



## **DOES THE DROP IN CHILD SSI APPLICATIONS AND AWARDS DURING COVID VARY BY LOCALITY?**

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CRR WP 2023-4  
March 2023

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## **Abstract**

Child applications and awards for Supplemental Security Income (SSI) fell sharply at the outset of the COVID-19 pandemic. Cumulative applications from April to September 2020 were about 30 percent lower than applications over the same period in 2019. Yet the decline varied substantially across local areas. In this paper, we explore the factors correlated with the change in applications and awards at the beginning of the pandemic.

The paper found that:

- The restriction of in-person services at all Social Security Administration (SSA) field offices in March 2020 played an important role in changes in SSI applications; counties with their own field offices, where the change in service availability is largest, experienced larger declines.
- The pandemic's myriad disruptions to social and service networks through which people may learn about SSI also contributed to declining applications, as declines were largest in counties with more children that participated in SSI before the pandemic and in counties where more people had a self-identified disability.
- New macroeconomic stabilization policies such as economic impact payments and supplemental unemployment insurance payments also appear to have led to fewer child SSI applications. Counties with larger employment reductions early in the pandemic, which likely benefited most from these stabilization policies, subsequently also had fewer SSI applications.

The policy implications of the findings are:

- The results point to ways that SSA might more effectively conduct outreach to ensure equitable access to child SSI as the pandemic wanes. Tapping into local networks, such as increasing outreach activities with local organizations or school staff, might be an especially effective way for SSA to ensure that people are sufficiently aware of the child SSI program.
- Administrative burdens in the application process for benefit programs can reduce participation even when eligibility is unchanged. Although SSA did not consider the income received from economic impact payments and supplemental unemployment

insurance benefits in determining financial eligibility for SSI, applications still declined more in places with larger employment reductions. Additionally, the restriction of in-person services at field offices may have been more burdensome in places where it was previously easier to visit a nearby field office.

## **Introduction**

The COVID-19 pandemic caused significant health and financial disruptions for many families. Despite mostly being spared from the direct impacts of the virus (i.e., illness), children faced many stressors stemming from the pandemic that can threaten their mental health and other aspects of well-being (Fegert et al., 2020). Children experienced increased levels of anxiety, depression, and behavioral problems compared to before the pandemic (Mayne et al., 2021; Rosen et al., 2021). School closures and social lockdowns introduced particularly large disruptions to everyday routines that also affected mental health: a systematic review of 36 studies from 11 countries found that school closures were significantly associated with worse mental health outcomes among children around the globe (Viner et al., 2022). School closures also led to substantial learning loss (e.g., Jack et al. 2023). The pandemic also led to a recession, with unemployment rates in the United States soaring as high as 14.7 percent in April 2020, the highest level since World War II.

In this paper, we assess how the pandemic affected child participation in Supplemental Security Income (SSI) benefits. Greater mental health conditions and financial instability would likely indicate that more children and families might seek SSI benefits. The pandemic also disrupted many networks that children with disabilities might rely on for supports—often occurring in the school system—which could make it harder for children and families both to learn about and subsequently apply for benefits. These factors might also vary across geographies because the disruptions stemming from the pandemic, both in terms of income and in networks, varied throughout the country.

Child SSI applications and awards declined substantially following the start of the pandemic, raising concerns about program access. The decline coincided with the substantial restriction in access to all Social Security Administration (SSA) field offices in March 2020 and with disruptions to several entities that served children, such as schools. In response, SSA substantially expanded its focus on conducting outreach to potentially eligible populations, including children with disabilities, through the establishment of Vulnerable Population Liaisons in the summer of 2021. Macroeconomic stabilization policies like the Coronavirus Aid, Relief, and Economic Security (CARES) Act might have also contributed to the decline in applications; although economic impact payments and supplemental unemployment insurance payments did not count toward SSI income and resource limits, the new sources of income might have led

families to no longer find it worthwhile to incur the administrative burden associated with applying for disability benefits (Herd and Moynihan 2018).

We explore the geographic factors associated with the decline in child SSI applications and awards during the first few months of the pandemic, exploiting variation in the extent of declines across counties.<sup>1</sup> We find that the substantial restriction in field office access played an important role: larger declines happened in counties with their own field offices, where the drop in service availability is largest. Our finding aligns with the importance of field offices during the pandemic as discussed in the national media (e.g., Emanuel, 2021). Local networks consisting of various types of social connections through which people might learn about SSI were also particularly important — the percent declines in application and award rates were largest in counties with higher child SSI participation rates before the pandemic and in counties where more people had a disability. The pandemic disrupted existing networks through which people were previously likely to learn about SSI, leading to larger effects in counties that likely had stronger networks before the pandemic. Schools provide a particularly important network: in a companion paper, we explore the broader role of schools in child SSI applications, finding that areas with more school closures at the outset of the 2020–21 school year saw fewer child SSI applications in the months immediately following the closures (Levere et al., 2022a). Finally, we present evidence that macroeconomic stabilization policies also contributed to declines: counties with a larger immediate drop in employment at the outset of the pandemic also experienced larger drops in applications. These latter findings stand in stark contrast to previous literature showing that participation in disability benefits increases with negative macroeconomic shocks (Maestas et al., 2021; Nichols et al., 2017).<sup>2</sup>

Our results help illuminate systemic issues related to accessing SSI benefits and to SSA’s continued efforts around outreach to encourage take-up among eligible children who are not receiving benefits. These issues are important in understanding potential access issues, which

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<sup>1</sup> As discussed further below, some counties experienced increases in applications and awards.

