

TAX SYSTEM DESIGN - REVENUE SUFFICIENCY



How Can a Tax Portfolio Reliably Generate Sufficient Revenue?

Covering the Costs of Citizen Service Levels Selected by Policymakers

An ideal tax system consistently generates sufficient revenue to plan for and meet the core public service needs of citizens. Taxes fundamentally exist to fund core services demanded by citizens at levels selected by policymakers. Unlike many private sector businesses that see both demand and revenue fall during economic downturns, governments often face higher service demands just as revenues decrease. This counter-cyclical demand for some government services requires thoughtful budget implementation to maintain fiscal sustainability when downside revenue volatility occurs as well as prudent decision-making when upside revenue volatility occurs.

A reliable tax system for citizens in their roles as taxpayers and service recipients accomplishes the following:

Funds core services – Raises sufficient revenue to deliver core public services over the business cycle.

Forecasting accuracy – Facilitates budget balance by allowing revenue estimation with reasonable accuracy.

Economic responsiveness – Responds to inflation, population, and economic changes.

Taxpayer transparency – Provides taxpayers information to anticipate the tax consequences of economic decisions.

Reliable Revenue Sufficiency

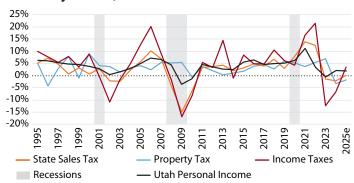
Taxes generate revenue to pay for public services demanded by citizens. These services, such as transportation, public safety, corrections, courts, health care, water, air quality, parks, and education provide economic and societal benefits. When state and local policymakers determine public service levels in these areas, they must match spending with funding sources to cover those service costs.

Informed policymakers contemplate both short-term and long-term revenue reliability impacts over the business cycle as they annually balance the budget. In addition to providing revenues for consistent public service delivery, a reliably sufficient tax system also provides reasonable certainty to taxpayers over the business cycle.

Budget Management Over the Business Cycle

Price inflation, population growth, and economic shifts drive a large share of annual revenue collection changes. For example, some nominal revenue growth occurs simply because population grows and general price levels increase. Economic shifts beyond population and inflation growth can also alter tax collections. On the spending side of the budget, population

Figure 1: Real Revenue Collection Annual % Change for Utah's Major Taxes, FY 1995-2025e



Source: Utah State Tax Commission, U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, and Moody's Analytics

growth can lead to more people needing services. Price inflation and economic shifts can also lead to cost pressures as service-heavy governments compete in the same markets as the private sector for employees and other services, as well as for goods.

In addition, other factors such as formal tax policy changes and administrative adjustments also influence annual revenue collections. For example, tax rate changes or adjustments to the

Definitions

- Ongoing revenues Revenue streams anticipated to consistently recur over time
- One-time revenues Revenue streams not anticipated to consistently recur over time
- Structural budget balance Maintaining fiscal sustainability over the long term by covering ongoing expenses with ongoing revenues

tax base change revenue collection trends. Ongoing (recurring) and one-time (non-recurring) revenue trends drive structural budget balance impacts.

In addition to annual revenue and cost changes, policymakers funding services also contemplate long-term impacts beyond the immediate budget window. A volatile or otherwise unreliable revenue stream may require offsetting short-term budget decisions, such as employing more cautious revenue estimates, setting aside as one-time portions of revenue whose reliability appears uncertain, or maintaining larger rainy day funds to continue core service delivery during economic downturns. Conversely, a more stable revenue stream allows for more reliable revenue estimates and sustainable service delivery with fewer taxpayer resources idling in rainy day funds. To maintain structural budget balance over time, ongoing revenues fund ongoing expenses, while one-time revenues best align with one-time budget expenses.

Revenue Growth and Volatility Tradeoffs

In addition to tradeoffs between other tax ideals such as economic efficiency and fairness, revenue growth and volatility exemplify a common tradeoff Utah policymakers grapple with, even within the realm of reliable revenue sufficiency.

Revenue volatility describes the extent to which revenue collections fluctuate over time. The underlying economic base of a tax and tax system design choices influence both revenue growth and volatility levels.

Each government budget relies not only on the mix of its tax portfolio's own-source revenues but also intergovernmental transfers from another entity's tax revenues, fees, and other revenue sources. Consequently, Utah's state and local revenue structure can be viewed as an interconnected system, with state revenues impacting local fiscal decisions.

