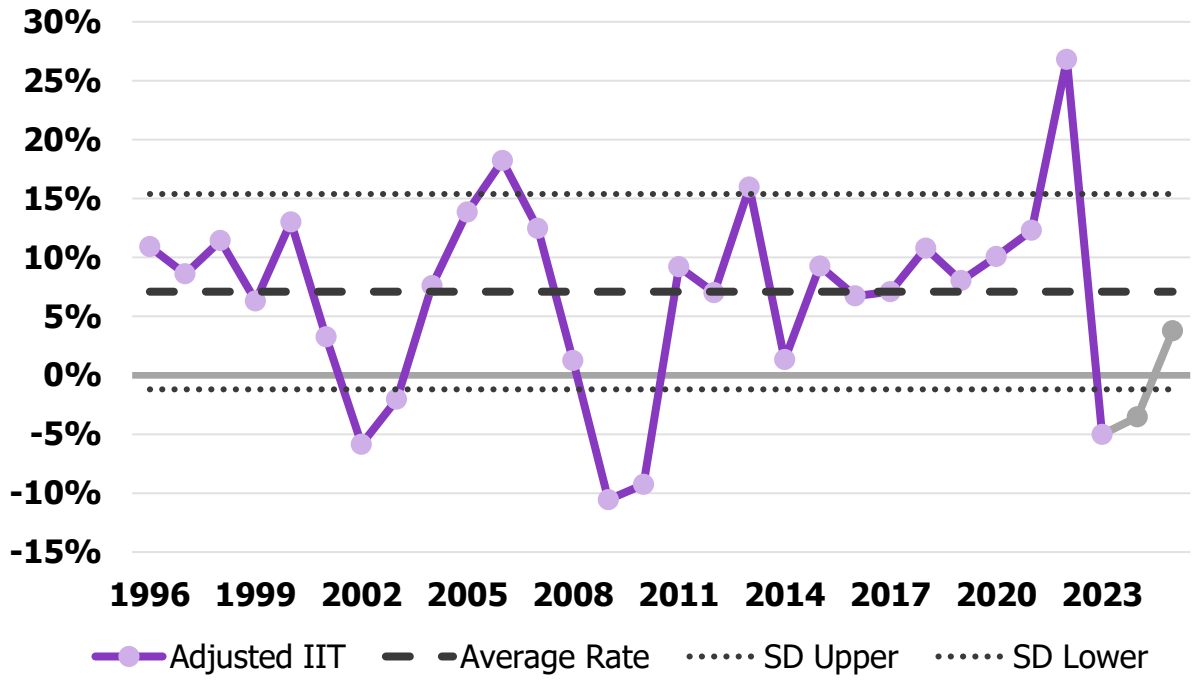
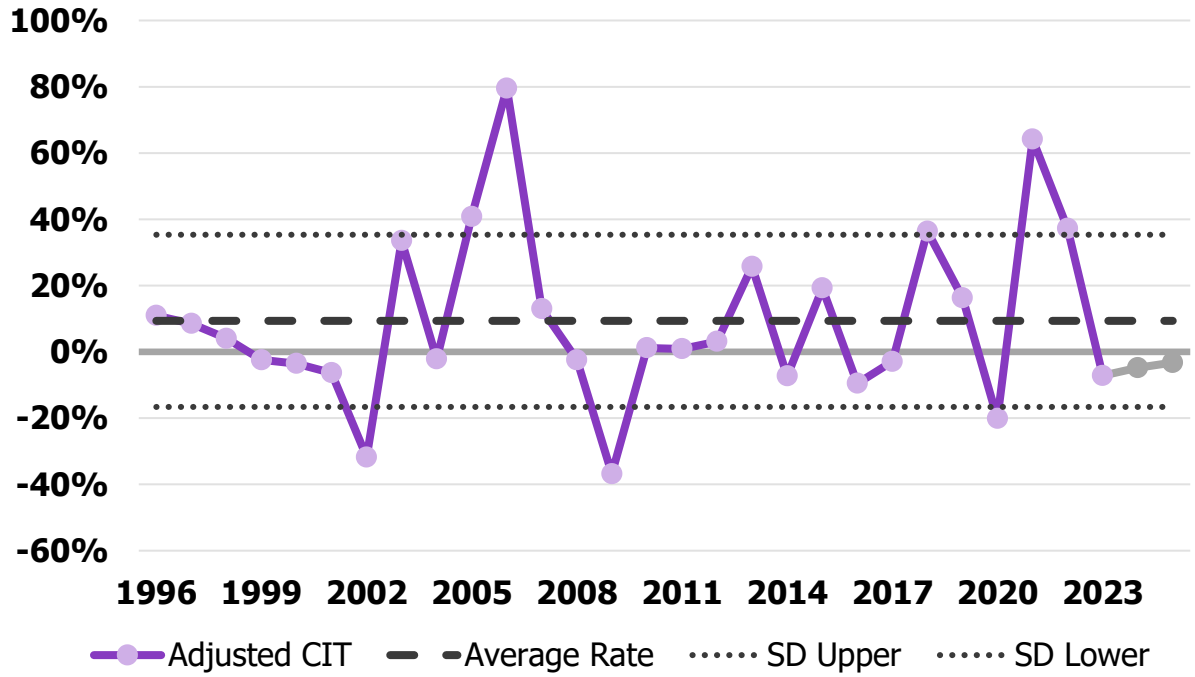


