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Details of GetCTC 2022 usage

Characteristics of GetCTC 2022 users and detailed data on their use of the tool

GetCTC 2022 Learnings Report

March 2023

Other experimental results and research from GetCTC 2022 are available here.

Summary: This report contains detailed data on the characteristics and experience of clients who used GetCTC in 2022. These details are offered in the hopes they may be helpful to policymakers, technical teams, and other actors who may work on efile tools targeted at low-income populations.

GetCTC was a simplified filing tool that allowed households without a tax filing obligation to file a streamlined return to claim the Child Tax Credit (CTC) and the Recovery Rebate Credit (RRC). In the last month of operation in 2022, on a pilot basis, clients could elect to claim the Earned Income Tax Credit (EITC) as well. Clients had to provide basic information on themselves, their dependents, and advance payments of CTC and RRC in 2021. To claim the EITC, clients had to provide their W-2 income records. GetCTC was available from May 11 to November 16, with a few days thereafter for existing clients to complete or correct returns they had already started. During this entire period, 183,066 households submitted returns to the IRS using the tool. 61,026 of these were accepted on the first attempt; the rest were initially rejected by IRS business rules. Of these, 18,732 were amended and successfully resubmitted by clients, such that a total of 79,758 clients ultimately submitted an accepted return. These numbers—and other numbers throughout this paper—do not include any returns that were flagged as likely fraudulent.

Clients could amend and resubmit returns arbitrarily many times (up to a high limit) to address issues, and often did so. As such, the first return submitted could often differ significantly from the last, as clients made amendments. Issues specifically related to return rejections and resolutions are explored in more detail in **our paper on rejections and implications for the Modernized eFile system**. Issues specifically related to the EITC functionality are explored in **our paper on the EITC implementation**.

Data in this paper comes principally from information provided by clients in the course of using GetCTC. In some cases, data comes from a follow-up survey that was sent to all clients a few days after completing the process. A total of 17,365 clients completed the follow-up survey, out of nearly 200,000 who received it. Clients with accepted returns are heavily over-represented among the survey respondents. In other ways, too, the survey respondents may not be a representative sample.

Principal sections and key findings of the paper are as follows:

- *Section 1 describes the client base who used GetCTC*—age, race, tax filing history, etc. We find that GetCTC users were overwhelmingly single rather than married, slightly over half were people of color, and most had not filed in TY2020.
- *Section 2 describes the tax characteristics of the returns filed by GetCTC clients*—which credits they claimed, how many dependents they claimed, etc. We find that over half of GetCTC clients tried to claim dependents, but returns with dependents were more likely to be rejected, and

only 38% actually claimed CTC on final accepted returns. A surprising number of clients who did not file for TY2020 indicated—perhaps erroneously—that they had in fact received CTC advance payments. A surprisingly large fraction of clients who *did* file in TY2020 claimed non-zero RRC on their return. It seems likely that some of these reports of advance payments were erroneous. (These errors would have been corrected by the IRS automatically.)

- *Section 3 describes attributes of the way in which clients used GetCTC*—time spent using the tool, time of day they used it, etc. We find that 83% of GetCTC clients used the tool on a phone or tablet, and 4% filed in Spanish. Returns are most likely to be filed between 10 a.m. and 3 p.m. on weekdays, with no clear patterns across the days of the week. The modal completion time for clients with one submission is just under 20 minutes. Most clients with multiple submissions complete their last submission within 24 hours after the first.
- *Section 4 examines drop-off and the GetCTC funnel, and the degree to which the completion rate might be improved.* In our screener eligibility questions, a surprisingly large number of clients—nearly half—indicate they have already filed a return, and do not continue. Just over half of clients who properly start the filing process (entering an SSN/ITIN) submit a return. While completing the return, clients are more likely to drop off on more complex items, including information on dependents and prior-year adjusted gross income (AGI). While improving these sections could probably reduce drop-off somewhat, experiments and circumstantial evidence suggest that drop-off would likely remain significant even in a frictionless tool.
- *Section 5 summarizes specific issues of wording and language revealed by user research and client success interactions*, highlighting phrasings that a tax filing tool should use and avoid. There are specific lessons regarding SSNs not valid for employment, Individual Taxpayer Identification Numbers (ITINs), Identity Protection PINs (IP PINs), and other rare cases; about language regarding dependents and self-employment income; and about trust issues on the home page.
- *Section 6 describes usage of GetCTC in 2022 by prior users of GetCTC 2021*, with implications for year-over-year behavior of tax filers. We find that relatively few 2021 clients returned to use GetCTC in 2022, suggesting more work is needed to induce year-over-year filing behavior. GetCTC 2021 clients who did return in GetCTC 2022 often did not accurately report their TY2020 filing in their TY2021 return, and they frequently provided family information or contact information that differed significantly from the previous year information.
- *Section 7 describes specifically the usage of GetCTC in Puerto Rico*. Usage in Puerto Rico remained relatively low in absolute terms, with most returns coming during spikes stemming from a few specific outreach events—but usage was roughly proportional to the overall share of GetCTC-eligible families who live on the island. Reject rates were higher in Puerto Rico due to a significantly higher rate of conflicting dependent claims—perhaps due to lower familiarity with the dependent rules.

1. Who used GetCTC

This section summarizes the basic characteristics of GetCTC clients.

Table 1: Attributes of GetCTC clients

	*Among returns **accepted** by IRS*	*Among all returns **submitted** to IRS*
Age	Mean age of primary filer: 39 Median age of primary filer: 37.7	Mean age of primary filer: 37.3 Median age of primary filer: 36
Racial demographics (survey, self-report)	White: 43.1% Hispanic: 25.3% Black: 20.7% Other: 4.3% Amer. Indian/AK Native: 3.9% Asian: 1.8% Native HI/Pacific Island: 0.9%	White: 41.9 % Hispanic: 25.7% Black: 21.3% Other: 4.5% Amer. Indian/AK Native: 3.9% Asian: 1.8% Native HI/Pacific Island: 0.9%
Primary filer TY2020 filing (as reported on return)	Did not file TY2020: 81.3% Used non-filer tool TY2020: 8.99% Filed full return TY2020: 9.66%	Did not file TY2020: 70.2% Used non-filer tool TY2020: 10.2% Filed full return TY2020: 19.6%
Ever filed before (survey, self-report)	Yes: 58.7% Not sure: 9.1% No: 32.3%	Yes: 60.1% Not sure: 9.1% No: 30.8%
Filing status	Single: 93.7% Married Filing Jointly: 6.3%	Single: 92.1% Married Filing Jointly: 7.8%
Primary filer TIN type	SSN: 99.1% ITIN: 0.9%	SSN: 99.1% ITIN: 0.9%

Notes: Racial demographic data is based on self-report among clients who took our follow-up survey. Prior-year filing history is based on client self-report in the GetCTC flow. Prior-year AGI was requested or determined based on the answer to this question. Overall tax filing history is based on self-report among clients who took our follow-up survey.