Although it previously included property taxes, the State of Utah's current own-source tax portfolio consists primarily of income taxes and general sales taxes, along with other tax revenue sources like excise taxes and severance taxes. City and county own-source tax revenues come primarily from property taxes and general sales taxes, along with excise taxes. School district and special district own-source tax revenues come from property taxes.

What drives tax revenue changes over time?

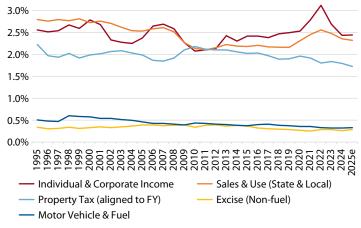
ECONOMIC CHANGES – Examples include:

- **Population growth** 1.5% population increase
- **Price inflation** 2.9% overall increase in prices
- Economic shifts Goods consumption's share of household spending returned to more normal levels as pandemic effects wore off; broad based economic expansion or decline; or shift to a more servicesbased economy from a goods-based economy

POLICY CHANGES – Examples include:

- Tax rate changes Income tax rate cut from 4.55% to 4.50% or 0.25% local sales tax increase for transportation
- Tax base changes Federal income tax policy altering definition of adjusted gross income that carries over to state income tax or corporate tax shifting to single sales factor apportionment
- Administrative changes The federal government delayed its income tax due date from April 15 to July 15 in 2020; Utah conformed to this date, shifting collection timing between fiscal years

Figure 2: Utah State and Local Tax Collections as % of State GDP, FY 1995-2025e

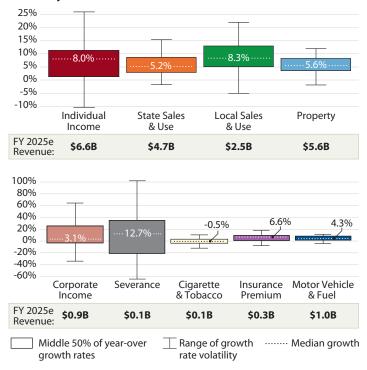


Source: Utah State Tax Commission, U.S. Bureau of Economic Analysis, and Moody's Analytics

While the state enjoys broad discretion on what to include or exclude in its tax portfolio, local government autonomy remains less flexible because state statute directs local fiscal options. Among major taxes, property tax provides the most direct local fiscal autonomy, while sales taxes remain subject to limitations driven by retail and population trends.

As Figures 1, 2, and 3 show, historically Utah property taxes (currently only imposed locally) demonstrate the most stability over the business cycle, with more volatility occurring in sales

Figure 3: Summary of Nominal Revenue Growth and Volatility in Utah's State and Local Taxes, FY 1995-2025e



Note: Scaling differs between graphs, Range excludes outliers. Source: Kem C. Gardner Policy Institute analysis of Utah State Tax Commission data

taxes and even greater volatility in income taxes. While much of this relates to the underlying economic base, tax system design choices, including periodic changes to tax rates and the tax base, also contribute to these revenue changes.

Property values change over time but tend to exhibit less volatility (particularly on the downside) than household incomes and taxable sales. The design of Utah's Truth in Taxation system further stabilizes property tax collections, as the nominal amount of the prior year's revenue represents the starting point for each taxing entity, exclusive of newly created property ("new growth") coming onto the tax rolls.

Of the State of Utah's two main revenue sources, income tax experiences more volatility than sales tax. During economic contractions, consumers often reduce purchases of less-necessary consumption items or substitute from more to less expensive goods and services. But a mandatory baseline level of consumption to meet basic needs sustains sales tax collections, even during downturns. Individual income tax tends to drop more significantly during economic contractions, as some individuals lose their jobs and non-wage sources of income such as capital gains, business income, and interest can decline precipitously.

Although smaller than these two major taxes, state corporate income tax and severance taxes demonstrate major volatility. State fuel tax revenues demonstrate remarkable stability, but absent continuous rate increases, fuel taxes fail to pace with prices changes and population-driven transportation demands and related costs. This occurs due to the gallon-based (rather

Measuring Volatility

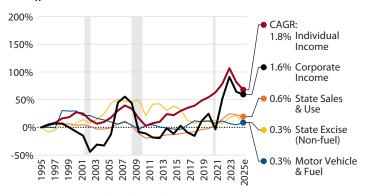
While measuring volatility seems conceptually simple, deeper examination reveals greater complexity. Different volatility measures answer different questions. Some measures simply track annual revenue collection changes, while others examine deviation from an overall trend. Some approaches (which may examine either year-over changes or deviation from trend) seek to isolate the underlying economic drivers of revenue changes from policy changes, such as a tax rate cut. This becomes important when forecasting revenues assuming current law.

