A report from Pew March 2023

The Local Tax Burden on Philadelphia Households

Homeowners generally pay less than renters with similar incomes

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About this report

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The brief benefited from the comments of two independent reviewers: Emily Dowdall, policy director, Reinvestment Fund, and Jeffrey Carroll, Ph.D., chair of the Center for Data & Society and associate professor of political science, Chestnut Hill College. This analysis does not necessarily reflect the opinions of these reviewers or their institutions.

We wish to thank the following individuals for their insights: Rebecca Lopez Kriss, Grant Holland, and Tilahun Afessa, currently or formerly with the Philadelphia Department of Revenue; Joshu Harris, former aide to City Council Member Kenyatta Johnson; Tom Johnson, U.S. Bureau of Labor Statistics; Joel Berner, National Association of Realtors; Farhad Niami, Office of the Chief Financial Officer of Washington, D.C.; Greg Wertman, HAPCO Philadelphia; and Andrew Mercer of the Pew Research Center.

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Overview

Debates about Philadelphia's future often center on the city's tax system and two questions: Are the burdens it places on residents equitable, and are those on businesses counterproductive? To help inform the residential piece, The Pew Charitable Trusts examined the current system by calculating the percentage of total income Philadelphians pay in local taxes to the city and school district, depending on whether they own or rent their homes.

This analysis focused on four of the biggest local taxes imposed on residents: a 3.79% city tax on wages; a 1.3998% tax on real estate; the 2% local portion of the sales tax; and a 3.79% school tax on unearned income such as dividends, some forms of interest, and rent received by landlords.

We applied these income, property, and sales tax rates to households at 10 different income levels. The five sample homeowners and five renters each match the actual distribution of Philadelphia's median household incomes for those housing types in 2022. Then we assigned a home value to each of the five homeowners and an apartment building per-unit value to each of the renters based on actual values of owned and rented properties determined by the Philadelphia Office of Property Assessment. Finally, we assumed that all the households made consumer purchases (some of which generate sales tax) at the same rate as do typical American households with similar incomes, based on data from the U.S. Bureau of Labor Statistics.

In calculating property tax bills for the homeowners, we assumed that all homeowners applied for and received the city's widely used homestead tax exemption, which applies only to owner-occupied dwellings and for 2023 will reduce taxable assessed values by $80,000. Unlike homeowners, renters do not directly pay property tax. But their landlords pass it along to them, embedded in the monthly rent. We estimated the amount renters pay indirectly based on the value of a rental unit and included it in our calculations. For homeowners and renters alike, we did not include several other programs and taxes that affect overall tax liabilities because we could not link them directly to a household's income or type of housing. (For a discussion of those taxes and programs, see the Appendix.)

All of this resulted in our ability to analyze the overall tax burden on 10 groups of representative households. We also computed, using census data, the race and ethnicity of actual households with incomes and homes like our hypothetical ones.

The analysis found that Philadelphia's overall effective tax rate is lowest on low-income households that own their homes—largely because of the impact of this year's increase in the homestead tax exemption from $45,000 to $80,000. The highest effective rate falls on low-income renter households, although not those who live in subsidized housing or have mobile rental vouchers. Nearly 6 in 10 lower-income households are renters, and a large majority of them do not receive federal rent assistance.

Other findings showed:

- For homeowning households that use the homestead exemption, Philadelphia's tax system, taken as a whole, is progressive under the changes taking effect in 2023, with lowest-income households benefiting the most from the exemption and getting the lowest effective rates. The effective tax rate among homeowning households ranges from 2.5% at the bottom of the income scale to 6% at the top.
- Renters, who represent nearly half of all Philadelphia households, generally have higher effective tax rates than homeowners. For nonsubsidized renters, the tax system is regressive, with effective tax rates of 12.8% for the lowest income group compared with 6.7% for the highest—although for residents living in subsidized housing the tax burden is lower, often significantly so.
- Black- and Hispanic-headed households account for two-thirds of the lowest-income renters and two-thirds of the lowest-income homeowners.

- When homeowners retire and stay in their homes, their effective tax rate changes very little, but for most renters it rises in retirement. Neither group of retirees owes the wage tax or local taxes on Social Security and other retirement benefits. But renters still shoulder property tax through their rent, unlike many homeowners eligible for property tax exemptions and relief for seniors.

Creating representative households

In the first step of this analysis, Pew used detailed census figures to divide Philadelphia's households into homeowners and renters. We then separated each of those groups into five subgroups, or quintiles, based on their income from all sources for all household members. We assumed these 10 households—five renting and five homeowning, hypothetical but representative—had incomes equal to the midpoint (median) of each quintile. From those medians, we used the census data to estimate the portions of income that came from taxable wages, investment dividends, and interest.

Then, employing data from the city's Office of Property Assessment, we created 10 groups of residential properties by assessed market value, five for owner-occupied properties and five for apartment units within rental properties. We assigned the median value of each property group to the corresponding owner or renter quintile, using the full property value for homeowners and apartment-unit value for renters.[1] For renters, we assumed that landlords passed all property taxes on to tenants through rent in proportion to the number of units in a building.[2] Then using federal data on consumer expenditures, we ascribed purchases to each household of items subject to Pennsylvania sales tax at a level appropriate to its income. Finally, we subjected all the resulting base amounts to applicable city taxes, to find the tax burden and calculate the effective tax rate for each group.

The base amounts, rounded to the nearest $10 to make them easier to compare, are shown in Table 1 for homeowners and Table 2 for renters. (For more details on methods, see the Appendix.)

