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Who Pays Taxes in Utah?

The Distribution of the Tax Burden in Utah

OFFICE OF LEGISLATIVE RESEARCH AND GENERAL COUNSEL

HIGHLIGHTS

- The economic burden of all taxes ultimately falls on households. Some taxes are imposed initially on the household bearing the taxes, while other taxes are shifted to the household bearing the tax.
- A **regressive** tax takes a higher percentage of income from lower income than higher income households. A **proportional** tax takes the same percentage of income from lower income and higher income households. A **progressive** tax takes a higher percentage of income from higher income than lower income households.
- The combined burden of federal, state, and local taxes initially imposed on households is generally progressive through most of the income scale, largely due to the federal individual income tax. However, the total initial household tax burden is regressive at the lowest income levels.
- The combined burden of state and local taxes initially imposed on households is roughly proportional through most income levels (at the highest and lowest income levels, it is regressive). The progressivity of the state individual income tax roughly offsets the regressivity of state and local sales, excise, and property taxes.
- The burden of federal taxes imposed initially on households is progressive, due to the very high progressivity of the federal individual income tax combined with the roughly proportional payroll taxes on earned income and regressive excise taxes.
- Sales, property, and payroll taxes generally constitute the largest share of low-income initial household tax burdens, whereas individual income taxes generally constitute the largest share of high-income initial household tax burdens.
- Taxes imposed initially on businesses are eventually shifted to households. Business taxes may be shifted backward to owners in the form of lower investment returns or to workers in the form of lower wages, or shifted forward to customers in the form of higher prices. Tax burdens may also be shifted across national, state, and local borders.
- Uncertainty exists as to how many taxes, including business taxes, are shifted to households. Different assumptions yield different results as to the ultimate incidence of taxes that are shifted.

Introduction

Because tax equity, or fairness, is a vital element of tax policy, policymakers often ask how the existing tax system and proposed tax changes affect different types of households, such as households of different sizes and income levels. Unfortunately, these important questions often defy simple answers.

Key tax equity considerations include horizontal equity (how similar households are treated), vertical equity (how dissimilar households are treated), the benefits principle (the degree to which those who receive government benefits pay for those benefits), and the ability to pay principle (the degree to which households have the means to pay a tax).

Although data and economic theory can provide valuable insight as to the distribution of the tax burden, the "fairness" or "equity" of a tax system is very much in the eye of the beholder. In addition, judgments as to a tax system's equity are often caught up with competing goals, such as economic efficiency, neutrality, revenue sufficiency, stability, and simplicity. Consequently, policymakers face tradeoffs among competing principles when setting tax policy.

This briefing paper provides a basic point of reference for understanding these important tax equity questions by providing:

(1) an introduction to tax incidence analysis;
(2) estimates of the distribution of taxes initially imposed on households in Utah, including federal, state, and local taxes; and
(3) a range of estimates for the distribution of taxes initially imposed on businesses that are shifted to Utah households.

Introduction to Tax Incidence

Legal or "Initial" Incidence

Legal incidence refers to who the law says has to pay a tax and is therefore extremely important for tax collection and administration. For example, the legal incidence of the individual income tax is on individuals, although withholding requirements are imposed on employers. Similarly, the legal incidence of the sales and use tax ("sales tax") is on the purchaser, although the tax is generally collected and remitted to the Tax Commission by the seller. The legal incidence of the property tax is on the property owner, although it may be collected and remitted by a mortgage company.

Economic Incidence & Tax Shifting

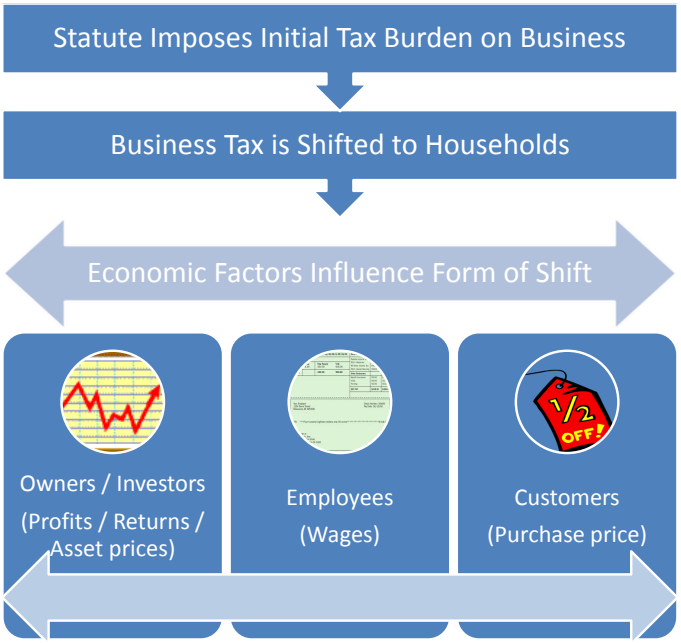
Although legal incidence is important for tax administration and collection, the legal incidence of a tax does not decide the ultimate economic effect of that tax. Rather, economic issues such as supply, demand, elasticity, and market structure will determine the ultimate economic incidence of a tax. In other words, the economic incidence of a tax may be shifted from the person legally required to pay the tax.

One common example of tax shifting is business taxes, which are **always** eventually passed on to households. The multi-billion dollar question is which households. Customers? Employees? Owners of that particular business? All owners of capital? In-state households? Out-of-state households?

As illustrated in Figure 1, common types of tax shifts include a business shifting a tax to employees in the form of lower wages (or other benefits), to customers in the form of higher prices, or to owners in the form of lower profits. Lower profits to owners may take various paths, including adjustments to income streams or through capitalization into asset values. In addition, taxes imposed in Utah may ultimately be shifted to in-state or out-of-state households. Similarly, taxes imposed in other states may be borne by Utah households, such as when a tax increases the price of an item produced elsewhere and consumed by a Utah household.

As an example of tax shifting, a company that owns an apartment complex is legally liable to pay the property tax on that property. The property owner may shift that tax to the renter (customer) in the form of higher rent payments or may pay its employees lower wages than it would otherwise. Or the owner may receive lower annual profits or experience a reduction in the market value of the property because of the tax.

Figure 1
Shifting of Business Taxes



The ultimate economic impact in the example above would be influenced by economic factors, including rental markets, labor markets, and investment markets. If there is a glut of unrented properties, the tax may be difficult to pass on to renters in higher rent rates. If there is high unemployment in the area, it may be easier to pass on the tax to employees in the form of lower wages. If few other alternatives for attractive investment returns exist, the company's owners may bear the economic burden in lower investment returns.

Substantial agreement exists on the likely shift patterns of certain types of taxes and much less agreement on the economic incidence of other taxes. For example, both the "employee" and "employer" portion of federal payroll taxes are widely assumed to be borne by employees in the form of lower compensation. Unlike the wide agreement on the incidence of payroll taxes, much less agreement exists on the economic incidence of the corporate income tax and property taxes imposed on businesses.

Taxes imposed initially on households can also be shifted based on economic factors. However, incidence studies generally assume that those taxes are borne by the households paying them.

Another important issue is the timing of tax shifts. Market frictions, such as contracts or other economic conditions, may stand in the place of tax shifts that would normally take place. That is, tax shifting may not necessarily take place all at once when a tax is adjusted, but may take place over time as economic conditions change - for example, as contracts expire or new employees are hired.

