

Stimulus Checks: True-Up and Safe Harbor Costs

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Abstract

The U.S. distributed stimulus checks in response to recent recessions. These checks grew from about \$40 billion in the 2001 recession to \$800 billion in the Covid era. Most discussions, however, only account for advance payments and ignore subsequent true-up payments, as well as safe harbors that prevent stimulus repayment. Using population-level tax data, I estimate true-up and safe harbor costs and decompose them by reasons, such as changes in income or number of children. True ups and safe harbors increased stimulus costs by nearly one fifth. Therefore, while true ups promote equity and safe harbors may support aggregate demand, both are costly.

Keywords: stimulus checks, tax credits, true-up payments, Covid-19

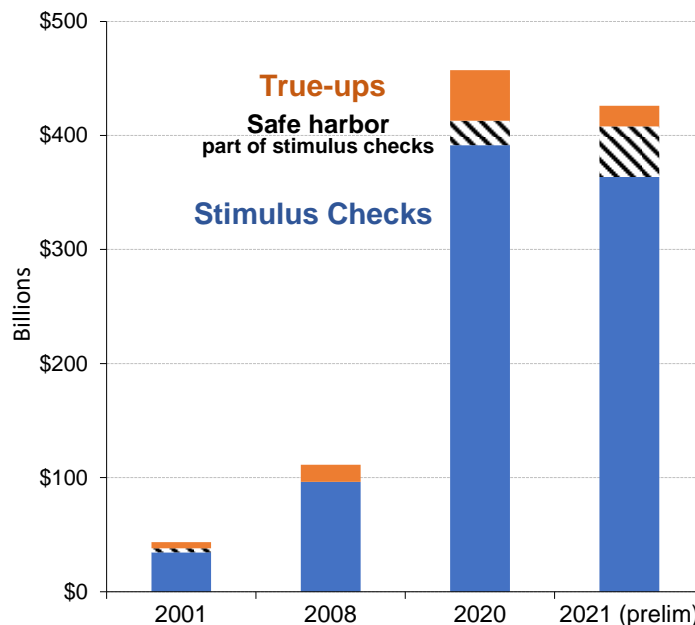
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Advance tax credits have captured the interest of U.S. policymakers, especially with the introduction of advance child tax credits. Unlike standard credits based on current-year information, advance credit amounts are based on prior-year information. Changing circumstances can cause differences between advance credit and final credit amounts claimed on tax returns. For example, declines in income could cause additional “true-up” payments on tax returns, while increases in income could cause advance credits to be clawed back and repaid. True-up payments, therefore, provide additional relief that is consistent with an individual’s current-year family status and income. Potential repayments would also be consistent with a current-year approach but have always been prevented by safe harbors. This protection may encourage greater spending of stimulus checks. Using population-level U.S. tax data, I consider the 2001, 2008, 2020, and 2021 stimulus payments, for which true ups and safe harbors together increased costs by nearly one fifth. Therefore, while true ups promote equity and safe harbors can promote aggregate demand, both are costly.

Prior research on stimulus payments studied how stimulus checks affected consumption but neglected true-up payments. True ups, however, represent a substantial share of stimulus payments. Figure 1 shows that 2008 stimulus payments were about \$96 billion, while an additional \$13 billion was claimed as true ups. The 2020 stimulus payments—including the first and second rounds of Covid stimulus—were \$413 billion and \$45 billion more was claimed as true ups. For 2021 stimulus payments, preliminary data suggest that initial checks were \$408 billion and about \$18 billion more will be claimed as true ups. Historically, true-up costs average about 11 percent of initial stimulus checks.¹

Figure 1. Full Costs of Stimulus Checks



Notes: 2020 includes all first- and second-round Covid stimulus checks and recovery rebate credits. 2021 values are preliminary, based on scaling up available data using the prior-year number of individuals. 2008 safe harbors are not shown due to data limitations. *Source:* Author’s calculations using tax data.

¹ Both true-up and safe harbor costs are included in estimates by the staff of the Joint Committee on Taxation, but neither are broken out and those are forecasted estimates, whereas this paper relies on historical data.