<sup>2</sup> The literature has primarily focused on the relationship between the economy and adult participation. The relationship between the economy and child participation might differ, particularly because the definition of disability for adults is directly related to ability to work. Though we might not expect to see the same countercyclical relationship as for adults, there is little reason to expect a procyclical relationship between the economy and children’s disability benefit applications, as we find in this paper. However, one similarity between the earlier findings and our paper is that negative macroeconomic shocks lead more people to seek non-wage income: previously this was typically through SSDI, whereas during this period the non-wage income available through unemployment insurance and economic impact payments was likely easier to get than through SSI or SSDI.

are likely influenced by a combination of both SSA supports (e.g., field offices) and other regional factors (e.g., schools and other programs that might overlap with SSA). Understanding these factors can support SSA's efforts in more efficiently conducting outreach to areas with the greatest needs.

## **Institutional Context**

### *Child SSI Overview*

To qualify for SSI, children must both be considered to have a disability and have sufficiently limited income and resources. Children must have a "marked and severe functional limitation" to be considered as having a disability for the purposes of qualifying for benefits, with the condition expected to last for at least 12 months or to result in death. Children with severe mental or physical health conditions can qualify for benefits. Income and resources for children are primarily based on those deemed from a parent or guardian onto the child. To qualify for SSI, a child's available resources must not exceed \$2,000, though some things like the value of a residential home are excluded from this limit.

Applying for SSI requires families to fill out forms and provide required documents. An applicant can provide the initial basic information online.<sup>3</sup> After that, the applicant must meet with an SSA representative either by phone or in a field office to complete the application process. This includes providing detailed documents or information on all finances, such as payroll slips and mortgage or lease details, as well as contact information for all doctors, hospitals, and clinics previously visited for health care.

After receiving a complete application, the local field office assesses if the applicant meets income and resource limits and, if so, forwards the case to the state's disability determination service (DDS). Those applicants who do not meet income and resource limits receive a technical denial and are not evaluated for their disability. For those who do meet income and resource limits, the next step is a formal evaluation of disability against the SSA criteria for eligibility. The state DDS considers information from all health providers in determining if the applicant meets the disability criteria. For children, the DDS also typically requests information from those involved in the child's day-to-day activities at school through a

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<sup>3</sup> For children, the person filling out the information and providing necessary documentation can be a parent or guardian.

Teacher Questionnaire.<sup>4</sup> This information allows the DDS to assess a child’s functioning and whether/how the impairment affects his or her daily activities.

Denied applicants can appeal the decision, though the appeal process takes significant time, influencing our decision in this research on how to characterize awards. Appeals can occur at each of four successive levels: (1) reconsideration, (2) administrative law judge, (3) an Appeals Council, and (4) a Federal Court review.<sup>5</sup> Appeals going through multiple levels can take several years to reach a final decision. As a result, many awards made during the pandemic are based on applications filed well before the pandemic. In addition, applications from the initial stages of the pandemic may not yet have a final decision.

Most child awardees have mental health conditions. In 2019, about 70 percent of new child awardees had a mental disorder (SSA 2022). Most of these were based on autism spectrum disorders, developmental disorders, and child or adolescent disorders “not elsewhere classified” (which includes disorders such as attention deficit hyperactivity disorder).

### *The COVID-19 Pandemic and SSI*

During the pandemic, child SSI applications and awards declined dramatically, especially in the initial months. In 2020, child SSI applications declined by 17 percent and awards declined by 19 percent. Application declines were concentrated particularly in the first few months of the pandemic (Figure 1). The decline in both applications and awards far exceeded the downward trend in child SSI participation that has been ongoing since at least 2013: whereas applications declined by 17 percent in 2020, the average annual decline from 2013 to 2019 was approximately 4 percent (SSA 2021). Applications and awards continued to decline in 2021, albeit at a slower rate: applications fell by an additional 10 percent and awards by an additional 15 percent. Changes in child SSI participation during this time varied by geography—as discussed below, 33 percent of counties representing 18 percent of the U.S. population experienced declines of more than 40 percent, whereas 23 percent of counties representing 9 percent of the U.S. population experienced *increases* in applications. This geographic variation

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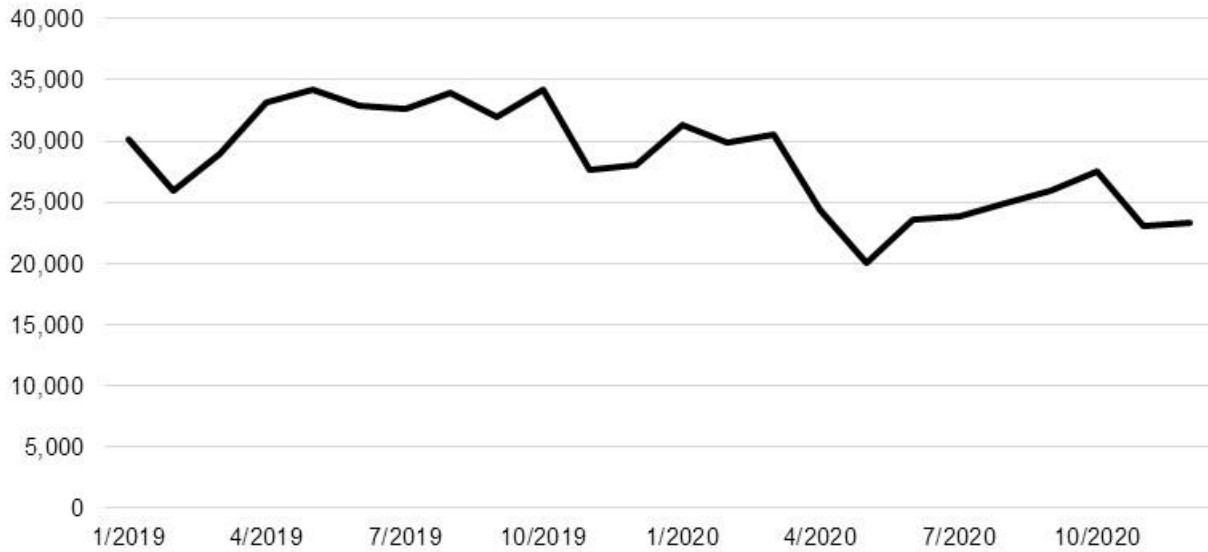
<sup>4</sup> Teachers may also play a role in children’s participation in disability benefits in other ways. For example, in our companion paper (Levere et al., 2022a), we present evidence that teachers may refer students and families to the program if they think the student might be eligible.