Lifetime Incidence of Taxes

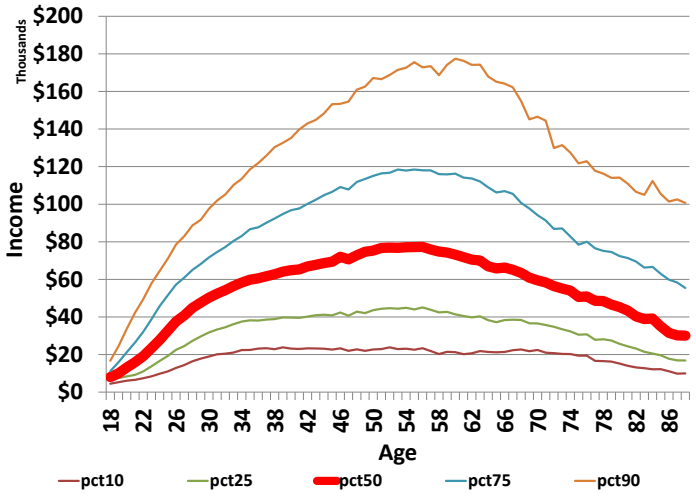
To understand tax incidence, it is essential to understand the concept of lifetime incidence. Households do not make economic decisions based solely on current annual income. Rather, especially for large purchases, households often make decisions based on expectations over a longer time horizon. Current consumption can be funded through not only current income, but also through accumulated income from prior years (savings) or claims on future income (loans).

Figure 2 shows Utah household income amounts by age.[1] As the chart illustrates, median incomes (red line) generally grow from early adulthood through the mid to late 50s, after which incomes decline as people begin to retire. Both those with higher (blue and orange lines) and lower (green and maroon lines) income than the median follow this same general trajectory. People generally take these trends into account when making major consumption decisions.

For example, a person considering pursuing a college degree will likely take into account not only the increased expense and reduction in current income associated with that decision, but will also look at the lifetime economic and other benefits received from that education. A young couple buying a home may consider not only current annual income and family size, but expected future income and family size. The expenditures of a retiree serving as a nonprofit or church volunteer may far exceed current annual income because a portion of a lifetime worth of accumulated savings is being used to finance the volunteer effort. In each of these cases, the tax burden compared to annual income in any one year may not represent a complete picture of that household's tax burden and economic well-being.

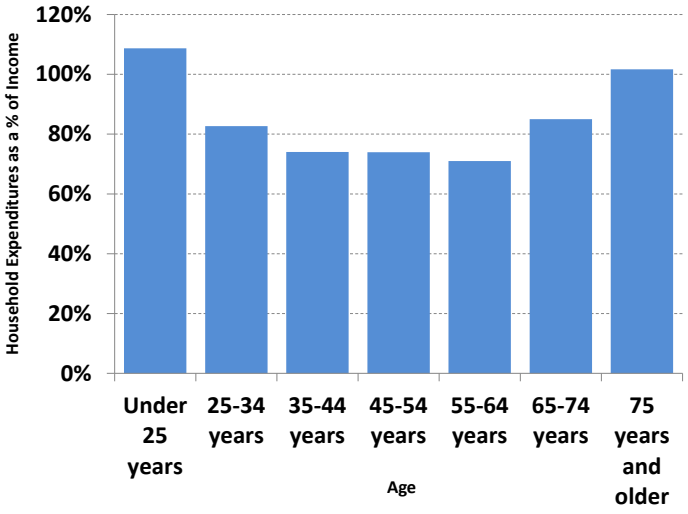
Figure 3 illustrates this concept by using federal Consumer Expenditure Survey data to compare total expenditures and income at different ages. As the chart illustrates, those at both ends of the age spectrum (those under 25 and those over 75) on average spend more than their annual income, whereas those in middle age tend to spend less than annual income.

Figure 2
Utah Household Income by Age of Primary Earner



Data source: Utah Tax Burden Model

Figure 3
Total Expenditures as a % of Income, by Age



Data source: Bureau of Labor Statistics Consumer Expenditure Survey

Due to these lifetime trends, the economic literature[2] generally suggests that, when measured over a lifetime, regressive taxes tend to be less regressive and progressive taxes less progressive. That is, some of the more extreme impacts tend to cancel out over a longer time horizon. This is important to remember when considering incidence studies such as this that use annual tax, income, and expenditure data.

TAXES IMPOSED INITIALLY ON HOUSEHOLDS

This section examines the major taxes imposed initially on Utah households – individual income taxes (state and federal), the portion of sales and excise taxes imposed on households (federal, state, and local), the portion of property taxes imposed on households (local), and payroll taxes (federal). The appendix provides more detail as to the methodology used in the study, including the measure of economic income.

Taxes Initially Imposed on Households

Figures 4 through 14 illustrate in different ways the tax burden distribution for each of the major taxes initially imposed on Utah households. The taxes included are federal and state individual income taxes, the portion of sales and use taxes imposed on households, and the portion of excise taxes (specialized taxes imposed on purchases of particular goods or services, such as motor and special fuel, cigarettes and tobacco, hotel purchases, and alcohol) imposed on households, the portion of property taxes and Department of Motor Vehicle registration fees imposed on households, and self-employment taxes and the "employee" portion of federal payroll taxes.

Figure 4 provides estimates of the median dollar amount of taxes per household, by income decile. Each decile is made up of 10% of households. As the chart illustrates, higher income households pay significantly higher dollar amounts in both state and local taxes and in federal taxes than lower income households.

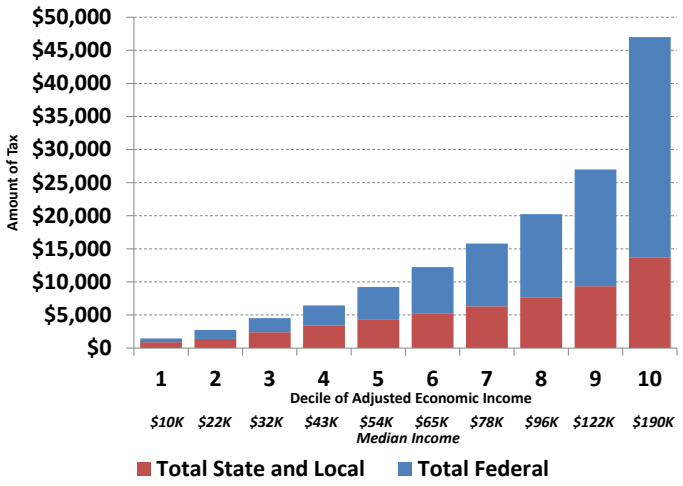
Figure 5 portrays the tax estimates from Figure 4 in a different way by showing estimates of effective (average) tax rates by income decile. In other words, it shows not the total tax amounts shown in Figure 4, but those tax amounts as a percentage of income.

Effective tax rates (taxes as a percentage of income), such as those shown in Figure 5, can provide useful perspective on vertical equity, or the tax burden imposed on those at different income levels. In characterizing this comparative tax burden, a **regressive** tax takes a higher percentage of income from lower income than higher income households. A **proportional** tax takes the same percentage of income from lower and higher income households. A **progressive** tax takes a higher percentage of income from higher income than lower income households.

As Figure 5 illustrates, the total tax burden of federal, state, and local taxes initially imposed on households is generally progressive, due to the progressive nature of the federal tax system. That is, higher income households pay more in these taxes than lower income households. The exception is the lowest income decile, which has a somewhat higher effective tax rate than the second lowest income decile.