Safe harbor costs are included in stimulus check amounts but increase total costs by preventing the repayment of any excess payments relative to current-year circumstances. While repayment protection can promote some spending, this is likely an expensive means of stimulating short-term aggregate demand because safe harbors mostly benefit higher-income individuals whose income increased above credit phase-out thresholds. This means safe harbors also decrease the effectiveness of distributional targeting. The 2020 stimulus checks had a safe harbor cost of about \$21 billion. The 2021 costs were twice as large, about \$44 billion based on preliminary data. This doubling is because safe harbor costs result from increases in nominal income, and the 2021 round of stimulus was during an economic expansion year with significant nominal wage increases. Across the years estimated, safe harbors represent about nine percent of initial stimulus check costs.

In addition to providing estimates on the full costs of historical stimulus check policies and the first estimates of safe harbor costs, I decompose the reasons for true ups and safe harbors. These reasons include changes in the number of children, filing status, and income, where changes in income are especially important. Finally, I present evidence of a behavioral response to stimulus check true-up payments: bunching of reported incomes at true-up phase out income thresholds. These estimates can help considerations of the structure and costs of proposed advance tax credits.

1. Prior Studies on Stimulus Checks and Advance Tax Credits

Stimulus checks in the last three recessions aimed to protect households from income losses and to stimulate demand. Research on the 2001 and 2008 stimulus checks focused on aggregate demand effects. The 2001 stimulus checks were mostly saved or used to pay down debt in the short term (Shapiro and Slemrod 2003). After at least three months, about two-thirds of these checks were spent (Johnson, Parker, and Souleles 2006). For the 2008 stimulus checks, 50 to 90 percent were spent within three months of receipt (Parker et al. 2013), and responses were largest among low-income and low-wealth households (Broda and Parker 2014). Using a quantitative model to control for differences in the recessions and policies, Kaplan and Violante (2014) estimated that the 2008 consumption response was about two-thirds the 2001 response.

Research on Covid-era stimulus checks also considered effects on spending and saving. Compared to prior recessions, less Covid-era stimulus was spent on durables and services in the three months following receipt and more went towards paying off debt (Parker et al. 2021). Given the nature of the pandemic, stimulus checks were less effective at stimulating aggregate demand during Covid than in prior recessions (Baker et al. 2020; Chetty et al. 2021), although a large share of stimulus was still spent in the first two weeks after receipt (Karger and Rajan 2020). Additional studies are reviewed in Gelman and Stephens (2022). Note that these studies identify spending responses based on stimulus checks being received on specific dates. This approach does not apply to true ups, which are received as tax returns are filed throughout the year—and at the same time as tax refunds or payments.²

² Aladangady et al. (forthcoming) use a change in tax refund timing to estimate that about a quarter of earned income tax credits were spent within two weeks.

The Covid recession stimulus checks also lowered poverty rates, stabilized incomes, and increased bank account balances. The 2020 stimulus checks moved 11.7 million individuals out of poverty based on the supplemental poverty measure (Fox and Burns 2021) and lowered the share of working-age adults with large declines in income by one third, or 14 percentage points (Larrimore, Mortenson, and Splinter 2022). By the end of 2021, low-income account balances were about 65 percent higher than before the recession (Greig, Deadman, and Sonthalia 2022).

While this paper focuses on stimulus checks, true-up and safe harbor costs can result from other advance tax credits, such as premium tax credits (PTCs) for health insurance. Whereas safe harbors for stimulus checks usually benefit those with higher incomes, PTC safe harbors only apply to those with relatively low incomes, which significantly lowers overall credit costs.³ Two other prominent advance credits were for earned income and child tax credits. The advance earned income tax credit was repealed in 2010 due to low take-up rates, resulting in part from fears about possible repayments upon tax filing (Government Accountability Office 2007). Advance child tax credits were temporarily in effect for 2021, but only half of child credits were advanced. Like the PTC, safe harbors of advance child tax credits had limitations—credit repayments could apply to those claiming fewer qualifying children on a tax return or with income increases. Safe harbors for advance child tax credits were therefore more restrictive than for stimulus checks, which had neither of these limitations.

Maag et al. (forthcoming) estimated the accuracy of first-quarter information at predicting end-of-year earned income and child tax credit amounts. Their findings are consistent with the stimulus payment estimates in this paper. About 80 percent of tax units had well-predicted tax credits with first-quarter information and about 85 percent of stimulus checks were well-predicted with prior-year information. When estimated tax credits or stimulus checks were not well-predicted, the differences were about evenly split between over-estimates and under-estimates and due to changes in the number of children, filing status, and income.