<sup>5</sup> If denied at the reconsideration level, the next potential appeal could occur through a hearing with an administrative law judge, and so on.



is consistent with much prior research highlighting geographic variation in child SSI participation (e.g., Levere et al., 2022b; Schmidt & Sevak, 2017).

Figure 1. *Monthly Child SSI Applications, 2019 to 2020*



Source: Authors' calculations using the Supplemental Security Record.

The severe reduction in access to field offices in March 2020 made it more difficult for some people to apply for SSI. Research by Deshpande and Li (2019) found that field office closures led to fewer applications for disability benefits in the catchment areas near the field office. Prior to the pandemic, a person could in most areas apply for SSI without an appointment by entering an SSA field office. Having physical offices may have been especially helpful for those lacking internet access or who faced difficulties in completing the initial steps in the application process online. Field offices did not fully reopen for all in-person services until April 2022, though appointments for many services (including applications for SSI) were available before then.

Another factor that potentially limited SSI participation was the availability of direct cash payments through the CARES Act. Through this act, Congress passed macroeconomic stabilization policies that affected many families' overall financial well-being and thus the ability to meet resource limits necessary to qualify for SSI or their perceived need for SSI. Specifically, it provided economic impact payments of \$1,200 per adult and \$500 per child to over 90 percent of households (Holtzblatt 2020), as well as \$600 weekly supplemental unemployment insurance

payments. These payments together were highly effective in minimizing the disruption to households' financial situation (Larrimore et al. 2022). Though these payments were not counted toward SSI income and resource limits,<sup>6</sup> they could still lead to lower child SSI applications and awards. For households with low income and resources, these payments provided a substantial source of income: in contrast to other types of tax credits or benefits, these payments were a fixed dollar amount rather than based on income or taxes owed. The economic impact payments were often provided automatically,<sup>7</sup> whereas applications to government benefit programs like SSI can entail administrative burdens (e.g., Herd, 2015). Unemployment benefits required people to actively claim benefits, and did not necessarily increase income in the same way that economic impact payments did. Historically, only about half of eligible people claim unemployment insurance (Lachowska et al. 2022), though that share may have differed with the salience of unemployment claiming during the pandemic. These greater resources might have made it less worthwhile for families to go through the SSI application process.

The virus itself may have directly and indirectly influenced children's physical and mental health, in turn affecting whether they are considered to have a disability. Children mostly evaded the most significant consequences of the virus, with the lowest death rates of any age group: as of July 2022, children accounted for 0.1 percent of COVID-19 deaths in the United States despite comprising 22 percent of the population. Yet some still faced debilitating effects; about 25 percent of children with COVID had long COVID symptoms, including 6 percent that had cognitive symptoms such as inability to concentrate, learning difficulties, or memory loss (Lopez-Leon et al., 2022). Many children also faced adverse mental health consequences, often related to stressors associated with the pandemic, including school closures (Mayne et al. 2021; Viner et al., 2022). These stressors may have exacerbated cognitive, developmental, and physical issues that influence a child's health, and thus potentially increase eligibility for SSI if they apply.

Finally, the disruptions to all facets of everyday life may also have weakened existing networks through which people learned about and applied for SSI. For example, schools might have been an important channel through which families learned about SSI. But all public

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<sup>6</sup> See <https://secure.ssa.gov/apps10/reference.nsf/links/06032022080040AM>

<sup>7</sup> Though economic impact payments were provided automatically to those who had filed a tax return in 2018 or 2019 or who participate in several programs (including SSI), Barr et al. (2020) estimated about 12 million people were eligible but did not automatically receive benefits. This represents 4 percent of those who were eligible.

schools eliminated in-person learning by the end of the 2019-20 school year, potentially making it harder for families to learn about the program (on top of the other disruptions school closures caused). With government policies requiring people to shelter in place for extended periods of time, many other formal and informal networks ceased operating. To the extent that these networks previously played a role in informing families about SSI, the disruption may have contributed to the declining applications and awards.

All of these factors that potentially influence SSI applications and awards may also have varied by geography: for example, stabilization policies likely would have a bigger impact in places that were more severely economically affected, whereas limited access to field offices likely would have had the largest impact in places with easy access, where the change in service availability was most pronounced. Our analysis exploits this geographic variation to identify places that had larger (or smaller) changes in SSI applications and awards.

## **Data and Methods**

We collected counts of child SSI applications and awards at the county-month level from the Supplemental Security Record, the primary data system SSA uses for SSI. We assigned applications to the month in which the application was filed and awards to the month in which the award occurred.<sup>8</sup> Our analysis focuses on applications and awards during 2019 and 2020. Within each county, we scale the number of child applications or awards in each month by the county's child population in that year (available from the US Census).