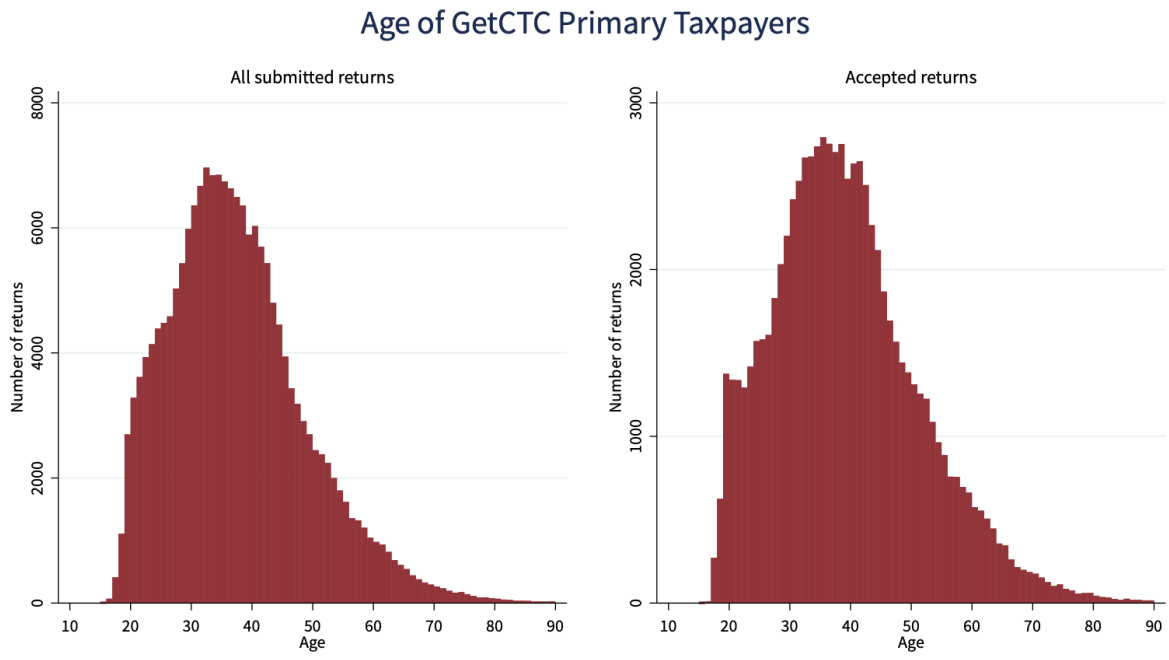
Some of the data here should be taken with a grain of salt. Data on racial demographics and whether a client ever filed before is not just self-reported but comes from the possibly unrepresentative follow-up survey. This data suggests that the majority of GetCTC clients were people of color, and that about a third had never filed taxes before. This latter figure is probably a slight overestimate; it seems plausible that some clients who had last filed years ago, or who were in a household where another family member filed the tax return, erroneously answered no to this question.

TY2020 filing, on the other hand, is essentially verified data among accepted returns because efilers must provide their TY2020 AGI to authenticate their returns, and the TY2020 AGI is a function of their

TY2020 filing. (Those who did not file have a TY2020 AGI of $0, and those who used simplified filing have a TY2020 AGI of $1. If a client falsely reports they did not file when in fact they did, the return rejects on account of the incorrect AGI.) This means that 70% of accepted returns are confirmed to have come from clients who had not filed the year before, and another 10% from those who did use a non-filer tool. That TY2020 non-filers are more common among submitted returns could be because clients who had not filed were more likely to make another error on their taxes, or it could be client error in reporting TY2020 filing, with the returns then rejected for incorrect AGI.

The lopsided filing status breakdown is in keeping with data from GetCTC 2021, though with slightly more married filers than that year, and continues to suggest that tax software focused on very low-income and underserved groups should consider married returns to be essentially a special case. (GetCTC effectively did not support Head of Household filing status, since it would not have changed the amount a client would receive—only their eligibility to use the tool in the first place. We opted to keep the eligibility simpler, as well as encourage heads of household earning $12,550 to $18,800 to use full filing and claim more money.)

The age distribution of GetCTC clients is explored more fully in the graphs below and may suggest that there remains a meaningful gap in reaching the very youngest filers. Circumstantial evidence (as well as common sense) suggests that people in their early twenties are especially unlikely to file and get tax benefits they are eligible for. While the data does show a small (and statistically irregular) spike in returns among those in their early twenties, more users are 30-45. A tool that really reached non-filers might be expected to have a much larger population of filers in their twenties.



2. Tax details of GetCTC returns

This section summarizes various tax details of the returns submitted by GetCTC clients. Note that some statistics are only available for accepted returns, due to data architecture issues.

Recall that clients could amend their returns in response to an initial rejection, such that the first and last submissions could differ, sometimes significantly. Most relevantly, clients who claimed dependents often saw a reject that their dependent had already been claimed, and responded by removing one or more dependents from their return to claim CTC for the others, and/or RRC for themselves. The dependent-claimed rejects contribute both to the lower acceptance rate among clients with dependents and to the fact that later submissions have fewer dependents than earlier ones.

Table 2: Tax details of GetCTC returns

	*Among returns **accepted** by IRS*	*Among all returns **submitted** to IRS*
Claimed any dependents on first submission	45.0%	56.2%
Claimed any dependents on last submission	39.7%	52.9%
Claimed non-zero CTC on last submission	37.8%	50.0%
Fraction who claimed a different amount than the suggested amount of CTC, among all clients with a CTC qualifying child, by reported TY2020 filing status	Did not file TY2020: 50.8% Used non-filer tool TY2020: 10.7% Filed full return TY2020: 10.4%	*Not known*
Claimed non-zero RRC on last submission	84.9%	*Not known*
Fraction who claimed non-zero RRC, by reported TY2020 filing status	Did not file TY2020: 89.5% Used non-filer tool TY2020: 59.1% Filed full return TY2020: 69.7%	*Not known*
Amount of non-zero RRC claimed (among clients with non-zero RRC)	$1,400: 72.5% $2,800: 15.2% $4,200: 5.4% $5,600: 2.1% Other multiples of $1,400: 0.97% Other amounts: 3.9%	*Not known*

Notes: Because of data architecture constraints, credit amounts are not known for returns that were submitted but not accepted. The "suggested" amount of CTC was equal to the total credit for the number of CTC qualifying children, minus the advance payments the taxpayer would have received in 2021, had they received complete advance payments for those same children.

Although GetCTC was named after and focused on the Child Tax Credit, clients could—and often did—use it to claim only the RRC, for essentially three reasons:

- Nearly half (43.8%) of GetCTC clients never added a dependent to the return at all (or found that the dependent that they started to add was not a valid dependent in the first place). These clients filed seemingly without any intention of claiming CTC.
- A disproportionate number of GetCTC returns with dependents were rejected due to dependent-already-claimed errors, which either remained unresolved or were resolved by removing all dependents. Though returns with dependents made up 56.2% of initial submissions, they made up only 39.7% of final acceptances. Rejections overall are explored in more detail in **our paper on efile rejections and implications for the Modernized eFile system**.
- A small fraction (4.8%) of clients who claimed dependents did not claim any dependents that were eligible for the CTC. The vast majority of these dependents (around 80%) were over 17 years old. Another approximately 13% were flagged as having an SSN not valid for employment. (See **EITC paper** Section 3.5 for more information on the latter issue.)