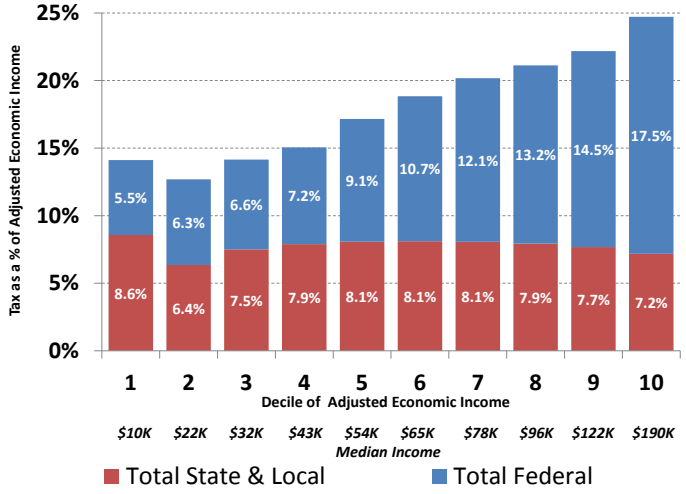
Examining only the distribution of state and local taxes initially imposed on households, the tax burden generally varies somewhat between proportional and slightly regressive, except at the highest and lowest levels, where it is regressive. The distribution of the federal tax burden is progressive across the income scale, with effective tax rates increasing with income.

Figure 4
Tax Amounts for Federal, State, and Local Taxes Initially Imposed on Households, by Income



Data source: Utah Tax Burden Model

Figure 5
Effective Tax Rates for Federal, State, and Local Taxes Initially Imposed on Households, by Income



Data source: Utah Tax Burden Model

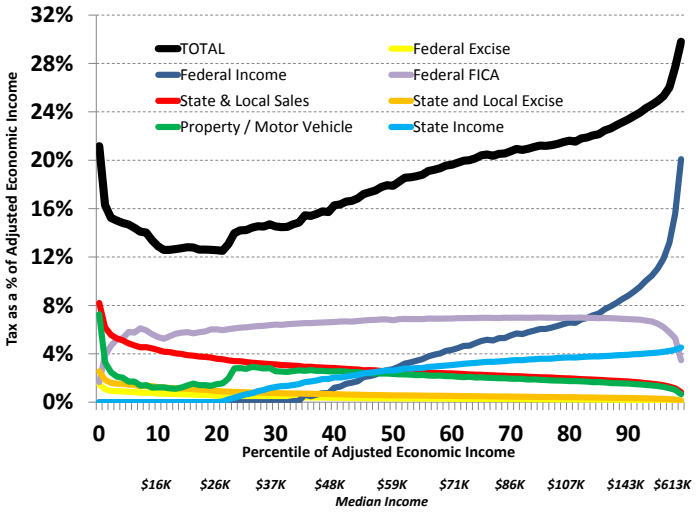
More detailed estimates of household taxes by percentile of income and by tax type are shown in Figure 6. Each percentile represents 1% of households, ordered by income. As the chart reveals, the total burden of taxes initially imposed on households is progressive other than in the lowest percentiles. This progressivity is primarily due to the high progressivity of the federal individual income tax.

Figure 7 provides estimates of the total dollar amount of state and local taxes paid by households at different income levels. As the chart illustrates, higher income households pay significantly greater amounts in state and local taxes than lower income households. Dividing the tax amounts in Figure 7 by income to calculate an effective tax rate shows that the initial household state and local tax burden is roughly proportional over most of the middle of the income distribution (see Figure 8). At the lowest and highest end of the income scale, the burden is regressive.

In examining effective tax rates in the very lowest income levels, it is important to remember the lifetime incidence concept and that income tax returns are the primary data source for the estimates. Although undoubtedly many of those in the lowest income decile are truly "poor," some may not be. For example, some low-income tax returns have characteristics similar to those in the highest income percentiles, such as significant itemized deductions and non-wage sources of income more prevalent among high-income households, such as capital gains (or losses) and dividends, suggesting that tax planning may be responsible for the low reported annual income, not the poverty of the filer. For this and other reasons, it is important to interpret the data in the very lowest percentiles of income with some degree of caution.

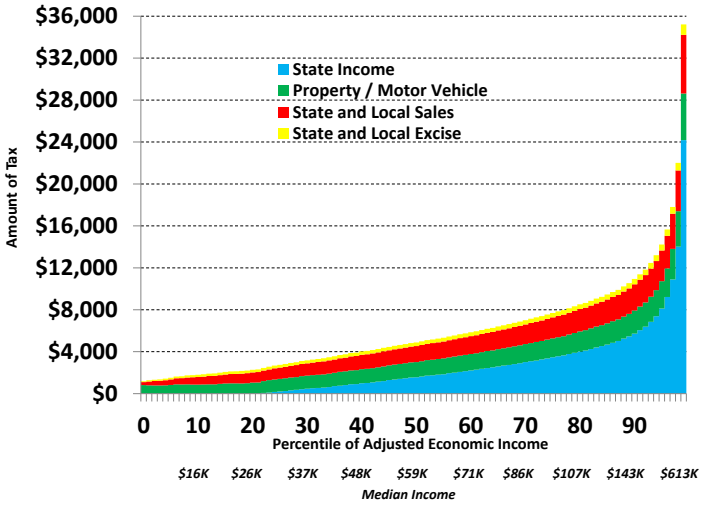
Unlike Figure 6, which shows comparisons of effective tax rates (tax as a percentage of income) for all major taxes, Figure 9 shows each major tax type as a percentage of total tax liability. As the chart illustrates, taxes impact households differently at different income levels. For lower income households, federal payroll taxes, local property taxes, and state and local sales and excise taxes tend to matter the most. For higher income households, income taxes matter the most. The largest tax for those in middle income ranges is generally the federal payroll tax, followed a roughly equal mix of the other major taxes. Consequently, the generic term "taxes" may have different meaning for different households.

Figure 6
Distribution of Taxes Initially Imposed on Households



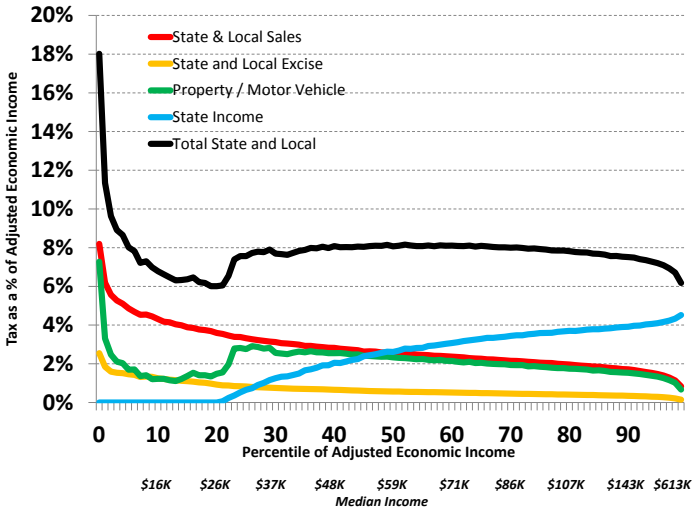
Data source: Utah Tax Burden Model

Figure 7
Estimated Tax Amounts for State and Local Taxes Initially Imposed on Households