Our primary outcomes capture the percent change in applications or awards in a county over the six-month window in 2020 when the national decline in applications or awards was largest. As discussed below, our primary analysis uses one observation per county, meaning that we must distill patterns in each county into a single number. We therefore calculated the percent

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<sup>8</sup> The approach to define awards this way has advantages and disadvantages. Defining awards based on the date of award, which can therefore include applications that occurred before the pandemic, allows our analysis to match published SSI statistics more closely. Delays in time from application to award because of the lengthy appeals process, discussed above, make it difficult to use awards based on date of application because some applications submitted during the pandemic are still pending. This approach also examines how awards were processed. If we were to use awards based on date of application, the results would necessarily mirror the results on applications. However, if using the date of application, any differences from the application results would be indicative of the relative severity of those applicants induced to apply (or not) during the pandemic, and how likely those additional (or fewer) applications were to be accepted.

change in cumulative applications and awards over each six-month period in 2020 compared to the same six-month period in 2019.<sup>9,10</sup>

The decline in applications was largest for the six-month window starting in April 2020, whereas the decline in awards was largest for the six-month window starting in July 2020 (Figure 2). Cumulative applications from April to September 2020 declined by nearly 30 percent relative to the same months in 2019. Cumulative awards from July to December 2020 declined by about 33 percent relative to the same months in 2019. Our primary outcome measures therefore characterize each county by the percent change in applications or awards over these months.

We also rely on several external data sources to construct an array of variables that we correlate with the local-level decline in SSI participation (Table 1). We calculate socioeconomic and demographic characteristics at the county level from American Community Survey (ACS) five-year estimates in 2015–2019.<sup>11</sup> Information on several aspects of the SSI program—including local-level participation in 2019 and field office locations—comes from SSA administrative records. We use the Bureau of Labor Statistics (BLS) local area estimates to characterize the change in economic conditions during the pandemic, focusing on the percentage decline in the number of people employed from March to April 2020.<sup>12</sup> We also collected data from Johns Hopkins University on the severity of the pandemic measured as cases and deaths.<sup>13</sup>

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<sup>9</sup> For the months starting in August, in which the six-month window spills into 2021, the comparison only includes months of 2019. For example, the percent change for the six-month window starting in October 2020, which covers October 2020 to March 2021, the comparison period is total applications between January to March 2019 and October to December 2019. We do this so that the comparison period cannot include the early months of 2020, in which applications and awards may have been affected by the pandemic.

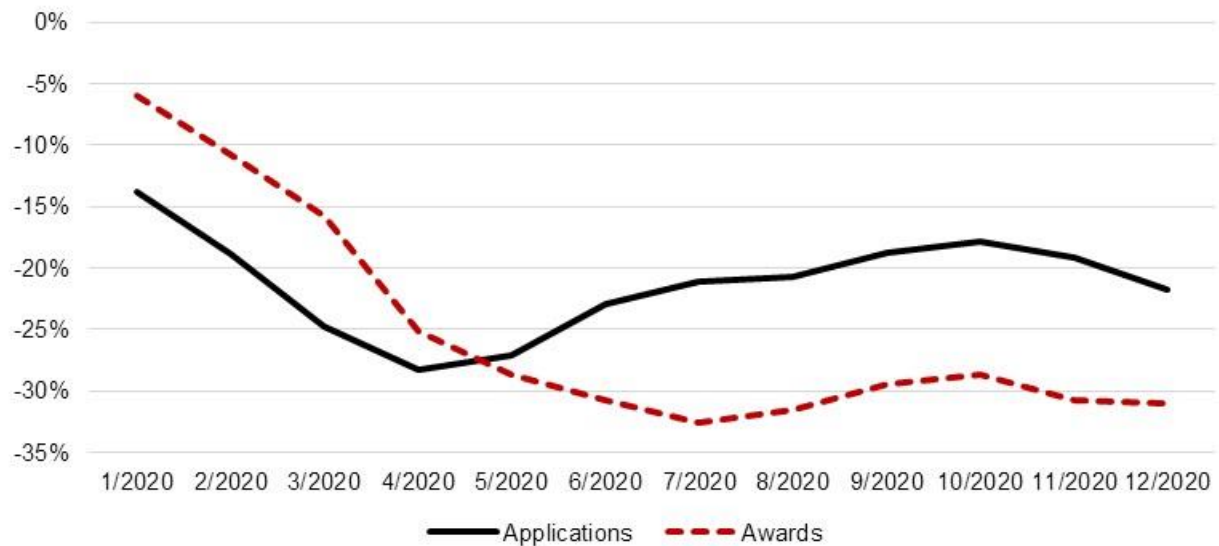
<sup>10</sup> We only consider 2020 because it was the outset of the pandemic when the disruptions to everyday life were arguably most substantial, with numerous lockdown measures and drastically reduced economic activity.

<sup>11</sup> The definitions of disability differ in the ACS data and in what is necessary to qualify for SSI. In the ACS data, someone is considered to have a disability if they face difficulties in hearing, vision, cognition, or ambulation. To this point, when we have discussed having a disability, we typically have referred to people who are eligible for SSI, and therefore have a “marked and severe functional limitation”.

<sup>12</sup> We also considered alternative metrics about changes in macroeconomic conditions and employment. However, because employment mostly fell in April 2020 (a decline of 21 million workers) and immediately started rebounding, focusing on the change from March to April 2020 is the only way to fully capture the intensity of the initial decline in employment.

<sup>13</sup> These data are available at [https://github.com/CSSEGISandData/COVID-19/tree/master/csse\\_covid\\_19\\_data/csse\\_covid\\_19\\_time\\_series](https://github.com/CSSEGISandData/COVID-19/tree/master/csse_covid_19_data/csse_covid_19_time_series)

Figure 2. *Percent Change in SSI Applications and Awards Over Six-Month Period Starting Each Month of 2020*



Notes: Calculates the percent change in applications and awards over each month and the subsequent five months relative to the same calendar months in 2019. See Note 8 for full details.

Source: Authors' calculations.

