Modeling State Tax Rebate Payments in the 2022 CPS ASEC

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Abstract

More than twenty states issued special tax rebates in 2022. These payments were generally enabled or mandated by higher-than-expected state revenues and authorized for several purposes, including relief from high inflation and the COVID-19 pandemic. The U.S. Census Bureau accounted for the value of most of these state rebates in its estimates of post-tax income and poverty rates for 2022. This paper summarizes the features of these rebate payments, how the programs were modeled by Census's microsimulation tax program, and their impacts on official post-tax income estimates.

[1] Corresponding author: matthew.unrath@census.gov. This paper is released to inform interested parties of ongoing research and to encourage discussion of work in progress. All errors are those of the authors. Any views expressed, including those related to statistical, methodological, technical, or operational issues, are solely those of the authors and do not necessarily reflect the official positions or policies of the U.S. Census Bureau. The Census Bureau has reviewed this data product to ensure appropriate access, use, and disclosure avoidance protection of the confidential source data used to produce this product (Data Management System (DMS) number: D-0000012591, Disclosure Review Board (DRB) approval number: CBDRB-FY23-SEHSD003-055). To further protect respondent privacy, all estimates in this report have undergone additional rounding. All comparative statements have undergone statistical testing and are statistically significant at the 90 percent confidence level unless otherwise noted. All data are subject to error arising from a variety of sources, including sampling error, non-sampling error, model error, and any other sources of error. For further information on statistical standards and accuracy, refer to: https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar23.pdf.

1. Overview

In 2022, twenty-two states issued special tax rebates to their residents.[2] These payments were generally enabled or mandated by higher-than-expected state revenues, though their nominal purpose was to provide families with financial relief from high inflation and the ongoing effects of the COVID-19 pandemic.

Since the Census Bureau's definition of post-tax income generally includes the value of state tax credits and refunds, Census counted most of these payments in its calculation of post-tax household income in 2022. These rebates were similar to the Making Work Pay credit issued in 2010 and the Economic Impact Payments (EIPs) issued in 2020 and 2021, which Census also credited towards households' post-tax income in those years. Like these other programs, the 2022 rebates largely involved single payments, were limited to tax filers and delivered via tax agencies, and varied by household income and composition.

The Current Population Survey Annual Social and Economic Supplement (CPS ASEC), the source of the Census Bureau's official income and poverty estimates, rarely includes questions about tax filing, tax liabilities, or receipt of tax refunds. Accordingly, CPS ASEC respondents in survey year 2023 were not asked about receipt of these rebate payments in 2022. Instead, Census staff estimated these rebates' value to respondents in the same way the agency models the value of all federal and state income and payroll tax policies, which is via an in-house microsimulation tax model.[3] Using information collected in the survey, along with program parameters released by state tax agencies, the model assigns a likely rebate value to each simulated tax unit formed from the survey data. Census credited these payments to income estimates in the year they were disbursed, which is distinct from Census's typical treatment of tax credits and liabilities, as discussed further below. A new variable containing the modeled value of the payments for households deemed eligible was also included in the 2023 CPS ASEC public-use file. This additional variable is intended to increase transparency into Census's calculation of post-tax income and to help data users better understand the impact of state tax policies on post-tax income and poverty estimates.

This paper summarizes the details of each state rebate, identifies which policies were incorporated into our microsimulation model, and reports their impacts on Census's post-tax income estimates.

2. Summary of State Rebate Programs

The following section describes each state rebate's value and eligibility restrictions. We identify which state programs were included in the Census's microsimulation model and explain why some states were excluded. We also discuss how and when the programs were administered. Table 1 summarizes the key parameters for each program. Figure 1 summarizes the value and eligibility for the rebates included in the model.

a. Value and Eligibility

Most states provided flat income tax rebates to adult filers. These amounts ranged from as low as $50 per filer in Illinois to as high as $850 per file in Maine. Aside from a few exceptions, each filer in a tax unit was eligible to receive the same rebate, meaning married units typically received twice the rebate amount as single filers. In Georgia and New Mexico, head of household filers were eligible to receive more than single

[2] Refer to the IRS website for more information about most of these rebates: https://www.irs.gov/newsroom/state-payments. Additional information can be found on the websites for each state tax agency, including those not mentioned on the IRS site.