FIGURE 13
Central Tendency of Corporate Income Tax Year-Over-Year Growth



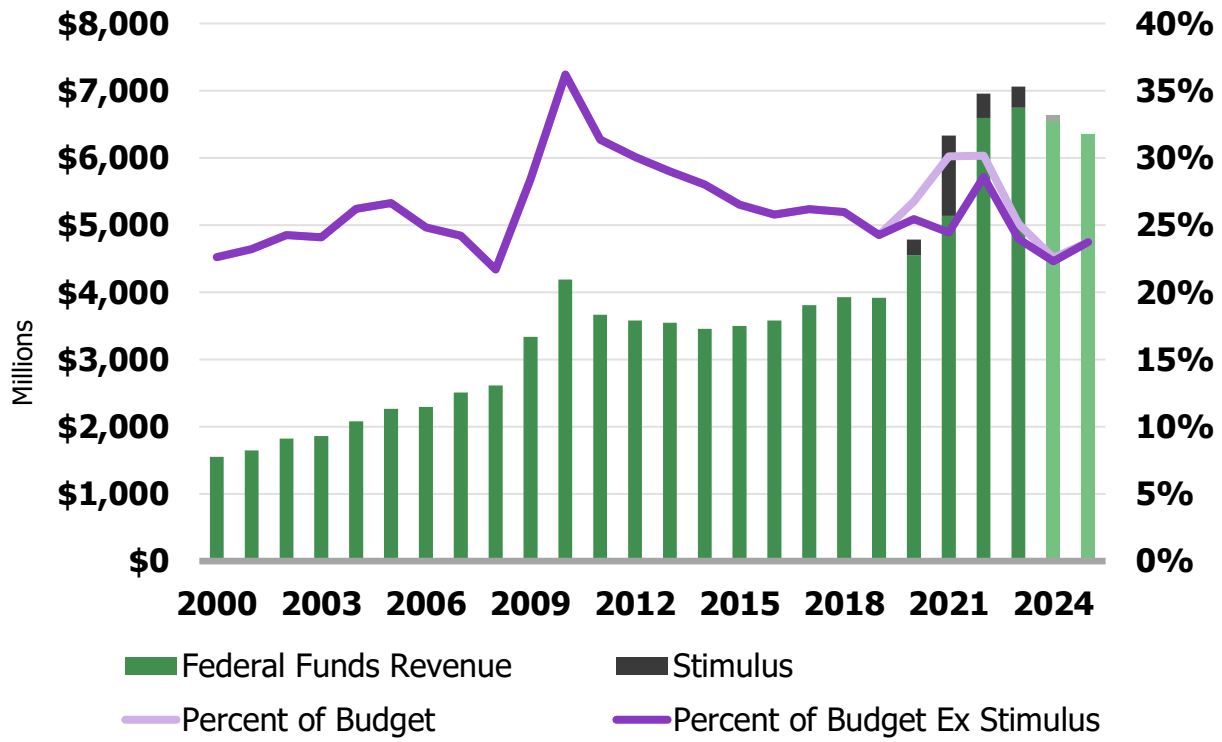
Federal Receipts

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 $6.64 billion in federal funds, approximately 23% of the total budget. Major programs funded by federal dollars include Medicaid ($3.7 billion in FY 2023), which typically has represented nearly 50% of all federal funding received, public education programs and school lunches ($673 million in FY 2023), the Supplemental Nutrition Assistance Program ($516 million in FY 2023), and various transportation projects ($508 million in FY 2023).