Table 1

Base Financial Characteristics of Homeowning Households

Taxable wages, dividends/interest, property value, and consumer purchases

Household income group	Household income	Taxable portion from wages & salary	Taxable portion from dividends, interest & rent received	Untaxable portion of income, such as pension payments	Taxable value of property	Taxable amount of consumer purchases
Highest	$211,000	$176,520	$9,990	$24,490	$420,000	$39,770
Second highest	$113,230	$89,830	$2,280	$21,120	$254,800	$30,810
Middle	$72,300	$48,150	$1,290	$22,860	$191,100	$24,170
Second lowest	$36,910	$19,080	$660	$17,170	$137,800	$17,050
Lowest	$12,030	$2,860	$60	$9,110	$74,600	$9,420

Table 2

Base Financial Characteristics of Renting Households

Taxable wages, dividends/interest, property value, and consumer purchases

Household income group	Household income	Taxable portion from wages & salary	Taxable portion from dividends, interest & rent received	Untaxable portion of income	Taxable value of rental property per unit	Taxable amount of consumer purchases
Highest	$133,560	$116,520	$4,770	$12,270	$273,760	$25,170
Second highest	$70,240	$59,390	$560	$10,260	$170,940	$19,110
Middle	$41,610	$31,600	$90	$9,920	$122,650	$13,910
Second lowest	$22,550	$12,760	$80	$9,710	$82,700	$10,420
Lowest	$6,520	$1,930	$20	$4,570	$46,900	$5,100

Note: Dollar figures rounded to nearest $10. The untaxable portion of income (counted in the total but not taxed in Philadelphia) includes Social Security and 401(k) pension benefits, public assistance such as TANF and food stamps, and disability benefits such as Supplemental Security Income (SSI). This portion also includes proceeds from ownership of a business or farm, which may be taxed separately as business income in Philadelphia. Income not counted in the total nor taxed by the city includes capital gains from the sale of investments held longer than six months and other sources such as inheritances, gifts, loans, scholarships, and money withdrawn from savings.

Source: U.S. Census Bureau's American Community Survey 2021, one-year sample microdata obtained from IPUMS; City of Philadelphia Office of Property Assessment; U.S. Current Population Survey Basic Monthly supplement and U.S. Consumer Expenditure Survey, the latter two produced by U.S. Bureau of Labor Statistics in conjunction with the Census Bureau.

The overall burden and the effective tax rate

With the representative household profiles established, we then applied four major taxes to the financial characteristics shown in Table 1:

- The 3.79% wage tax to wages and salaries.
- The 3.79% school income tax to interest and dividends.
- The 2% local sales tax to taxable consumer purchases.
- The 1.3998% property tax to the home value for homeowners (minus the $80,000 homestead exemption) and to the per-unit value of rented properties for renters, assuming that the tax is embedded in their rent.

The analysis did not include the Longtime Owner Occupants Program and other relief programs used by far fewer households than the homestead exemption.

It quickly became apparent that homeowners and renters fared very differently from one another. For that reason, we list the two groups separately.

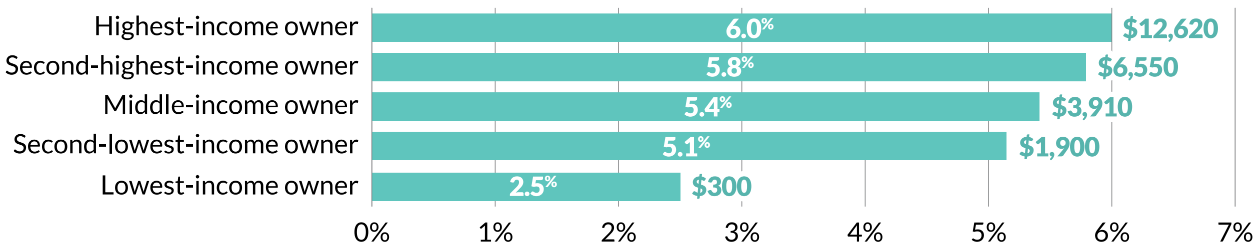
Homeowners

The results for homeowners are shown in Figure 1.

Figure 1

Tax Burdens on 5 Representative Homeowner Households

Bars show effective tax rate, with equivalent tax dollars shown



Note: Dollar figures rounded to nearest $10.

Source: Pew analysis, see Appendix

As shown in the graphic, the lowest effective tax rate, 2.5%, falls on homeowning households with low incomes. The highest effective rate falls on the highest-income group at 6%. This means that the city's tax system is progressive for homeowners.

The variations in the effective tax rate from bottom to top are due almost entirely to the homestead exemption, which applies to all homeowning households in Philadelphia. Consider a household in the lowest-income group, with an assumed home value of $74,600. For that household, the exemption, which reduces the taxable value of all owner-occupied homes by $80,000, wipes out the entire property tax liability. The lower the value of the home, the more impact the exemption—which was increased from $45,000 for 2023—has on the overall effective rate.

In Pennsylvania, where the state constitution has been interpreted as banning graduated taxes, the homestead exemption is a practical way to reduce the tax burden on lower-income homeowners—which is one reason City Council members pushed for a large hike in the exemption out of various proposals to offset rising property assessments. Said Council Member Kenyatta Johnson, who originally proposed an exemption increase to $90,000, "We want to make sure that no one loses their home."[3]

For homeowners who don't take advantage of the homestead exemption or other property tax reduction programs, the tax burdens are heavier across the board and the system becomes regressive—with the heaviest burden falling on the lowest-income taxpayers.

For instance, without the homestead exemption (or any other form of property tax relief), the effective rate borne by our lowest-income homeowner jumps from 2.5% to 11.2%, while the effective rate on the highest-income homeowner rises just half a percentage point, from 6% to 6.5%.

The Homestead Exemption

In Philadelphia, all owner-occupants of single-family residential properties, regardless of income, are eligible for the homestead exemption, a fixed dollar-amount reduction of the assessed value of these properties for tax purposes.

The program, authorized by state law, came to Philadelphia in 2012 as part of a sweeping overhaul of the property tax system known as the Actual Value Initiative. Local officials initially set the exemption at $30,000 and increased it to $45,000 for 2019. That's where it stood until City Council and the mayor—concerned about the impact of a new round of reassessments on homeowners—raised it again for 2023, this time to $80,000.

As a result, the taxable value of a participating residential property is now the assessed value minus $80,000. With a property tax rate of 1.3998%, this makes the tax liability of every homeowner in the program $1,120 less than it would have been had there been no exemption.

Of some 350,000 homeowner households in the city, more than two-thirds benefit from the program. The figure is not 100% because eligible homeowners must apply—although the city seeks to automatically enroll eligible owners who previously sought some other forms of property tax relief[4]—and because some owners find other tax-relief programs more beneficial.