As a result, only 50.0% of final submissions and only 37.8% of accepted returns claimed CTC.

According to the IRS's filing rules, clients had to report the amount of CTC they had received in advance payments and subtract it from the total amount of their credit. To expedite this process, GetCTC recommended the amount of advance payment the client would have received if they had been receiving advance payments in 2021 for all the dependents on this return (half the total credit). Among clients who had filed TY2020 returns and thus were likely to have received advance payments, about 90% reported they had indeed received this amount. Among clients who had not filed TY2020 returns, about half said they had received this amount. It is possible for TY2020 non-filers to have received the correct advance payments if they filed TY2019 returns with the same dependents, which could explain this half. It is also possible that some clients simply agreed to GetCTC's suggestion, whether or not it was correct. (The IRS would have corrected this amount behind the scenes before issuing the refund.)

In the case of RRC, the advance amount totaled the full amount of the credit, meaning that anyone who filed in TY2019 or TY2020 should have received the advances and should not have had any more RRC to claim. In this case, a surprisingly high number of clients who had filed in TY2021—60% of those who had used simplified filing and 70% of those who had used full filing—reported that they had not received the appropriate RRC, and claimed some. It is possible that in some cases a filer's household composition had changed, justifying a changed amount. But it is likely that these high numbers, at least in large part, represent erroneous reports by filers who had gotten the payments last year and did not remember correctly. Again, the IRS would have corrected this amount automatically before issuing the refund.

3. Details of GetCTC usage

This section describes other details of how clients used GetCTC.

Table 3: Details of GetCTC usage

	*Among returns **accepted** by IRS*	*Among all returns **submitted** to IRS*
Device used	*Not Available*	Phone: 79.1% (130,497) Desktop: 16.8% (27,679) Tablet: 4.0% (6,549)
Number of submissions	1 submission: 76.5% 2 submissions: 16.4% 3 submissions: 4.4% 4+ submissions: 2.7%	1 submission: 80.0% 2 submissions: 13.4% 3 submissions: 3.8% 4+ submissions: 2.8%
Used GetCTC in Spanish	3.2%	4.4%
Language elected for future IRS communications on Schedule LEP (for clients where Schedule LEP was offered)	English: 95.0% (61,709) Spanish: 4.5% (2,912) Chinese Simplified: 0.13% (86) Portuguese: 0.10% (62) Arabic: 0.05% (32) Farsi: 0.04% (28) Korean: 0.04% (26) Others: 0.13% (87)	English: 93.5% (140,461) Spanish: 6.1% (9,120) Portuguese: 0.11% (167) Chinese Simplified: 0.10% (156) Arabic: 0.05% (77) Farsi: 0.04% (63) Korean: 0.03% (47) Others: 0.12% (177)
Language election breakdown among clients who used GetCTC in Spanish	Spanish: 97.00% English: 2.57% Portuguese: 0.310% Haitian Creole: 0.089% Russian: 0.044%	Spanish: 97.60% English: 2.12% Portuguese: 0.187% Haitian Creole: 0.040% Russian: 0.013%

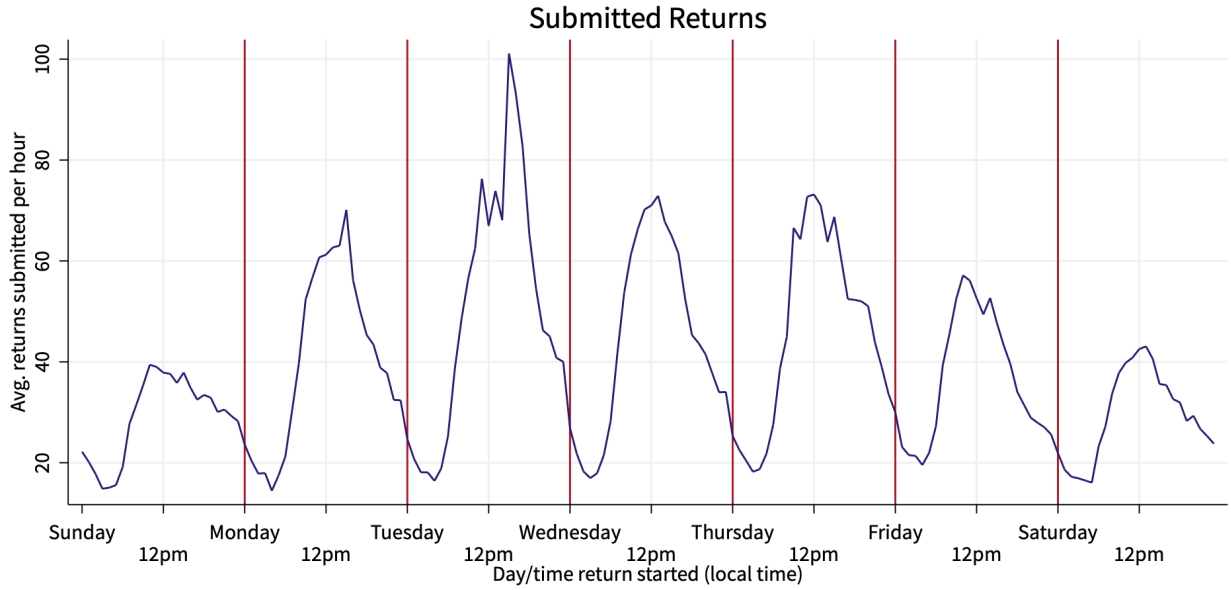
Notes: Device Breakdown counts the number of unique page views, on or after June 1, for the legal consent page, which immediately precedes submission, multiplied by the conversion rate from the legal consent page to final submission. If final submission rates from the penultimate page vary by device type, the estimates could be biased. The window is restricted to after June 1 because of the relatively higher rate of fraudulent submissions in May, which cannot be removed from the statistics.

More than four in five GetCTC clients used a smartphone or tablet. This is likely an underestimate because returns that were flagged for fraud and not submitted are included in the estimate, due to data architecture issues. The data architecture issues also make it impossible to break down device type for accepted returns.