Our regression model correlates the county-level change in applications or awards with the key control variables from Table 1 (see Equation (1)). The primary outcome, *SSI decline<sub>c</sub>*, captures the county-level change in applications or awards over the relevant six-month period.  $X_c$  captures all the control variables listed in Table 1 in a multivariate equation. Our estimates therefore reflect the marginal contribution of each characteristic holding all the other characteristics fixed. We weight the regressions by county child population in 2020 to ensure the results are not heavily influenced by small counties and instead reflect the changes for the average person. Finally, to facilitate comparisons of the relative magnitude of the correlations with each control variable, we report standardized coefficients.

$$SSI\ decline_c = \alpha + \beta X_c + \varepsilon_c. \quad (1)$$

Table 1. *Measures Potentially Correlated with the Pandemic Decline in SSI Applications or Awards*

Characteristic	Source and description
Field office in county	Captures whether the county has an SSA field office.
Distance to nearest field office	Calculates distance from the county centroid to the precise location of the nearest SSA field office (using Google maps distance data). Equals zero for counties with a field office.
Child SSI participation rate in 2019	From SSA administrative data.
Percentage of population that is Black	From ACS 2015–2019 5-year estimates.
Percentage of population that is Hispanic	From ACS 2015–2019 5-year estimates.
Percentage of population that is female	From ACS 2015–2019 5-year estimates.
Percentage of population that has a disability	From ACS 2015–2019 5-year estimates.
Percentage of population that is below the federal poverty line	From ACS 2015–2019 5-year estimates.
Social capital	Measures participation in civic, religious, and sports organizations as defined by Rupasingha et al. (2006).
Urbanicity	From U.S. Department of Agriculture (USDA) Rural-Urban Continuum Codes. Areas are classified into metropolitan (indicating the county is part of a metropolitan area), suburban (the remainder) or rural (completely rural areas).
COVID-19 cases and deaths per capita	From Johns Hopkins data. Calculates new cases and deaths recorded from March to August 2020.
Decline in employment	From BLS data. Calculates the percent change in employment from March to April 2020.
Percentage of students in special education	From Department of Education Civil Rights Data Collection (CRDC). Measured in 2017–18 school year.

We estimated two primary variants of the model from Equation 1. First, we top coded the change in applications and awards at the 99th percentile. When applications or awards decline, they can fall no more than 100 percent (in which case they would decline to zero). Yet the increase in applications or awards is unbounded, leading to some large outliers in smaller counties that had few applications or awards in 2019. By top coding these extreme values to the

99th percentile, we ensure our results are not influenced by these outliers.<sup>14</sup> Second, we add state fixed effects. Models with state fixed effects allow us to compare patterns entirely across the counties within a state, averaging the correlation between each characteristic and applications or awards across all the states.

## Results

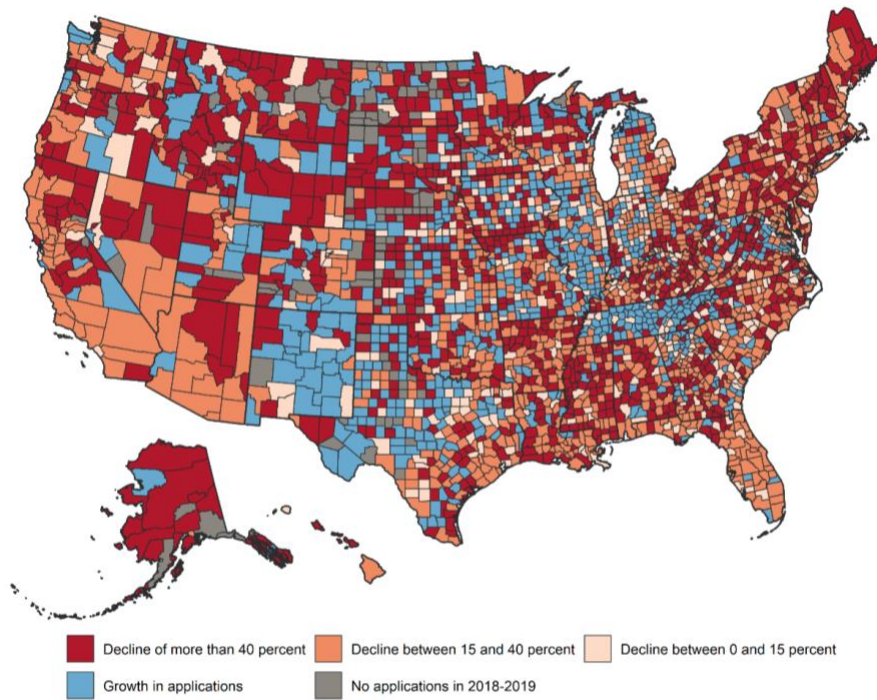
The change in cumulative child SSI applications from April to September 2020 relative to April to September 2019 varied widely across the country (Figure 3, Panel A). As shown in Figure 2, the national decline during this time was 28 percent. Yet this general decline masks substantial geographic heterogeneity in the change in child SSI applications: 33 percent of counties representing 18 percent of the U.S. population experienced declines of more than 40 percent (shown in dark red in Figure 3), whereas 23 percent of counties representing 9 percent of the U.S. population experienced *increases* in applications (shown in blue in Figure 3). No clear geographic pattern emerges: large declines and increases are spread throughout the country. The change in awards, focusing on the period from July to December 2020 relative to July to December 2019, is similar: the substantial geographic heterogeneity has no clearly visible patterns explaining which areas had larger or smaller declines (Figure 3, Panel B). We next turn to exploring the different factors that correlate with these county-level application and awards trends.