- **Year-over change** One common approach measures the year-over change in revenue collections. This approach does not consider the overall collection trend, just the change from the prior year over a period of time.
- **Deviation from trend** Another approach considers how much revenues vary from a long-term trend over a period of time. This measure would, for example, measure positive growth that comes in below typical expected growth.

A volatility analysis of a rapidly growing state like Utah may differ from that of a state growing more slowly. For example, if Utah's revenue growth averaged 4% and then dropped to 1% and another state typically grew at 2% and dropped to the same 1%, the Utah drop would appear more dramatic compared to the trend, even though they both grew at 1%. The year-over growth measure would only look at the 1% growth and consider both states' volatility equal for that year, while the deviation-fromtrend approach would consider that Utah's growth came in below trend. For this reason, understanding details of the specific volatility measure helps to understand and interpret reported volatility trends.

Moreover, policymakers tend to care most about downside volatility, which can create fiscal sustainability challenges. While tax decisions made during economic upswings can clearly impact what happens during downswings, policymakers have proven adept over time at either increasing spending or cutting taxes when revenues increase more than expected. But revenues below expectations may lead to budget cuts, tax increases, or drawing down limited reserves. A theoretical tax system with large upside volatility and minimal downside volatility would generally not raise concerns the same way a system with large downside volatility and minimal upside volatility might, even though a standard measure of volatility may consider them to be equal.

Figure 4: Growth in Real State Tax Revenue per Capita by Tax Type (Cumulative and Compound Annual Growth Rate), FY 1995-2025e



Note: CAGR is compound annual growth rate.

Source: Kem C. Gardner Policy Institute analysis of Utah State Tax Commission, Utah

Population Committee, and U.S. Bureau of Labor Statistics data

than price-based) tax base combined with fuel efficiency improvements and the advent of electric vehicles. These revenue sufficiency limitations create challenges for this revenue stream funding Utah's transportation demands, leading to a sizable shift to less-stagnant revenue sources such as earmarked sales taxes at both the state and local levels.

At the local level, school districts impose about 60% of all property taxes, which demonstrate relative stability. But schools also rely heavily on state intergovernmental allocations of more volatile state income tax revenues. Cities and counties rely heavily on sales taxes, which demonstrate less volatility than state-imposed income taxes, but more volatility than the morestable property tax they impose. Other special purpose local districts impose property taxes, along with various service charges and other fees.

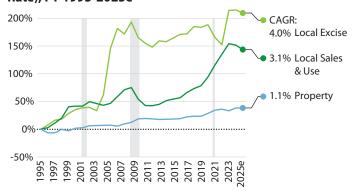
Why Does Revenue Volatility Matter?

High tax volatility creates budget uncertainty. As Figure 4 shows, Utah's highly volatile individual and corporate income tax collections generated the fastest state revenue growth in recent decades, even with overall flat or declining state income tax rates (Utah has not increased income tax rates in 50 years).

Figure 5 highlights how tax policy changes, such as rate changes, can drive revenue collections. Local sales taxes grew much more rapidly than state sales taxes in recent decades (about five times as fast). However, economic differences between the state and its component localities do not drive this growth. Rather, this difference derives from policy changes in the form of the rapid proliferation of local sales tax rates, particularly those earmarked for transportation.

Further adding to the tradeoffs state policymakers face, the Utah Constitution restricts the use of its fastest-growing revenues (income taxes) to a limited set of purposes, including public education, higher education, services for people with disabilities, and other services for children.

Figure 5: Growth in Real Local Tax Revenue per Capita by Tax Type (Cumulative and Compound Annual Growth Rate), FY 1995-2025e



Note: CAGR is compound annual growth rate.

