



HOUSING CRISIS RESEARCH COLLABORATIVE

POLICY BRIEF | SEPTEMBER 2021

Rent Payments in Affordable Housing During the Pandemic:

The role of rental subsidies and the safety net

Elizabeth Kneebone, Katherine O'Regan, Hayley Raetz, Quinn Underriner

The Housing Crisis Research Collaborative is supported by JPMorgan Chase & Co. and the Wells Fargo Foundation, and managed by the Urban Institute. We are grateful to them for allowing the Collaborative to advance its goals.

This research does not represent the institutional views (if any) of research funders, NYU, NYU School of Law, the Wagner Graduate School of Public Service, UC Berkeley, or Terner Center's funders. Funders do not determine research findings or recommendations in research and policy reports by the Terner Center or the NYU Furman Center.

The NYU Furman Center advances research and debate on housing, neighborhoods, and urban policy. Established in 1995, it is a joint center of the New York University School of Law and the Wagner Graduate School of Public Service. More information can be found at **furmancenter.org** and **@FurmanCenterNYU**.

The Terner Center formulates bold strategies to house families from all walks of life in vibrant, sustainable, and affordable homes and communities. Our focus is on generating constructive, practical strategies for public policy makers and innovative tools for private sector partners to achieve better results for families and communities. For more information visit: **www.ternercenter.berkeley.edu** and **@TernerHousing**.

The Housing Crisis Research Collaborative aims to address the longstanding inequities in access to safe, stable, and affordable rental housing that have been laid bare by the COVID-19 pandemic. We provide policymakers at all levels of government with the data and analysis they need to design, implement, and evaluate more equitable and effective rental housing and community development responses to pandemic and the ongoing rental housing affordability crisis. For more visit: housingcrisisresearch.org.



Introduction

Even as the nation's economic recovery continues, researchers, activists, and stakeholders continue to raise alarm bells about the impacts of the COVID-19 pandemic—especially amid the latest surge of the delta variant—including the potential for a wave of evictions as eviction moratoria expire. Separate reports by the Terner Center for Housing Innovation at UC Berkeley and the NYU Furman Center have documented troubling declines in household rent payments and increases in rent arrears among a set of primarily affordable housing portfolios in California and New York City, respectively.

In this brief, the two centers join together as members of the Housing Crisis Research Collaborative to conduct updated and additional analysis of renters and rental payments across our research samples, drawing on the strengths of each dataset. In this comparative brief, we are able to elevate similarities in trends and provide a more complete picture of the challenges facing both renters and property owners as they exit the depths of the economic crisis. The main outcome we focus on is change in the number of households that have missed a full month's rent payment at least once—a form of nonpayment we can measure consistently across datasets and time, and a set of tenants that is likely accumulating significant rent debt. Within these portfolios of affordable housing in which rents (and incomes) are generally restricted, many renters also receive housing subsidies that adjust with income. We look in-depth at how renters with and without such subsidies fared after the onset of the pandemic. This combined analysis provides insights for policymakers and practitioners working to stabilize tenants hit hardest by the pandemic, and points to the role a housing safety net can play in buffering vulnerable households against economic downturns.

A Note on Data

Differences in data structure

In the analysis below, we set findings from data in our respective home geographies—New York City and California—side by side where feasible. Comparing trends from similar data sets helps surface both common patterns and differences in trends between the two samples. There are, however, differences in the data themselves. While both data sources draw on detailed rent roll data for tenants in portfolios of affordable properties (usually built using Low-Income Housing Tax Credits, or LIHTC), the data differ in important respects beyond their geographic context (Table 1). For example, the New York City data details charges and payments for both the tenant and the subsidy portion of the rent (if a household or unit has a direct subsidy) as well as all accumulated arrears, while the California data tracks only the portion of the rent charged to and paid by the tenant each month. In addition, only the California data set includes information on household demographics, so we restrict our analysis to this single sample when needed.1

Where possible, we create variables and metrics that can be calculated for both samples. For example, in this study we focus primarily on nonpayment of rent, defined here as a household making no payment towards the rent in a given month. We use this metric for two reasons. First, Eden Housing, the owner of the units in the California sample, did not accept partial payments before the pandemic, but changed that policy after the onset of COVID-19. After the policy change, just over half of Eden Housing households falling behind in a given month missed rent entirely (51 percent). Partial payments were a somewhat more frequent