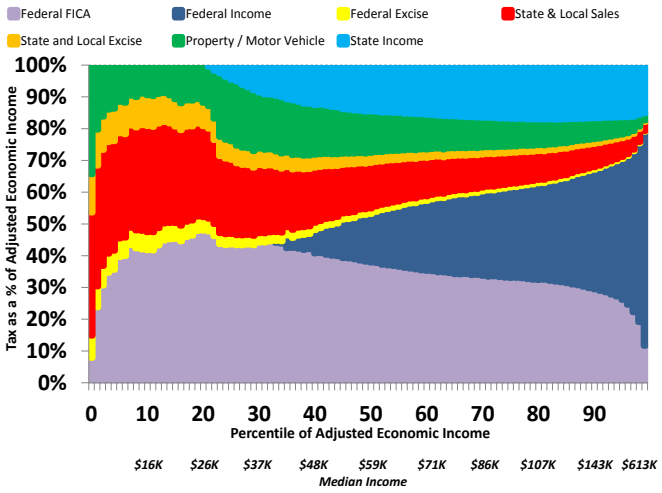
Data source: Utah Tax Burden Model

Figure 8
Distribution of State and Local Taxes Initially Imposed on Households



Data source: Utah Tax Burden Model

Figure 9
Major Taxes Initially Imposed on Households as a Percentage of Total Tax, by Income



Data source: Utah Tax Burden Model

The following sections separately review the initial incidence of each of the major federal, state, and local taxes imposed initially on households.

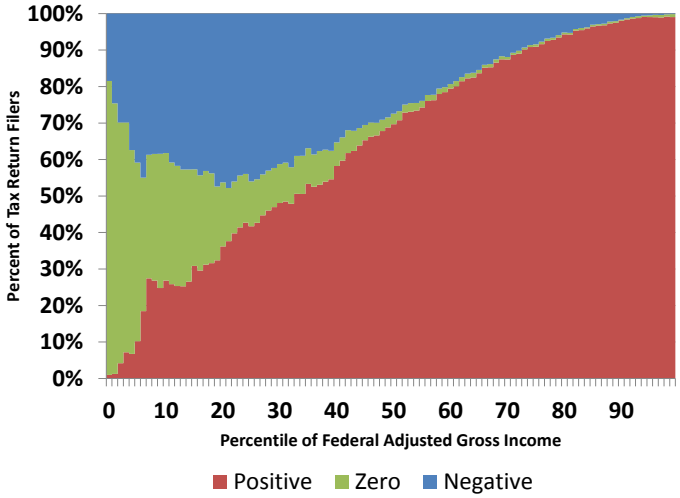
Individual Income Taxes

Utah and federal individual income taxes are progressive. That is, effective tax rates increase as income increases, so high-income households pay a higher percentage of their income in tax than low-income households. As can be seen in Figure 6, although Utah's single rate individual income tax remains progressive through tax credits (that is, median effective tax rates increase with income), the federal individual income tax is significantly more progressive than the state individual income tax.

Figure 10 shows the distribution of households with a positive federal income tax liability, no federal income tax liability, and a negative federal income tax liability, by income. Negative effective tax rates exist due to refundable individual income tax credits in which a taxpayer receives a net refund from the federal government. The major refundable tax credits are the earned income tax credit and the child tax credit.

Unlike previous charts that show effective tax rates for the median taxpayer within each decile or percentile, in the scatterplot charts shown in Figure 11, each Utah household is represented by a dot. Showing every household provides a ready means of comparing both vertical equity (comparing those with different incomes) and horizontal equity (comparing those with similar incomes) for a particular tax and to compare among different taxes.

Figure 10
Federal Individual Income Tax Filers with Positive, Zero, and Negative Liability



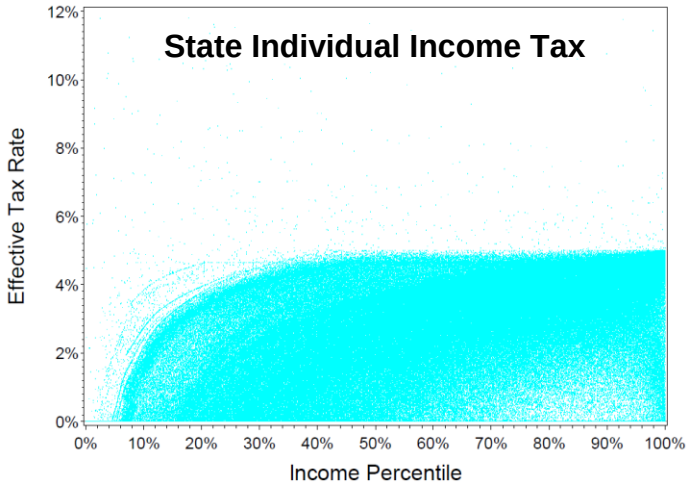
Data source: Utah State Tax Commission

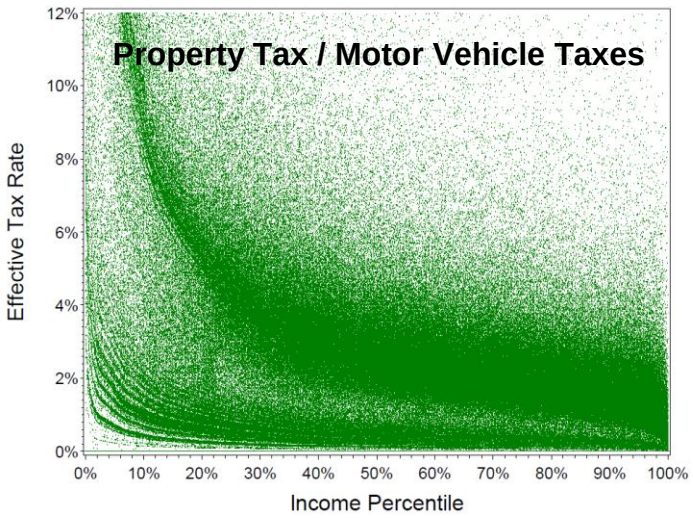
As the scatterplot charts in Figure 11 illustrate, effective tax rates for the state individual income tax are progressive, generally rising up to 5% as income increases, although there can be substantial variation in effective tax rates at most income levels, depending on credits a taxpayer can claim. Federal income tax effective rates are much more progressive, with effective rates generally ranging from -35% (at lower income levels) to 35% (at upper income levels). However, as the charts illustrate, there is wide disparity in effective tax rates among households at similar income levels, raising questions of horizontal equity as those with similar income levels are taxed very differently.

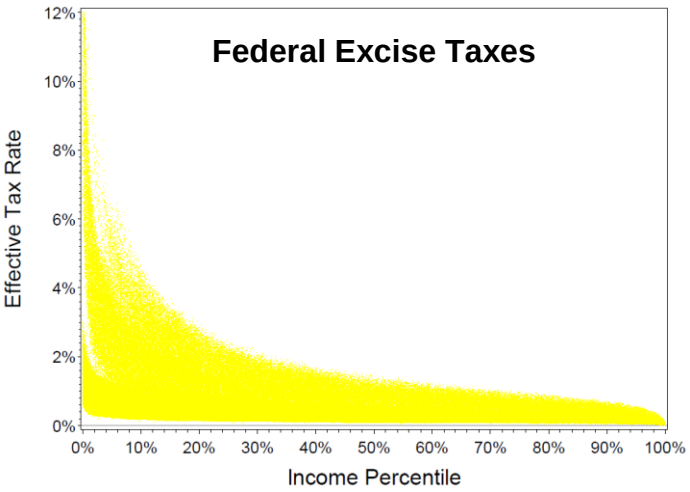
Individual income taxes are often criticized in relation to the benefits principle because many households pay no income taxes or pay less tax if they have certain characteristics or engage in certain activities deemed to be desirable by the tax code (being a larger household, making charitable contributions, or having mortgage debt). This conflict with the benefits principle is particularly true under the state individual income tax where the revenues are constitutionally earmarked for public and higher education, while households with more children generally pay less than similar households without children.