[3] For more information about how Census models tax policy, refer to the CPS ASEC Tax Model documentation: https://www.census.gov/library/working-papers/2022/demo/SEHSD-wp2022-18.html.

filers. South Carolina and Virginia paid the same flat amount to each eligible tax unit, as opposed to each filer and regardless of the unit's filing status or number of dependents. While most payments were a flat amount, Massachusetts and Idaho provided eligible taxpayers a rebate equal to a percentage of their paid state income taxes.[4]

Two states provided additional benefits to filers with children: up to $350 for claiming at least one child in California and $100 per child (up to three) in Illinois. Connecticut and Rhode Island provided rebates only to filers with children; filers in both states were able to claim $250 for each child on their return, up to three children.

A minority of states targeted rebates toward lower- and moderate-income families. New York distributed supplementary payments to recipients of its state earned income tax credit (EITC) and child tax credit programs. Oregon's rebate was also disbursed only to claimers of the state's EITC program. Florida issued special payments to parents caring for a foster child or enrolled in the state's Temporary Assistance for Needy Families (TANF) program.[5] New Mexico and Rhode Island limited eligibility to families with higher but still moderate incomes.[6] New Jersey allowed $500 rebates to each ITIN holder on a state tax return, including dependents; income eligibility restrictions varied based on the number of ITIN holders in each tax unit. California allowed families with adjusted gross income (AGI) up to $500,000 to receive rebates, but families with lower incomes were eligible for higher amounts.

Even if not targeted towards lower-income filers, most rebates were limited to units with AGI less than $500,000. Ten states (Alaska, Colorado, Delaware, Georgia, Idaho, Indiana, Massachusetts, New Mexico[7], South Carolina, and Virginia) did not condition their rebates' value on filers' AGI, distributing at least a portion of their rebates to all filers regardless of their income.[8] Hawaii did not impose an income restriction on its program, but disbursed larger rebates to lower-income filers.

One state, Minnesota, targeted rebates to adults working in occupations or industries directly serving the public during the pandemic. The state's "frontline worker" rebate was paid out to adults who worked at least 120 hours in 2021 in jobs that entailed in-person service work, including: elder and childcare; healthcare; food, retail, and custodial services; public transit; corrections; and emergency response, among others. Eligible workers could apply to receive a rebate of $487 in 2022, and the state reported issuing payments to over one million Minnesotans.

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[4] Idaho issued two separate rebates to eligible residents. Both programs allowed filers to receive the greater of a percent refund on paid state taxes or a flat amount. The programs provided an amount equal to tax liability above a fixed amount. If liability was equal or less than fixed amount, taxpayer received that fixed amount. The flat amount of the first rebate was $75 per filer and the other was worth $300 per filer (meaning $150 and $600 to married filers, respectively.)

[5] Foster parents who receive Guardianship Assistance payments were covered under the foster care qualification.

[6] New Mexico also distributed rebates to households regardless of income but provided additional payments to families with more modest incomes. New Mexico issued three separate payments in 2022. Two were delivered to all filers, regardless of income, each equal to $250 for single filers and $500 for married filers. The third payment was another $250 issued to filers with adjusted gross income (AGI) below $75,000 for single filers and $150,000 for married filers. The value of the third rebate did not vary by filing status.

[7] As described above, two of New Mexico's three rebate payments were not conditioned on income, but one was.

[8] Although rebates in Georgia, Idaho, Indiana, Massachusetts, South Carolina, and Virginia did not have AGI restrictions, households were still required to file a return, including those with no or low incomes. To receive nonrefundable rebates, filers in Georgia, Massachusetts, South Carolina, and Virginia must also have had positive tax liability. Again, as explained in the above footnote, New Mexico targeted a portion of their rebates to lower income filers but imposed no income restriction on the other two payments.

Illinois, New York, and Pennsylvania also provided rebates to property taxpayers. In Illinois, the property tax rebate was worth up to $300. New York's Homeowner Tax Rebate Credit (HRTC) was a supplement to the state's STAR Credit, a pre-existing rebate for a portion of paid property taxes dedicated to local school systems. Pennsylvania issued rebates to homeowners and renters aged 65 or older, as well as disabled or widowed adults aged 50 or older, the value of which depended on where in the state the recipient resided.