Source: Kem C. Gardner Policy Institute analysis of Utah State Tax Commission, Utah

Population Committee, and U.S. Bureau of Labor Statistics data

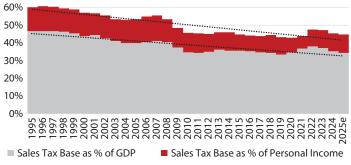
In recent decades as income tax revenue growth far outpaced state sales tax revenue growth (growing three times as fast), the Legislature shifted a larger share of funding for higher education and later for Medicaid and other services to people with disabilities and children from the sales-tax-supported General Fund to income taxes. By freeing up General Fund revenues previously dedicated to higher education and non-education services for children and people with disabilities, this shift opened up state budget flexibility. This flexibility allows for strong income tax growth to indirectly facilitate funding for other state services like transportation, which now receives sizable allocations of earmarked state sales taxes in response to slow fuel tax growth. However, under current interpretations of constitutional flexibility, the state will face significant future flexibility constraints to the extent these programs allowed to access income tax revenues fully shift from the sales-taxsupported General Fund to the Income Tax Fund.

Volatility Leads to Forecasting Challenges

Highly volatile revenue streams can create budget difficulties because forecast error tends to be higher for more volatile revenue streams, both on the economic upside and downside.

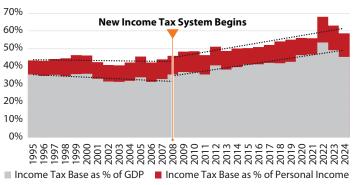
Basic Tax Blueprir Tax Base (What is Taxed) (Business, Home, Sales, Income)	Tax Rate	Tax Collections*
	9 % €	\$\$
Taxable Income \$168B (Including Credit Impacts)	4.50%	\$7.6B
Taxable General Sales (\$101B)	7.1% (State and Local)	\$7.2B
Taxable Property Value (\$591B)	0.94%	\$5.6B
*FY 2025e Note: Property tax includes fee-in-lieu. Source: Utah State Tax Commission and Kem C. Gardner Policy Institute		

Figure 6: Sales Tax Base as a Percent of Utah GDP and Personal Income, FY 1995-2025e



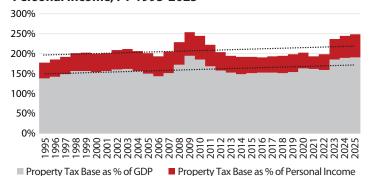
Source: Kem C. Gardner Policy Institute analysis of Utah State Tax Commission and U.S. Bureau of Economic Analysis data

Figure 7: Individual Income Tax Base as a Percent of Utah GDP and Personal Income, 1995-2024



Source: Kem C. Gardner Policy Institute analysis of Utah State Tax Commission and U.S. Bureau of Economic Analysis data

Figure 8: Property Tax Base as a Percent of Utah GDP and Personal Income, FY 1995-2025



Note: Property taxes aligned to state fiscal year corresponding to November due date. Source: Kem C. Gardner Policy Institute analysis of Utah State Tax Commission and U.S. Bureau of Economic Analysis data

If not carefully managed, this volatility may lead to spendingside appropriations misaligned with revenue collections.

A government's total tax system volatility depends on the composition of that entity's overall portfolio of revenue streams and the extent to which revenue streams counterbalance each other over the business cycle. Even though income taxes tend to be a more volatile revenue source, states without income taxes do not necessarily experience lower revenue volatility. For example, Alaska and Wyoming rely heavily on natural resource extraction, a volatile revenue stream reliant on a boom-and-

bust cycle not always aligned with the broader economic cycle. This reliance on natural resource extraction skews these states' total revenue volatility higher. States like Florida and South Dakota that also do not impose an income tax rely on higher sales taxes and demonstrate lower overall tax system volatility.

Tax Base Alignment with the Economy

Tax base refers to the activity or asset taxed. Examples include gallons of gasoline sold (motor fuel tax), income earned in a year (income tax), assessed property value (property tax), or value or amount of certain resources extracted from the earth (severance tax). Examining the tax base relative to personal income or gross domestic product (GDP) provides perspective on how well the underlying tax paces with the economy.

In Utah, among the three major taxes, historically the tax base for the income tax and property tax paced well with the economy. The sales tax failed to pace with economic growth, due in large part to a structural shift in the economy from taxed goods to untaxed services and remote sales (with taxes technically due but hard to collect). In recent years, with a much larger share of remote sales collected under the sales tax and with strong pandemic-era economic stimulus, the sales tax paced better. However, even with broad-based remote sales collection occurring, preliminarily the sales tax seems to be returning to the long-standing trend of gradual erosion relative to the economy as a larger share of consumption returns to untaxed services (Figure 6).