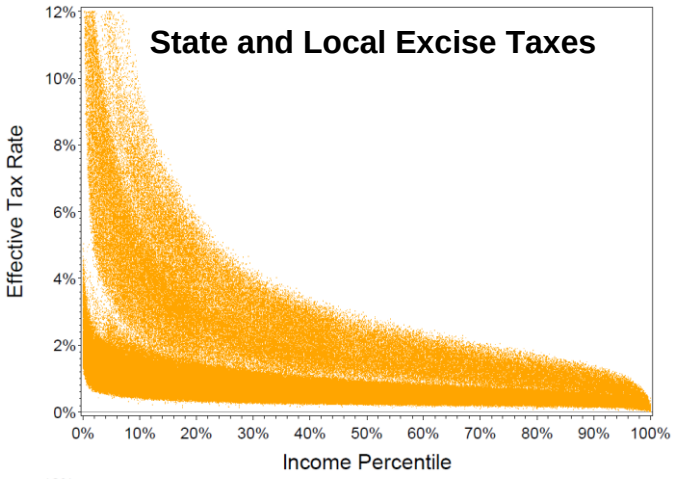
On the other hand, arguments made under the ability to pay principle are why at least some of these exemptions exist. Of the major taxes, the individual income tax is the tax where it is easiest to make adjustments for ability to pay as measured by current income.

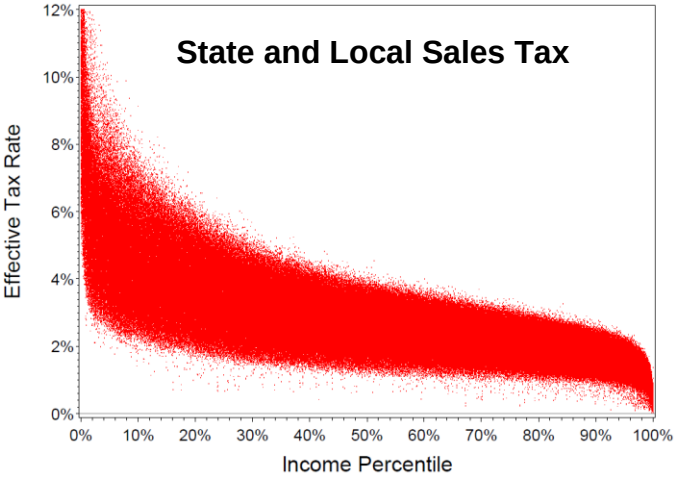
Figure 11
Effective Tax Rates for Major Taxes

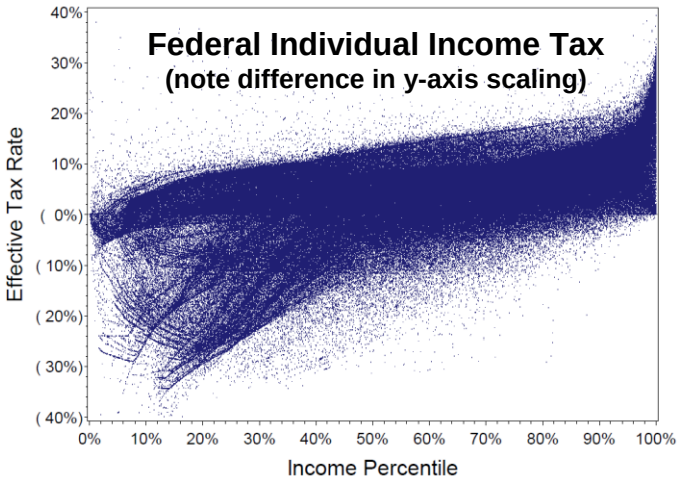


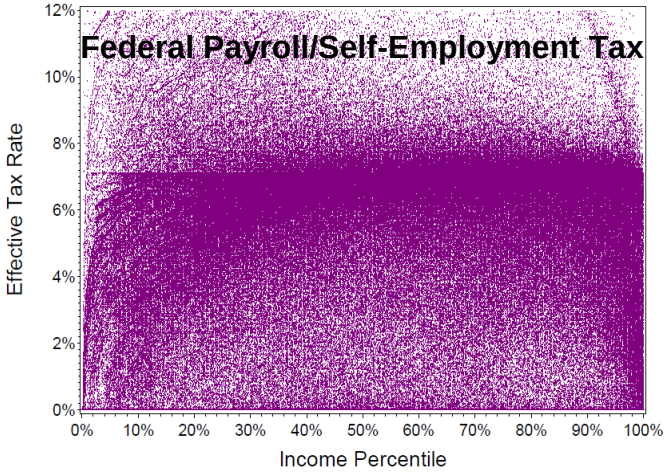












Data source: Utah Tax Burden Model

Sales and Excise Taxes[3]

Sales and excise taxes imposed initially on households are consumption-based taxes, generally imposed on the sale of goods or services. Although some selected services are taxed, most services remain excluded from the sales tax base. Excise taxes, which are imposed by federal, state, and local governments, are imposed on the purchase of certain types of goods, including motor and special fuel, cigarettes and tobacco, alcohol, restaurant meals, hotels, and car rentals.

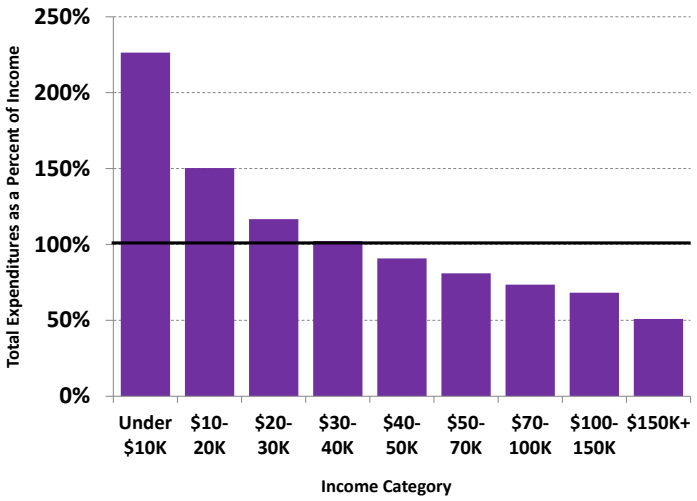
As the scatterplots in Figure 11 show, sales and excise taxes imposed initially on households are regressive. That is, lower income households pay more in tax as a percentage of income than higher income households. This regressivity occurs primarily because higher income households, having met basic necessities, tend to consume less and save more of their income. As Figure 12 illustrates, the federal Consumer Expenditure Survey estimates that low-income households on average spend significantly more than their current household incomes, while higher income households tend to save a portion of income.

Although some of this consumption far in excess of current income among low income households may relate to underreporting of income on the survey, some of it may also relate to the concept of lifetime incidence. For example, college students and the elderly are two examples of situations where current annual income may not provide a complete picture of a household's economic well-being.