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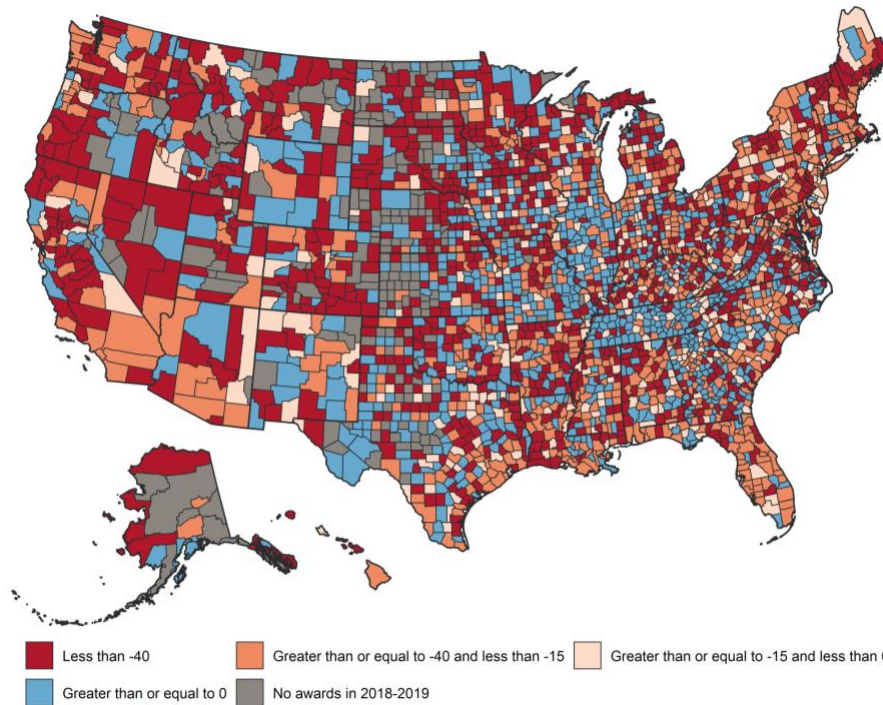
<sup>14</sup> Because these unusually large changes are concentrated in small counties, weighting the regressions by population also reduces their role in the estimates.

Figure 3. *Geographic Variation in Decline in Child SSI Participation*

Panel A. Applications



Panel B. Awards



Notes: Panel A shows the percent change in cumulative applications from April to September 2020 relative to April to September 2019. Panel B shows the percent change in cumulative awards from July to December 2020 relative to July to December 2019.

Source: Authors' calculations.



Table 2. *Characteristic Correlations with Pandemic Change in SSI Applications*

Characteristic	(1)		(2)		(3)	
	Standardized coefficient	p-value	Standardized coefficient	p-value	Standardized coefficient	p-value
1. Field office location in county	-0.170***	0.000	-0.186***	0.000	-0.136***	0.000
2. Distance to nearest field office (if outside county)	-0.046*	0.056	-0.057**	0.023	-0.023	0.362
3. Child SSI participation rate	-0.196***	0.000	-0.212***	0.000	-0.077*	0.088
Percentage of population that:						
4. Is Black	0.018	0.514	0.015	0.597	-0.055	0.178
5. Is Hispanic	0.055	0.172	0.055	0.207	0.013	0.835
6. Is Female	0.027	0.264	0.038*	0.084	-0.011	0.603
7. Has a disability	-0.072**	0.028	-0.077**	0.029	-0.104***	0.004
8. Is in poverty	0.066*	0.091	0.069*	0.100	-0.028	0.542
Urbanicity (omitted: suburban)						
9. Rural	0.023	0.219	0.012	0.508	0.016	0.370
10. Metropolitan	-0.073***	0.002	-0.080***	0.002	-0.068***	0.002
11. Social capital	-0.016	0.579	-0.025	0.434	0.036	0.219
12. COVID-19 cases per capita	0.028	0.348	0.038	0.248	-0.040	0.271
13. COVID-19 deaths per capita	-0.156***	0.000	-0.176***	0.000	-0.016	0.708
14. Change in employment in April 2020	-0.042*	0.091	-0.049*	0.072	-0.048	0.201
15. Percentage in special education	-0.011	0.693	-0.012	0.675	0.059**	0.017
Top-coded at 99th percentile			X		X	
State fixed effects					X	

Notes: The outcome variable captures the percent change in cumulative applications between April and September 2020 relative to applications from April to September 2019, measured at the county level.

\*p < .10. \*\*p < .05. \*\*\*p < .01.

Source: Authors' calculations using SSA program records, ACS data, USDA Rural-Urban Continuum Codes, U.S. Gazetteer Files, Rupasingha et al. (2006), Johns Hopkins data, BLS data, and CRDC data.

Counties with field offices experienced substantially larger declines in child SSI applications than counties without them (Table 2, row 1). Regardless of model specification, this predictor consistently has one of the highest magnitudes of standardized coefficient and is

statistically significant. These findings are consistent with past research that field office closures lead to fewer applications (Deshpande & Li, 2019). Though access to SSA field offices was substantially reduced, the change in service availability was strongest in counties that had a field office. Counties that were relatively far from a field office already had limited ability to access in-person services at field offices before the pandemic. For counties without a field office, distance to the nearest field office is a less reliable predictor (Table 2, row 2): the coefficient is not significant in our preferred specification that includes state fixed effects (column 3), and the magnitude is much smaller than that on the field office in county indicator regardless of specification.