In 2021, the exemption reduced property tax liabilities by $139 million citywide; that figure is projected to rise by about $48 million in 2023.[5]

There is a limit to how high the exemption can go; state law prevents it from exceeding 50% of the median assessed value of all homestead properties in the jurisdiction.[6] In 2022, the median value in Philadelphia was $191,000, meaning the city's exemption couldn't exceed $95,500, according to Pew's estimate.

State law also prohibits local jurisdictions from raising property taxes to cover the cost of a homestead exemption program. For 2023, Philadelphia officials held the tax rate steady, expecting the cost to be partly covered by higher property assessments.[7]

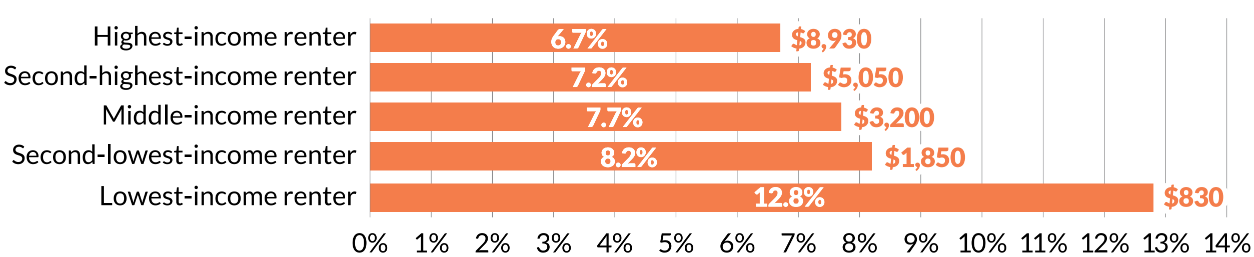
Nonsubsidized renters

The homestead exemption is not available to renters. This makes the tax situation very different for those who rent their living spaces than for homeowners, particularly for low-income renters receiving no housing subsidies, as shown in Figure 2.

Figure 2

Tax Burdens on 5 Representative Renter Households

Bars show effective tax rate, with equivalent tax dollars shown



Note: Dollar figures rounded to nearest $10.

Source: Pew analysis, see Appendix

Here, tenants in the lowest-income group bear the heaviest overall effective tax rate, 12.8%—largely as the result of the property tax they pay indirectly as part of their rent—without ever seeing a property tax bill. The highest-income group gets the lowest effective tax rate for renters, 6.7%. Across all groups, the effective rate declines as income rises, making the city's tax system regressive for renters.

In 2021, about 57% of households with below-median incomes were renters rather than homeowners, according to census data, or roughly 186,700 households. As we have seen, low-income homeowners can get help from city government in reducing their tax burden. Because renters don't pay the tax directly, they aren't eligible for the city's property tax relief programs.

With the first citywide reassessment in four years taking effect in 2023, real estate taxes on many properties have risen, and landlords are likely to pass those increases on to tenants, some of whom will not be able to afford them. To help low-income tenants facing cost pressures from this and other sources, the city extended its eviction diversion program through June 2024 and allocated local funds to its rental assistance program. Our model does not account for these and other assistance programs that don't directly affect city tax liabilities, such as in-kind legal aid.

Subsidized renters

In the bottom two income quintiles, about 32% of renter households, or 41,234 in all, got subsidies from the federal government in 2021 in the form of public housing or housing vouchers; some of those vouchers are connected to specified housing units, while others can be used in the private market. For all recipients, out-of-pocket rent is determined by income—rent and utilities are capped at 30%—and not directly connected to any property taxes that landlords owe and that have a dramatic impact on households' effective tax rate as in our model.

Consider, for example, a four-person household in our second-lowest income group with income of $22,550. According to our model, if they lived in a nonsubsidized market-rate apartment, their rent would include $1,160 a year in property taxes, part of a total tax burden of $1,850 and an effective rate of 8.2%. Now imagine they lived in an apartment owned by the tax-exempt Philadelphia Housing Authority (PHA), where no property tax is embedded in their rent, which would bring their effective rate down to 3.1%.

According to federal data, Philadelphia had 11,657 households living in public housing in 2021.[8] Another 29,577 renter households received federal subsidies while living in non-PHA units, some of which are tax-exempt and thus have no property tax embedded in the rent. We could not calculate the effective tax rate for tenants with subsidies to rent market-rate units because we are unable to calculate the property tax embedded in their income-based rent contribution. But their effective rates are certainly lower than those experienced by households with similar incomes who live in market-rate units and receive no subsidies.

Low-income tax relief

Our calculations of the tax burden on lower-income households, whether renters or homeowners, assume that they are not enrolled in the city's low-income wage tax refund program—an undersubscribed program that, if used more widely, would lower their tax burden. The program, which piggybacks on a similar program for the state income tax, can reduce the wage tax rate from 3.79% to 1.5%, depending on a household's income and family size. Like the homestead exemption, individuals must file an application to get it.

To show that program's impact, consider the renter household in the second-lowest income group, with total income of $22,550. Assume a family with two children living in a nonsubsidized rental property. Without the wage-tax refund, for which it would qualify, the household owes $480 in wage taxes (on wages of $12,760), part of its total taxes of $1,850 (8.2% effective rate). With the refund, its wage taxes drop to $190, reducing the total tax burden to $1,560 with an effective rate of 6.9%.

By the city's estimates, about 1,800 households were enrolled in the program in early 2022, far fewer than eligible but an increase from previous years.[9] Officials believe the reasons for the low participation rate include the amount of documentation involved in signing up, the relatively complicated calculations, the relatively small savings for some people, and a general lack of awareness.