¹ For more analysis of demographic differences between households, please see the Terner Center's June 2021 report, *Paying the Rent in a Pandemic: Recent Trends in Rent Payments Among Affordable Housing Tenants in California*. For additional analysis on property-level trends, please see the Furman Center's May 2021 report, *Renters and Recovery*.



occurrence in the New York City sample both before and after the pandemic began. However, the incidence of complete nonpayments increased notably in NYC after the onset of COVID-19—from 38 percent of households that fell short in a given month missing an entire rent payment before the pandemic to 45 percent after March 2020.²

Thus, focusing this analysis on trends in full non-payment of rent allows us to track a consistent metric across both samples both before and during the pandemic. In addition, households who have missed a full month of rent will also accumulate arrears more quickly than households falling behind but paying some amount toward rent owed.

Note, throughout this brief "nonpayment" refers to the tenant's portion of the rent. For tenants with additional subsidies, the tenant's portion is less than the full rent for the unit and even if a tenant misses their full share of the rent, landlords will be receiving a portion of the unit's rent through the subsidy, as discussed in our final section below.

Differences between the samples

Some differences in nonpayment trends between the samples may be due to underlying differences in the characteristics of firms, properties, and households. For example, while 56 percent of households in the New York City sample have subsidies that adjust with tenant income (referred to below as "subsidized")—which are generally available only to households with very or extremely low incomes (households earning less than 50% of area median income³)—only 45 percent of households in the California sample fall into the same category. By comparison, just over 40 percent of households in the national LIHTC stock were reported to have such subsidies in HUD's most recent tenant data.⁴ Because the firms in our samples also

Table 1: Sample Characteristics

	Terner	Furman
Geographic Scope	California (15 counties)	New York City (5 counties)
Sample Size	~8,500 households (1 firm)	~14,000 households (3 firms)
Rent Payment Data	Tenant portion of rent charges and payments	Subsidy and tenant portion— charges and payments
Cumulative Arrears	Monthly tenant charges and payments, no running balance of total rental arrears	All monthly charges and payments (tenant and subsidy) as well as running balance of total rental arrears
Subsidy Information	Federal rental subsidies that adjust according to income (HUD and USDA subsidies)	Rental subsidies that adjust according to income (including HUD and City subsidies)
Share of Households with Subsidy	45%	56%
Demographic Information	Race and ethnicity, age, etc. Receipt of fixed income sources (i.e., Social Security and Supplemental Security Income)	None

² We define households with missed collections as those that paid less than 95 percent of their rent portion in a given month to account for noise in the data due to adjusting rents and other factors.

³ For reference, in 2020 for a family of four, 50 percent of AMI in the NYC sample was \$56,850. The CA sample spans 15 counties across the state, with very different market conditions. While the 50 percent of AMI benchmark ranges from \$37,500 to \$87,000 across the 15 counties with Eden Housing properties, 65 percent of Eden Housing's subsidized units are located in counties where the 50 percent AMI benchmark for a family of four in 2020 was \$65,250 or higher.

⁴ HUD Low Income Housing Tax Credit Tenant Data, 2018.



primarily manage affordable or rent regulated properties, many if not most of the households without a subsidy that adjust with income (such as Section 8) still benefit from more affordable, regulated rents. The depth of affordability of the units may differ across the two samples as well. Sample demographics are likely to influence trends, and,

due to the absence of demographic information in the New York City data, there are likely important differences between the samples that we are unable to identify, such as differences in levels and sources of household income, including the share of households with fixed income sources.

Key Takeaways

Our analysis of rent payment data for renters in affordable housing in New York City and California finds the following:

Nonpayment by household type

- Nonpayment rates were higher overall in the New York City sample even before the pandemic, suggesting compositional differences in the portfolios and tenants.
- In both locations, the share of households missing a full rent payment in a given month increased sharply immediately after the economic shutdown in March 2020 and remained at heightened levels throughout the rest of 2020.
- Prior to the pandemic, subsidized households had *higher* levels of nonpayment than unsubsidized households, perhaps due to much lower incomes and greater precarity.
- Both subsidized and unsubsidized households saw increases in nonpayment of rent after the onset of the pandemic, with unsubsidized households hit particularly hard in the California sample.