The child SSI participation rate before the pandemic is negatively correlated with the percent change in child SSI applications (Table 2, row 3). One potential explanation relates to networks: areas with high participation rates may have traditionally relied on networks to spread information about SSI, and the pandemic disrupted these networks through substantial reductions in the movement of people, particularly in the spring and summer of 2020, both because of fear of the virus and state and local lockdown policies (Weill et al., 2020). Reduced mobility and interaction may have made it more difficult to learn about SSI from existing participants. In places that already had relatively low participation, there were presumably fewer opportunities to learn about the program from existing participants before the pandemic. In these places, the reduced mobility and interactions would lead to a smaller change in those opportunities during the pandemic, indicating a potentially smaller decline in applications. An alternative explanation is reversion to the mean—counties that had high rates of participation presumably had high rates of applications in the past. Importantly, though the coefficient is significant in all specifications, the magnitude falls by about two-thirds with the inclusion of state fixed effects. The difference in results across specifications indicates that a substantive part of this relationship is driven by cross-state variation in child SSI participation.<sup>15</sup>

County composition of race, ethnicity, gender, and socioeconomic status was not associated with the change in applications, though counties with more people with disabilities experienced larger declines in child SSI applications (Table 2, rows 4–8). The lack of a

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<sup>15</sup> Cross-state variation can importantly include differences in policy environments, such as whether the state includes supplemental SSI payments or its generosity of other benefit programs like Temporary Assistance for Needy Families. Limiting to within state comparisons helps ensure that these sorts of differences are controlled for.

significant relationship may stem from collinearity between measures included in our regression model: for example, counties with a higher share of Black population had higher SSI participation rates before the pandemic.<sup>16</sup> Thus, race could potentially operate through other channels as well. Similar to the suppositions about networks for child SSI participation, networks may also play a role in why the share of people with disabilities is negatively associated with the change in applications (Table 2, row 7). Even apart from SSI participation, having more people with disabilities in the area might offer greater networking opportunities to learn about general services available for people with disabilities, which in turn might lead more people to ultimately learn about SSI.<sup>17</sup> Pandemic-related shutdowns likely disrupted these pre-existing informal networks, which presumably would have been stronger in places with more people with disabilities. It is noteworthy that while the share of the population living in poverty is a strong predictor of SSI participation (Lever et al., 2022b), it does not appear related to the *change* in applications during the pandemic once controlling for state fixed effects (Table 2, row 8).

Metropolitan areas had larger declines in child SSI applications than either suburban or rural counties (Table 2, rows 9–10). The early stages of the pandemic were, for the most part, most severe in the urban areas through which COVID-19 likely entered the United States from abroad—places like New York City and Seattle. These urban areas tended to have greater restrictions from the local government and more limits to movement, thus weakening networks, relative to rural areas (Jay et al., 2020). Thus, the role of networks again emerges as a potentially important contributing factor to the larger declines in applications in metropolitan areas.

The severity of the pandemic, as measured by COVID-19 cases and deaths per capita from March to August 2020, does not influence child SSI applications in our preferred specification that includes state fixed effects (Table 2, rows 12–13). When allowing for cross-

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<sup>16</sup> We confirm this in our data with a simple linear regression: a 10 percent higher share of the population that is Black is associated with a 0.4 percentage point higher child SSI participation rate (the overall SSI participation rate is 1.57 percent, so 0.4 percentage points is a substantive increase). The coefficient is significant at the 1 percent level, and the  $R^2$  on this simple univariate linear regression is 0.29, indicating race explains an important share of the variation in child SSI participation.

<sup>17</sup> SSA launched an outreach campaign in January 2021 to improve awareness of the program. This campaign included a national TV and radio public service announcement and paid social media. In addition, SSA created a new website for child SSI information, entered into partnerships with over 3,000 organizations to support applicants, and increased outreach to other groups to increase awareness of SSI. Yet because these did not go into effect until January 2021, whereas our analysis focuses on applications through September 2020 and awards through December 2020, these efforts do not have any influence on our results.

state variation, COVID-19 deaths per capita are negatively correlated with the change in applications, indicating areas with more severe effects of the pandemic had larger declines in child SSI applications. Yet these differences primarily stem from cross-state differences in death rates: once state fixed effects are included in column 3, this relationship is no longer significant. State fixed effects control for things like the state's policy response to the pandemic, as well as state-level differences in population characteristics, such as those particularly at risk.

Areas that experienced larger macroeconomic shocks in terms of larger employment declines between March and April 2020 also had slightly larger declines in child SSI applications (Table 2, row 14).<sup>18</sup> However, this finding contrasts with the existing literature, which has typically found that participation in disability benefits increases as the economy worsens (e.g., Maestas et al., 2021). Places with greater economic disruptions, particularly as measured by the percent change in employment from March to April 2020, may have had more people qualify for the \$600 per week supplemental unemployment insurance benefits. People may not have understood that these payments did not count toward the resource limit: the SSI rules already include several complex provisions, such as the Student Earned Income Exclusion, that may make it challenging for people to broadly understand precisely how income influences benefit payments. Though these payments did not directly count as income and resources, the generosity of these payments combined with the fungibility of money may have led more people in these areas to exceed resource limits deriving from other sources, thus reducing applications.

Counties with more students in special education had smaller declines in child SSI applications (Table 2, row 15). In the first two columns that do not include state fixed effects, the relationship is not significant. Including state fixed effects, however, makes the coefficient positive and significant. One potential explanation for this finding is that the pandemic had differing effects on the SSI participation of those already in the special education network compared to those not yet in the network. Where more students receive special education, a newly SSI-eligible child (perhaps because a parent of a student with a disability lost their job) might be more likely to have access to both a disability diagnosis and information about SSI. In contrast, where there are fewer students receiving special education, a newly SSI-eligible child might not have the information necessary to either know about SSI or support an application. As

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<sup>18</sup> Though the coefficient in column 3 is imprecisely estimated, the magnitude of the standardized coefficient is similar to the other two columns, indicating the macroeconomic situation may play a role.

a result, the larger-network areas (i.e., more students receiving special education) could experience smaller initial declines in applications. This advantage would be likely to dissipate by the following school year, as students have more time to obtain diagnoses and potentially enter the network (and the benefits for in-network students have been utilized and there were fewer economic shocks).