Elements of the tax burden

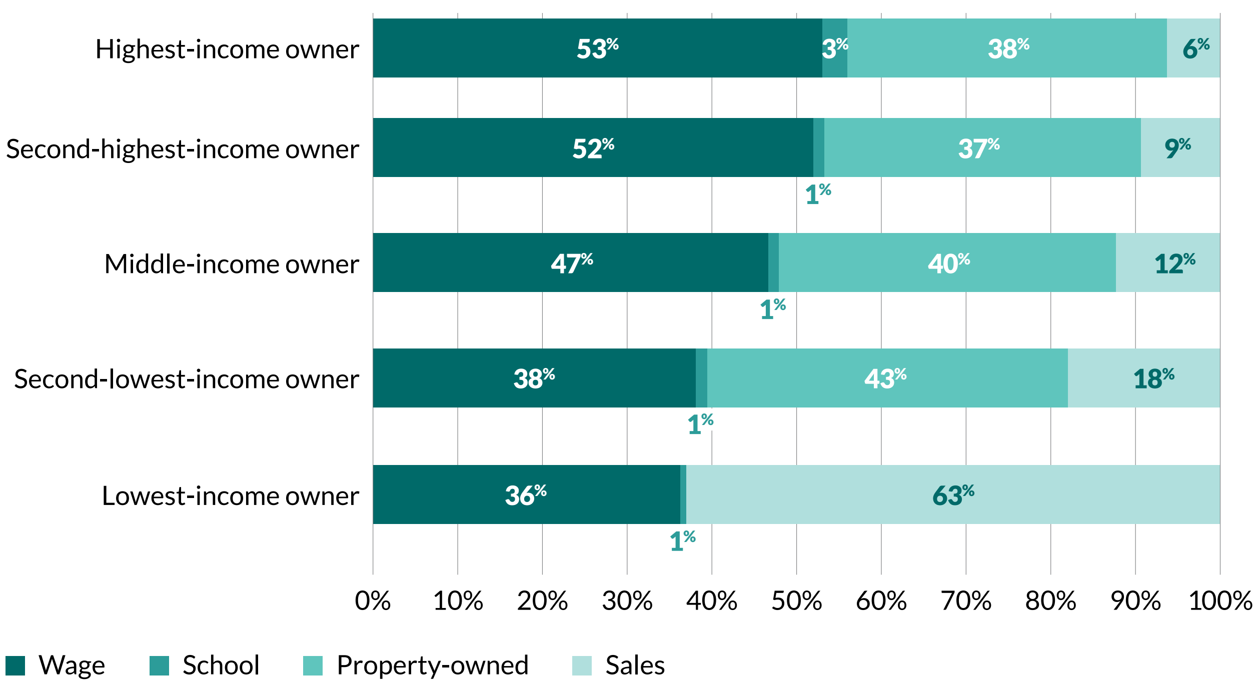
The role each tax plays in the overall household tax burden varies widely among the representative groups, depending on level of income, sources of income, and whether they own or rent.

Among homeowners, the biggest component for the highest-income households is the wage tax, at 53%, while the sales tax is the biggest element for lowest-income households at 63%. Property taxes account for 38% of the burden at the top of the income scale and 0% at the bottom, where the homestead exemption wipes out the property tax liability entirely. (See Figure 3.)

Figure 3

Elements of Tax Burden on Homeowners

Shares of effective rate from wage, school income, property, and sales taxes



Note: Some figures do not add up to 100% due to rounding.

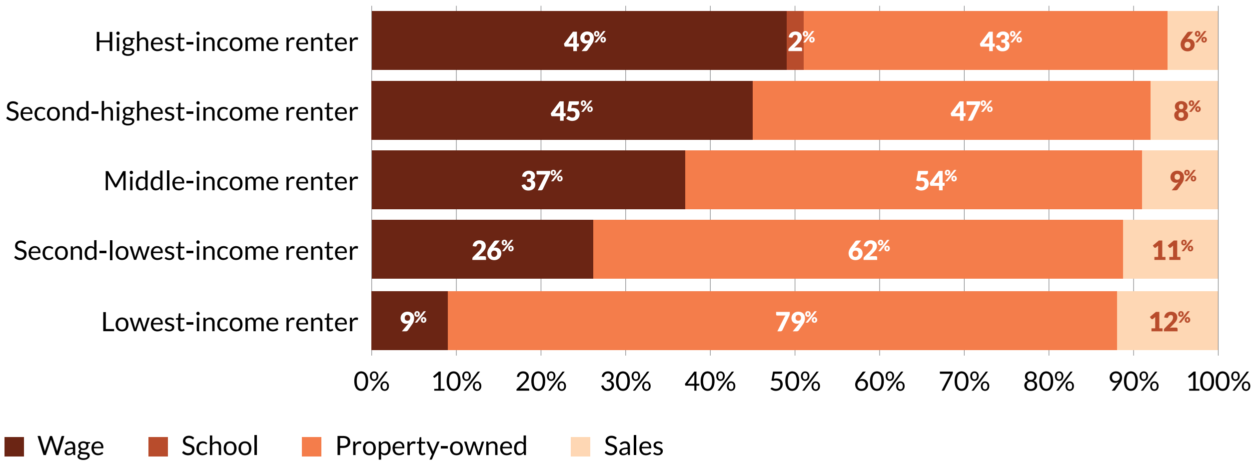
Source: Pew analysis, see Appendix.

Among renters, the picture for higher-income households is similar, with the wage tax the biggest component at 49%, followed by the property tax at 43%. But the property tax is far and away the biggest factor for the lowest-income households in nonsubsidized units, accounting for 79% of the overall tax burden. (See Figure 4.)

Figure 4

Elements of Tax Burden on Renters

Shares of effective rate from wage, school income, property, and sales taxes



Note: Some figures do not add up to 100% due to rounding.

Source: Pew analysis, see Appendix.