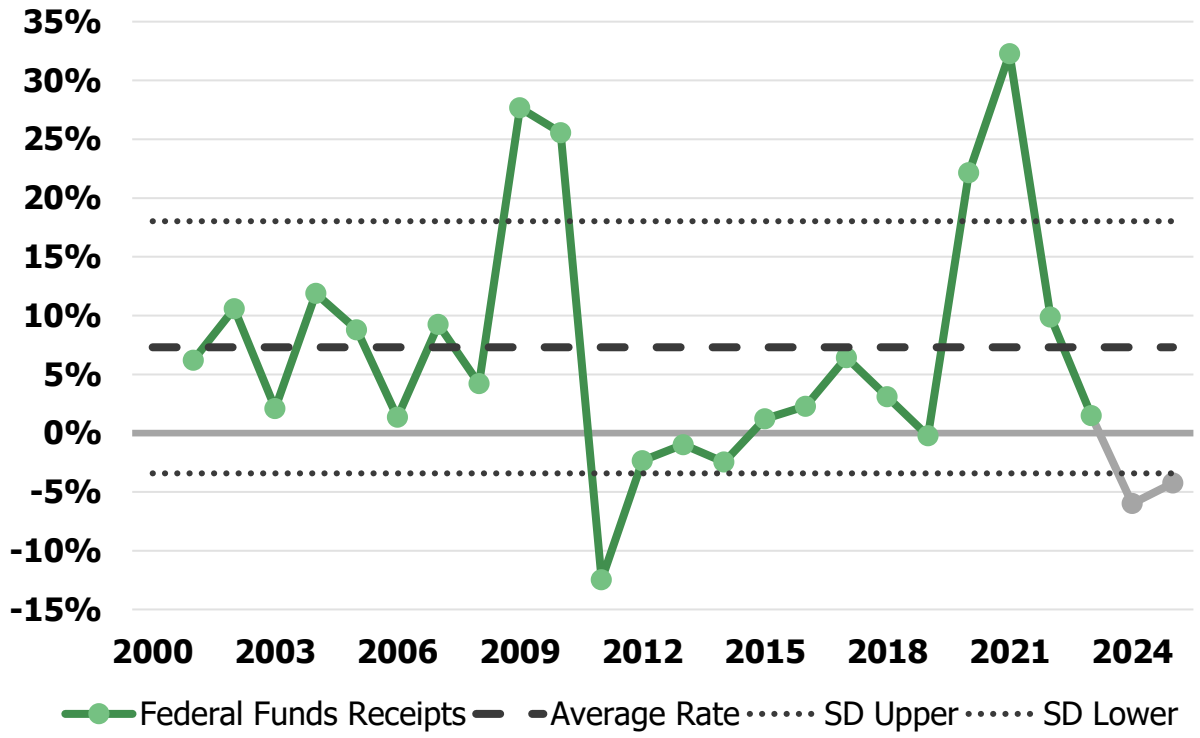
As can be seen in Figure 14, the amount of federal receipts has increased dramatically over the past four years, due in large part to the unprecedented level of federal stimulus enacted in response to the COVID-19 pandemic. Additionally, a key factor in this large increase seen has been the expansion of Medicaid and the federally mandated policy of continuous enrollment in Medicaid for the duration of the National Public Health Emergency, which was only ended earlier this year.

FIGURE 14
Federal Funds Receipts and Federal Funds as a Percent of the Utah Budget