Finally, Alaska issued a special $662 supplement to its Permanent Fund Dividend (PFD) to help residents with high energy costs. As with the PFD, all residents were eligible to receive this payment.

Most states' rebates were refundable, meaning individuals were eligible to receive payments even if they did not have positive tax liability in the relevant tax year. The four exceptions were Georgia, Massachusetts, South Carolina, and Virginia.[9] In Georgia, South Carolina and Virginia, filers with positive tax liability were rebated a flat credit. In Massachusetts, filers were refunded roughly 14 percent of their paid state income taxes.

b. Inclusion in CPS ASEC Tax Model

The Census Bureau modeled the value of state rebate programs for CPS ASEC respondents residing in the following 17 states: California, Colorado, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Indiana, Maine, Massachusetts, New Mexico, New York, Oregon, Rhode Island, South Carolina, and Virginia.

Census did not model programs in the following five states: Alaska, Florida, Minnesota, New Jersey, and Pennsylvania.[10]

Census generally excluded state programs that required more information to determine eligibility than was collected in the CPS ASEC. This included state rebates that were only allowed to narrower subgroups of filers: individuals with an ITIN, as in New Jersey; participants of certain state programs, as in Florida; and filers who worked in particular occupations, as in Minnesota.[11]

Census also did not model the value of rebates issued to property taxpayers in Illinois, New York, and Pennsylvania. The CPS ASEC collects only limited information about housing status and property ownership. To estimate property tax liabilities for tax filers predicted to itemize deductions, the CPS ASEC tax model predicts property tax payments through an imputation from a public Statistics of Income (SOI) microdata file from 2014. Rather than layer a modeled rebate value on top of a modeled property tax amount, itself imputed via a procedure that has received limited study and based on a match to an eight-year-old file, attention was focused on integrating only the income tax rebates.

Finally, Census did not model the value of the PFD supplement in Alaska, because ASEC respondents are already allowed to report receipt of these payments in response to the ASEC's "other income" question. Census staff review of the responses from Alaska residents suggested that most included this additional

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[9] Indiana made $200 of its $325 per filer rebate refundable for those who did not already claim the rebate and who received Social Security benefits in 2022. CPS ASEC Tax model did not account for this partial refundability, instead assuming the entire program was refundable for all potential recipients.

[10] Census modeled the income tax rebates provided in Illinois and New York, but excluded these states' property tax rebates.

[11] CPS ASEC does ask respondents about the occupations and industry of their longest held job in the prior calendar year, which staff could have conceivably used to model eligibility. However, the state also imposed different eligibility rules for workers in settings with different levels of in-person contact and required that individuals apply for the rebate. Absent information about this element of eligibility and application rates, Minnesota's program was excluded.

supplement, along with their primary benefits, in their responses to that question. In order to avoid double counting income from this program, Census chose to rely only on the reported values.

c. *Implementation and Timing*

Most states issued payments through their tax agencies, automatically delivering refunds or refundable rebates to households that filed in the previous year. Due to the volume of payments issued, some states (e.g., California) did not complete disbursing payments until 2023. Since Census does not observe whether or when households received these rebates, all modeled payments were assumed to have been received in 2022 when the bulk of payments were issued.

Since many of these payments were technically refunds for taxes paid in a prior year (i.e., 2020 or 2021), eligibility for these payments was often based on households' income, filing status, and number of dependents in that prior tax year. Census generally counts tax credits and rebates as income in the year in which eligibility is determined or the tax year towards which the payment is technically credited as a refund, as opposed to the year in which the payment is actually received.[12] These rebates were treated differently. Census credited the values of these payments to income year 2022, like how stimulus payments paid out in 2009, 2020 and 2021 were treated. Eligibility is determined using income, filing status and household composition observed in 2022, assuming those are reasonable proxies for the same variables in 2020 or 2021 -- the years in which eligibility for these payments was determined.