Race, ethnicity, and geography

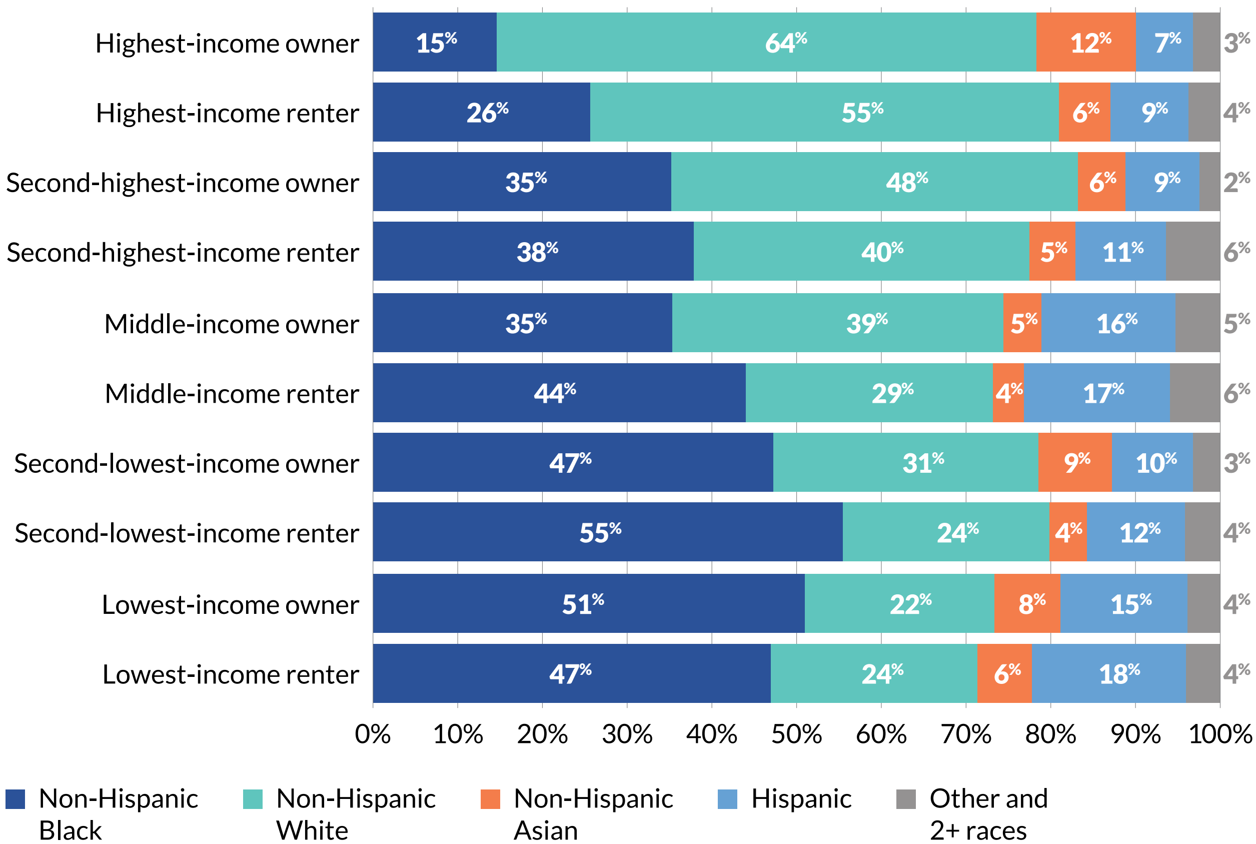
Heads of households in the highest-income group lived mostly in Center City, Northwest Philadelphia, South Philadelphia, and the Far Northeast, according to 2021 census data.[10] The largest share of householders in the lowest-income group lived in North Philadelphia, West Philadelphia, and Southwest Philadelphia.[11]

Taking the demographic analysis a step further, we took the five groups of homeowners and five groups of renters shown in Figures 1 and 2 and computed their race and ethnicity proportions using census data. The results are shown in Figure 5.

Figure 5

Racial and Ethnic Makeup of Representative Owner and Renter Households

Ranked by income and housing types



Source: U.S. Census Bureau, American Community Survey 2021, one-year sample microdata obtained from IPUMS

Black Philadelphians accounted for half of the lowest-income homeowners, who pay the lowest effective tax rates. They also represented nearly half of the lowest-income renters; in that group, unsubsidized renter households pay the highest effective tax rates.

For more details about the demographic characteristics of the heads of households—including foreign-born status and geographic distribution—see the Appendix.

Seniors

In 2021, Philadelphia had about 108,300 households with a head of household 62 years of age or older not working for wages, according to Pew's estimate of the retired population from census data.[12] When individuals retire but stay in their homes, typically the total dollar amount of their taxes falls because they are no longer earning taxable wages and instead are receiving nontaxable Social Security and pension payments. But their effective tax rates may change very little or even rise, with unchanged property and school income taxes taking up a bigger percentage of the smaller income. Renters experience the same shift, but it's magnified by their ineligibility for property-tax relief designed for homeowning seniors.

Consider a homeowning household with two adults at the second-highest income level. Before retirement, the household owes $6,550 in wage tax, school income tax, property tax, and the city portion of the sales tax—5.8% of a total income of $113,230. When both retire, their income drops to $43,610, nearly all of which comes from nontaxable pensions and Social Security benefits. As a result of this lower income, their level of consumption falls, reducing the household's sales tax payments as well, but their property tax (with homestead exemption) remains the same. As a result of all this, their total tax liability falls by more than half to $2,750, but their effective tax rate rises slightly to 6.3%.

For older low-income homeowners, the city offers a freeze on property tax. Under this program, the property taxes due from qualifying residents age 65 and older remain fixed at the amount at the time of enrollment, regardless of changes in the property tax rate or assessed value, for as long as the property owner remains in the home and meets income criteria. This freeze, which reduces the tax burden for those who qualify, was not modeled in this analysis.

Among renters, the effective tax rate rises upon retirement for all of our households, even as the dollar amount falls on tax due. Consider such a middle-income renter household with two adults in a market-rate apartment. Before its adults retire, the household's tax burden was $3,200, for an effective rate of 7.7% on $41,610 in total household income. After retirement, their tax burden drops to $1,820 but effective rate rises to 11.9% on a much lower total income of $15,230.[13]

Conclusion

This analysis highlights several aspects of the impact that the local tax system has on Philadelphia households.

One is that the system is somewhat progressive for homeowners, which is primarily the result of the increased homestead exemption the city enacted in 2022. At the same time, the system is regressive for nonsubsidized renters, who can't take advantage of the exemption.

Low-income retirees need to be homeowners to benefit from programs set up specifically for them in the local tax code. And many low-income residents of all ages are missing out on some tax relief programs because they have not enrolled in them.

Black and Hispanic householders account for two-thirds of the lowest-income renter group as well as the lowest-income homeowner group.

The policy options for reducing the tax burden on lower-income nonsubsidized renters—who pay the highest overall effective local tax rates—are limited, given the long-standing interpretation by state courts of the uniformity clause in the state constitution limiting the way taxes in Pennsylvania can be differentiated by group.