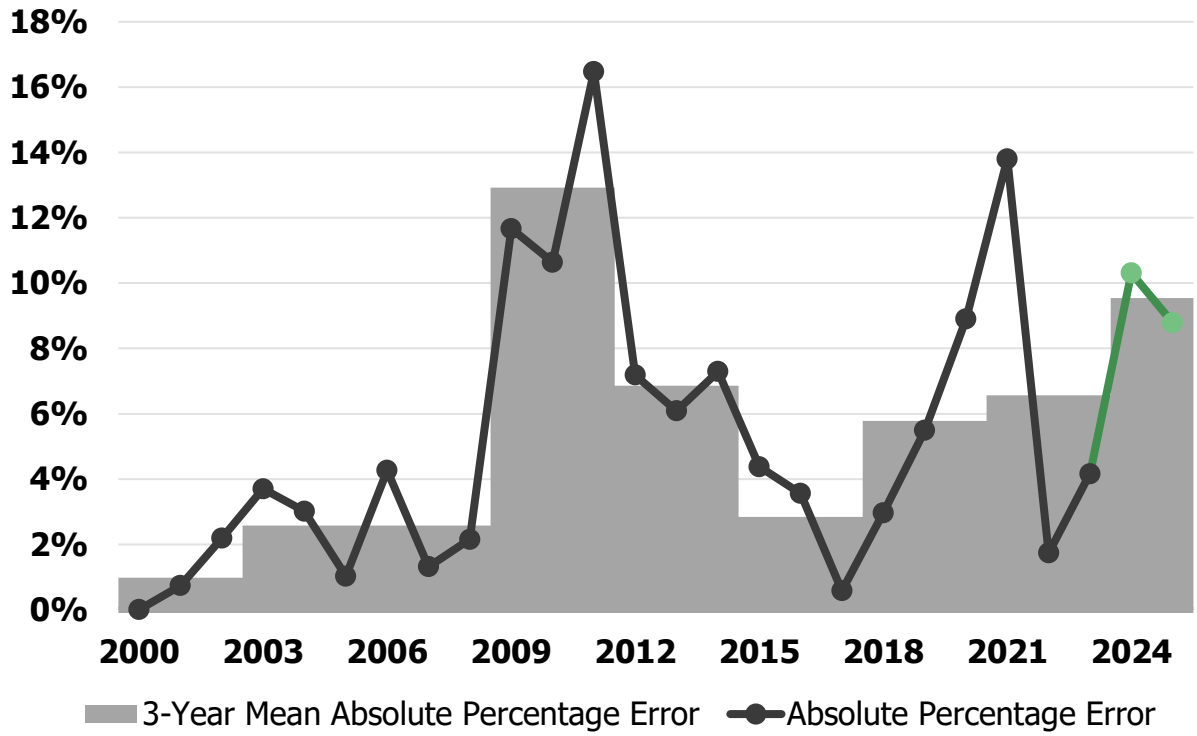
As shown in the black bars in Figure 14, the cumulative total of these COVID-19 related stimulus dollars has amounted to approximately $2.1 billion in additional funds. Looking to Figure 15, this massive influx of receipts has resulted in several years of unusually high growth rates in total federal funds, in turn increasing the overall level of volatility for this funding source. Absent the one-off injections of COVID-19 related money and the resumption of Medicaid disenrollment, the expectation for federal funds receipts looking forward is a modest tapering from FY 2023 levels.

FIGURE 15
Year-Over-Year Change in Federal Funds Receipts



Similar to what was shown for the General Fund and Income Tax Fund, Figure 16 shows the absolute percentage error for a one-year lag linear regression model for Federal Funds. As was the case for the analogous charts for the other funding sources, it can be seen too for Federal Funds that error typically spikes around recessions. However, in this case the error is typically in the opposite direction of the error such modeling produces for the General Fund and Income Tax Fund sources, meaning that Federal Funds tends to error positively when the other two sources error negatively, and vice versa.

FIGURE 16
Federal Funds Receipts Model Error and Three-Year Interval Model Error



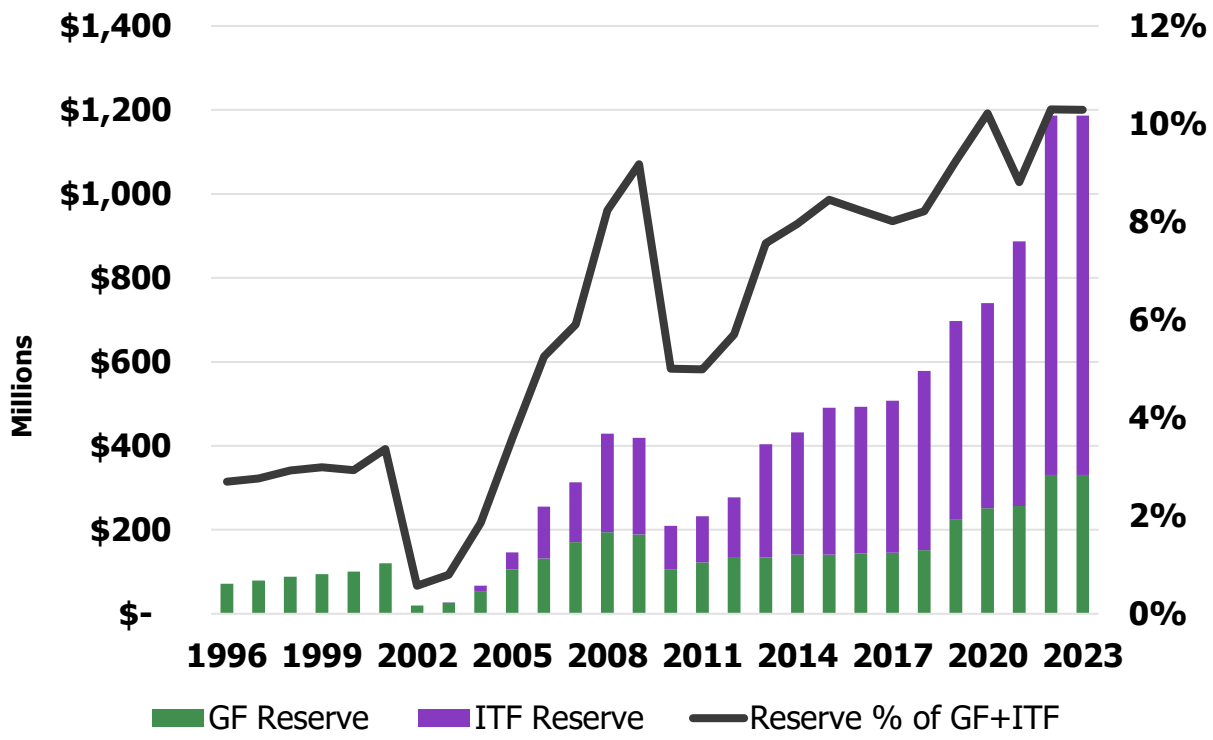
To this point on the counter-cyclical characteristic of federal receipts, much of the volatility in this source is in a sense intentional. During recessions, when tax revenue typically falls and demand for public services typically jumps up, the federal government can use its borrowing power to effectively backfill states, which cannot run deficits, such that those services can be maintained.