2. Policy Background and Historical Costs of Stimulus Checks

Stimulus checks in 2001, 2008, 2020, and 2021 were all advance tax credits—early payments of rate reduction and recovery rebate credits (RRCs). Whereas stimulus check amounts are determined by the IRS based on prior-year information, RRCs are calculated on tax returns based on current-year information. If the advance portion of the credit (i.e., stimulus check) is less than the RRC, then an additional true-up amount is paid. This true up is often based on changes in circumstances. For example, when tax filers have additional children or less income than the earlier-year information used to determine stimulus check amounts, they often receive true-up payments on their tax return. In contrast, if the advance credit is more than the RRC, then a taxpayer may have to repay some of the advance credit—although safe harbors prevent these repayments for stimulus checks. Conventional credits are based only on current-year information and have no need for the true ups or safe

³ In tax processing year 2020 (mostly tax year 2019), excess PTC repayments totaled \$4.2 billion or 15 percent of the advance credits reported on Form 8962: www.irs.gov/pub/irs-pdf/p4801.pdf. The PTC phases out for incomes between 150 and 400 percent of poverty, although this income limitation was temporarily removed in tax year 2020.

harbors associated with advance credits.⁴

The population eligible for stimulus checks has expanded over time. In 2001, only those who filed tax returns and had tax liabilities were eligible. By 2020, non-filers and those with no tax liability were eligible, and the IRS relied on millions of addresses from other agencies and information from an online portal to distribute stimulus checks to this expanded population. This mitigated the need for many low-income individuals to file a tax return just to receive a stimulus payment, as was the case in 2008.

Stimulus checks have been favored in recent economic downturns because they can be issued immediately to a broad population and are salient. Alternatively, policymakers could provide immediate tax relief through reduced tax withholding, as done with the 2009 and 2010 making work pay tax credit (Boning 2018). Tax withholding changes, however, are less salient than checks and provide no relief to the large share of adults without withholding (Maag and Hammond 2021). Perhaps due to the latter limitation, the making work pay tax credit effective was replaced with a temporary payroll tax rate reduction that provided immediate relief to workers regardless of income tax burdens.

A. Historical Stimulus Check Policies and Costs

Over the past three recessions, stimulus payments have grown substantially. The 2001 payments were advance reductions in tax liabilities of about \$38 billion. Many tax filing units have no tax liability and therefore a stimulus check of \$300 per adult was received by only about two-thirds of tax units.⁵ The 2008 payments totaled about \$96 billion. Maximum amounts were usually \$600 per adult and \$300 per child, although only up to \$300 per adult was refundable (i.e., payments in excess of tax liabilities) and a taxpayer needed to have at least \$3,000 of earned income plus retirement income or a positive tax liability (Joint Committee on Taxation 2008; Parker et al. 2013).⁶

The 2020 and 2021 stimulus payments are essentially means-tested transfers issued through the tax system.⁷ The 2020 payments include both the first and second rounds of Economic Impact Payments (EIPs), even if paid in early 2021, and totaled \$413 billion (Treasury Inspector General for Tax Administration 2022b). Most individuals received first-round EIPs of \$1,200 per filer and \$500 per child and second-round EIPs of \$600 per person, for a total of \$1,800 per filer and \$1,100 per child. The 2021 third-round EIPs totaled \$408 billion (Treasury Inspector General for Tax Administration 2022a) and were \$1,400 for most filers and children.⁸

⁴ With true ups and safe harbors, the full cost of an advance credit policy is the *greater* of the advance credit based on prior-year information and the current-year credit. Without true ups or safe harbors, it is the *lesser* of these two.

⁵ Heads of household, i.e., unmarried filers with dependents, usually received a stimulus check of \$500. The 2001 rate reduction tax credit lowered the tax rate from 10 to 15 percent for the bottom tax bracket: first \$6,000 of taxable income for single filers, \$10,000 for heads of household, and \$12,000 for joint filers. Most advance payments were sent between July and October 2001 (Congressional Research Service 2008).

⁶ In 2009, stimulus checks of \$250 were sent to individuals receiving Social Security benefits, SSI, veterans' disability, or survivorship payments as they usually did not qualify for making work pay tax credits (Boning 2018).

⁷ Most Covid-era payments were electronic deposits. See IRS 2021 Data Book: www.irs.gov/pub/irs-pdf/p55b.pdf. For timing of first-round payments by tax filing status, see Murphy (2020).

⁸ When adjusting for inflation with the PCE index, real stimulus check amounts for 2001, 2008, 2020, and 2021 were: \$55, \$118, \$429, and \$408 billion. Gelman and Stephens (2022) discuss stimulus checks sent in 1975.