Sales Tax on Food. One sales tax policy of interest in recent years is the sales taxation of food and food ingredients ("sales tax on food"), as the Legislature reduced both state and local sales tax rates on food.

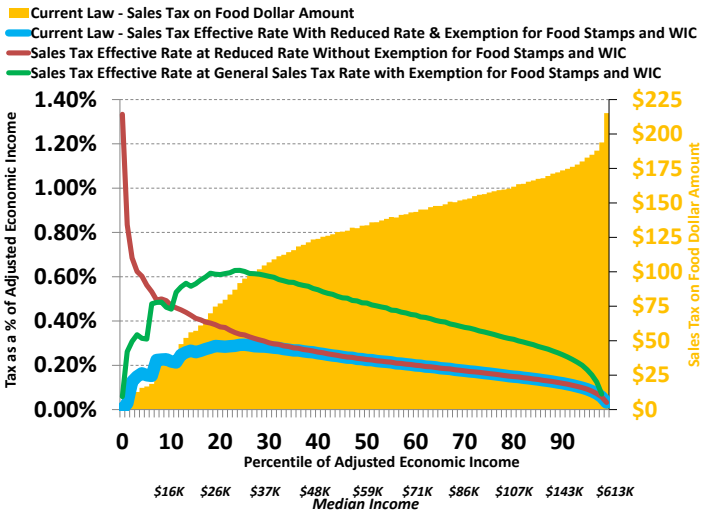
As Figure 13 illustrates, without exemptions for food assistance programs such as food stamps and the Women, Infant, and Children program (WIC), the sales tax on food would be one of the most regressive elements of the sales tax (shown by the maroon line), even though high-income households pay more in dollar terms than low-income households. The sales tax on food is generally considered regressive because lower income households spend more on food ***as a percentage of income.*** For low-income households that receive tax-exempt food purchases, the regressivity of the sales tax on food is mitigated, whereas for those who do not receive these benefits, the sales tax on food remains regressive.

Figure 12
Total Expenditures as a Percent of Income[4]



Data source: Bureau of Labor Statistics Consumer Expenditure Survey

Figure 13
Sales Tax on Food Dollar Amount Estimates



Data source: Utah Tax Burden Model

Overall, as the blue and green lines in Figure 13 show, the regressivity of sales tax on food is offset in the lowest three deciles of income by the sales and use tax exemption for food purchased through the food stamp and WIC programs, as well as through food provided by government and nonprofit food assistance programs. The estimates included in this briefing paper adjust for tax-exempt purchases under the food stamp and WIC programs, but do not account for tax exempt food provided by churches or other tax exempt organizations.

Interestingly, it is estimated that nearly 30% of the recent reductions in sales tax on food went to those in the highest quintile of income (the 20% of households with the highest income). This is because food stamps and WIC program purchases are exempt from sales taxation and because, in dollar terms, those in the highest quintile of income are estimated to spend several times as much on food purchases as those at lower income levels. It is estimated that only about 6% of the recent sales tax on food reduction went to the households with the lowest 20% of income.

Because consumption-based taxes in general tend to be regressive, tax equity arguments related to the sales tax and excise taxes often involve the ability to pay principle because these taxes tend to take a higher percentage of income from low-income households than high-income households. At the same time, unlike the income tax and property tax (which a sizable number of households do not initially pay), the sales tax is viewed as a tax that everyone pays. One argument made in favor of the sales tax is that, in accordance with the benefits principle, it allows everyone making taxable purchases to help pay for general government services, not just those with taxable income or property.

Property Taxes

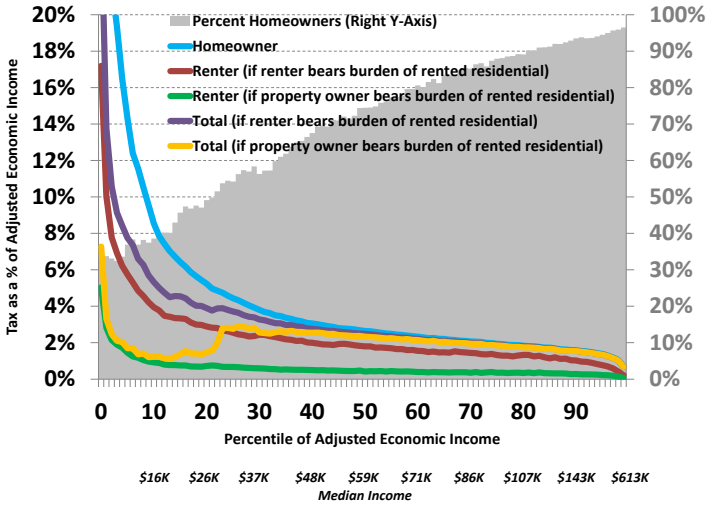
Because Utah's property tax is embedded in the Utah Constitution, the Legislature's policy options are constrained. All property is required to be taxed at its fair market value unless the Constitution allows an exemption. One major constitutional exemption authorizes the Legislature to exempt up to 45% of the value of residential property and the Legislature has allowed primary residential property the full 45% exemption. Another exemption is for household furnishings and equipment, which means that the portion of the property tax imposed initially on households is largely a tax on real property and on motor vehicles. As authorized by the Constitution, the Legislature has also imposed a fee in lieu of a property tax on motor vehicles and other similar items required to be registered with the state, including boats, motor homes, trailers, and planes.

The property tax estimates in this section include property taxes on residential property and the various types of fee-in-lieu of property tax, as well as other related registration fees. As illustrated in the property tax scatterplot in Figure 11, the initial incidence of the residential property tax imposed on households is generally regressive. That is, households with lower incomes pay a higher proportion of their income in property taxes than households with higher incomes. Whereas the estimates in Figure 11 exclude property taxes paid on residential rental property, Figure 14 compares the tax burden on owner-occupied property and renter-occupied property, if it is assumed that the property tax on residential rental property is fully passed onto renters. These estimates are also addressed later, along with other business taxes.

Figure 14 shows that, even if it is assumed that renters bear the full burden of the property tax on rental property, homeowners pay a higher effective property tax rate than do renters. This lower effective tax rate may be due to multi-family properties, which tend to have both less square footage and land per dwelling unit (resulting less taxable value and tax per dwelling unit). Other possible explanations include smaller homes being rented more than large homes and homes in lower value areas being rented more than homes in higher value areas. As Figure 14 also illustrates, homeownership tends to increase as income increases, although it should be noted that both renters and homeowners exist in all income percentiles.

The property tax fee-in-lieu and other motor vehicle fees are also regressive. This is partly because of nature of consumption in general (as illustrated in Figure 12) and because the flat age-based (rather than value-based) motor vehicle fee-in-lieu structure results in reductions in effective tax rates as income increases.

Figure 14
Property Tax Effective Rate and Home Ownership, by Income



Data source: Utah Tax Burden Model

Federal Payroll Taxes

The federal government levies a 15.30% tax on earned income (generally wages) up to a specified income threshold,[5] of which half is withheld from the employee (and designated as the "employee" portion) with the remaining half designated as imposed on the employer. Each portion of the 7.65% tax rate is split to pay for federal entitlement programs: 6.20% to Social Security and 1.45% to Medicare. For wages above the income threshold, the 1.45% Medicare rate continues to apply to both the employee and employer portion. Self-employed workers pay both portions of the 15.30% tax up to the income threshold (Social Security rate of 12.40% and Medicare rate of 2.90%) and the 2.90% Medicare rate above that threshold.