In response to the pandemic, the federal government injected billions of dollars into Utah's economy, both for state administered programs and as payments directly to households. The federal government took similar actions in the Great Recession through the American Recovery and Reinvestment Act, though that action pales in comparison to the extent of the COVID-19 stimulus. Due to the magnitude and counter-cyclical nature of Federal Funds volatility, we do not recommend Utah policymakers consider it when determining the formal rainy-day fund percentage targets.

Rainy-day Balances and Deposit Mechanisms

At the close of FY 2023, Utah's rainy-day fund balances were nearly $1.2 billion in total, including $330 million in the General Fund Budget Reserve Account, and $856 million in the Income Tax Fund Budget Reserve Account. That would put the General Fund rainy-day fund just below its deposit target for FY 2023 and the Income Tax Fund rainy-day fund nearly exactly at its target; taken together these rainy-day funds equal about 10.2% of the total General Fund and Income Tax Fund appropriations for FY 2023.

FIGURE 17
General and Education Fund Rainy Day Reserve Balances

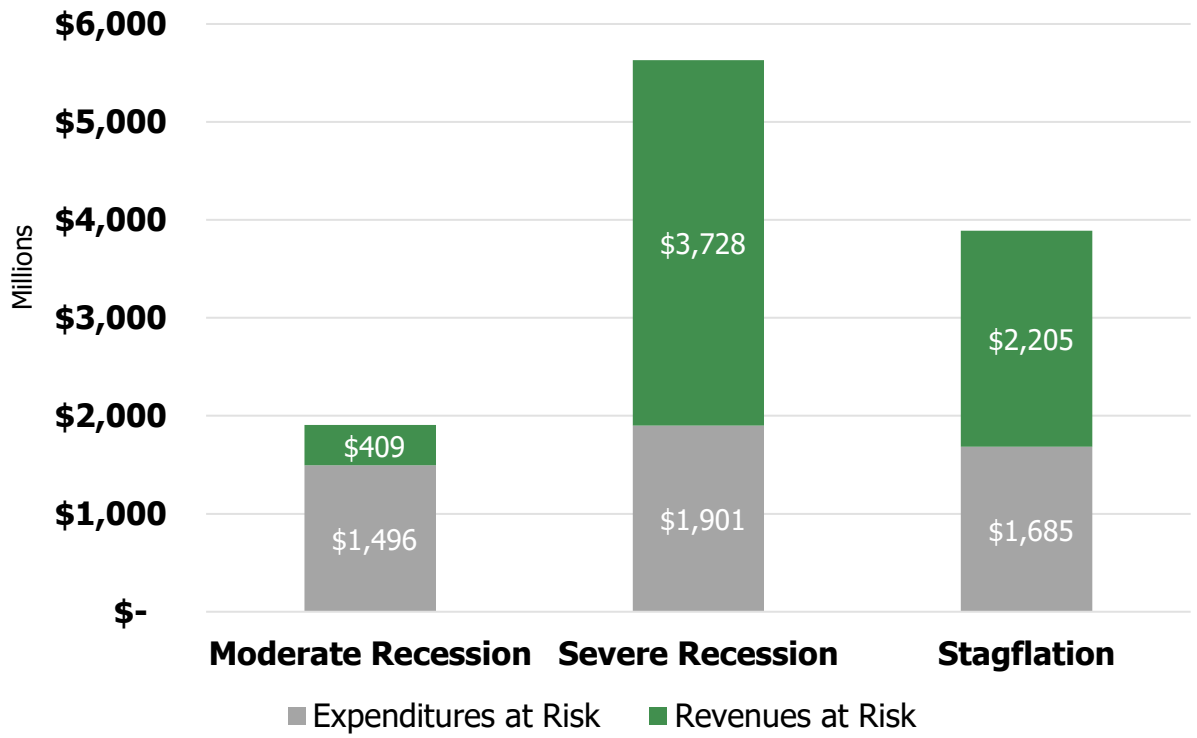