Stimulus checks, however, are not unconditional cash transfers. The per-person dollar amounts described above ignore how income phase outs and other limitations reduce credit amounts. These credit reductions are based on taxpayer characteristics that change over time and therefore are the source of true-up and safe harbor costs.

The 2001 stimulus had no income limitation. The 2008, 2020, and 2021 stimulus payments, however, were subject to income phase outs starting at \$75,000 for single filers and \$150,000 for married individuals filing jointly (\$112,500 for heads of household for the 2020 and 2021 stimulus). In real terms, the married threshold fell from \$183,700 to \$150,000. The phase-out rate above these thresholds was five percent for the 2008 and 2020 stimulus payments. The 2021 stimulus, or third-round EIPs, phased out proportionally between \$75,000 and \$80,000 for single filers and between \$150,000 and \$160,000 for married filers (between \$112,500 and \$120,000 for heads of household). Consequently, the 2021 credits phased out at much higher rates than earlier credits. For example, a married couple with one child had a second-round 2020 credit of \$1,800 (\$600 for 3 people) fully phased out at an income of \$186,000 ($\$150,000 + \$1,800 \div 5\%$), while a 2021 credit of \$4,200 (\$1,400 for 3 people) fully phased out at an income of only \$160,000. In this example, the earlier 5 percent phase-out rate increased to a 42 percent phase-out rate. Even for single filers, who had the smallest rate increase, phase-out rates increased from 5 percent to 28 percent.

In addition to income limitations, stimulus checks had other limitations. All stimulus checks were unavailable to non-resident aliens or dependent filers (although they qualified on 2001 tax returns).⁹ Dependent filers are individuals who filed their own tax return but were claimed as a dependent of another filer who provided over half of their resources. This limitation helps prevent these individuals from receiving two credits (e.g., by both them and their parents), but financially prioritizes parents or guardians over some semi-independent children. Children must have been “qualifying” to receive the 2008 and 2020 stimulus—they needed to be younger than 17 years old, have a valid Social Security Number (SSN) or adoption identification number, and meet the other requirements to be eligible for the full child tax credit. The 2021 stimulus was available to nearly all dependents with SSNs or adoption numbers, regardless of age. Adults also needed to provide SSNs to be eligible for stimulus, with some exceptions for members of the Armed Forces.

All stimulus policies allowed filers to claim the higher of their checks based on earlier-year information and the credit based on current-year information. That is, all stimulus allowed for true-up payments and had safe harbors preventing the repayment of any excess advance credits.

3. Data and Calculations

This paper uses population-level tax data. These data include changes in individual-level characteristics from year to year, such as income declines that can result in true-up payments. Estimates are at the individual filer level, meaning spouses filing joint returns are two separate observations. This follows IRS guidelines that evenly split stimulus payments between spouses to allow for individual-level reconciliation in the case of filing

⁹ The U.S. Treasury generally provides estimated amount of stimulus checks to territorial governments, who disperse the checks. Hence, information on these individuals is generally missing from IRS data.

status changes, such as from marriages or divorces. Also note that these data are continuously updated by the IRS and were accessed on July 1, 2022. The 2021 tax return data are incomplete due to processing and late filing. Therefore, 2021 estimates are scaled up by 19 percent based on the ratio of individuals on 2020 tax returns to those currently available on 2021 returns.¹⁰

With current-year tax return information, I calculate the total stimulus credits for which tax filers are eligible. These *estimated full RRCs* include both advance and true-up credits and are based on current-year tax burdens or income (adjusted gross income), filing status, whether one was claimed as a dependent on another return, the number of qualifying children or dependents, mailing address state to proxy for non-residents, and the SSN status of all individuals. Most tax filers receive correct true-up payments. That is, the difference between their estimated full RRC and advance credits equals their additional RRC (i.e., true-up).¹¹ Current-year non-filers receive no true-up payments, although in the Covid recession most received full stimulus checks and therefore they would have no true up even if they filed a return. In some cases, the estimated full RRC is larger than total credits received (advance and true up) and these are considered unclaimed credits.¹² In other cases, the estimated full RRC is less than advance credits. These negative “true-up” amounts represent repayments that would have been due without hold harmless provisions and are considered *safe harbor costs*.