Although the legal incidence of this tax is split between employers and employees, the general view of public finance economists is that all or nearly all the economic burden of the payroll tax falls on workers.

Because the payroll tax is imposed on wages at a uniform rate, the payroll tax is proportional to earned income below the income threshold. However, it is not a proportional tax with respect to total income because it is imposed only on earned income. High-income households, who tend to receive a higher proportion of their income through non-wage income sources (interest, dividends, capital gains, etc.) and low-income households that receive a higher proportion of their income from government transfer payments (welfare benefits, food stamps, etc.) have lower effective rates than the majority of income groups. As Figure 11 illustrates, most income groups paid an effective rate between 5.0% and 7.5% of their total economic income for the "employee" portion of payroll and self-employment taxes. The "employer" portion of the payroll tax is addressed later under the discussion of taxes initially imposed on businesses.

Most taxpayers understand that federal payroll taxes pay for Social Security and Medicare, so the benefits principle that links a tax to its benefits is high for the payroll tax compared with many other taxes. At the same time, taxpayers often likely do not realize how much they are paying in federal payroll taxes because the "employee" portion comes out of their paycheck before it hits their bank account and they don't realize the tax shifting of the "employer" portion is taking place. For most taxpayers up to the 80th percentile of income, the payroll tax is the single largest tax they pay (as can be seen in Figure 9).

TAXES IMPOSED INITIALLY ON BUSINESSES

Business Taxes

The key insight to understanding the economic incidence of taxes initially imposed on businesses ("business taxes") is that businesses don't bear the economic burden of business taxes – people do.

However, estimating how business taxes are shifted to households is difficult. Taxes initially imposed on businesses do not remain distinct as "taxes," thereby allowing easy tracking of tax shifting. Rather, business taxes alter economic prices, such as employer wages, investor rates of return, and prices for consumer goods and services.

Because taxes become embedded in economic prices, it is difficult to clearly identify which price changes relate to taxes and which are due to other economic factors. As a result, even though economic theory can provide valuable insights as to how taxes may be shifted, no consensus exists as to who bears the final economic burden of many business taxes. Moreover, even when there is substantial consensus as to the economic effect of a tax (such as the "employer" portion of federal payroll taxes, which are widely assumed to be borne by employees), this tax shift is not transparent or even recognized by the person bearing the economic burden of the tax. Because business taxes become embedded in economic prices that can cross borders (investor returns, consumer prices, and employee wages), tax shifting can take place among localities, states, and countries. That is, just as some taxes imposed initially on Utah businesses are exported to non-resident households, some taxes imposed initially on businesses located in other states can be shifted to Utah households.[6]

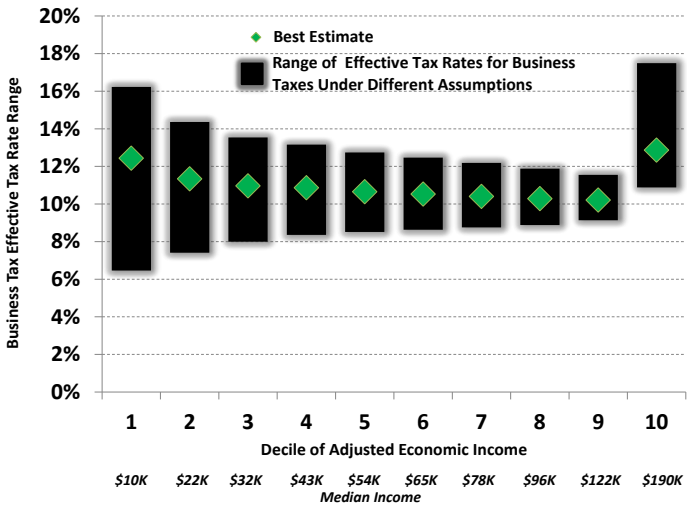
Major taxes imposed initially on businesses include the corporate income tax, property taxes, sales taxes, severance taxes, excise taxes, insurance premium taxes, and the "employer" portion of federal payroll taxes. Economic factors, such as market structure and elasticity of supply and demand, determine how and where each of these business taxes is shifted. For example, the negotiating power and mobility of a labor force will influence how much of the tax burden of business taxes will fall upon those laborers. Similarly, the ability of capital to move to better investment opportunities will influence the extent to which owners of capital bear the burden of business taxes.

Because so much uncertainty exists as to how business taxes are shifted to households, Figure 15 shows a range of estimates for taxes imposed initially on businesses that are ultimately shifted to Utah households. The range (shown by the black bars) comes from different assumptions about the extent of tax exporting and about the distribution of business taxes to owners of capital, wage-earners, and consumers.[7] For example, the effective tax rates of business taxes shifted to Utah households in the highest (10th) decile of income range from about 11% to about 18%, with a best estimate of about 13% (shown by the green diamond), while effective tax rates in the lowest (1st) decile of income range from about 6% to about 16%, with a best estimate of about 12%. As the wide ranges shown by the black bars suggest, however, there is substantial uncertainty as to the ultimate economic burden of business taxes.

Using the best estimates from Figure 15, Figures 16 and 17 show estimates of the distribution of business taxes to households, by tax type. Although impacts vary depending on the assumptions used, federal business taxes may be progressive overall once shifted to households, whereas state and local business taxes may be regressive when shifted to households.

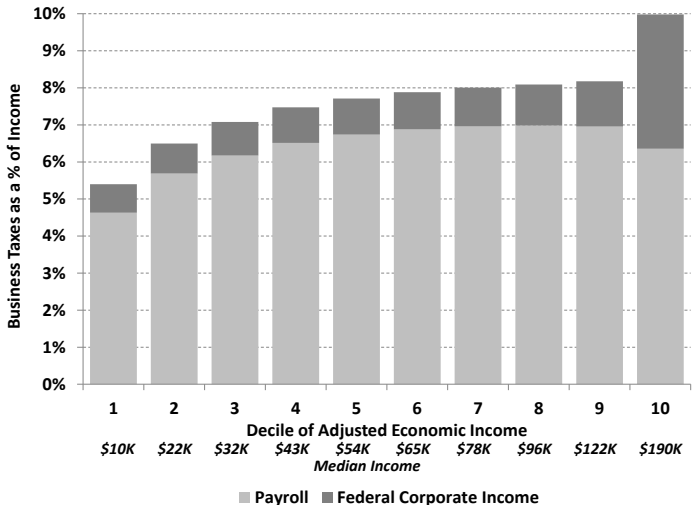
Figure 18 combines the best estimates of how business taxes are shifted to households with the Figure 5 estimates of taxes initially imposed on households. Under these assumptions, the overall impacts on households are a progressive system overall, consisting of progressive federal taxes and generally somewhat regressive state and local taxes.