As is shown in Figure 17, the Legislature has made significant progress on deposits to rainy-day funds over the past three years. As the size of the budget has increased over this time, so too have the reserve fund balances needed to increase to maintain the relative "purchasing power" of those funds. Because transfers to these accounts only occur in the event of a revenue surplus, there was no additional transfer to either account at the close of FY 2023. However, automatic and discretionary transfers to these funds have nonetheless successfully maintained the relative proportion of General and Income Tax Fund appropriations that could, if needed, be covered by reserves at or very near the statutory limits of 9% and 11%, respectively, over this period. For these reasons, we believe additional deposit mechanisms are not currently necessary.

Stress Testing the State Budget

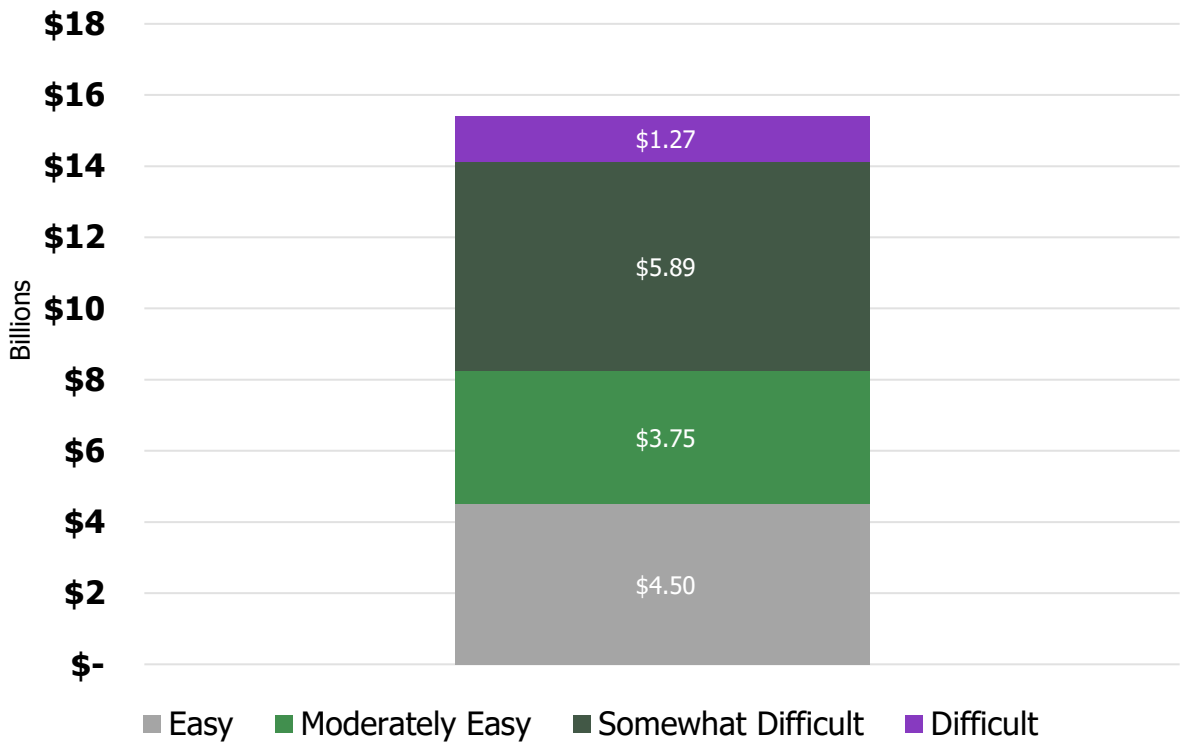
In late 2022, LFA and GOPB conducted their scheduled budget stress testing analysis. It suggested that the state is well-positioned to weather a typical economic downturn, with over $9.2 billion in aggregate reserves to cover an estimated $5.6 billion maximum value at risk over a five-year period. The associated risks of the three adverse economic scenarios considered in that analysis are shown in Figure 18 below. The reserves potentially available to cover these risks are described in greater detail in Table 1.