 Where fixed income receipt is observable (in the California sample), households with fixed incomes had lower rates of nonpayments both prior to and after March 2020, and a smaller increase in nonpayment rate after the onset of the pandemic.

The protective effects of housing subsidies and income supports

- From the tenant's perspective:
 - While both subsidized and unsubsidized households experienced marked increases in nonpayment rates during the pandemic, subsidized households accrued lower levels of rental arrears, as their tenant-charged rent is substantially lower than that of unsubsidized tenants.
 - Unsubsidized households without fixed incomes had the greatest increase in nonpayment rates and accrued higher levels of arrears during the pandemic.
- From a landlord's perspective, rent subsidies buffered the total rent debt (tenant and subsidy portion) that accrued during the pandemic.

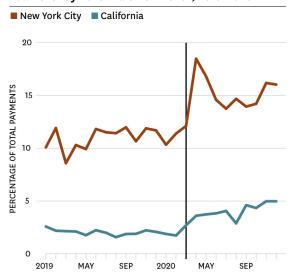


Findings

While nonpayment rates were higher overall in the New York City sample before the pandemic, nonpayments increased in both samples after the shutdown and remained at heightened levels through the end of 2020.

Figure 1 traces the share of households missing their entire rent portion in a given month for the California (CA) and New York City (NYC) samples. This metric offers insight into the share of households struggling to pay rent in a given month, although households may pay back what they owe the following month. Before the onset of the pandemic, about 10 percent of households in the NYC sample missed rent payments compared to about 2 percent of the households in the CA sample. The difference in base levels of nonpayment may be due, at least in part, to differences in the composition of the two samples (see Table 1). For example, as noted above, 56 percent of tenant households in the NYC sample are subsidized compared to 45 percent of the CA sample. In addition, about 45 percent of the households in the CA sample receive Social Security or Supplemental Security Income, providing a fixed source of income each month; unfortunately, we are unable to estimate that share among the NYC sample due to data limitations. Differences in management policies and practices and in presence of resident services or access to other wraparound supports may also exist, which could contribute to the differing base levels in nonpayment rates, as could differences in state and local policy (e.g., changes to tenant protections in New York state law in 2019 removed the ability to increase regulated rents when a unit turns over, which could have affected decisions around nonpayments and evictions).

Figure 1: Share of Households Missing a Full Rent Payment in a Given Month, 2019-2020



Both samples show an uptick in the share of households missing a rent payment immediately after the economic shutdown in March 2020, and elevated rates of nonpayment throughout the period after the onset of the pandemic. However, there are some differences in trends during the COVID period. The CA sample shows a generally increasing trend in the proportion of households missing a rent payment after the shutdown, with the exception of a notable dip in August that coincides with Eden Housing's disbursement of rental assistance from its Tenant Relief Fund. By the end of 2020, the share of tenants missing a rent payment had more than doubled, reaching 5 percent. In contrast, nonpayment rates in the NYC sample declined somewhat after the initial uptick in April, coinciding with the timing of CARES and stimulus payments, but remained about 5 percentage points higher than the pre-pandemic level at around 15 percent.

Subsidized households had higher nonpayment rates than unsubsidized households before the pandemic which may be driven by their lower incomes and greater precarity.

Examining subsidized and unsubsidized households separately, subsidized households were more likely to miss a payment for their portion of the monthly rent prior to the pandemic (Figures 2 and 3). This pattern holds for both the CA and the NYC sample.