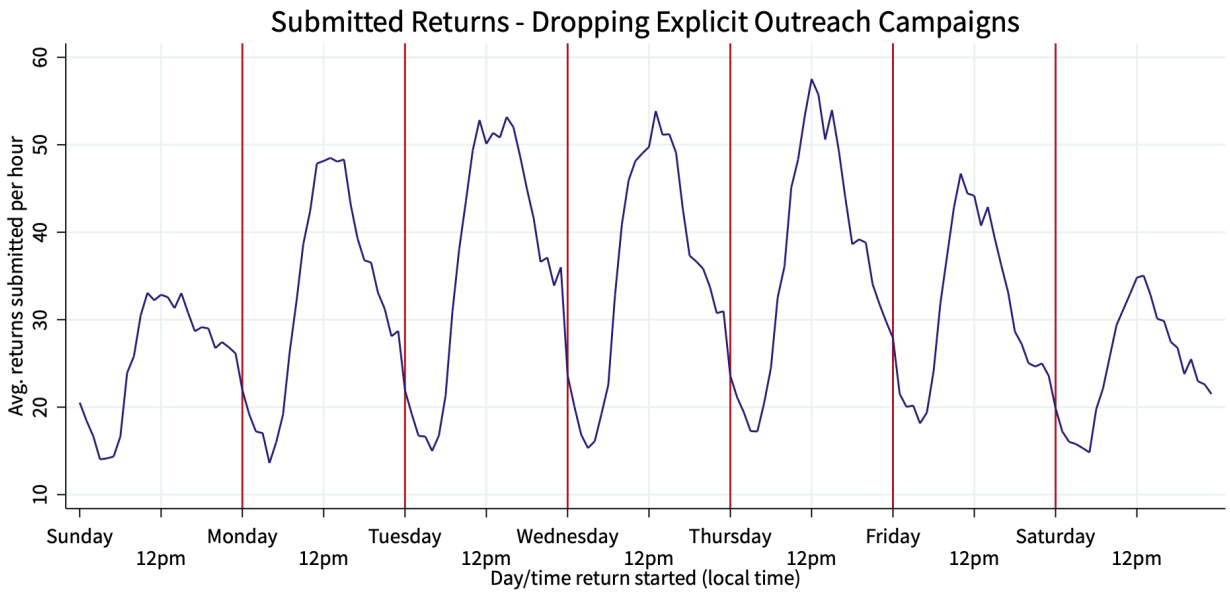
GetCTC was available in English or Spanish; 4.4% of submitted returns and 3.2% of accepted returns were completed in Spanish, a slight increase from 2021. Note that this may be an undercount, since some clients use Google Translate to view the English version of the site in Spanish.

Beginning in June, GetCTC gave clients the option to select which language they would prefer for any future IRS communications, by filing Schedule LEP. The breakdown of the selected languages is shown above. Unsurprisingly, the overwhelming majority of clients using GetCTC in Spanish elected to receive communications in Spanish. The relatively high rate of Portuguese elections is likely due to high GetCTC usage in Massachusetts. Other languages selected include, in order: Russian, Haitian Creole, Vietnamese, Chinese (Traditional), and French. Eight others are selected on fewer than ten returns each.

The graph below shows returns submitted by day of the week and hour of the day, in local time according to browser time zone. In 2021, GetCTC use showed a clear pattern with more returns submitted on Mondays and Tuesdays, tapering off through the end of the week. In 2022, there was no such pattern.



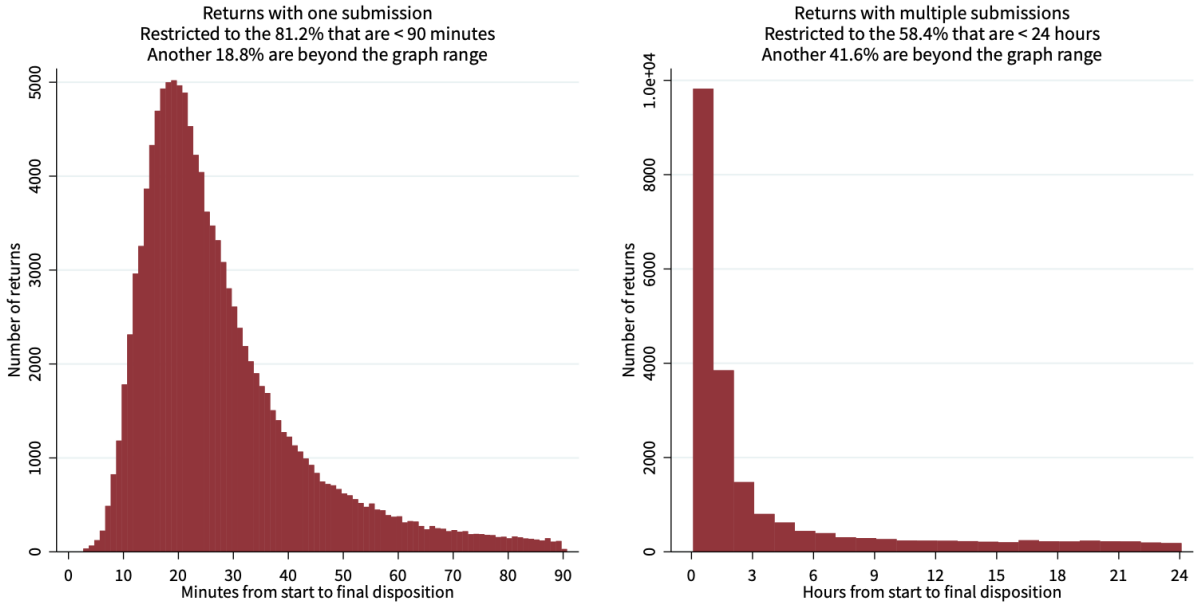
There is one spike around Tuesday midday, which is almost entirely attributable to one large outreach campaign in Louisiana on August 23. If we remove all returns due to direct outreach campaigns by state benefits agencies and by direct messages sent by Code for America to former clients—both of which could have caused clusters of returns to be submitted at very specific times—it is even clearer that there is no secular pattern in the rate of submission across weekdays. Submission rates are about 50% higher on weekdays than over the weekends, and tend to occur between around 10 a.m. and 3 p.m. local time. There are perhaps slightly fewer returns on Fridays than other weekdays, but this apparent effect may just be noise.



The figures below summarize the amount of time GetCTC clients spend completing their returns. Start time is defined as the point at which a client answers the question—on the second page of the GetCTC flow—of where they lived for most of the year. Essentially, this is the very beginning of the process, two clicks past the GetCTC home page, and several steps before properly starting the filing process by providing name and SSN. Completion time is defined as the timestamp of IRS notification of return status, which usually happens a few minutes after a client clicks “Submit” in GetCTC, but can take hours (or, in very exceptional cases, a couple of days). The graph at left shows the total time for clients with only one submission, which represents 80.1% of all GetCTC clients. Of these, 81.4% of clients are represented in the graph; another 18.6% take more than 90 minutes and are out of range of the graph. The modal completion time is just under 20 minutes.

The graph at right shows the total time between start and finish among the 20.0% of returns with multiple submissions. Often, in these cases, clients did not immediately return to GetCTC to make changes and resubmit. Only 58.4% of clients with multiple submissions are within the 24-hour range of this graph. Of these, the largest cluster by far resubmit and get a final notification within an hour or two, but the others are spread across 24 hours, and longer.