FIGURE 18
State Budget Revenue and Expenditure Risk for Economic Downturn Scenarios



Crucially, the formal rainy-day funds as discussed in the previous section are not the state's only budget reserves. The full "fiscal toolkit" contains many additional buffers, which can be characterized as easily accessible (e.g., infrastructure working rainy-day funds, certain restricted accounts), moderately accessible (non-lapsing balances, unclaimed property, certain earmarks), somewhat difficult to access (capital improvements corpus, restricted fund balances), and difficult to access (formal rainy-day funds). A summary of the potentially available funds in these buffers by degree of relative difficulty of their use can be seen in Figure 19.

FIGURE 19
State Budget Reserves Available to Offset Economic Risk



Tools for Managing the State Budget

In determining the appropriate size of budget reserve accounts, policymakers should consider all forms of budget "buffering," not just the budget reserve accounts themselves. That is, the size of budget reserve accounts should be considered in context of other budget management tools. The following list briefly describes several tools used to manage the state budget, in particular during a revenue downturn:

- Structure of the revenue system itself. Policymakers control what is taxed and the rate at which it is taxed. To the extent the state's revenue portfolio is deemed too volatile for budgeting purposes, one option available to policymakers is to change the state's tax policy, including the relative weighting of each tax in the state's revenue portfolio and the breadth of what is taxed under each tax. In general, taxes with broader bases will tend to exhibit less volatility over the business cycle. In addition to controlling taxes, policymakers control fees.

- Revenue estimating process. Revenue estimates take into account many different current economic factors that influence the state's tax revenue collections. Two separate point revenue estimates are made for each fiscal year. A consensus estimating process tends to result in a more conservative revenue forecast overall.

- Revenue monitoring. Revenues are closely monitored on a regular basis, including through monthly reports from the Tax Commission. This allows the necessary actions to be taken on a timely basis if revenues are not meeting projections.

- One-time solutions. Unallocated year-end surpluses, budget reserve accounts ("rainy-day funds"), restricted fund balances, and non-lapsing balances are all potential sources of one-time funding in difficult fiscal circumstances. In addition, one-time options such as a change in the timing of expenditures (deferral) and revenues (acceleration) can provide one-time budget solutions.

- Capital budgeting. Budgeting for capital items such as roads and buildings is another budget management mechanism. The state often funds many capital items with cash. In an economic downturn, capital expenses can be postponed or the state can instead borrow to fund capital expenses. The state currently has hundreds of millions of dollars of cash-funded capital expenses.

- Budget reprioritization. Although clearly a difficult process, economic downturns force reprioritization of state funding so that scarce taxpayer resources are targeted to the highest priority programs. If economic changes create a new long-term economic reality, careful consideration should be given to the point at which the state should adjust ongoing budgets to the new ongoing economic reality.

Disaggregated Buffers

The state has a sizable number of budget buffers that, when combined, sum to $9.2 billion as estimated by the budget stress testing exercise conducted in 2022. Since that time, additional action taken during the 2023 General Session has resulted in a substantial increase to this sum, bringing the total to $15.4 billion (Figure 19). In addition to other types of management tools, below is a list of selected budget buffers that currently exist. A full table of buffers, which has been updated from the 2022 stress testing report, is presented in Table 1 below.

- General Fund Budget Reserve Account ($330 million). This is the most flexible of the budget reserve accounts, as General Fund revenues can be used for any legal purpose.

- Income Tax Fund Budget Reserve Account ($856 million). Prior to 2020, individual and corporate income taxes deposited into this account were constitutionally earmarked for public and higher education. In 2020, the Utah Constitution was amended to include spending on children and individuals with disabilities among the allowable uses of these funds. As such, this budget reserve account is separately maintained for these specific funding purposes.

- Medicaid Budget Stabilization Restricted Account ($114 million). Funds in this account can be used to offset significant increases in state Medicaid expenditures when the state match required increases by 8% or more on a year-over-year basis.

- Disaster Recovery Restricted Account ($79 million). Balances in this fund can be used to respond to emergency disaster services for a declared disaster.

- Agency Non-lapsing Balances ($2.2 billion at FY 2023 year-end). Agency non-lapsing balances constitute another budget buffer. Preliminary estimates indicate that nearly $2.2 billion in non-lapsing balances were anticipated to be carried over from FY 2023 to FY 2024 (see LFA data at https://le.utah.gov/lfa/nonlapsingbalances.html). The subset of this amount which is relatively more discretionary, i.e. could be more easily reallocated in the event of greater need is estimated at approximately $1.4 billion (https://le.utah.gov/lfa/fiscalhealth/#reservesTab).