Figure 2: Share of Households Missing a Full Rent Payment, by Subsidy (California), 2019

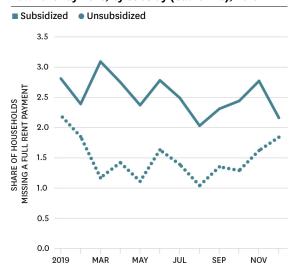
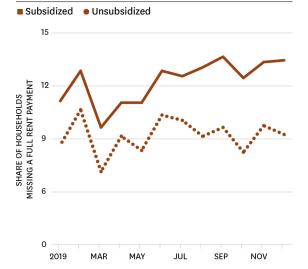


Figure 3: Share of Households Missing a Full Rent Payment, by Subsidy (New York City), 2019



Data from the CA sample show a stark disparity between the typical incomes of households with a rental subsidy compared to those without this assistance (roughly \$15,000 and \$38,400, respectively). Given the extremely low incomes of the average subsidized household, they may face greater economic precarity and income volatility even absent the economic shock of the pandemic.

Nonpayment rates increased after the shutdown for both subsidized and unsubsidized households in both samples.

The ability to request a rent adjustment when income changes suggests that subsidies should act as a buffer against the impacts of an unforeseen economic shock, like that of the pandemic. However, both subsidized and unsubsidized households in the NYC and CA samples saw nonpayment rates increase after March 2020 (Figures 4 and 5), suggesting that rental subsidies did not fully protect recipient households. The increase in missed rent among subsidized households may be due in part to the impact of other economic strains during the pandemic that do not qualify for a rent adjustment, such as supporting a family member outside of the unit who lost earnings during the crisis. In addition, some subsidized households who experienced declines in income during the shutdown may have also struggled to submit the paperwork and take the steps necessary to maintain an up-to-date income certification with the providing agency. Moreover, even households who lose all income may still be responsible for—yet unable to pay—minimum rent amounts (although minimum rent amounts tend to be quite low, which helps mitigate the amount of potential

⁵ We were able to match income data to 63 percent of households in the CA sample. Due to concerns about sample size, there are limits on subgroup analyses.

⁶ NYU Furman Center. (2019, November 19) Income Volatility, Housing Instability, and Housing Assistance [PowerPoint slides]. https://furmancenter.org/files/FINAL_Income_Volatility_ Breakfast_11_17_19.pdf



debt accrued). Increased nonpayment could also arise from the protections granted by moratoria on eviction, either by prolonging tenancy of residents not making payments or permitting tenants to prioritize other spending needs given that protection.

While nonpayment rates increased by similar magnitudes for subsidized and unsubsidized renters in the NYC sample post-shutdown, in CA, the increase was larger for unsubsidized households. They began the year with lower nonpayment rates before surpassing that of their subsidized counterparts by year end. The differing trajectories likely reflect the fact that, while the majority of subsidized households in the CA sample also received Social Security or Supplemental Security Income—income sources that were not directly impacted by the shutdown—just one-quarter of unsubsidized households received a source of fixed income. S

7 That increased monthly nonpayment rates remained relatively modest in the CA sample during the pandemic may reflect the lengths to which tenants have gone to keep paying the rent. Forthcoming research from the Joint Center for Housing Studies at Harvard (Airgood-Obrycki, et al., "Making the Rent: Household Spending Strategies During the COVID-19 Pandemic") finds that some pandemicimpacted renters stayed current on rent but leaned on other strategiessuch as accumulating credit card debt, tapping into savings, and borrowing from family and friends-to make up for lost or insufficient earnings. Tenants of mission-driven housing may be particularly motivated to make such tradeoffs. In interviews conducted for Terner Center's June 2021 report (p. 14), Eden Housing staff said, "I think what's causing our folks to continue to pay us is that they know that many of them, it took years to get in to live with us. And so if they don't pay us and they lose this housing, they're going to go to the private market where it will be way worse."

8 In the CA sample, 69 percent of subsidized households received a source fixed income at some point during the 24 months for which we have data, compared to 26 percent of unsubsidized households. In a given month the shares are somewhat lower. For instance, in December of 2020 58 percent of subsidized households and 23 percent of unsubsidized households received a source of fixed income.