Most state rebates required eligible adults to file a return for the relevant tax year to receive their rebate.[13] Some states required adults to have already filed a return, while others allowed individuals to file late returns by a specific date in 2022 or 2023. CPS ASEC respondents are not asked whether or when they filed a tax return. Census predicts whether CPS ASEC respondents are likely to have filed a return given their family composition, income, employment status, and eligibility for refunds or refundable credits.[14] In tax year 2019, about 15 percent of householders were predicted to be non-filers. These non-filers are assigned no federal or state income liabilities and are assumed to receive no refunds or credits back. In 2020 and 2021, however, when EIPs created an incentive for such individuals to file a return, Census assumed that all eligible adults would file a standard or "non-filer" return with the IRS in order to claim and receive the EIP. In these years, only 1.5 percent of households were predicted to be non-filers. Similarly, Census assumed that all otherwise eligible adults would file a state return in 2022 to claim a state rebate, regardless of its value or their preexisting incentive to file. For tax year 2022, the CPS ASEC tax model predicted 85.1 percent of householders filed both a federal and state return.

[12] In the case of the EITC, for example, Census uses information about income and household composition from the relevant income year (y_t) to model eligibility and the likely amount, but does so assuming these data are reasonable proxies for the same variables from the prior year (y_{t-1}) when eligibility for the credit is determined. Census counts the modeled EITC value as income in the relevant income year (y_t).

[13] Not all states required recipients to file a state income tax return to receive a rebate. Indiana allowed non-filers to claim the state's second $200 rebate if they hadn't received the first $125 payment. Florida issued rebates to families enrolled in the state's TANF program. New Mexico allowed non-filers to apply for a payment through the state's human services department. Delaware allowed eligible adults to submit a non-filer return. Colorado also allowed non-filers to receive a rebate if they separately applied for the state's property tax rebate. New York and Pennsylvania rebates were also allowed to residents even if they did not file a state income tax return.

[14] For more information about how Census predicts fact of filing, refer to CPS ASEC Tax Model documentation: https://www.census.gov/library/working-papers/2022/demo/SEHSD-wp2022-18.html.

d. Taxability
All states excluded their rebates from income for state tax purposes. In March 2023, IRS announced that most of these payments would not count towards households' federal taxable income.[15] IRS decided that most programs might qualify as payments to promote "general welfare" or to provide relief from a disaster, and such payments can be excludable from income for federal tax purposes. Determining whether these payments met the qualifications for excludability under either of those rules is a complicated fact-intensive inquiry, however, and the agency determined that it could not reasonably complete such an inquiry for all states in a timely manner. Since these payments were generally temporary, the agency decided that sound tax administration dictated they not challenge these payments' excludability from federal income tax. Accordingly, these rebates were excluded from federal tax calculations in the Census tax model.

Four states' payments, however, were potentially includable for federal income tax purposes in a narrow range of cases. Those states were Georgia, Massachusetts, South Carolina, and Virginia. IRS decided that these states' nonrefundable payments were more clearly refunds of state income taxes paid. Filers in those states could exclude their payments from federal taxable income if the recipient claimed the standard deduction or they itemized but did not receive a tax benefit from deducting paid state income taxes in the tax year 2021 – the year for which state income taxes paid were refunded. In those cases, filers did not receive any federal tax benefit from their state income taxes being refunded. Rebates were taxable though if filers itemized in 2021 and claimed a federal deduction for their paid state income taxes. The subsequent refund of those state income taxes meant the claimed deduction in that year may have been too high. In other words, recipients in these states needed to pay federal income taxes on the value of their rebate if they received a tax benefit from a deduction of state income taxes in 2021. Since this exception was likely to affect few ASEC respondents and Census observes limited information from which to predict which filers might have received a tax benefit from deducting in the prior year, this exception was not included in the model.[16]

3. Impacts

Table 2 summarizes modeled estimates of rebate payments in each state and in total. The first column reports the weighted number of unique households predicted to receive a positive state rebate.[17] The second column reports the share of households in each state predicted to receive a positive rebate. The third column summarizes the weighted total dollars predicted to be disbursed in tax year 2022. The third column reports the weighted average rebate amount among households predicted to receive a rebate. California's program was the largest, both in terms of the total number of recipients and dollars disbursed. The average rebate amounts were highest in Colorado, Maine, and New Mexico.[18] In five states (Colorado, Delaware, Hawaii, Idaho, and New Mexico), the model assumes all residents received a payment.