- Restricted Account Balances. Although some restricted funds would not be available as funding sources during an economic downturn, some activities funded by the General Fund could be shifted to restricted account sources. See LFA data at https://le.utah.gov/lfa/fundbalances.html for a description of these restricted funds and their balances.

TABLE 1
Total State Budget Buffers by Ease of Access

Source	One-Time	Ongoing	5 Year Total
Easy to Access			
Cash Funded Buildings	644,444,300	120,000,000	1,244,444,300
Offset for debt service			*(982,584,048)*
Cash Funded Transportation	1,145,000,000		1,145,000,000
Offset for debt service			*(470,933,766)*
Cash Funded Water	220,000,000		220,000,000
Offset for debt service			
Medicaid Expansion Fund	297,978,037	59,000,000	592,978,037
Medicaid Budget Stabilization Restricted Account	113,862,392		113,862,392
Medicaid Restricted Account	101,119,771		101,119,771
Capital Improvements at 0.9% to 1.5%		84,483,920	422,419,600
Debt Service Above Required Amount	440,000,000	335,000,000	2,115,000,000
Easy to Access Total	***2,962,404,500***	***598,483,920***	***4,501,306,286***
Moderately Easy to Access			
Unclaimed Property	212,304,322		212,304,322
Nonlapsing Balances	1,408,321,000		1,408,321,000
General Fund State Infrastructure Banks	121,948,500		121,948,500
Public Education Economic Stabilization Restricted Account	(440,640,400)	440,640,400	1,762,561,600
Outdoor Adventure Infrastructure Restricted Account	23,478,699	44,118,365	244,070,523
Moderately Easy to Access Total	***1,325,412,121***	***484,758,765***	***3,749,205,945***
Somewhat Difficult to Access			
Transportation Investment Fund of 2005	1,248,193,060	482,924,848	3,662,817,300
General Fund Restricted Fund Balances	560,503,712		560,503,712
Capital Improvements up to 0.9%		126,725,880	633,629,400
Cash and Investment in Water Loans	394,872,125	127,926,648	1,034,505,365
Somewhat Difficult to Access Total	***2,203,568,897***	***737,577,376***	***5,891,455,777***
Difficult to Access			
Income Tax Fund Budget Reserve Account	856,285,316		856,285,316
General Fund Budget Reserve Account	330,284,777		330,284,777
Disaster Recovery Account	79,465,134		79,465,134
Difficult to Access Total	***1,266,035,227***	***-***	***1,266,035,227***
Total Reserves	**7,757,420,745**	**1,820,820,061**	**15,408,003,235**

II. Recommendations

When considering the appropriate level of budget reserves, policymakers face a delicate balance between maintaining sufficient amounts to appropriately manage through an economic downturn and forgoing funding of current needs. In other words, while some reserves are necessary to maintain services in the event of an adverse economic circumstance, there is also an opportunity cost of accumulating an excessive amount of reserves. What constitutes the "right" amount of reserves, which strikes the optimal balance between sufficient preparedness and efficiency is what this study aims to determine.

Based upon various measures of revenue volatility, LFA and GOPB believe that the current automatic year-end surplus transfer targets equaling 9% of General Fund appropriations and 11% of Income Tax Fund appropriations are appropriate. Because these automatic transfer targets are percentage-based, the dollar amount of these targets increases over time as appropriations increase, meaning the budget reserve accounts should continue to grow over time as year-end surpluses occur; this is precisely what has occurred since the last update to this report. This analysis finds that existing rainy-day fund deposit targets are sufficient for managing revenue forecast error between legislative sessions, including special sessions that could be called to address fiscal issues. Given that federal funds are typically countercyclical, we do not recommend changing rainy-day fund targets for federal fund volatility.

Though many sources of funding have been more volatile over the past three years, the circumstances which resulted in this heightened volatility are not anticipated to recur during the current forecast horizon. Due to the progress that the Legislature has made in meeting these rainy-day transfer targets with appropriated deposits, we recommend no additional automatic deposit mechanisms beyond the percentage-based transfers of surplus. We believe the current rainy-day fund balances, viewed in the context of our recent budget stress testing analysis, suggest Utah is fiscally well-positioned to weather a potential recession should one materialize. To the extent that policymakers desire to increase budget reserve account levels above the existing statutory percentages, they may continue to appropriate additional funds to budget reserve accounts.