Results for awards are mostly similar to the results for applications, though a few notable exceptions emerge (Table 3). First, COVID-19 cases per capita are positively correlated with the change in awards when the model excludes state fixed effects, meaning that counties with more cases had smaller declines in awards. The smaller decline may be a function of the debilitating conditions stemming from COVID-19 leading more people to qualify for benefits. However, we find that this positive relationship goes away once we include state fixed effects and only make within-state comparisons. The percentage of Hispanic residents is also significantly negatively correlated with awards when state fixed effects are excluded. However, in our preferred specification with state fixed effects it remains not significant and small in magnitude.

Table 3. *Characteristic Correlations with Pandemic Change in SSI Awards*

Characteristic	(1)		(2)		(3)	
	Standardized coefficient	p-value	Standardized coefficient	p-value	Standardized coefficient	p-value
1. Field office location in county	-0.114***	0.000	-0.125***	0.000	-0.086***	0.007
2. Distance to nearest field office (if outside county)	-0.019	0.469	-0.021	0.447	-0.013	0.651
3. Child SSI participation rate	-0.150***	0.000	-0.164***	0.000	-0.075*	0.070
Percentage of population that:						
4. Is Black	0.024	0.341	0.023	0.413	-0.017	0.642
5. Is Hispanic	-0.067**	0.041	-0.079**	0.029	-0.005	0.910
6. Is Female	0.018	0.391	0.027	0.233	-0.016	0.486
7. Has a disability	-0.007	0.812	-0.006	0.851	0.003	0.927
8. Is in poverty	0.070*	0.087	0.081*	0.068	-0.003	0.955
Urbanicity (omitted: suburban)						
9. Rural	-0.017	0.373	-0.031*	0.070	-0.031*	0.071
10. Metropolitan	-0.084***	0.001	-0.083***	0.002	-0.074***	0.004
11. Social capital	0.014	0.552	0.010	0.697	0.038	0.172
12. COVID-19 cases per capita	0.073***	0.005	0.085***	0.003	-0.004	0.915
13. COVID-19 deaths per capita	-0.061***	0.008	-0.071***	0.005	-0.002	0.957
14. Change in employment in April 2020	-0.020	0.377	-0.027	0.288	-0.040	0.347
15. Percentage in special education	-0.010	0.650	-0.012	0.623	0.016	0.586
Top-coded at 99th percentile			X		X	
State fixed effects					X	

Notes: The outcome variable captures the percent change in cumulative awards between July and December 2020 relative to awards from July to December 2019, measured at the county level.

\*p < .10. \*\*p < .05. \*\*\*p < .01.

Source: Authors' calculations using SSA program records, ACS data, USDA Rural-Urban Continuum Codes, U.S. Gazetteer Files, Rupasingha et al. (2006), Johns Hopkins data, BLS data, and CRDC data.

## Conclusion

We find that though child SSI applications and awards declined substantially at the outset of the pandemic, the decline was not uniform across the country. During the period from April to September 2020, the six months in which the application decline was largest, about 9 percent of people lived in counties where applications increased and about 18 percent of people lived in counties where the decline was more than 40 percent. These patterns are consistent with other research that has shown meaningful geographic heterogeneity in SSI participation trends over the past decade (Levere et al., 2022b; Schmidt & Sevak, 2017).

The socioeconomic and demographic factors that vary by geography and are associated with changes in child SSI participation during this time highlight three particularly important forces that likely contributed to the declines. First, the severe restriction in SSA field office access in March 2020 almost certainly made it harder for people to complete the application process. These effects were seen most strongly in counties with a field office, where the pandemic had the largest impact on service availability. Second, the pandemic disrupted networks people may have previously relied on to learn about child SSI or to identify qualifying disabilities. Third, macroeconomic stabilization policies, which helped families avoid financial catastrophe despite the largest increases in unemployment since the Great Depression, may have also led some people to find it no longer worthwhile to apply.

The findings highlight the role of administrative burdens in the application process for benefit programs. The loss of field office access made it particularly burdensome for people to complete the SSI application. This burden was disproportionately felt in places where it had previously been easier to visit a nearby field office. These findings are consistent with previous research on the hassles associated with field office closures (Deshpande & Li, 2019). They also contribute to a broader literature on how administrative burdens in public programs can reduce participation more broadly—things like program complexity, limited awareness, and demands on time (Bhargava & Manoli, 2015; Chetty et al., 2013; Homonoff & Somerville, 2021). Additionally, even though SSA did not consider the income received from economic impact payments and supplemental unemployment insurance benefits in determining financial eligibility for SSI, applications still declined during this period. One plausible hypothesis is that with the additional income, families no longer found it worthwhile to go through the application process,

potentially because the process entails administrative burdens. Families might also not have understood that the payments did not affect their eligibility.

The findings also point to ways that SSA could seek to promote enrollment among those eligible for benefits. Our results indicate that families likely learned about the child SSI program through existing networks, such as current SSI recipients or organizations that serve people with disabilities. In a separate paper, we also find that schools are an important channel through which children and families learn about the SSI program (Levere et al. 2022a). Activities that tap into local networks, such as outreach in partnership with local organizations or with school staff, might be an especially effective way to ensure that families are sufficiently aware of the program. SSA's recent efforts to establish Vulnerable Population Liaisons, who work with local partner organizations to help potentially eligible people apply for benefits, were a step in these attempts to ensure that all who are eligible can access SSI. However, the extent to which these efforts succeed may depend on the resources these partner organizations can devote to SSI-related work, which may be stretched thin because of competing priorities.



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