To explain the reasons for true-up and safe harbor costs, filers are linked to their tax returns for two prior years (although 2008 stimulus estimates only use prior-year information). Information for earlier years includes the variables listed above. Comparing earlier-year and current-year characteristics shows the causes of true-up or safe harbor costs. To simplify the decomposition, and due to these costs often resulting from a single characteristic change, each filer’s entire true-up or safe harbor amount is assigned to a single explanation based on a sequential order. For example, in 2020 over 90 percent of true-up amounts were due to a single identified reason. For true-up reasons, the first of these that apply is selected: receiving no stimulus checks due to being a non-filer, non-resident filer, or individual claimed as a dependent in an earlier year; changing filing status (and no increase in the number of effective children or dependents); claiming more effective children or dependents; or lower income (or a tax burden that became positive for 2001 and 2008 credits).¹³ Safe harbor reasons include: changing filing status (and no decrease in the number

¹⁰ Alternatively, scaling by the number of tax returns in 2020 would result in a similar scaling up of 20 percent. Earlier-year counts suggest similar scaling factors: 16 percent relative to 2018 and 24 percent relative to 2019.

¹¹ The additional RRC is the computer-generated amount in IRS data, which correctly deducts stimulus check amounts that are often not accounted for by tax filers (sometimes because second-round payments were received after returns were prepared), but does not increase taxpayer-claimed amounts, leaving some with unclaimed true ups. The Treasury Inspector General of Tax Administration (2022b) estimated that 2020 RRC payments were correctly calculated by the IRS for 99.3 percent of tax returns and potentially improper RRC payments represented about 2 percent of RRCs, where about half were due to receipt by someone potentially the dependent of another taxpayer.

¹² Treasury Inspector General of Tax Administration (2022b) estimated that “approximately 3.1 million individuals eligible for the RRC based on their Tax Year 2020 return...did not claim the credit.” (p. 13)

¹³ The effective number of children or dependents is the number claimed but divided by two for joint filers. This controls for filing status changes, such as divorces. Even though the 2001 credits were not based on the number of children, switches from filing as single to head of household due to more children can cause true ups.

of effective children or dependents); claiming fewer effective children or dependents; or reporting higher income (or a tax burden that became non-positive for 2001 and 2008 credits). If none of these apply then the reason is listed as not identified.

Note that by following individuals, changes in filing status can be more accurately captured. For example, individuals receiving stimulus payments based on a joint return who then divorced could have the low-earning spouse receive a true up and the high-earning spouse be protected with a safe harbor. The analysis of true ups and safe harbors only considers individuals filing a tax return in the current year. This includes some prior-year non-filers but excludes all current-year non-filers, as characteristics needed to estimate credit amounts are unobserved. Since 2020, most non-filers received stimulus checks and have no need to subsequently file a tax return to receive stimulus.

4. True-Up and Safe Harbor Costs

Table 1 shows estimates of costs of true-ups and safe harbors for stimulus checks, as well as reasons for these costs. Panel A shows that the size of stimulus checks increased dramatically, from \$38 billion in 2001 to more than \$400 billion in both 2020 and 2021. The 2020 stimulus resulted in about \$45 billion of true-up payments.¹⁴ The 2021 stimulus (third-round EIPs) resulted in about \$18 billion of true-up payments.¹⁵ When including true ups, total Covid-era stimulus costs were about \$880 billion.

While total stimulus checks were similar in the two years of Covid stimulus, the 2020 true ups were more than twice that of 2021. This is because true ups result from income declines, making them larger in economic recessions than expansions. Conversely, the 2020 safe harbor costs were half that of 2021 because they result from income increases, making safe harbor costs smaller in economic recessions than expansions.

It can be helpful to consider true-up and safe harbor costs as a share of stimulus checks, as shown in Panel B. Across the four years of stimulus checks, true-up costs average 11 percent and safe harbor costs average 9 percent. The dollar-weighted averages are 9 and 8 percent. Hence, the total cost of true ups and safe harbors for stimulus checks is nearly one fifth the cost of stimulus checks.

Many reasons cause true ups payments on tax returns, but about half of true ups go to individuals with income declines or not receiving stimulus checks. Panel C shows that an average of at least 34 percent of true ups resulted from income declines. This is not surprising, given that stimulus payments are made during downturns. In addition, an average of 24 percent of true ups resulted from individuals who did not receive stimulus checks but later received credits on their tax return. The IRS may have not issued stimulus checks to these individuals for many reasons—e.g., they were dependents, non-residents, or non-filers in earlier years—or the IRS may have lacked information needed to send payments to these

¹⁴ As of May 2021, the Treasury Inspector General for Tax Administration (2022b) found that processed 2020 tax returns had an estimated \$39.2 billion in true-up payments. The estimates in this paper are based on data processed about one year later. For stimulus check amounts, the 2021 IRS data book shows the same value for 2020 but a slightly lower 2021 amount of \$401.5 billion.