As the tax base for income and property taxes grew with the economy in recent decades, the growing tax base allowed for income and property tax rate reductions over time. Conversely, because the tax bases for the general sales tax and fuel taxes do not align as well with economic growth, tax rates did not drop similarly, likely due to revenue sufficiency considerations. While the state sales tax rate remained relatively flat with only minor fluctuations in recent decades, to maintain revenue sufficiency the Legislature authorized local sales tax rate increases (particularly earmarked for transportation), as well as increases in state-imposed fuel taxes.

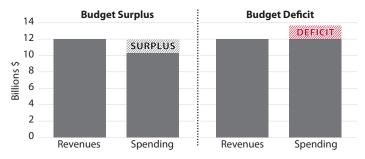
Structural Balance - Managing the Mix of One-time and Ongoing Revenues

To maintain budget balance, policymakers actively manage the budget's interaction with one-time and ongoing revenues. While some revenue sources fall clearly in one category or the other, this balancing act involves judgment to maintain revenue sustainability. While this paper focuses on tax revenue funding sources, non-tax revenues such as fees, intragovernmental revenues, and carryover funds also serve as important public funding sources that can help with business cycle management.

Nearly all states, including Utah, carry out state constitutional or statutory requirements to balance state and local governments' budgets every year, ensuring that annual spending remains at or

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Figure 9: Budget Surplus and Deficit



Source: Kem C. Gardner Policy Institute

below available funding sources for that year. This represents **annual** budget balance (Figure 9). However, annual budget balance differs from **structural** budget balance.

Structural budget balance takes a longer-term view. Structural balance considers the alignment of **ongoing** spending with **ongoing** revenues over time. Ongoing revenues exhibit a reasonable degree of certainty year after year. Though subject to fluctuations due to economic cycles or other events like the COVID-19 pandemic, many revenue streams vary between certain known ranges and typically generate fairly reliable revenue year after year. In contrast, some **one-time** revenue sources demonstrate little reliability. Examples include a year-end budget surplus (including due to forecast errors such as a revenue underestimate or spending overestimate) or situational federal funds (such as pandemic or natural disaster funding).

Governments that constantly rely on the availability of onetime sources year after year create structural imbalances, impairing fiscal sustainability. For example, the federal government consistently runs a large structural budget deficit, borrowing every year to meet basic operational expenses. Table 1 lists examples of ongoing and one-time revenue sources.

Similar to revenues, spending can be categorized as ongoing and one-time. Examples of ongoing spending includes permanent employee salaries and benefits, long-term or recurring contracts, or recurring building and road maintenance costs. One-time spending includes an employee bonus or new building and road construction. Table 2 lists additional examples of ongoing and one-time spending.

Determining Ongoing and One-time Revenues

Some revenue sources may not fall neatly into the "ongoing" or "one-time" category. For example, periods of abnormally high revenues or abnormally low expenses may occur for various reasons. These circumstances may require a judgment call on whether to classify those revenues or expenses, or some portion of them, as ongoing or one-time. Some basic level of one-time revenues (interest earnings, settlements, etc.) does occur consistently and should likely be considered ongoing. However, excessively high real per capita revenue growth may not recur.

Table 1: Examples of Ongoing and One-time Revenue Sources

Ongoing Revenue Sources	One-time Revenue Sources	
Recurring tax revenue	Rainy day fund balance	
Recurring fee revenue	Year-end budget surplus	
Recurring federal funds	Increase in current-year revenue estimate	
Consistent recurring levels of variable revenue sources (interest earnings at standard levels, legal settlements, etc.)	Carryover balances	
	Abnormally large single-year legal settlement	
	Temporary tax payment acceleration (from tax planning responding to federal tax policy changes, etc.)	
	Outsized revenue growth rates due to fiscal or monetary stimulus	
	Interest earnings from temporarily outsized balances	
	Situational federal funds (pandemic, natural disaster, etc.)	