Figure 15
Tax Incidence Estimates for Federal, State, and Local Taxes Initially Imposed on Businesses



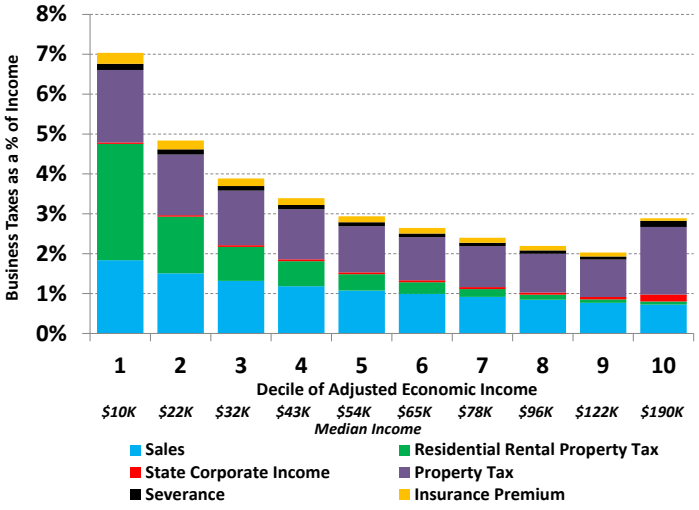
Data source: Utah Tax Burden Model

Figure 16
Tax Incidence Estimates for Federal Taxes Initially Imposed on Businesses



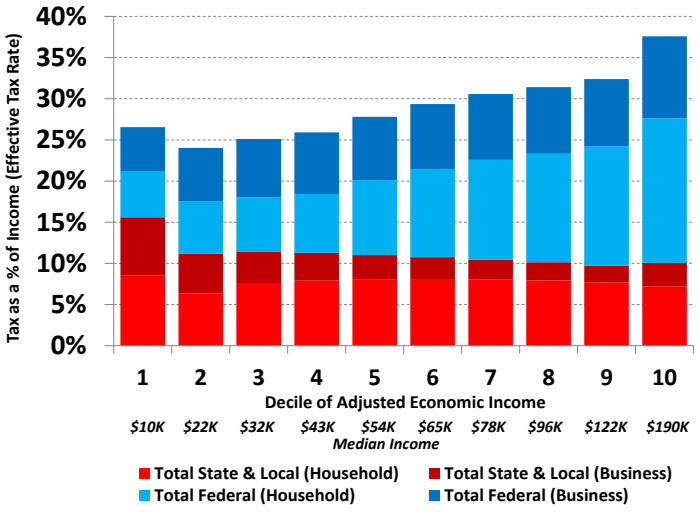
Data source: Utah Tax Burden Model

Figure 17
Tax Incidence Estimates for State and Local Taxes Initially Imposed on Businesses



Data source: Utah Tax Burden Model

Figure 18
Combined Tax Incidence Estimates for Taxes Imposed Initially on Households & Businesses



Data source: Utah Tax Burden Model

Summary

Households bear the ultimate economic burden of all taxes. Some taxes are imposed initially on households, while other taxes are shifted to households after initial imposition on businesses.

A regressive tax takes a higher percentage of income from lower income than higher income households. A proportional tax takes the same percentage of income from lower and higher income households. A progressive tax takes a higher percentage of income from higher income than lower income households.

The burden of federal taxes imposed initially on households is progressive, due to the very high progressivity of the federal individual income tax combined with the roughly proportional payroll taxes on earned income and regressive excise taxes.

The combined burden of federal, state, and local taxes initially imposed on households is generally progressive through most of the income scale, largely due to the federal individual income tax. However, the total initial household tax burden is regressive at the lowest income levels.

The combined burden of state and local taxes initially imposed on households is roughly proportional, except at the highest and lowest income percentiles, where it is regressive. The progressivity of the state individual income tax roughly offsets the regressivity of state and local sales, excise, and property taxes.

Uncertainty exists as to how many business taxes are shifted to households. Different assumptions yield different results as to the ultimate incidence of taxes that are shifted.

Utah Tax Burden Model Methodology

Below is a brief description of this study's methodology.

Year. This study examines tax year 2010.

Household Unit of Analysis. The household is the basic unit of analysis, with income tax returns used as the basic data source. Multiple tax returns within the same household are combined. In addition, tax return data is supplemented with Census data to account for nonfilers.

Income. Although income seems like a straightforward concept, in practice measuring income is very difficult. This study uses a broad measure of income that includes taxable and nontaxable sources of income reported on income tax returns, such as wages, interest, dividends, capital gains, self-employment, business, social security, other retirement, and capital gain income, as well as refundable tax credits. This tax return data is supplemented with separate data on income from government transfer payments, including the Supplemental Nutrition Assistance program (SNAP, more commonly known as "food stamps"), Women, Infants, and Children program ("WIC"), welfare cash payments, and supplemental security income ("SSI"). It also includes the employer portion of federal payroll taxes as income.

Due to lack of data, the income measure excludes other sources of economic income such as employer-paid or government-paid health care benefits, government or nonprofit housing subsidies, and church or other nonprofit economic assistance, although these would be accounted for in a more comprehensive economic income measure.

Tax Estimates. Individual income tax estimates use actual filed tax returns. Payroll and self-employment taxes are estimated using tax return data on wages and other earned income. Property taxes are estimated using county property tax data and tax return itemized property taxes, as well as motor vehicle registration information. Sales and excise taxes are estimated using federal Consumer Expenditure Survey data, including adjustments for income, household size, region, and actual tax collection levels. This analysis includes the major taxes imposed by Utah's state and local taxing entities and the federal government, but excludes taxes imposed by other states that are borne by Utah residents.

Limitations. It is also important to note that this study only examines the revenue side of the government ledger and excludes expenditures other than transfer payments, although essentially identical programs or subsidies could be handled on either the expenditure side through a program or the revenue side of the budget through tax credits or exemptions. In addition, it does not examine household and business tax compliance costs or the economic "deadweight loss" from taxes.

[1] Unless otherwise specified, all data in this briefing paper comes from the Utah Tax Burden Model described above. All estimates are based on tax year 2010.

[2] See Don Fullerton and Diane Lim Rogers, Lifetime Versus Annual Perspectives on Tax Incidence. National Tax Journal, Vol. 44, no. 3, (September, 1991), pp. 277-87.

[3] In terms of this paper's estimates of taxes imposed initially on households, the most uncertainty exists for sales and excise taxes. Unlike income and property taxes that are administered on an individual basis, retailers collect and remit sales taxes, so there is no way to exactly track the tax to households. This paper's estimates use federal Consumer Expenditure Survey data, adjusted for consumption patterns based on income, household size, region of the US, and actual Utah revenue collections. Notwithstanding the limitations of the data, these estimates likely provide a reasonable approximation of Utah household consumption.

[4] For very low income households, the federal Consumer Expenditure Survey shows consumption at many times higher than income. For example, for a household size of one and income below $5,000, the survey reports average income of about $900 and average consumption of over $16,000 (nearly 20 times reported income). Similarly, the survey reports for a household size of 3 and income below $5,000 negative income of nearly $2,000 and consumption of about $27,000. Because of this issue, concerns are often expressed that the survey may underreport actual income, especially at very low income levels.

[5] The income threshold was nearly $107,000 in 2010, the year examined in the study, and receives an annual inflation adjustment, putting it at nearly $114,000 in 2013. Also, because the study is based on tax year 2010 data, it does not account for any payroll tax changes under the federal Patient Protection and Affordable Care Act.

[6] The Tax Foundation's most recent (2008) State and Local Tax Burden Estimates show very similar amounts for taxes shifted into and out of Utah.

[7] To the extent the burden of a tax is shifted to consumers, the tax burden will likely be regressive due to the distribution of consumption. To the extent a tax is borne by owners of capital, the tax burden will likely be progressive due to the distribution of capital ownership. To the extent the tax burden is shifted to employees, the tax burden may be roughly proportional due to the distribution of wages. The estimates consistently assume that the "employer" portion of the federal payroll tax is borne by the employee, so differences in the estimates of business tax shifting relate to different assumptions about the distribution of other taxes.