Time in GetCTC flow



4. Detailed funnel and characteristics of drop-off

This section describes the magnitude of client drop-off in GetCTC and the pages in the flow where this drop-off occurred. Data in all cases are shown for June 1 through October 7. Before June 1, there was a higher concentration of fraudulent activity, which could bias the statistics (as fraudulent filers are less likely to drop off); after October 7, clients had the option of claiming EITC, which changed the funnel and the points of drop-off. Drop-off in the EITC context is analyzed in detail in **our paper covering the experience of EITC functionality in GetCTC**.

On a technical level, it is worth noting the complexity of calculating an accurate funnel with an application set-up like GetCTC. GetCTC allowed clients to move through the app non-linearly—either by unintended use of the back button, or by intended use of edit buttons on review pages. This meant that the last page viewed by a client may not correspond to how far through the flow they initially advanced. However, not every page contained a data item that was authoritatively stored in the database, making it hard to use the data items entered to precisely define progress through the flow. A future implementation focused on measuring drop-off should pre-define key page view events or other means to ensure that the place of drop-off can be easily and accurately defined. The data below are calculated through a mixture of data items entered and last pages viewed. A small number of

clients (3.3%) are randomly assigned to a drop-off location in line with the prevailing distribution when the precise location of their drop-off cannot be determined.[1]

Due to data architecture issues, the funnel is examined in two sections: first, the drop-off from home page visits to the personal information page (where clients enter name, SSN, etc.), and then from SSN submission through to return submission. The two funnels are roughly consistent with one another, but not perfectly.

In all, across the two funnels:

- One in 20 home page visitors submit a return; one in 50 have an accepted return.
- Only about one in three home page visitors actually click "Get Started" and enter the flow. Of these, about one in six submit a return.
- About one in nine home page visitors click "Get Started" and make it through the screener questions that ensure they are appropriate users of the tool. Of these, about 45% submit a return, and 17% have an accepted return.

4.1 Drop-off in screeners

Table 4 summarizes drop-off through the screener questions designed to ensure that the appropriate clients start returns on GetCTC. Note that this table may contain duplicates across rows. Once clients actually click "Get Started," by far the most clients drop off at the question that asks whether they already filed a return in 2022; nearly half report they have already filed a return and do not continue. (Note that even this already-filed rate is probably underreported, given how many returns are later rejected for being duplicates of existing returns.) The second largest source of drop-off is the page that explains to clients that GetCTC is a simplified return and does not allow filers to claim certain credits or file state returns; here, 20% of clients choose to leave GetCTC and switch to full filing services instead.

Table 4: Funnel part 1 — from Mixpanel page views (may contain duplicates) (June 1 - October 7 only)

	% of total home page visits	% of previous	Number
Visit home page	100%	—	1,870,650
Click "Get Started"	31.1%	31.1%	581,346
Enter filing status (single/MFJ)	30.5%	98.2%	570,878
Clear home location, income, filing obligation screeners	26.7%	87.6%	500,056

[1] Note that the funnel is defined differently than the funnel in our analysis of EITC in simplified filing. During EITC implementation we defined page view events for key pages in the flow, which allowed a more direct calculation of drop-off. The results from this methodology are, however, roughly consistent with those from the EITC paper methodology.

Choose to continue with simplified return (rather than full)	21.4%	80.0%	400,035
Clear additional restrictions, already filed in 2022 screener	11.9%	55.4%	221,727
Clear already claimed as a dependent (last screener)	11.2%	94.7%	209,882

Notes: Data from Mixpanel, based on GetCTC dashboard page view calculations. May contain duplicates.

4.2 Drop-off among return starters

The table below summarizes drop-off at the various pages of the filing process, once a client has entered an SSN.

Table 5: Funnel part 2 — from application database

	% of SSN enterers	% of previous	Number
Enter non-duplicate SSN	100%	—	176,861[2]
Lost in AGI section	*9.1%*	*9.1%*	*16,056*[3]
Enter (or do not need) AGI	90.9%		160,805
Lost in contact information	*8.3%*	*9.1%*	*14,672*
Enter and verify contact information	82.6%		146,133
Lost on spouse pages	*1.8%*	*2.1%*	*3,104*
Lost in dependents flow	*12.5%*	*15.5%*	*22,183*
Complete (or skip) dependents flow	68.3%		120,846
Lost in advance payments module	*1.5%*	*2.3%*	*2,731*
Complete advance payments module	66.8%		118,115
Lost in bank	*3.4%*	*5.1%*	*5,987*
Lost in address	*0.4%*	*0.7%*	*787*
Enter/skip bank, and enter address	63.0%		111,341
Lost on IP PINs	*1.6%*	*2.5%*	*2,792*
Lost on review page	*0.4%*	*0.7%*	*769*

[2] This number is 155,410 according to the Mixpanel page view data.
[3] This may be an overestimate because of clients who did not, in fact, start this section.

Lost on refund amount review page	*2.1%*	*3.4%*	*3,689*
Lost on driver's license	*0.8%*	*1.3%*	*1,378*
Lost elsewhere in final steps (usually edits)	*2.2%*	*3.9%*	*3,969*
Fraud hold	*3.2%*	*5.7%*	*5,667*
Submit return	52.6%		93,077
Rejected; never successfully resubmitted	*32.0%*	*60.9%*	*56,671*
Return eventually accepted	20.6%		36,406

At a high level, among clients who actually enter their SSN and start filing a return, over half submit a return. This is a fairly high rate for an online tool like GetCTC, though of course it leaves many unfinished returns on the table.

What could be done to induce more of the clients who drop off to actually finish the process? Before looking at the specific sections that might be improved, it is worth considering at a higher level why clients are dropping off. Can this drop-off be addressed by improving the flow, adding assistance, or sending additional reminders?

Qualitative research with clients who do not complete returns is inherently difficult, since these clients have left the tool and are unlikely to respond to follow-up questions. That said, a limited five-client study from 2022 found that four dropped off for a substantive reason: Two realized that they had already gotten all of their tax benefits and had nothing else to claim, and two more realized that someone else was, in fact, entitled to claim (and already had claimed) their children. Only one dropped off for lack of a piece of needed information (a bank account number). If these patterns are reflective of the drop-off population more broadly, it would suggest that most clients dropping off are doing so for a good reason—and therefore, it is unlikely that making the flow more frictionless, offering more assistance, or providing more nudges would significantly change completion rates.

We also performed **a randomized controlled trial on the impact of reminder nudges to half-finished GetCTC clients in November**. The results show that sending a text message reminding clients to finish their returns did significantly increase completion rates, but not substantively; the treatment group had returns accepted at a rate 0.2 percentage points higher than the control group. Offering additional assistance in the messages had no effect at all.

Taken together, these results suggest that increasing completion is not easy, and a significant amount of drop-off is probably to be expected, especially in a competitive tax filing landscape.