Source: Kem C. Gardner Policy Institute

Table 2: Examples of Ongoing and One-time Spending

Ongoing Spending	One-time Spending	
Permanent employee salaries	New road construction	
Employee health care	New building construction	
Employee pension payment	Existing building renovation	
Employee other post-employment payment (OPEB)	Payment of a legal settlement	
Capital (building and road) upkeep and maintenance	Employee bonus	
Multi-year contract	Limited-term employee salary	
Multi-year bond payments		

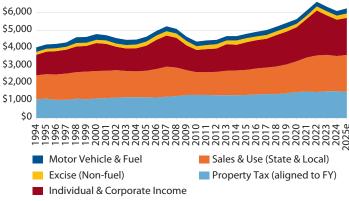
Source: Kem C. Gardner Policy Institute

Notably, analyzing revenue trends using inflation-adjusted per capita analysis can provide insights missed just considering revenue changes in nominal terms. For example, higher prices under recent high inflation remain likely to continue into the future and will likely create ongoing revenue impacts. Analysis considering only the history of nominal revenues could mischaracterize the high growth due to inflation as one-time, even though historically higher prices tend to stick once inflation occurs.

Budget Buffers

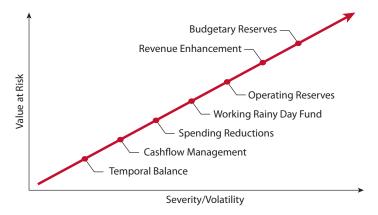
Formal and informal rainy day funds provide a one-time revenue source set aside from previous revenue collections to help bridge short-term budget gaps during a downturn. The State of Utah aligns its formal rainy day fund targets with the volatility of its two main revenue streams, periodically reassessing the fund target size based on actual revenue volatility. Because of greater income tax volatility, the Income Tax Fund budget reserve account target exceeds that of the budget reserve account for the sales-tax-supported General Fund.

Figure 10: Utah Real Per Capita State and Local Tax Collections by Tax Type, FY 1994-2025e (\$FY2025)



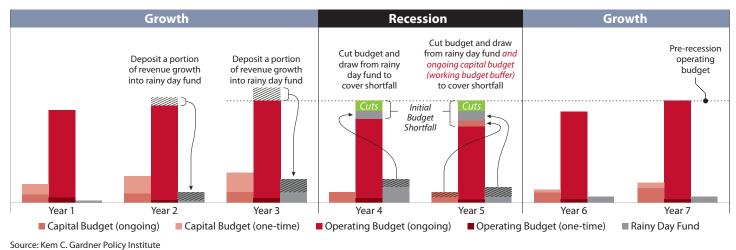
Source: Utah State Tax Commission, U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, and Utah Population Committee

Figure 12: Utah's Fiscal Toolkit



Source: Utah Office of the Legislative Fiscal Analyst

Figure 11: Example Budget Management over the Business Cycle



In addition, governments can allocate ongoing revenues to onetime capital expenses as a method to create an effective ongoing budget surplus that can be used to manage downside volatility. The state utilizes this approach with its transportation budget.

Citizen Certainty

In addition to providing reasonable revenue certainty for public service delivery, a reliable tax system also provides taxpayers with reasonable certainty. A reliable system allows household and business taxpayers to plan their lives and arrange their affairs in light of the tax system. It enhances trust in the overall tax system. Greater predictability can also foster greater economic growth over time as firms and households feel comfortable that their tax will not vary in unpredictable ways.

Reasonable certainty does not mean a tax system can never change. In fact, consistent tax law updates to reflect a rapidly changing world often provide **greater** certainty to both taxpayers and public service beneficiaries. Perfect taxpayer certainty represents a major challenge, as definitions and other aspects of tax law apply to facts in an ever-changing world, which existing tax law may not address directly or even at all.

In some cases, enhancing reasonable certainty may mean regular tax system updates, carefully contemplating and clearly explaining major shifts in tax policy, or enacting transition measures as tax policy changes.

Summary

Funding basic citizen services that underlie the economy such as transportation, education, and public safety requires reliable revenue streams over the business cycle. Social services in particular tend to function countercyclically, with demand increasing during economic downturns. A reliably sufficient tax system accounts for important factors such as growth, volatility, and citizen certainty in their roles as both service recipients and taxpayers.

"The tax which each individual is bound to pay ought to be certain and not arbitrary. The time of payment, the manner of payment, the quantity to be paid all ought to be clear and plain to the contributor and to every other person."

- Adam Smith, The Wealth of Nations -



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