The inclusion of these state rebates had a small, but statistically significant effect on Census's official estimate of median household post-tax income. State income tax rebates raised national median household post-tax income by $200 (a 0.3 percent increase), from $64,040 to $64,240. The effect was higher at the median than at the 10th percentile in absolute terms ($200 versus $61), but in percent terms,

[15] Refer to: https://www.irs.gov/newsroom/irs-issues-guidance-on-state-tax-payments-to-help-taxpayers.
[16] Only 9.9 percent of ASEC householders were predicted to itemize in 2022.
[17] We report statistics at the household-level because this is the unit at which post-tax estimates are reported.
[18] The differences among the average rebate amount in Colorado, Maine, and New Mexico were not statistically significant.

the difference was not statistically significant. Impacts at the 90^{th} percentile were also higher in absolute terms ($321), but the percent impact was smaller (a 0.2 percent increase).

4. Conclusion

In 2022, over twenty states issued special tax rebates to residents. These programs were enabled by higher-than-expected state revenues and intended to help residents with historic inflation and recovering from the ongoing pandemic. State policymakers structured these rebates in various ways. For example, some states issued flat credits to all taxpayers, whereas others targeted rebates to children and lower-income households.

This paper summarizes the features of these programs and identifies which programs were accounted for in Census's post-tax income and poverty estimates for 2022. We also explain why certain programs were excluded. Finally, we summarize the impact of these payments on post-tax income estimates. While the programs had potentially meaningful effects on individual households' annual income after taxes, effects on national estimates were limited.

Table 1. Key Information about 2022 State Tax Rebates

State	Modeled	Child Payment	Income Cap	Refundable	Property Rebate	Amounts
Alaska				X		$662 per person.
California	X	X	X	X		$200-$350 per filer and dependent (max 1 dep).
Colorado	X		X	X		$750 per filer.
Connecticut	X	X	X	X		$250 per child (max 3 children).
Delaware	X			X		$300 per filer.
Florida		X	X	X		$450 per child.
Georgia	X					$250 per filer, $375 per head of household filer.
Hawaii	X			X		$100-$300 per person.
Idaho	X			X		Greater of $75/person or 12% of state taxes owed before credits in 2020.
Idaho	X			X		Greater of $300 per person or 10% of state taxes owed before credits in 2020.
Illinois	X	X	X	X		$50 per filer and $100 per child (max 3 children).
Illinois			X		X	$300 rebate to eligible property taxpayers.
Indiana	X		X	X		$200-$325 per filer.
Maine	X		X	X		$850 per filer.
Massachusetts	X					14.0312% of taxes paid after credits in 2021.
Minnesota				X		$487.45 per eligible worker.
New Jersey		X	X	X		$500 per ITIN holder in tax unit.
New Mexico	X			X		$500-750 per filer; $1,000-1,500 per head of household filer.
New York	X		X	X		25%-100% of Empire State credit, 25% of NY EIC.
New York			X		X	Percentage of STAR exemption credit.
Oregon	X		X	X		$600 per OR EITC claimant.
Pennsylvania					X	70-120% of 2021 rental expenses or property taxes.
Rhode Island	X	X	X	X		$250 per child (max 3 children).
South Carolina	X					$800 per tax unit.
Virginia	X					$250 per filer.