That said, it is likely drop-off can be reduced at the margin by improving the sections with the highest drop-off. As a general matter, clients more often drop off the most in the sections with the highest

complexity. Drop-off is quite high in the dependents section and in questions about prior-year AGI—some of the most nuanced and tax-technical questions in the tool.

There are many pages within the dependent flow. Unfortunately, data structures make it impossible to accurately define where within these pages the drop-off occurs. There is some suggestive but inconclusive evidence that clients drop off on pages asking about qualifying child and qualifying relative support tests—more than on pages about residency, or whether other family members could claim the dependent. This pattern is again consistent with the idea that more tax-technical questions are more challenging.

There is also surprisingly high drop-off in the section providing and confirming contact information, in which clients are required to enter their email or phone and then confirm a six-digit code sent to that contact method. Anecdotally, we learned in client interviews that some clients were not familiar with this multi-factor authentication process and may have struggled with it. Additional coaching through such authentication processes may be necessary for low-income populations.

There is moderately high drop-off when clients are asked to provide bank account information. The causes of this drop-off are not clear.

Note also the significant drop-off on the refund amount review page. This is the page that shows the client how much they are claiming in the various credits. Drop-off on this page appears to represent clients who complete the process as a form of "shopping," to see if the application will entitle them to additional money that they did not yet claim or know about. When they discover that there is no new or additional money available, they drop off and do not submit a return.

4.3 Drop-off heterogeneity

Generally, it is difficult to disaggregate drop-off by characteristics of clients, because only limited demographic information is collected in GetCTC, and because much relevant information is not collected until relatively late in the flow, after drop-off may have already occurred. Table 6 shows some comparisons that are possible. The clearest pattern here is that clients with SSNs not valid for employment complete returns at very low rates, which is consistent with the overall pattern that these clients are generally confused and struggle to complete a return (see **EITC paper**, Section 3.5).

Table 6: Heterogeneity in GetCTC drop-off

Differential drop-off by primary taxpayer age	*Among clients who enter DOB on personal info page, fraction who submit a return by age group:* <= 30 years old: 51.9% (52,230) 31-40 years old: 48.8% (66,272) 41-50 years old: 49.2% (41,716) 51-60 years old: 48.4% (17,289) 61+ years old: 49.3% (8,082)
Differential drop-off	*Among clients who reach the page that allows you to add a dependent,*

by dependent claiming	*fraction who submit a return by choosing to try and claim a dependent:* Chose to try and claim a dependent: 62.0% (105,632) Did not choose to try and claim a dependent: 64.4% (79,913)
Differential drop-off by primary taxpayer TIN type	*Among clients who entered TIN on personal info page, fraction who submit a return by TIN type:* SSN valid for employment: 50.6% (182,062) SSN not valid for employment: 18.1% (1,753) ITIN: 50.5% (1,730)
Differential drop-off by filing status	*Among clients who entered TIN on personal info page, fraction who submit a return by filing status:* Single: 51.3% (170,416) MFJ: 36.0% (14,523)

5. Specific language and wording issues

Through user testing, client success interactions, and examining the data provided in response to questions in GetCTC, we were able to discern various lessons about specific language that clients are likely to find confusing, and some clues as to how to use clearer language.

- *SSN valid for employment*. Eligibility for many tax benefits depends on the distinction between an SSN in general and one that is valid for employment. The overwhelming majority of SSNs are valid for employment; SSNs not valid for employment are a rare edge case in the immigration system, and most people are not familiar with them. But it was difficult to design a page where clients did *not* inaccurately indicate that their SSN was not valid for employment. In the final GetCTC design, below the box to enter an SSN or ITIN, there was a check-box that read, "My Social Security Card has 'not valid for employment' printed on it (this is rare)." GetCTC clients checked this box for 2.6% of primary taxpayers, 1.7% of spouses, and 2.0% of dependents. In one usability text, a participant checked the not valid for employment box when filling in the basic information for her child. Asked why, she replied, "due to the fact that they're not 18 yet, so they can't be valid for employment." Additional details on this issue are in Section 3.5 of **our paper on EITC implementation**.
- *ITINs, IP PINs, and other rare items.* In various places in the GetCTC and GetYourRefund flows, clients indicated that they needed or wanted a rare tax number that did not in fact apply to them. Frequently, clients with SSNs completing GetYourRefund indicated that they wanted to apply for an ITIN; these clients in fact represented the outright majority of clients opting to apply for ITINs through GetYourRefund. Similarly, clients often became confused on pages in the GetCTC flow asking about Identity Protection PINs (IP PINs). Clients sometimes indicated that they had an IP PIN when they did not, or used live chat to request an IP PIN. These issues persisted even when the acronyms were spelled out and the tool explicitly described what the rare numbers are. Clients simply assumed these sounded like items that a filer was "supposed

to have" or that would be useful or necessary for further protection. The issue is somewhat related to the SSN valid for employment issue; it is hard to fully communicate that some things truly are rare and are not relevant to a particular case.

- *Dependents*. GetCTC clients frequently did not understand what a "dependent" was. We heard from client success interactions that clients would often complete an entire tax return, electing not to add any dependents, and then ask when they would have the opportunity to add their children to the return. Our final copy on the page starting the dependents flow read: "To claim your Child Tax Credit, you must add your dependents (children or others who you financially support). Anyone who you financially support or who lived with you might qualify you for additional benefits. We'll help you figure it out." It is possible there could be further improvements to this language.
- *Self-employment*. GetCTC clients frequently did not understand what "self-employment" referred to. They did, on the other hand, understand the phrase "contract work" to refer to gig economy work like Uber and Lyft.
- *Income limits.* EITC functionality revealed that a meaningful fraction of GetCTC clients were over income to use simplified filing at all. Amending screener questions to isolate the gross income limit and increase its salience meaningfully reduced the incidence of this issue. Details are in Section 3.5 of **our report on EITC implementation**.
- *Indicators of government trust.* **In a 2022 experiment conducted using the home page of GetCTC**, increasing the salience of the government trust indicators significantly increases the rates of taking action on the home page. Placing a banner listing partnerships with the White House and Department of Treasury along with the IRS-approved E-file provider logo increased clicks on the "Get Started" button by 0.9%, translating to about 150 additional tax returns started each day by improving the saliency of trust indicators. These results seem to indicate that visual indicators of government endorsement and trust are a significant driver of whether low-income clients go forward with tax filing.

6. Behavior of GetCTC 2021 users

This section summarizes the filing behavior on Code for America products of clients who used GetCTC to submit a return in 2021.

Clients who used GetCTC to claim the advance CTC payments in 2021 would have had to file another return in 2022 to claim the rest of their CTC. Clients who used GetCTC in 2021 only to claim the RRC—which was an overwhelming majority (about 80%)—would not necessarily have a reason to use GetCTC again, unless they had new dependents to declare, had something go amiss with their RRC advance payment (a.k.a. EIP3), or wanted to claim EITC in the last month of GetCTC operation. So, properly speaking, we would only expect about 20% of GetCTC users to return, even if all of them were to file, and none were to file a full return using another service. The real question is whether GetCTC

clients who claimed a qualifying child—and had to return to get the second half of their CTC—came back to file again.