One option is to work to increase awareness of and enrollment in existing relief programs, including the underutilized wage tax refund plan. Another is to consider ways to lessen tax-related increases in rent owed by low-income renters.

In a city where the majority of below-median-income households are renters, if equity is to be a priority, it is essential to take their situation into consideration in formulating tax policy.

Appendix

The purpose of this analysis is to generate a reliable estimate of the financial burden residents bear from four of the city's main taxes. This analysis looks at the tax burden from personal taxes at the household level; a separate report will examine commercial and industrial taxes.

The key metric is the effective tax rate, defined as the percentage of total household income a household owes in Philadelphia taxes. It is found by dividing a household's total taxes due, less credits and exemptions, into the total income earned by all its members from all sources, taxable and untaxable.

The analysis looks at these taxes:

1. The city wage tax, 3.79%.
2. The school tax paid on unearned income, 3.79%.
3. The residential property tax, 1.3998%, including the homestead exemption, which reduces the taxable value of owner-occupied homes by $80,000.
4. The city portion of the sales tax, 2%.

We excluded some taxes, such as those on sugary drinks, parking, and real estate transfers, because it was difficult to determine how to allocate them to individual households based on income. For that reason and others, the effective tax rates and overall burdens in this report should be considered as minimums. We also excluded state and federal taxes and programs that may affect the local tax burden, such as the federal housing voucher program, which, by reducing a household's rent, effectively reduces the property tax payments embedded in the rent.

Household archetypes—wage and school taxes

We applied the taxes to two sets of five (quintiles) fictitious households—one homeowners, one renters—with an income equivalent to the median of a quintile of total household income in the actual population. We used the U.S. Census Bureau American Community Survey's estimate of total household income in Philadelphia, and the following data sources:

1. U.S. Census Bureau American Community Survey (ACS) microdata, obtained from IPUMS USA: Version 12.0, found at https://doi.org/10.18128/D010.V12.0.

2. U.S. Census Bureau Current Population Survey Basic Monthly Survey, found at https://www.census.gov/data/datasets/time-series/demo/cps/cps-basic.html.

First, we used the Census Bureau's 2021 one-year sample microdata to divide all of Philadelphia's households into homeowners or renters out of 660,916 households so designated. (The 2021 ACS sample has 708,376 households in Philadelphia, 47,460 of which are in group quarters lacking a renter or homeowner designation.) We divided them this way because our initial research suggested that owning versus renting was a key distinction in Philadelphia household finances and city tax policy, and we wanted to explore how it affected tax burdens. Then we computed quintiles of each group by total household income, resulting in 10 groups by housing tenure and total income, five of homeowners and five of renters. The resulting quintile counts are shown in the table below (income levels are discussed separately in the next section):

Table A.1

Households by Quintile Groups

Number and percentage of homeowners and renters

Household income group	Number of households
Highest-income homeowner	69,385
Second-highest-income homeowner	70,541
Middle-income homeowner	69,206
Second-lowest-income homeowner	71,071
Lowest-income homeowner	70,329
All homeowner household groups	350,532
Highest-income renter	61,918
Second-highest-income renter	62,168
Middle-income renter	58,538
Second-lowest-income renter	64,166
Lowest-income renter	63,594
All renter household groups	310,384
All household groups	660,916

Source: U.S. Census Bureau, American Community Survey 2021, one-year sample microdata obtained from IPUMS

In statistical analyses, quintiles are normally the same size. But we ended up with quintiles varying by a few hundred households (+/-3%) of each other. The numbers vary because of the grouping method we used. We sorted all households from low to high income. Starting from the bottom of the income scale, we filled the lowest quintile with households until we passed 20% of all households, including those that had that income. Then we created the second-lowest quintile, filled it past 40% of all households, and so on. All households with the same incomes were placed in the same quintile, making some bigger than others.

Then we adjusted the 2021 income figures to 2022 levels using the 2021-to-2022 percentage changes in the median of income quintiles of the Census Bureau's Current Population Survey Basic Monthly supplement at the national level. The increases in those medians, not adjusted for inflation, were as follows: 0.3% for the lowest quintile, 2.5% for the second-lowest, 4% for the middle, 4.8% for the second-highest, and 5.5% for the highest. This adjustment resulted in a 2022 median household income across all five groups of $54,100, compared with the Census Bureau's subsequently released figure of $52,900 for 2021 (https://data.census.gov/cedsci/all?q=household%20income%20philadelphia).

Then, to isolate the portions of income taxable under Philadelphia's wage tax and school income tax, we computed each household's share from wages and salary income, and from dividend, interest, and rental income using the ACS measure of personal income by source in 2021. We applied these percentages of income at each quintile level and adjusted again to 2022 levels. This resulted in the data shown in Table 1, which is presented with all dollar figures rounded to the nearest $10 for easier readability.

The total household income amounts in that table, derived from the Census Bureau's American Community Survey, do not include other sources of income or savings that households are known to use to cover housing and general expenses, including taxes. Those may include loans and gifts from family members, savings accounts, scholarships, and bank loans, among others. We did not attempt to model those sources of funds.

For the lowest-income renter household group in our model, we know that an annual income of $6,520 is too low to cover the assumed consumer purchases ($5,100) and housing costs (several thousand dollars per year, at least), much less city taxes. According to the U.S. Bureau of Labor Statistics, household expenses for such households often outstrip incomes, and they may make ends meet using what it calls "non-income" means, such as taking in roommates or sublets, skipping bills, getting help from relatives and friends, tapping savings and investments, and borrowing from credit cards and banks. None of these sources shows up as income in the census data on which our calculations are based. But they are crucial for financial survival for lower-income Philadelphians and can make the city's tax burden more affordable and perhaps somewhat lower than it appears in our model.

The total income numbers include money that households received from their stakes in noncorporate entities, such as business partnerships or sole proprietorships. Such income may be taxable under Philadelphia's net profits tax. However, this is typically considered a business tax and so is excluded from this analysis.