Figure 4: Share of Households Missing a Full Rent Payment, by Subsidy (New York City), 2020

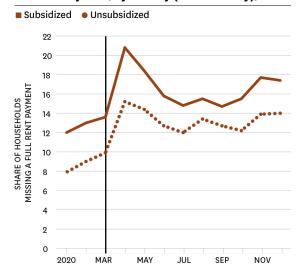
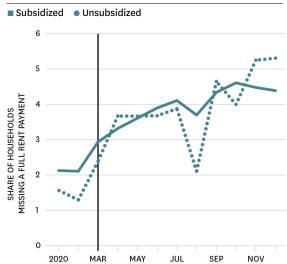


Figure 5: Share of Households Missing a Full Rent Payment, by Subsidy (California), 2020





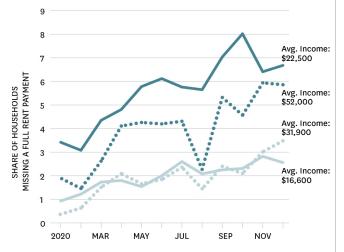
In California, households without a source of fixed income experienced the greatest increases in nonpayments amid the downturn.

After accounting for the presence of a fixed income source such as social security or disability insurance, distinct patterns emerge in the CA sample. Households without a source of fixed income had the greatest increases in nonpayment rates after the onset of the pandemic, suggesting they were more vulnerable to losses in earnings once shelter-in-place orders began (Figure 6). Among these households, those with a rental subsidy exhibited the highest nonpayment rates both pre- and post-COVID—consistent with patterns and trends in nonpayments observed in the NYC sample during the pandemic (perhaps suggesting that subsidized households in the NYC sample are less likely to have fixed incomes). The next-highest nonpayment rates belonged to households that lacked both fixed incomes and rental subsidies. While this group had the highest average income before the pandemic, these tenants also experienced the steepest increases in missed rental payments after the economic shutdown began: nonpayment rates among households with neither a rental subsidy nor a fixed income more than tripled between March and December of 2020.

In contrast, households in the CA sample that had access to social security or disability insurance—sources unaffected by fluctuations in the economic cycle—had the lowest nonpayment rates before the pandemic and the smallest increase in nonpayment rates after the onset of COVID-19. These disparate patterns show that, while rental assistance helps protect low-income households from excessive rent burdens (and the greater precarity they would have faced without that assistance), the safety net of a fixed income source can provide a critical and reliable buffer for households that, in the case of the CA sample, translated into a more consistent ability to meet their monthly rent obligations.⁹

Figure 6: Share of Households Missing a Full Rent Payment (California), 2020

- Subsidized, no Fixed Income
- Unsubsidized, no Fixed Income
- ■Subsidized, Fixed Income
- Unsubsidized, Fixed Income



⁹ The average subsidized household in the CA sample spent just over one-quarter (27 percent) of their average monthly income on rent before COVID-19 hit, compared to the roughly 35 percent spent by the average household without rental assistance.



Households in both the NYC and CA samples were more likely to miss multiple rent payments after the onset of the pandemic, regardless of subsidy status.

Our detailed rent roll data also shed light on the extent to which households have missed more than one payment and may have accumulated greater rental arrears during the pandemic (Figures 7 and 8). Among the CA sample, where nonpayment rates were quite low prior to the pandemic, if households struggled to pay rent, they were more likely to miss just one payment. With the onset of the pandemic, we see an increase in households missing just one payment during the year, as well as a large increase in those missing more than one payment, among both subsidized and unsubsidized households. In the NYC sample, even before the crisis, households who missed any full payments were most likely missing at least two payments, and the increase during the pandemic came from more households missing multiple payments. This points to a deepening of the debt among both subsidized and unsubsidized households; the high levels of missing multiple payments in NYC suggest renters in that sample may be especially financially precarious.

Figure 7: Share of Households by Number of Nonpayments and Subsidy (California), April-December 2019 and 2020

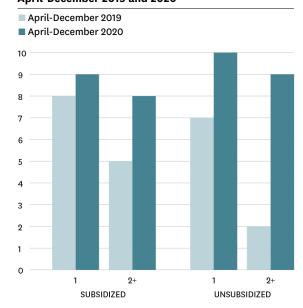
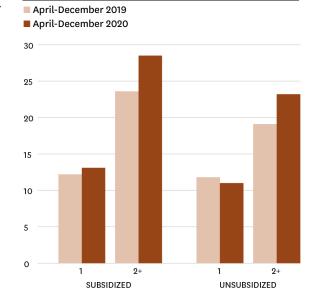


Figure 8: Share of Households by Number of Nonpayments and Subsidy (New York City), April-December 2019 and 2020





In both New York City and California, unsubsidized households accrued higher arrears during 2020.