Note that we subjected many 2021 GetCTC clients to repeated rounds of outreach encouraging them to use the service again. Clients received messages if their submission contained a dependent, and if their submission was either accepted in 2021, or was rejected due to the dependent having already been claimed. That outreach is analyzed in detail in **our report on GetCTC 2022 outreach efforts**.

In the data below, 2021 clients are matched to 2022 clients on the basis of primary taxpayer SSN or ITIN. The key comparison here is in Columns 3 and 4, which restricts the analysis to those clients who should have come back to claim the second half of their CTC. Perhaps surprisingly, only 22% of households who had an accepted return claiming a qualifying child using GetCTC in 2021 even started a return with GetCTC in 2022. Only 15% submitted, and only 9% were accepted. In principle, nearly 100% of these clients could have been expected to successfully submit a return. (Of course, it is possible that the clients filed using a different service.) The numbers are lower still for other comparisons. This low rate suggests there is still room to learn more about how to engage households in filing behavior year over year. Even the fact of using GetCTC, having a relatively easy time of it, (very likely) getting a large payment in 2021, and receiving repeated reminders in 2022 was probably not enough to induce these clients to file again when they needed to.

Table 7: Filing behavior of GetCTC 2021 users in 2022

	All submissions		Submissions with a CTC QC	
	GetCTC 2021 accepted return	GetCTC 2021 any submission	GetCTC 2021 accepted return	GetCTC 2021 any submission
Filed 2021	115,451	275,414	24,990	103,466
Started GetCTC 2022 return	10.6% (12,231)	11.6% (31,806)	21.6% (5,402)	18.8% (19,495)
Submitted GetCTC 2022 return	6.6% (7,603)	6.9% (19,000)	14.5% (3,624)	11.6% (12,002)
Accepted GetCTC 2022 return	3.8% (4,364)	2.7% (7,381)	9.1% (2,283)	4.3% (4,500)
Accepted GYR 2022 return	0.26% (295)	0.48% (556)	0.66% (165)	0.34% (351)
Acc. GetCTC or GYR 2022 return	4.04% (4,659)	2.88% (7,937)	9.8% (2,448)	4.7% (4,851)

Repeat filers also provide an interesting opportunity to compare the consistency of answers year over year. The results here, too, are striking. Less than a third of returning clients accurately reported that they had used simplified filing in 2021. And there is high volatility in other domains: Half report a different number of dependents, more than a third change their phone number, and one in five move to a new zip code. These results suggest that tax software should expect dynamic circumstances

among low-income populations, and should not expect filers to necessarily accurately recall much about their tax filing process the year before.

Table 8: Consistency of tax returns filed in 2021 and 2022

	Among filers with *accepted* 2021 and any *submitted* 2022 returns (*N* = 7,603)
Fraction reporting in 2022 that they used non-filer tool in 2021	29.8% (2,267)
Fraction reporting the same # of dependents as the prior year	51.7% (3,928)
Fraction using the same phone number as the prior year	64.5% (4,904)
Fraction with the same filing status as the prior year	95.5% (7,264)
Fraction with the same zip code as the prior year	80.8% (6,146)

7. Puerto Rico usage

Starting in July 2022, based on special Puerto Rico simplified filing rules issued in Revenue Procedure 2022-22 on May 6, bona fide residents of Puerto Rico without a federal filing obligation could use GetCTC to claim the CTC, which was available to most Puerto Ricans for the first time in TY2021. Because most P.R. residents do not have a federal filing obligation, a large majority of CTC-eligible families in P.R. were eligible to use GetCTC, unlike in the 50 states and D.C. On the order of 100,000 families were estimated to be eligible and not yet have filed returns by the time GetCTC became available. In other words, families in Puerto Rico probably represented around 3-5% of outstanding GetCTC-eligible households.

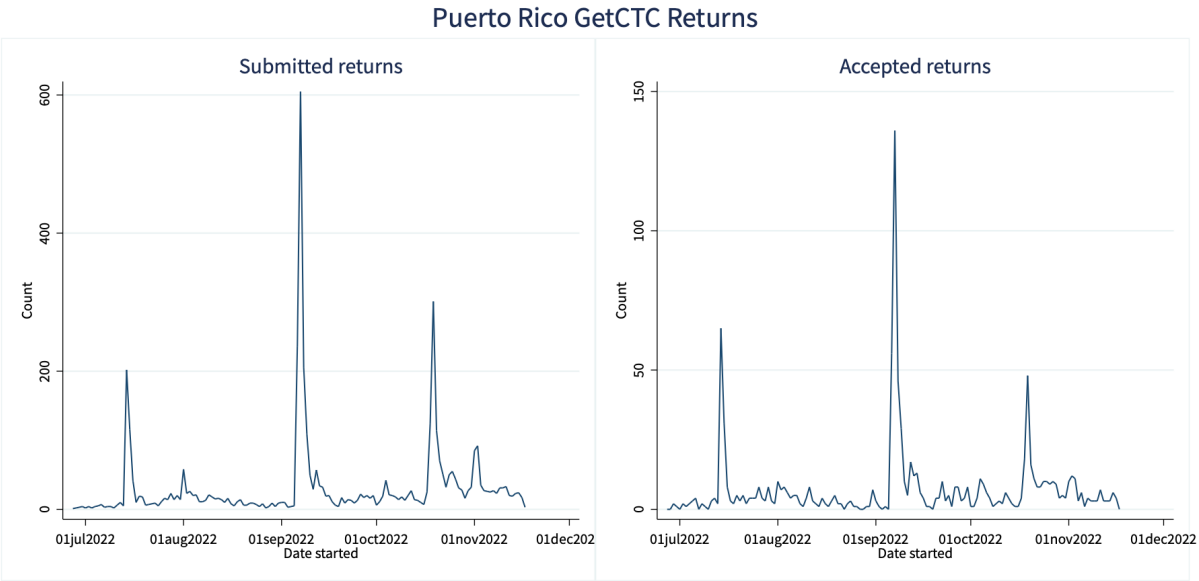
Note that stimulus payments in P.R. were administered by the local tax agency, meaning that P.R. clients could not use GetCTC to claim RRC.[4] As a result, all GetCTC clients in P.R. were CTC claimants. As a fraction of all GetCTC-eligible families in the U.S., then—including RRC-only families in the states—potential P.R. households likely did not represent more than 1% of all households.

In practice, GetCTC usage in Puerto Rico remained low in absolute terms; only 4,459 returns were submitted in Puerto Rico, and 1,005 were accepted. In relative terms, though, P.R. use was roughly commensurate with the fraction of eligible households who live on the island. 5% of GetCTC clients claiming CTC came from Puerto Rico, and 3% of all GetCTC clients came from Puerto Rico.

[4] The situation is similar for EITC, which is administered by the P.R. tax agency and could not be claimed using GetCTC.