We also modeled Philadelphia's tax burden on senior and retired residents, since income from pensions and Social Security is not taxed by the city. We did this by retabulating the ACS microdata to isolate the Philadelphia resident householders presumed to be retired, based on having no wage income, no labor force participation, and being 62 or older. That resulted in the following data points for senior and retiree households for homeowners and renters:

Table A.2

Financial Characteristics of Senior and Retired Homeowners

Taxable and untaxable income, property value, and consumer purchases

Household income group	Household income	Taxable portion from wages & salary	Taxable portion from dividends, interest & rent received	Untaxable portion of income, such as pension payments	Taxable value of property if owned	Taxable amount of consumer purchases
Highest	$91,790	$0	$21,080	$70,710	$420,000	$17,300
Second highest	$43,610	$0	$1,610	$42,000	$254,800	$11,870
Middle	$26,530	$0	$690	$25,840	$191,100	$8,870
Second lowest	$15,280	$0	$120	$15,160	$137,800	$7,050
Lowest	$7,820	$0	$40	$7,780	$74,600	$6,120

Source: U.S. Census Bureau, American Community Survey 2021, one-year sample microdata obtained from IPUMS

Table A.3

Financial Characteristics of Senior and Retired Renters

Taxable and untaxable income, rental property value, and consumer purchases

Household income group	Household income	Taxable portion from wages & salary	Taxable portion from dividends, interest & rent received	Untaxable portion of income, such as pension payments	Taxable value of property if rented, per unit	Taxable amount of consumer purchases
Highest	$46,310	$0	$3,040	$43,270	$273,760	$8,730
Second highest	$24,640	$0	$300	$24,340	$170,940	$6,700
Middle	$15,230	$0	$0	$15,230	$122,650	$5,090
Second lowest	$10,970	$0	$0	$10,970	$82,700	$5,070
Lowest	$7,020	$0	$0	$7,020	$46,900	$5,490

Source: U.S. Census Bureau, American Community Survey 2021, one-year sample microdata obtained from IPUMS.

Household archetypes—property tax

To determine the property tax portion of the tax burden, we give each household a home—rented or owned—in a property valued in line with the quintiles of the city's actual assessed values, at the medians. We used the following data sources:

1. City of Philadelphia Office of Property Assessment (OPA), August 2022 assessments downloaded from https://www.opendataphilly.org/dataset/opa-property-assessments.
2. Department of Licenses and Inspections (L&I), list of properties with active rental licenses.
3. Philadelphia Housing Authority (PHA), list of properties with active rental licenses.
4. U.S. Department of Housing and Urban Development, "HUDUser Data," (Nov. 3, 2022), https://www.huduser.gov/portal/datasets/assthsg.html.

First, we cross-matched L&I, PHA, and OPA data from 2020 to identify the rented vs. owner-occupied residential properties, a designation not otherwise found in the OPA data set. We additionally computed the average number of rental units in each property. (This method was created by Pew and the Reinvestment Fund for previous research on rental regulations, https://www.pewtrusts.org/en/research-and-analysis/reports/2021/11/rental-code-enforcement-in-philadelphia.)

Then, using OPA's market values, we computed the medians of quintiles of owned property values, and separately the medians of quintiles of per-unit (apartment) values. We joined the property quintiles with the corresponding income quintiles, as shown in Table 1 and Table 2 of the report.

We subjected all these values to the city's property tax rate on the following assumption: Owners pay the entire tax on their property, and renters pay just their rental unit's share of the building's property tax embedded in their rent. For example, a household renting one unit in a four-unit structure pays one-quarter of the property tax on that structure, although in practice landlords may base the allocation on the square footage or number of rooms in each unit. (According to property managers interviewed for this analysis, landlords generally pass 100% of their tax expenses on to tenants eventually, sometimes over the course of a few years, depending on property type and rental market conditions.)

In the quintiles of renter households, we included tenants living in units owned by the Philadelphia Housing Authority or receiving federal housing vouchers and other subsidies. We estimated, based on federal data, that 13% of all renter households in Philadelphia—41,234 out of 310,384 in 2021—received some kind of housing subsidy. That means that nonsubsidized renter households represent 87% of the units in our model.

We did not include subsidized renters in our calculations of effective tax rates. That's because for those subsidized renters who do not live in PHA units—which describes most subsidized renters in the city—we lacked sufficient data to calculate the property tax, if any, embedded in their rents.

Household archetypes—sales tax

To determine the amount of consumer purchases subject to sales tax, we assumed that each household makes purchases at the same rate as the typical American household in a similar income quintile, although only for items that are taxable in Pennsylvania. We based purchases on the following data sets:

1. U.S. Bureau of Labor Statistics Consumer Expenditure Survey, by income quintiles before taxes, found at https://www.bls.gov/cex/tables/mid-year/mean-item-share-average-standard-error.htm.

2. Commonwealth of Pennsylvania Retailers' Information, taxable and exempt categories, May 2022, form REV-717 (SU), found at https://www.revenue.pa.gov/FormsandPublications/FormsforBusinesses/SUT/Documents/rev-717.pdf.

First, we sifted the categories of items taxable in Pennsylvania from the full list of consumer expenditures found in the Bureau of Labor Statistics (BLS) data, using the agency's national sample divided into quintiles. Then we summed all the Pennsylvania-taxable expenditures and divided them into total income at each quintile to arrive at a percentage of Pennsylvania-taxable purchases for each income quintile. We applied these same percentages to each household quintile in our model. That resulted in the sales-taxable purchases amounts for our archetypes shown in Table 1 of the report.

Then we subjected each household's consumption amount to Philadelphia's 2% sales tax (excluding the additional 6% collected by the state).

Household archetypes—total taxes

The net amounts of Philadelphia tax due on income, property, and consumption are summed to create the total tax due, which is then divided into total household income. This results in the overall tax burden, expressed in dollars, and the effective tax rate, expressed as a percentage of income.

Here is an example using the middle-quintile homeowner (percentages are rounded to nearest 10th, causing some dollar figures to appear low or high):

1. According to census data, the homeowner median household income adjusted to 2022 dollars in Philadelphia at the middle quintile was $72,300, of which an average 66.6% ($48,152) was wages or salary and an average 1.8% ($1,292) dividends or interest.

2. According to Philadelphia city administrative data, the median owner-occupied home value in 2022 at the middle quintile was $191,100.