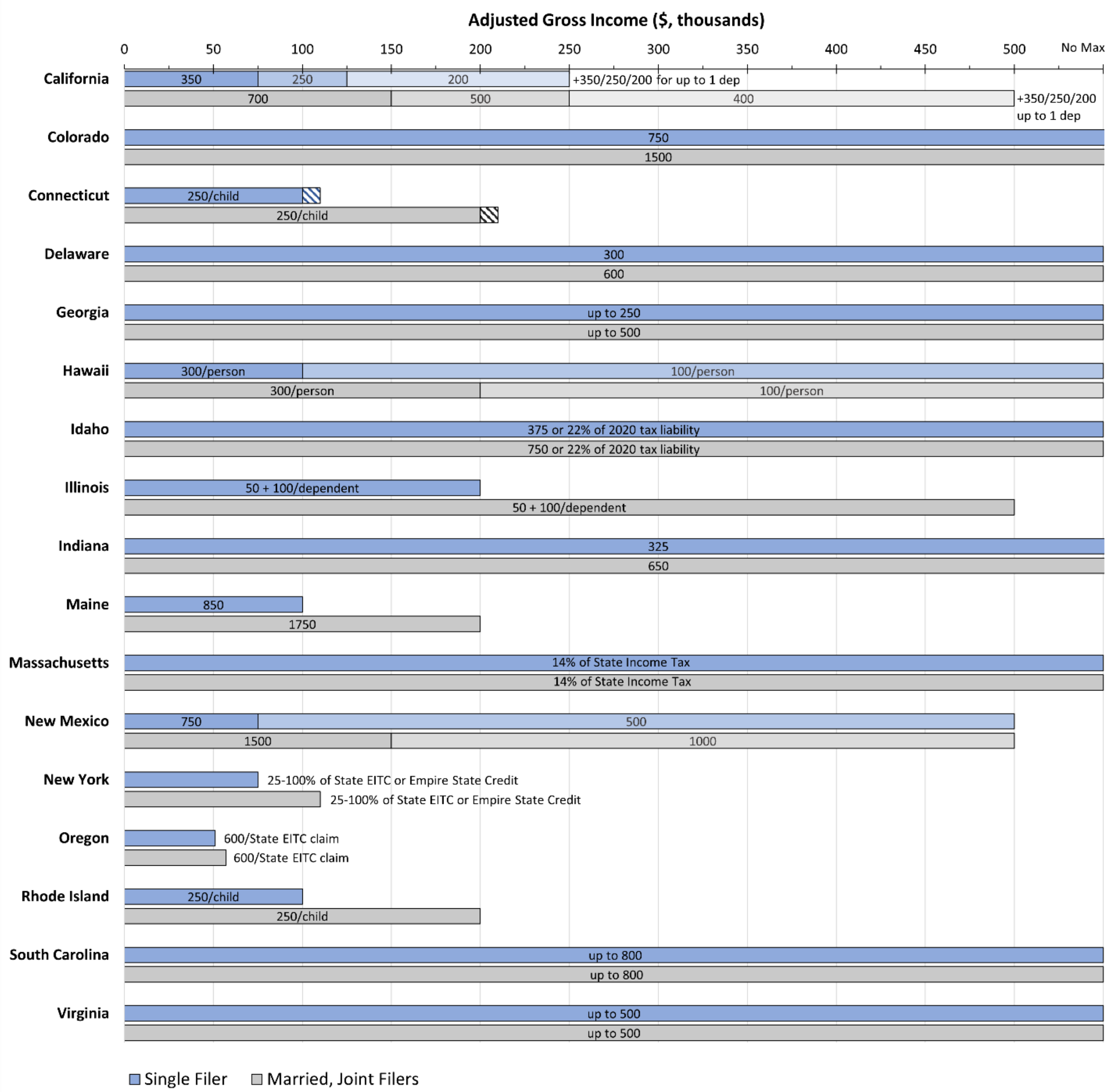
Notes. Table 1 summarizes key features of all state rebate programs. The first column indicates which rebates were included in the CPS ASEC tax model. The second column indicates which state programs issued payments only to filers with children or additional payments to filers with children. The third column indicates the rebates for which eligibility was restricted based on filers' income. The fourth column indicates which rebates were refundable. The fifth column indicates which rebates were granted to property taxpayers. The final column briefly summarizes the value of each rebate. Some states are listed in the table twice, indicating they offered residents more than one rebate program with sufficiently distinct parameters. If an amount is identified as being paid to a "filer", then the amount is per filer within the tax unit, meaning joint returns receive twice as much as single filers. If the amount is paid to a "tax unit", then the same amount was paid to each tax unit, regardless of filing status. If the amount is per person, then the rebate is paid to each eligible individual, including dependents. For non-refundable rebates, the amounts are capped at filers' tax liability. The "income cap" designation captures whether there was a maximum AGI over which a tax unit received no rebate. By that definition, states like Hawaii and New Mexico, in which a portion of the refund was allowed to households below a certain limit, are identified as not having an income cap. Refer to the paper for more information about the specifics of each rebate, including eligibility restrictions, filing requirements, and other implementation details.
Sources. Census Bureau staff analysis of relevant state tax agency websites, 2023.