Among households that missed at least one full rent payment between April and December 2020, unsubsidized households accrued markedly more rental arrears than their subsidized counterparts on average (Figure 9).10 This pattern holds for both the CA and the NYC sample, pointing to the protective design of subsidies that lower the tenant's portion of the rent. The average subsidized household accrued \$344 of rental arrears over those 9 months, compared to \$1,341 for the average unsubsidized household in CA, and \$1,205 versus \$2,144 in NYC, respectively. Rents charged to subsidized tenants that missed a rent payment in each sample were typically less than half the amount charged to unsubsidized households (Figure 10),11 As such, the average amount accrued over the first 9 months of the pandemic represented about two months of tenant rent charges for both subsidized and unsubsidized households among the New York sample, and about one month of rent for both groups in the CA sample. But to the extent that landlords are more likely to evict tenants with greater rental arrears, the lower arrears accrued for subsidized households may suggest they are at less risk of eviction.

10 Average rental arrears were much lower among households that missed partial payments, as might be expected given that these renters managed to pay something toward their monthly rent. Specifically, among those who paid less than 95 percent of their rent (excluding households that were very close to paying their rent) in a given month between April and December, the CA sample accrued \$318 and \$956 in rent debt on average for subsidized and unsubsidized households (respectively). For the NYC sample, the average accrued debt was \$725 for subsidized households and \$1,320 for unsubsidized households.

Figure 9: Average Amount (\$) of Rent Debt Accrued by Households with a Nonpayment between April-December 2020, by Subsidy (California and New York)

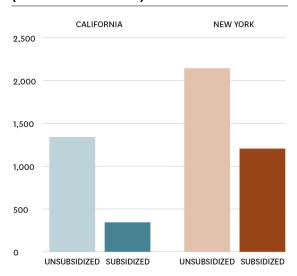
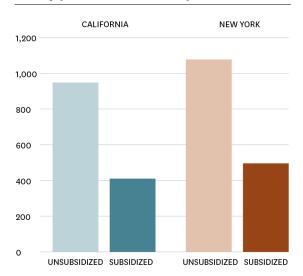


Figure 10: Average Rent Charged to Households with a Nonpayment between April-December 2020, by Subsidy (California and New York)

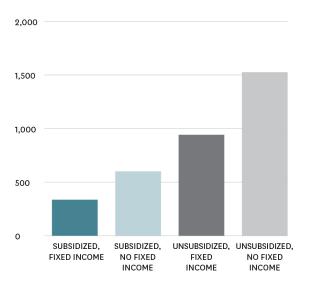


¹¹ While we do not have income information for the NYC sample, the fact that the tenant rent portions are fairly similar between the CA and the NYC samples imply that household incomes may also be similar between the two (tenant portions for subsidized households are set according to income, and households must earn under an income cap to be eligible for affordable units).



The buffering effect of income-based assistance can be further distinguished in the California data after accounting for the presence of fixed incomes. On average, households with no subsidy or fixed income source ended the period having accrued nine times the back rent owed by households with both a housing subsidy and income support (Figure 11, \$1,527 and \$336, respectively). For households with both a rental subsidy and a fixed income, the average arrears accrued is roughly the equivalent of 24 percent of their average monthly income, while for a household without either of those supports, the average level of debt is slightly over one-third their average monthly income.

Figure 11: Average Amount (\$) of Rent Debt Accrued by Households with a Nonpayment between April-December, by Subsidy and Income Type (California)

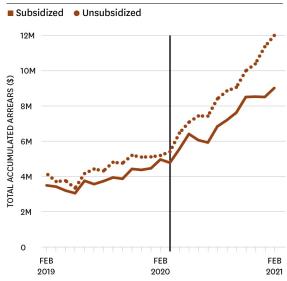


From an owner's perspective, rental subsidies have a buffering effect on the total rent debt that may accumulate during an economic downturn.