3. According to BLS Consumer Expenditure data, the average percentage of household income spent on taxable consumer expenditures (just Pennsylvania items) at the middle quintile was 33%, which came to $24,173 in Philadelphia based on the median household income figure in step 1.

4. The formula (figures rounded to the nearest dollar):
$48,152 wages * 3.79% tax rate = $1,825 wage taxes due +
$1,292 investment income * 3.79% school income tax = $49 taxes due +
($191,100 home value - $80,000 homestead relief) * 1.3998% property tax = $1,555 taxes due +
$24,173 consumer purchases * 2% sales tax = $483 sales tax due =
$3,913 total tax due (rounded to $3,910 in tables).
$3,913/$72,300 total household income = 5.4% effective tax rate

Household archetypes—demographic characteristics

For each archetype, we took two of the parameters—total household income and status as renter or owner—and ran them through ACS microdata to get the demographic characteristics of Philadelphia's 2021 heads of households. We counted race, ethnicity, and other demographic characteristics by the individual listed as the head of household (typically the person who answered the census questions on behalf of the household). The margin of error on the demographic percentages ranges from ±3% to ±5%. The racial and ethnic characteristics are shown in Table 3 of the report, with other characteristics shown below.

Table A.4

Head of Household Characteristics

U.S.-born and immigrant percentages

Household income group	Owned or rented	Percentage U.S.-born head of household	Percentage foreign-born head of household
Highest income	Owned	81%	19%
Second highest	Owned	86%	14%
Middle income	Owned	84%	16%
Second lowest	Owned	81%	19%
Lowest income	Owned	82%	18%
Highest income	Rented	83%	17%
Second highest	Rented	87%	13%
Middle income	Rented	80%	20%
Second lowest	Rented	80%	20%
Lowest income	Rented	81%	19%

Source: U.S. Census Bureau, American Community Survey 2021, one-year sample microdata obtained from IPUMS.

Table A.5

Head of Household Characteristics

Percentage of income groups in each neighborhood

Household income group	Highest income	Second highest	Middle income	Second lowest	Lowest income	Highest income	Second highest	Middle income	Second lowest	Lowest income
Owned or rented	Owned	Owned	Owned	Owned	Owned	Rented	Rented	Rented	Rented	Rented
Far Northeast	14%	14%	15%	11%	6%	5%	5%	7%	8%	7%
Lower Northeast - West	8%	7%	6%	7%	8%	7%	9%	12%	8%	8%
Lower Northeast - East	6%	13%	10%	10%	9%	3%	5%	8%	9%	5%
Upper North	4%	6%	14%	21%	14%	1%	5%	8%	13%	10%
Eastern North	7%	8%	10%	8%	18%	9%	8%	9%	8%	8%
Northwest	15%	14%	9%	6%	8%	7%	18%	10%	9%	8%
North	2%	5%	6%	7%	9%	10%	5%	7%	12%	14%
West	2%	6%	8%	9%	8%	7%	11%	10%	8%	12%
Center City	23%	9%	7%	3%	3%	35%	19%	10%	7%	8%
Southwest	5%	6%	8%	10%	9%	8%	11%	15%	12%	15%
South	12%	9%	6%	9%	9%	9%	5%	5%	6%	5%

Source: U.S. Census Bureau, American Community Survey 2021, one-year sample microdata obtained from IPUMS

Endnotes

1 For our model, we started by counting all renter households, including market rate as well as subsidized housing that is partly or entirely exempt from property taxes. See Appendix for details.

2 According to property managers interviewed for this analysis, landlords typically pass 100% of their tax expenses on to tenants eventually, sometimes over a few years, depending on property type and rental market conditions.

3 "Philly City Council Reaches Deal on Budget with Property and Wage Tax Relief," *WHYY*, June 16, 2002, https://whyy.org/articles/philly-city-council-budget-deal-property-wage-tax-relief/.

4 City of Philadelphia, "Five-Year Financial and Strategic Plan for Fiscal Years 2023-2027" (2022), http://phlcouncil.com/wp-content/uploads/2022/03/FY2023-2027-Five-Year-Financial-and-Strategic-Plan.pdf.

5 Pennsylvania Intergovernmental Cooperation Authority, "Staff Report on the City of Philadelphia's Five-Year Financial Plan for Fiscal Years 2023-2027" (2022), https://www.picapa.org/wp-content/uploads/2022/07/Staff-Report-on-FYP-23-27-COMBINED-FINAL.pdf.

6 PennState Extension, "Understanding the Homestead and Farmstead Exclusions" (Penn State University, 2017), https://extension.psu.edu/understanding-the-homestead-and-farmstead-exclusions.

7 Ibid.; "Staff Report on the City of Philadelphia's Five-Year Financial Plan for Fiscal Years 2023-2027."

8 U.S. Department of Housing and Urban Development, HUDUser Data, accessed Nov. 3, 2022, https://www.huduser.gov/portal/datasets/assthsg.html.

9 City of Philadelphia Department of Revenue, "2021 Annual Report" (2022), https://www.phila.gov/documents/2021-annual-report. Deputy Revenue Commissioner Rebecca Lopez Kriss. The department's official figure at the end of fiscal year 2021 was 1,465.

10 We avoided the more recent 2020 American Community Survey, which may contain unreliable local level results, especially on income. Data for 2021 was not available when this research was initiated.

11 We count race and ethnicity by the individual listed as the householder or head of household, who typically is the person who answered the American Community Survey questions on behalf of the household. We do not assign race and ethnicity to an entire household, whose members may be of different races and ethnicities.

12 Pew estimate from American Community Survey 2021, one-year sample microdata, based on number of residents age 62 or older, not in labor force, and not earning any wage income. University of Minnesota Institute for Social Research and Data Innovation, IPUMS USA, www.ipums.org.

13 At the middle income in our model, nonsubsidized renters before retirement owe $1,200 in wage tax on $41,610 in wages, $0 in school income tax, $280 in sales tax on $13,910 in consumer purchases, and $1,720 in property tax through rent for an apartment valued at $122,650 as a portion of their whole building, for total tax of $3,200. After retirement, their taxable wages are replaced by untaxable Social Security benefits, and their sales tax drops to $100, but their other taxes remain, totaling $1,820.