Table 2. Summary of Model Output by State

State	Total Recipients (thousands)	Percent of Households with Recipient	Total Payment Amount ($ thousands)	Average Amount Among Recipients ($)
California	12,060	85.6	8,649,000	717
	(116)	(0.5)	(76,810)	(5)
Colorado	2,362	100.0	3,297,000	1,396
	(60)	.	(59,780)	(26)
Connecticut	337	23.6	136,100	403
	(24)	(1.6)	(11,930)	(15)
Delaware	408	100.0	235,600	578
	(9)	.	(4,198)	(10)
Georgia	3,096	73.8	1,349,000	436
	(87)	(1.4)	(36,140)	(6)
Hawaii	496	100.0	373,300	753
	(12)	.	(8,261)	(22)
Idaho	758	100.0	361,800	478
	(11)	.	(16,270)	(21)
Illinois	4,895	96.8	452,600	92
	(84)	(0.5)	(5,092)	(1)
Indiana	2,367	85.9	1,374,000	580
	(52)	(1.1)	(27,330)	(10)
Maine	550	93.0	800,900	1,455
	(15)	(1.4)	(22,970)	(35)
Massachusetts	2,205	80.2	2,196,000	996
	(47)	(1.3)	(105,200)	(44)
New Mexico	870	100.0	1,220,000	1,402
	(17)	.	(16,280)	(33)
New York	1,695	21.7	365,000	215
	(70)	(0.9)	(24,320)	(11)
Oregon	147	8.8	91,960	624
	(19)	(1.1)	(11,360)	(12)
Rhode Island	85	19.5	34,020	402
	(7)	(1.7)	(3,141)	(18)
South Carolina	1,379	62.9	1,096,000	795
	(45)	(1.9)	(31,680)	(15)
Virginia	2,731	79.3	1,152,000	422
	(68)	(1.3)	(27,030)	(7)
Total	36,450	71.0	23,180,000	636
	(253)	(0.4)	(150,700)	(4)

Notes. Table 2 summarizes modeled estimates for each state rebate, including the total number of households in each state predicted to receive a positive rebate (Column 1), the average of households in each state containing a tax unit predicted to receive a rebate (Column 2), the sum of payments issued in each state (Column 3), and amount households predicted to receive a rebate, the average amount (Column 4). All estimates are calculated using replicate weights. The replicate weight standard error is displayed in parentheses below each estimate. Standard errors are not estimated for the percent of households with a rebate recipient for states in which all households were predicted to receive one.
Sources. Current Population Survey Annual Social and Economic Supplement 2023.

Figure 1. State Rebate Values and Income Eligibility Limits



Notes. Figure 1 summarizes the value and income eligibility limits of the seventeen state rebate programs included in the CPS ASEC tax model. The text in the bars summarizes the value of the rebate delivered to each eligible tax unit. The width of the bars indicates the eligible income ranges. The blue bars represent program parameters for tax units with one filer (i.e., single, head of household and married filing separately filers), and the grey bars represent parameters for units with two filers (i.e., married filing jointly filers). The amounts noted in the bars represent the total value delivered to the tax unit, unless otherwise noted. The total rebate value for units with two adults is typically twice that for units with one. In some states, the amount is a function of the number of total persons, dependents, or children in the unit, which is noted in the chart. States that imposed no income cap on their programs are represented by bars that extend to the rightmost side of the chart. Georgia and New Mexico issued additional benefits to head of household filers: $375 and $1,000 per filer, respectively. New Mexico's program was comprised of three separate rebates, represented as a single program in the figure. The value of Connecticut's rebate was phased out for units above a certain income limit, represented in the figure by the bars with diagonal lines.
Sources. Census Bureau staff analysis of relevant state tax agency websites, 2023.