¹⁵ As discussed above, 2021 estimates are based on preliminary data scaled up to account for unprocessed data.

individuals. True ups were also paid to individuals changing tax filing status (9 percent) or claiming more dependents or children than in earlier years (12 percent). The latter likely results in part from newborns being unobserved in earlier-year information and only first observed by the IRS when claimed on tax returns.¹⁶

Safe harbor costs are mostly caused by income increases. Panel D shows that an average of 59 percent of safe harbor costs were due to higher incomes on current-year tax returns than in earlier years. Remaining safe harbor costs were mostly due to filing status changes and individuals claiming fewer dependents or children than in earlier years. The share of safe harbors due to having fewer dependents in 2021 was much larger than the share having fewer children in 2020. This was likely because it is harder for the IRS to forecast the loss of dependents than children, who are subject to a clear 17-year-old cutoff.

Table 1. Stimulus Checks: Decomposition of True-Up and Safe Harbor Costs

	2001	2008	2020	2021	Average
<i>Panel A: Amounts (\$billions)</i>					
Stimulus checks	38.0	96.3	412.9	408.0	---
True-up cost (additional)	5.5	12.7	45.0	18.1	---
Safe harbor (in stim. checks)	3.6	---	21.4	44.5	---
<i>Panel B: Cost as share of stimulus checks (%)</i>					
True-up cost	14	15	11	4	11
Safe harbor cost	9	---	5	11	9
Total	24	---	16	15	20
<i>Panel C: True-up cost sources (%)</i>					
Checks not received	16	28	21	30	24
Change in status	1	3	27	3	9
More dependents/children	14	8	8	18	12
Income decline	51	33	28	25	34
Not identified	16	28	16	24	21
Total	100	100	100	100	100
<i>Panel D: Safe harbor cost sources (%)</i>					
Change in status	20	---	27	17	17
Fewer dependents/children	---	---	6	17	17
Income increase	52	---	64	59	59
Not identified	29	---	3	13	13
Total	100	---	100	100	100

Notes: 2020 includes all first- and second-round Covid stimulus checks and recovery rebate credits. 2021 values are preliminary, based on scaling up available data to prior-year number of all filers. 2001 and 2008 income changes also account for tax burden changes. 2008 safe harbors are not shown due to data limitations.

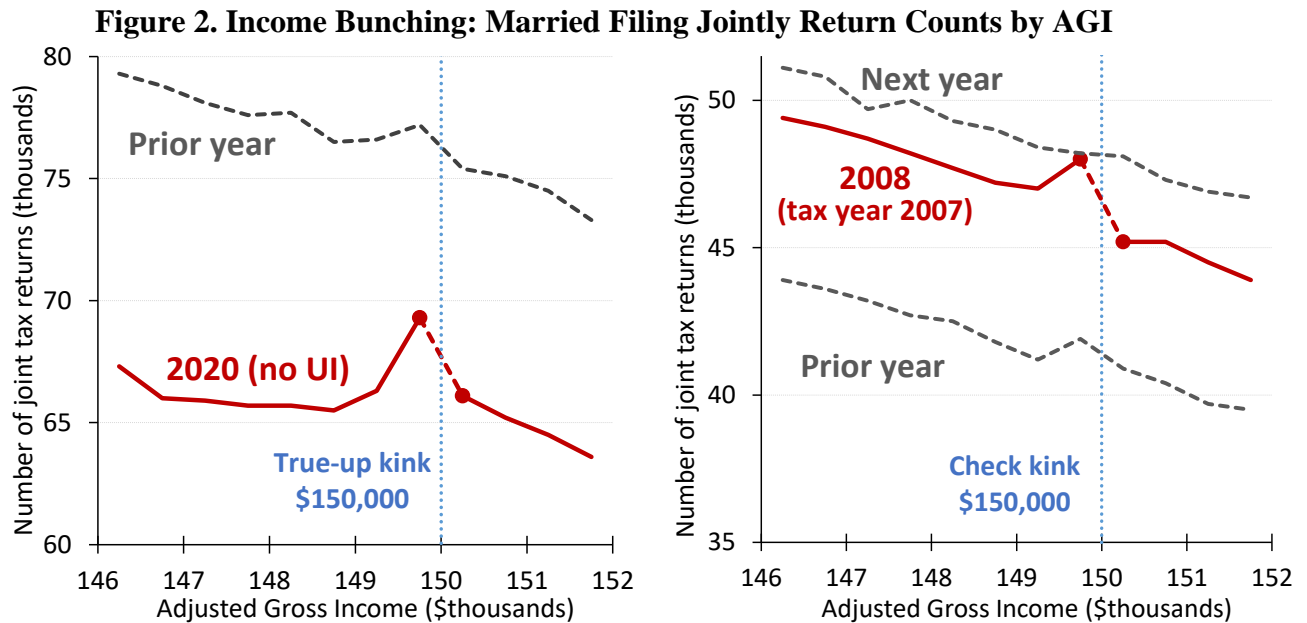
Source: Treasury Inspector General for Taxation and author's calculations using tax data.