Table 9: Usage in Puerto Rico

	Puerto Rico total	Fraction of all GetCTC returns	Fraction of all GetCTC returns claiming CTC
Started return (entered SSN)	7,982	2.4%	N/A
Submitted return	4,459	2.7%	4.8%[5]
Accepted return	1,005	1.4%	3.3%



The spikes in P.R. submissions correspond to a few specific outreach pushes. July 14 was the initial public launch, which was widely covered in the media. September 6 was the date of a press conference by several organizations on the ground in Puerto Rico, launching the second phase of the Reclama Tu Dinero campaign. October 18 was a White House event in collaboration with the Instituto del Desarrollo de la Juventud.

Rejection rates were meaningfully higher in P.R. than in the 50 states, with 44% of GetCTC returns in the 50 states ultimately accepted, compared to just 23% in P.R. Partially, the higher reject rate represents the fact that all GetCTC returns claimed a dependent, since P.R. families could not file RRC-only returns with GetCTC—and returns with dependents have higher reject rates than returns without them. But the dependent issue does not fully explain the difference. Even looking at returns claiming dependents, 33% of GetCTC returns in the states were accepted, far higher than the 23% in P.R. The difference is driven by returns rejected for an already claimed dependent; among returns claiming a dependent, 14% in the 50 states were rejected for this reason, compared to 25% in P.R. The high rate suggests that confusion over who can claim a dependent may have been even more

[5] This figure is an estimate because CTC claiming is not definitively recorded on submitted returns.

widespread in P.R. than on the mainland, perhaps a function of the fact that IRS dependent rules have historically not been relevant for most P.R. families.

Appendix A. Tabulations of all principal questions in the GetCTC flow

For reference, this Appendix tabulates answers to most questions in the GetCTC flow whose answers are directly stored. Note that counts are of unique client IDs, excluding clients with missing values for the relevant field, fraudulent clients, and clients suspected to be fraudulent. Because of challenges identifying accurate denominators for unfinished returns, clients are only included if they submitted returns using GetCTC. Note that some figures may imply slightly smaller or larger numbers of total returns because (1) some questions were not asked consistently throughout the season, and (2) some figures were calculated prior to minor adjustments to overall usage statistics, which later dropped a small number of returns.

A.1 Screener Qs

		Submitted	Accepted
Home location	50 States	96.3% (155,901)	97.9% (68,761)
	Puerto Rico	2.8% (4,457)	1.4% (1,005)
	Military Facility	0.9% (1,526)	0.6% (451)
Were you married on 12/31/21?	Single	92.1% (171,205)	93.7% (75,527)
	Married	7.8% (14,534)	6.3% (5,099)

Notes: Some screener questions (income limits, other restrictions, continue simplified return versus learn more about full filing, can anyone else claim you as a dependent) are not directly stored in the database. Their answers can be inferred, and the results are shown in Section 4.1 above. Clients who already filed are not allowed to continue, but a negligible number of clients managed to complete the process through use of the back button and changing their answer, with the update erroneously not stored in the database. Home location was not captured consistently before June 1, so counts are shown only for clients starting on or after June 1.

A.2 Basic info

		Submitted	Accepted
TIN type (primary)	SSN	98.1% (182,253)	98.7% (79,571)
	ITIN	0.9% (1,731)	0.9% (714)
	SSN not valid empl.	1.0% (1,755)	0.4% (341)
Served in U.S. military in 2021 (primary)	Yes	0.4% (757)	0.3% (228)
Legally blind (primary)	Yes	0.8% (1,521)	0.7% (568)

Filed 2020 return (primary)	Filed full return	19.6% (36,451)	9.7% (7,791)
	Simplified return	10.2% (18,938)	9.0% (7,250)
	Did not file	70.2% (130,346)	81.3% (65,583)
Contact method	Text message	71.9% (133,457)	72.7% (58,638)
	Email	25.0% (46,451)	24.1% (19,458)
	Both	3.1% (5,831)	3.1% (2,530)
TIN type (spouse)	SSN	94.1% (14,294)	94.8% (5,145)
	ITIN	3.6% (551)	3.8% (207)
	SSN not valid empl.	1.2% (181)	0.8% (44)
Served in U.S. military in 2021 (spouse)	Yes	0.8% (123)	0.2% (9)
Legally blind (spouse)	Yes	1.1% (169)	0.9% (48)
Filed 2020 return (spouse)	Full return, separate	12.2% (1,831)	3.2% (172)
	Simplified return, separate	4.1% (617)	2.3% (124)
	Filed with primary	22.8% (3,406)	18.9% (1,001)
	Did not file	60.9% (9,112)	75.6% (4,008)

A.3 Dependents

		Submitted	**Accepted**
Number of dependents entered	0	44.0% (87,416)	55.0% (48,648)
	1	34.0% (67,533)	27.5% (24,316)
	2	14.6% (29,001)	11.6% (10,311)
	3	5.3% (10,516)	4.1% (3,665)
	4	1.6% (3,160)	1.3% (1,152)
	5	0.42% (825)	0.35% (314)
	6	0.12% (231)	0.09% (81)

	7	0.03% (61)	0.03% (28)
	8+	0.02% (31)	0.02% (16)
Clients with CTC QC / non-CTC QC / QR / non-qualifying dependents	CTC QC	51.5% (98,643)	40.8% (34,583)
	Non-CTC QC	3.2% (5,943)	5.4% (2,033)
	QR	2.0% (3,695)	1.3% (1,072)
	Non-qualifying	5.9% (11,329)	5.2% (4,389)
SSN not valid for employment	Not valid for emp	1.4% (1,490)	0.9% (333)
QC support test (Did X pay more than half own expenses?)	Yes	1.3% (1,349)	1.2% (428)
Tiebreaker rule (Are you the only person who could claim X?)	No	13.8% (15,434)	12.1% (4,726)

Notes: QC = "Qualifying Child," QR = "Qualifying Relative."

A.4 Advance payments

		Submitted	**Accepted**
CTC, did you receive this amount?	This	28.2% (27,828)	33.4% (11,570)
	Different	7.7% (7,640)	7.8% (2,699)
	No Payments	64.0% (63,119)	58.8% (20,351)
RRC, did you receive this amount?	This	21.7% (39,436)	19.8% (15,725)
	Different	3.2% (5,829)	2.3% (1,859)
	No Payments	75.0% (135,821)	77.9% (62,029)

A.5 Final steps

		Submitted	**Accepted**
Payment method	Direct deposit	73.7% (134,669)	67.2% (53,244)
	Mail Check	26.3% (48,024)	32.8% (25,964)

Any IP PIN	Yes	6.73% (12,287)	5.59% (4,425)
Provided driver’s license (primary)	Yes	82.5% (151,155)	80.4% (64,150)
Provided driver’s license (spouse) *(among MFJ)*	Yes	54.3% (7,890)	59.3% (3,025)

Notes: Clients were encouraged but not required to provide driver's license data, an optional step that increases the probability that the IRS does not select the return for additional identity verification.