While the share of households missing their portion of rent sharply increased during the pandemic, subsidies provided owners with some level of protection from the full brunt of the economic

shock. For subsidized tenants, owners could at least receive the subsidy portion of missed rent if tenants paid nothing; the missing portion was a more modest sum than if the tenant was responsible for the full rent. This protective effect is visible in examining the growth in total rental arrears during the pandemic, by whether the household received additional income-based subsidies (Figure 12). While the majority of households in the NYC sample had an income-based subsidy (56%), the total arrears associated with subsidized units was slightly lower than for all unsubsidized units, \$5.0 million versus \$5.2 million (February 2020). During the first year of the pandemic, total arrears more than doubled, growing by \$10.9 million overall, with 62.1 percent of that increase coming from the unsubsidized stock (\$6.8 million); only 37.3 percent of that increase (\$4.0 million) arose from subsidized households or units. While subsidized households may find their portion of rental arrears challenging to pay off given their limited incomes, from an owner's perspective, subsidies blunted the economic impact of the shutdown on their rent rolls.

Figure 12: Total Accumulated Arrears, By Presence of Subsidy (New York City)





Conclusion

These findings add to a chorus of researchers and advocacy groups raising concerns about the segment of renter households that have fallen behind—or further behind—on rent during the pandemic. They also paint a complex picture of aspects of our social safety net for low-income renters. On one hand, as the above analysis shows, housing subsidies clearly provide some protection for the very low-income households who receive them by lowering the cost of rent to a tenant and adjusting according to income level if earnings change. Because of these features, within our sample, subsidized households accrued less absolute rent debt on average over the course of the pandemic. Subsidies also work to protect landlords from the full brunt of missed payments, as subsidy payments should be regularly dispersed regardless of the effects of economic shifts on payment of the tenant portion. The added stability provided by fixed income sources suggest the role a layered safety net can play in helping vulnerable households weather cyclical economic shocks. That the steepest increases in nonpayments in the CA sample occurred among households without access to subsidies or fixed incomes, and that the growth in missed collections among NYC landlords was driven by unsubsidized tenants, demonstrate the greater exposure of households without these safety net supports to downturns in the economy. (That these households experienced this precarity in rent restricted properties also suggests even greater vulnerability is likely to exist among lower-income renters in units on the private market not run by mission-driven institutions.)

However, this analysis also shows that the protection offered by housing subsidies is incomplete. Subsidized households in our sample had higher rates of nonpayment than other households even prior to the pandemic, and may therefore be more vulnerable to housing instability and eviction, even after the pandemic ends. The drivers underlying that instability, such as very low and unstable sources of income, likely only exacerbated their vulnerability during the course of the crisis. The increase in nonpayment rates for subsidized tenants during the pandemic may also reveal gaps in protection against sudden decreases in incomes (e.g., income re-certifications were incomplete or even minimum rent requirements went unpaid), or that financial strains broader than the households' income were a factor. To some degree, they may also point to the protective role that eviction moratoria have played during the crisis. Regardless of the underlying source, nonpayment increased significantly for this group of renters during the crisis, and they could be at risk of housing instability and evictions as moratoria expire, even in the presence of housing subsidies.

A key question that policymakers continue to face is how to bridge the gap between the expiration of eviction moratoria and the slow rollout of emergency rent relief. Making sure renters that need assistance have the support and resources to access it will be central to diverting a spike in evictions. But even after emergency assistance has been expended, these findings also point to the role expanded durable subsidies could play in stabilizing vulnerable low-income renters longer term. Both centers will continue our research into rent payments as rent relief is disbursed, aiming to shed light on outcomes under shifting conditions and to continue elevating takeaways for stakeholders as they design future housing programs and policies.



Acknowledgements

This brief would not have been possible without the generous contribution of data from Eden Housing and the support of the New York State Association for Affordable Housing (NYSAFAH) in collecting data. We are grateful to our colleagues at the Housing Crisis Research Collaborative, the Terner Center, and the NYU Furman Center for their thoughtful feedback on this brief. We thank Jiaqi Dong, Katherine Key, and Max Brueckner-Humphreys for their excellent research assistance.

Correction

A prior version of this report appeared on our website that included small errors in subsidized arrears for Figure 12 and average accrued debt for the NYC sample in Footnote 10; those errors are corrected in this version (updated 10/28/2021.)