¹⁶ The two 2020 stimulus checks likely had different reasons for true ups. Most second-round 2020 checks were sent in late December and therefore were sometimes based on more up-to-date information (i.e., 2019 tax returns filed after March 2020), than the first-round 2020 stimulus checks. However, 2020 true ups combine both checks, complicating a separate analysis of first- and second-round checks. The 2020 true ups can include the effects from a change in policy that allowed joint returns with only one valid SSN to newly qualify for first-round credits.

5. Income Bunching Responses to Credit Income Phase Outs

When stimulus checks are trued up on tax returns, additional payments phase out by income. These phase outs may become salient for some tax filers who respond by underreporting their income to increase true-up payments. Mortenson and Whitten (2020) provided the most comprehensive estimates of more general “income bunching” effects using population-level tax data. They found that most bunching occurred at the bottom of the income distribution due to kinks in marginal tax rate schedules from earned income and child tax credits. While they observed limited income bunching at high-income kinks, I find evidence of high-income bunching in response to stimulus credit phase outs.

To present simple evidence of income bunching, Figure 2 shows the number of married filing jointly tax returns by income near the phase-out threshold of \$150,000 in years that determined credit amounts and neighboring years. In 2020, returns with unemployment insurance benefits are dropped because of the exclusion of those benefits was based on the same income threshold. The 2020 true ups started phasing out at a 10 percent rate from the combined phase outs of the first and second rounds of payments. This jump in marginal tax rates at the phase-out threshold creates a marginal tax rate schedule kink. Bunching effects are clear in the left side of Figure 2. In 2020, the number of returns reporting incomes between \$149,500 and \$150,000 spikes up and then falls dramatically, whereas this is not observed in the prior year without true ups.¹⁷



Notes: Number of returns are by \$500 bins of adjusted gross income. In the left side, tax year 2020 excludes returns with unemployment insurance. In the right side, 2008 denotes tax year 2007 because these returns determined stimulus check amounts. Source: Author’s calculations using unaudited tax data.

¹⁷ Bunching is not observed at the 10 to 22 percent bracket change for joint returns, suggesting stimulus check policy was more salient (or that taxpayers incorrectly believed true ups to completely phase out at the threshold with a notch).

A similar bunching response is observed in the right side of Figure 2 for tax returns filed in 2008. These incomes were usually reported on returns filed just after the stimulus check policy had been announced, providing filers an opportunity to misreport income to maximize stimulus checks (which were based on tax year 2007 returns filed in 2008). In addition, an online calculator allowed filers to see how stimulus check amounts would change based on reported income, which may have increased the salience of the stimulus credit phase out. A further analysis of bunching is left for future work.

6. Summary

Stimulus checks are advance payments of tax credits. When filing tax returns, taxpayer circumstances often change from the prior-year information used by the IRS to estimate advance payments. Reconciliations on tax returns result in significant true-up costs, often due to declines in income during recessions. In addition, safe harbors protect individuals from repaying stimulus checks. Together, true-up and safe harbor costs are nearly one fifth of stimulus check amounts. For example, true ups and safe harbor from Covid-era stimulus checks cost nearly \$130 billion. Therefore, while true ups promote equity and safe harbors may support aggregate demand, both are costly. These specific costs are avoided with unconditional transfers, but removing income and other limitations for stimulus checks can result in even higher total costs.

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